

Traces of oil in area around oil/water heat exchanger (inner V) on engine 642

Topic number	LI18.30-N-056338
Version	7
Design group	18.30 Oil cooling system
Date	09-01-2016
Validity	Model 639 with engine 642 Model 906 with engine 642
Reason for change	Part number added
Reason for block	

Complaint:

- Traces of oil in area (3) around oil/water heat exchanger (inner V) on engine 642. (See attachment "02.jpg")
- Traces of oil at drain points of inner V on engine 642.

Cause:

1. Oil leak from the Turbocharger Inlet Seal (175). (See attachment "OM 642 Turbocharger.jpg")
2. Seals between engine block and oil / water cooler may be leaking.

Attachments	
File	Description
OM 642 Turbocharger.jpg	Verify oil is not leaking from the turbocharger Inlet Seal (175)

Remedy:

- 1- Verify oil is not leaking from the Turbocharger Inlet Seal (175). (See attachment "OM 642 Turbocharger.jpg")
 - a - Reference Service Bulletin V-B-09.00/01 "Operations in Clean Air Line Area"
2. Separate the electrical connector (1) and detach the fuel filter (2) (See attachment 01.jpg) from the bracket and pull out (see AP47.20-D-0780HD for model 906, AP47.20-S-0780B for model 639 with engine 642.990 or AP47.20-S-0780C for model 639 with engine 642.890).

Note: Do not disconnect the fuel hoses from the fuel filter (2).
3. Use a borescope (000 588 01 21 00) to check whether the traces of oil come from the area (3) around the oil / water heat exchanger.

Note: If the traces of oil come from the area (3) around the oil / water heat exchanger, continue with step 4. If the traces of oil do not come from the area (3) around the oil / water heat exchanger, ascertain the exact cause of the problem and initiate appropriate measures.
4. Remove oil cooler; refer to WIS document "AR18.30-S-6840SE."

Note: Do not remove any parts until you drain all the coolant. Refer to WIS document "AR20.00-D-1140SD." If you do not drain the coolant and remove the oil cooler, coolant will leak into the oil passages and may cause engine damage.
- 5- Before removing oil cooler, clean the area around the outside of the oil cooler to ensure all debris has been removed. (See attachment "Oil Cooler Top.jpg")

Note: Failure to do so may result in debris or foreign objects entering the engine causing engine problems.
- 6- When replacing the oil cooler O-ring seals, ensure the new part is installed. (See attachment "new_gasket2.jpg.")

XENTRY TIPS

7- Clean residual oil around oil cooler passages in the top of the engine block.

Note:

a - When cleaning, it is essential to start from the center of the hole and wipe outward as debris or foreign objects may enter the hole and cause engine failure. (See attachment "Clean Away from holes.jpg")

b - The oil cooler is not the cause and must not be replaced.

c - "Reworking" contact surfaces (e.g. with abrasive paper / Scotchbrite or machining) to remove sealant residues is not permitted (See Attachment "Engine damages due to use of abrasives"). Any consequential damage caused by this is not covered by the warranty or goodwill provisions.

Attachments	
File	Description
01.jpg	Shown on fuel filter (2) and electrical connector on engine 642.
02.jpg	Check whether the traces of oil come from the area (3) around the oil/water heat exchanger.
new_gasket2.jpg	Picture of New and Old gaskets
Oil Cooler Top.jpg	Oil Cooler Top view
Clean Away from Holes.JPG	Clean away from the holes
Engine damages due to use of abrasives_Page_1.jpg	Engine damages due to use of abrasives

Symptoms
Power generation / Engine lubrication/oil cooling / Function / Oil level too low
Power generation / Engine lubrication/oil cooling / Leakage / External oil loss

Parts						
Part number	ES1	ES2	Designation	Quantity	Note	EPC
A 642 188 05 80			Gasket, oil cooler to cylinder crankcase	2	Please use this part number - EPC is being updated.	X

Operation numbers/damage codes				
Op. no.	Operation text	Time	Damage code	Note
18-6840	REMOVE/INSTALL/SEAL OIL HEAT EXCHANGER FOR ENGINE, REPLACE IF NECESSARY	---	18242 04	Model 906 Engine oil heat exchanger seal - Leaking The listed damage code is not to be considered as an acceptance of costs. Please refer to the applicable warranty and goodwill policies.
18-7122	REPLACE OIL/WATER HEAT EXCHANGER UNIT (CHARGE AIR MANIFOLD REMOVED), VEH. WITH ENGINE OM 642	---	18242 04	Model 639 Engine oil heat exchanger seal - Leaking The listed damage code is not to be considered as an acceptance of costs.

XENTRY TIPS

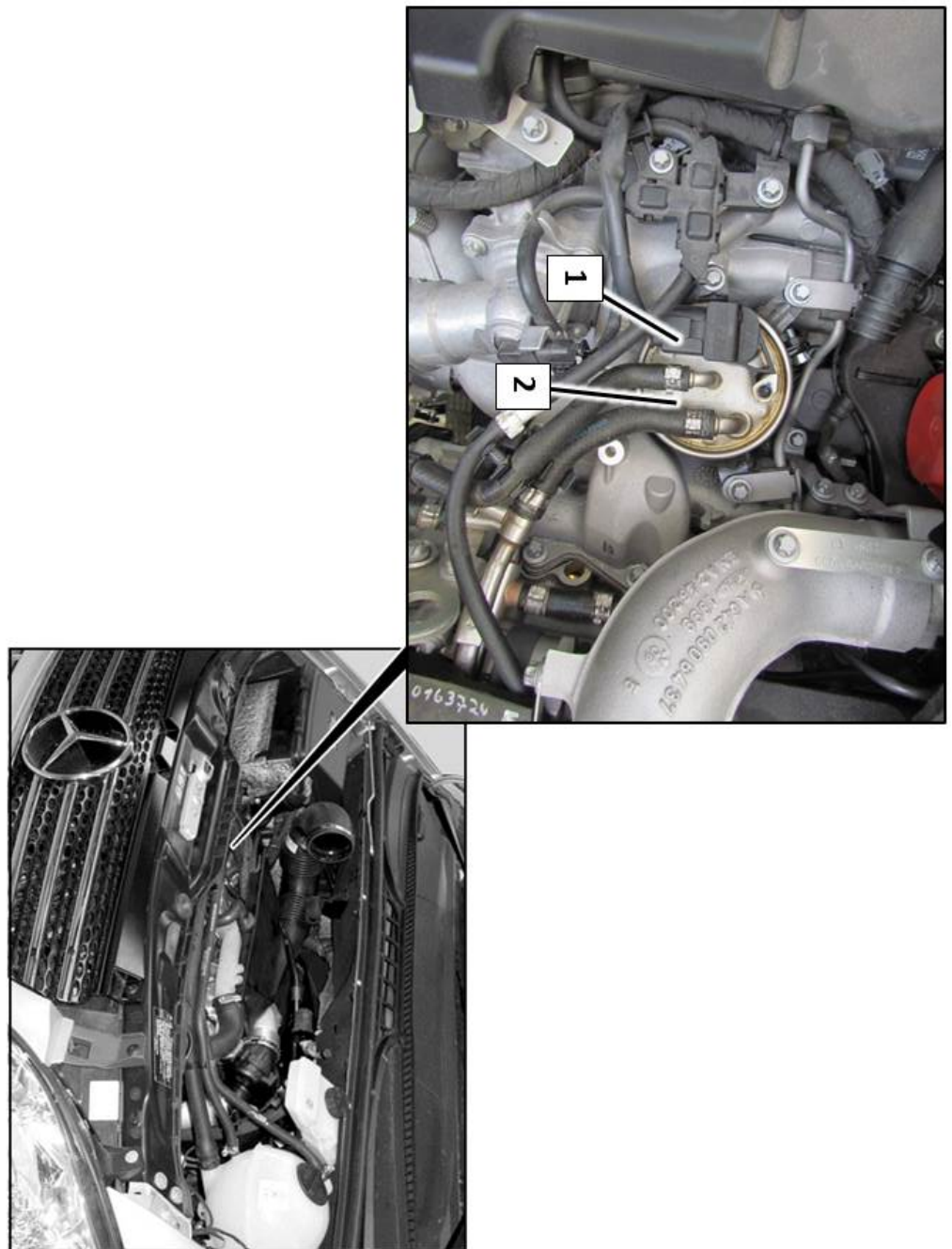
				Please refer to the applicable warranty and goodwill policies.
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WIS-References			
Document number	Title	Note	Allocation
AR18.30-S-6840SE	Remove/install oil/water heat exchanger	Engine 642 in model 639 Engine 642.896 /898 /992 / 993 in model 906	Remedy
AP47.20-D-0780HD	Replace fuel filter	Engine 642.89/99 in model 906	Remedy
AP47.20-S-0780B	Replace fuel filter	Engine 642.990, 646.98 in model 639	Remedy
AP47.20-S-0780C	Replace fuel filter	Engine 642.890 in model 639	Remedy
WS01.00-P-0097B	000 588 01 21 00 Endoscope	Engines ALL	Remedy

Attachments

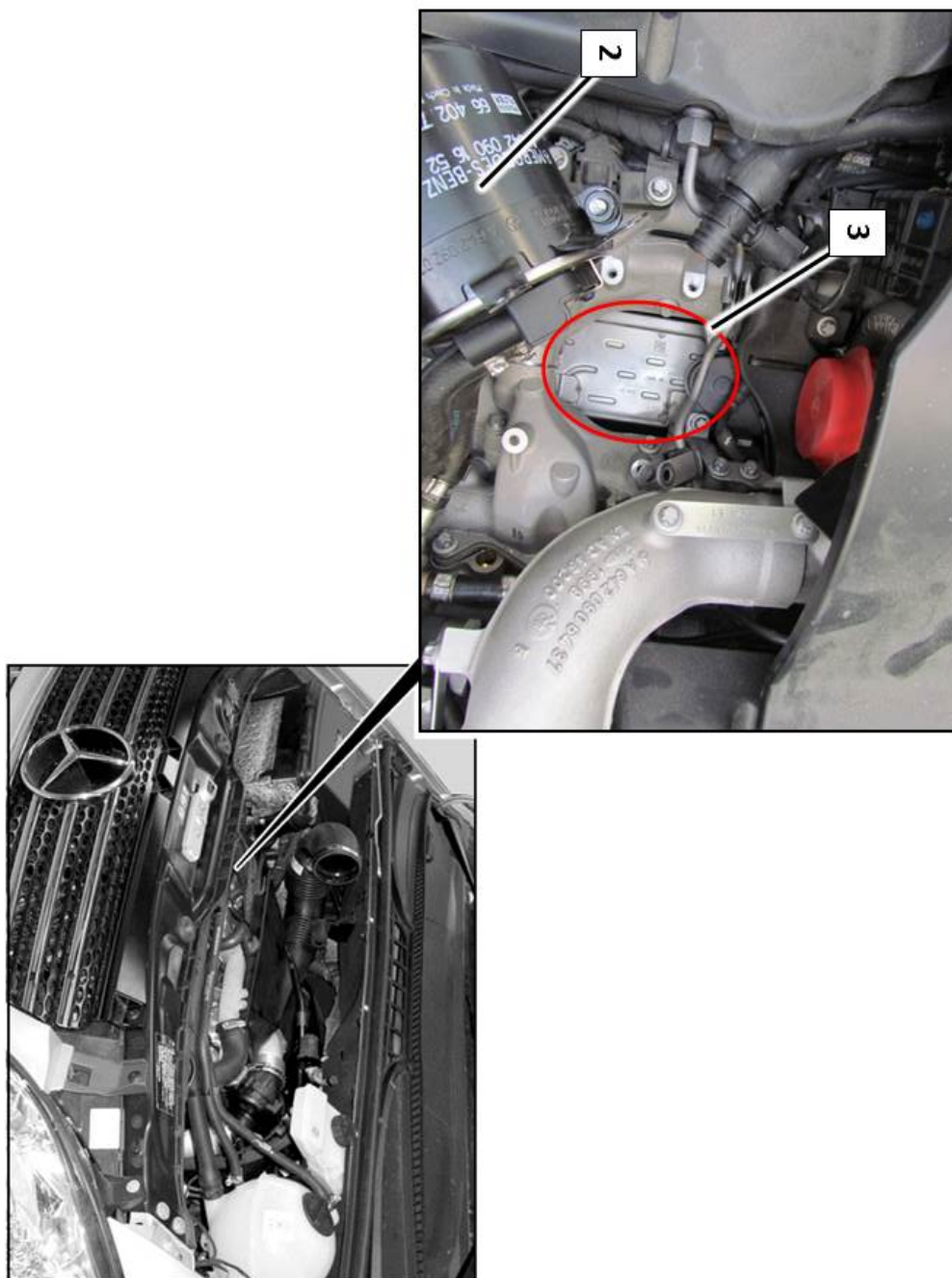
XENTRY TIPS

01.jpg:



XENTRY TIPS

02.jpg:

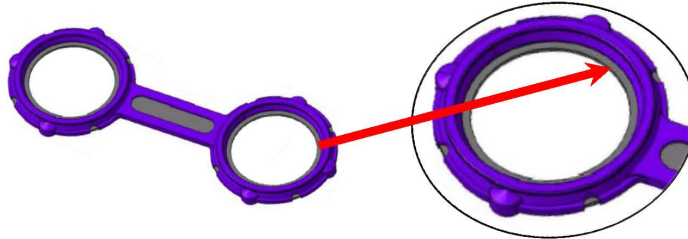


XENTRY TIPS

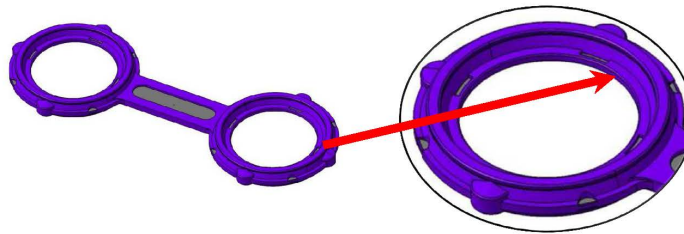
new_gasket2.jpg:



~~A 642 188 01 80~~



~~A 642 188 04 80~~



A 642 188 05 80 ✓

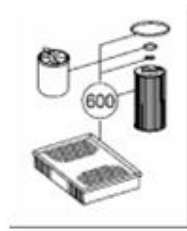
XENTRY TIPS

Oil Cooler Top.jpg:

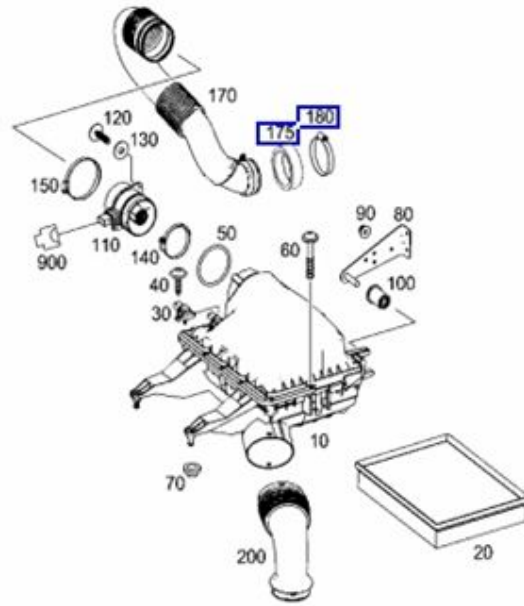


XENTRY TIPS

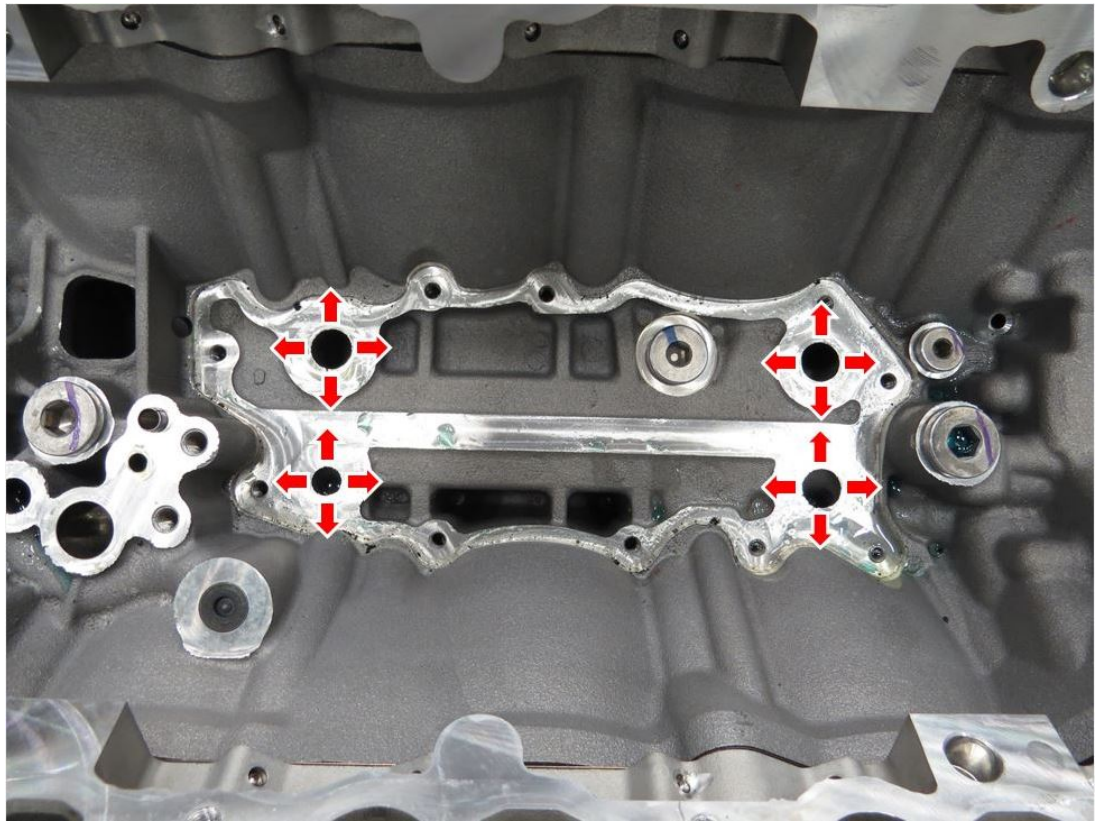
OM 642 Turbocharger.
jpg:



OM 642



Clean Away from Holes.
JPG:



XENTRY TIPS

Engine damages due to use of abrasives_Page_1.jpg:

Topic: Engine damages due to use of abrasives

Model: All BR with OM642

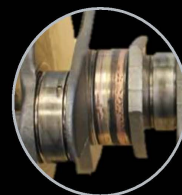
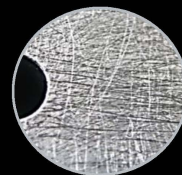
Cause: Using sandy materials to clean the surface of the engine components results in serious damages to the main and conrod bearings.



Particles go through the oil circuit and cause excessive wear of the bearings → engine damage.

Note: Known cases after previous repair in the location of the inner-V

- seal / oil-water heat exchanger
- turbocharger support beam



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