

Assembly & Installation notes
JUBU gearbox oil cooling upgrade 2ZZ

Please follow the instructions in this manual for a proper assembly & installation of the JUBU gearbox oil cooling upgrade for cars with 2ZZ engine (Elise S2, Exige S2, 2-Eleven, Elise S3 (2ZZ models)).

- 1. PART LIST**
- 2. ASSEMBLY & INSTALLATION NOTES MECHANICALLY**
- 3. INSTALLATION NOTES ELECTRONICALLY (WIRING HARNESS)**

1. PART LIST

III.	Item	Item No	No of items
1	Gearbox oil heat exchanger	JPP620146	1
2	Bracket for gearbox oil heat exchanger	JU00151ART	1
3	Mount for gearbox oil heat exchanger	JU00302ART	1
4	Gearbox oil pump	JU00254ART	1
5	Gearbox oil filter	JPP620252	1
6	Bracket for gearbox oil pump (2ZZ)	JU00303ART	1
7	Hose #1 (oil from gearbox to pump)	JU00304ART	1
8	Hose #2 (oil from pump to heat exchanger)	JU00305ART	1
9	Hose #3 (oil from heat exchanger to gearbox)	JU00306ART	1
10	Hose #4 (water from engine to heat exchanger)	JU00307ART	1
11	Hose #5 (water from heat exchanger to OEM hose)	JU00308ART	1
12	Fitting 90° (AN8 female to AN8 female)	JU00095	1
13	Clamp for gearbox adapter	JPP620075	1
14	M18x1.5 to AN8 adapter		1
15	USIT washer M18		1
16	Head cap screw DIN 912 M6x20		4
17	Head cap screw DIN 912 M8x12		3

III.	Item	Item No	No of items
18	Head cap screw DIN 912 M8x25		2
19	Head cap screw DIN 912 M8x45		2
20	Head cap screw DIN 912 M10x1.25x20		3
21	Self-locking hex-nut DIN 985 M5		4
22	Washer DIN 125 M5		4
23	Spring washer DIN 137 M6		1
24	Spring washer DIN 137 M8		7
25	Spring washer DIN 137 M10		3
26	Hose clamp Ø 16mm		2
27	Hose clamp Ø 19mm		2
28	Wiring loom JUBU gearbox oil cooling upgrade 2ZZ	JU00314ART	1
29	Fuse, 15A		1
30	Solder connector		1
31	Screw M8x16		1

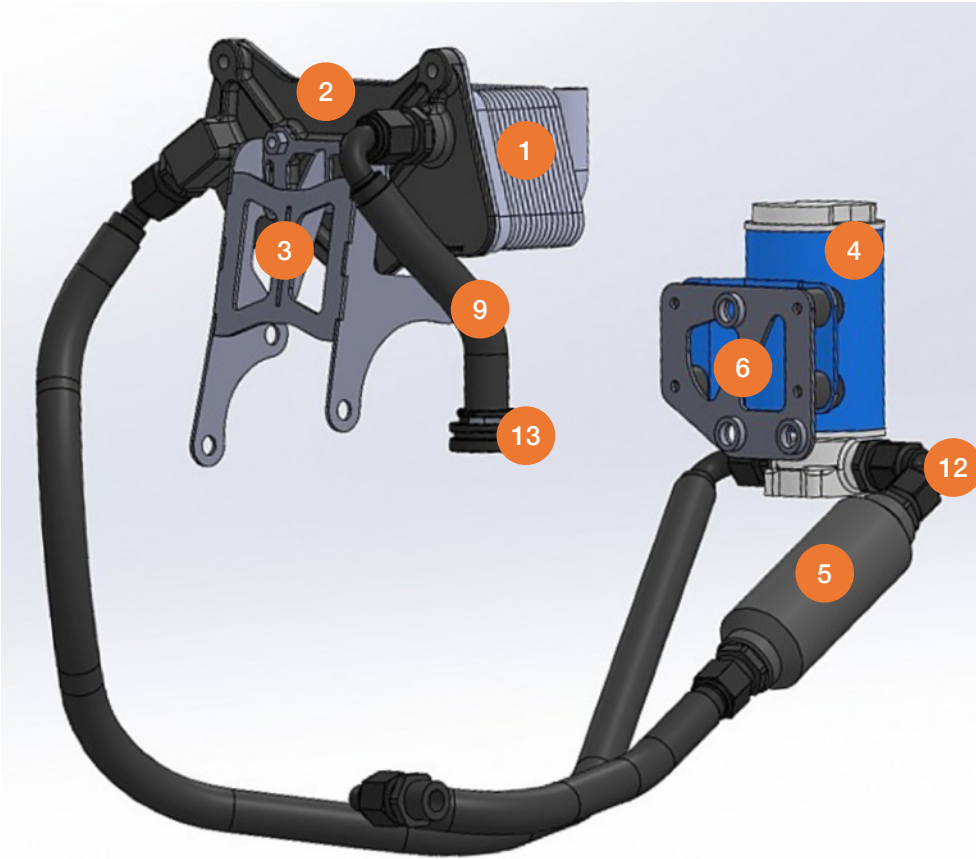


Fig. 1: Scope of delivery (I)

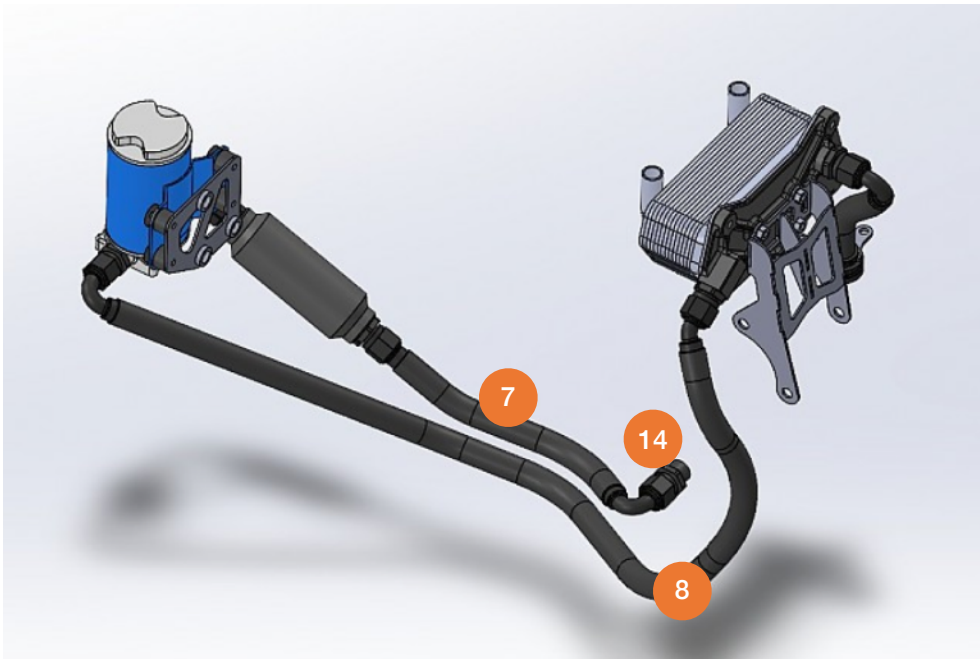


Fig. 2: Scope of delivery (II)

ASSEMBLY & INSTALLATION NOTES MECHANICAL

1. Screw part JU00151ART (2) to part JU00302ART (3) by using 4x DIN 912 M6x20 screws (16) (apply 10Nm of torque). Fix the screws with screw lock *LOCTITE 243 screw locking lacquere* (NOTE: only necessary when part does not come already pre-assembled).
2. Make sure that the 19x3 O-rings are sitting correctly in their grooves of part JU00151ART (2).
3. Screw part JPP620146 (1) to part JU00151ART (2) with 3x DIN 912 M8x12 screws (17) and 3x DIN137 M8 spring washers (24) (apply 20Nm of torque). Fix the screws with screw lock *LOCTITE 243 screw locking lacquere*.
4. Screw this assembly to the gearbox with 2x DIN 912 M8x25 screws (18), 2x DIN 912 M8x45 (19) and 3x DIN137 M8 spring washers (24) (apply 25Nm of torque). Fix the screws with screw lock *LOCTITE 243 screw locking lacquere*.
5. Mount part JU00303ART onto the gearbox with 3x DIN912 M10x1.25x20 screws (20) and 3x DIN137 M10 Spring washers (25) (apply 50Nm of torque). Fix the screws with screw lock *LOCTITE 243 screw locking lacquere*.
6. Place the gearbox oil pump JU00254ART (4) on part JU00303ART (6) and mount it with 4x Self-locking hex-nut DIN985 M5 (21) and 4 x DIN125 M5 washers (22) (apply 6Nm of torque).
7. Replace the OEM oil drain screw with the M18x1.5 to AN8 adapter (14) and a USIT washer M18 (15) (apply 35Nm of torque).
8. (If not already pre-assembled), couple the gearbox oil filter JPP620252 (5) with hose # 1 - JU00304ART (7) at the side with the straight AN8 adapter. The laser marked arrows on the filter have to point away from the hose. After the filter, attach the 90° AN8 female to AN8 female fitting JU00095 (12) to the hose-assembly.
9. Connect the M18x1,5 to AN8 adapter (14) and the oil filter JPP620252 (5) via this hose assembly. (The 90° AN8 female to AN8 female fitting has to be screwed on the entry side of the pump)
10. Connect the gearbox oil pump (4) and the gearbox oil heat exchanger (1) via hose #2 - JU00305ART (8).
11. Complete the loop by connecting the gearbox oil heat exchanger (1) with the gearbox on its port on the blind plug above the drive-shaft exit via hose #3 - JU00306ART (9). For this step, use the clamp for gearbox adapter JPP620075 (13) with 1x Screw M8x16 (31) and 1x DIN137 M8 spring washer (23) (apply 10Nm of torque). Fix the screws with screw lock *LOCTITE 243 screw locking lacquere*. ⚠ ATTENTION! The AN8 connections have to be tightened with a maximum of 35Nm of torque. If the AN8 screwing connections are tightened with too much torque, they might start to leak!
12. Integrate the oil heat exchanger (1) in the circle of the engine cooling water circuit. To achieve this, connect the oil heat exchanger to the engine via hose #4 - JU00307ART (10) and to the OEM hose via hose #5 - JU00308ART (11).
13. Fix the hoses on the engine- and OEM-hose side with Ø19 hose clamps (27) and fix the hoses on the heat exchanger side with Ø16 hose clamps (26).



Fig. 3: Correctly connected hoses (7 = hose #1; 8= hose #2)

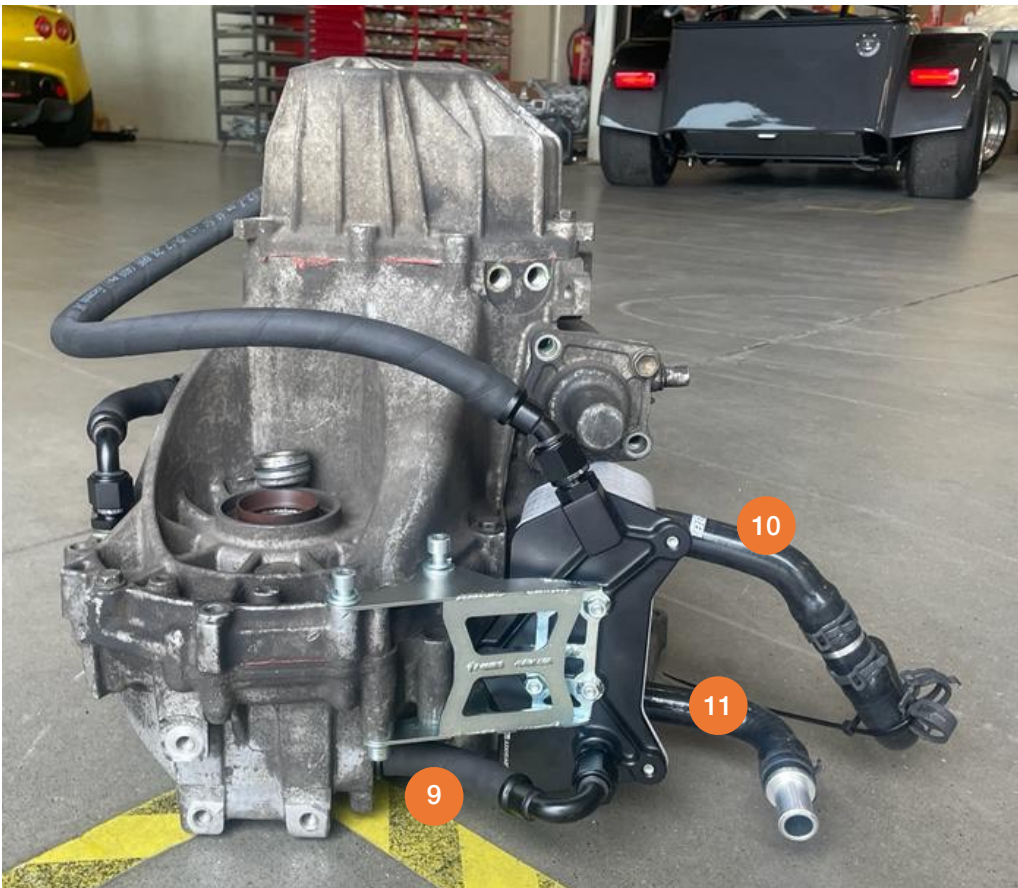


Fig. 4: Correctly connected hoses (9 = hose #3; 10= hose #4; 11=hose #5)

INSTALLATION NOTES ELECTRONICALLY (WIRING HARNESS)

1. ⚠ ATTENTION! Disconnect battery from the car!
2. Connect the Wiring loom JUBU gearbox oil cooling upgrade 2ZZ - JU00314ART (28) to the lambda probe heater.
3. Replace the 5A OEM fuse by a 15A fuse (29) (you can find the fuse in the side of the wiring harness that is NOT marked in red).
⚠ ATTENTION! If you do not replace the fuse, it will blow and the engine control light will permanently show a fault!

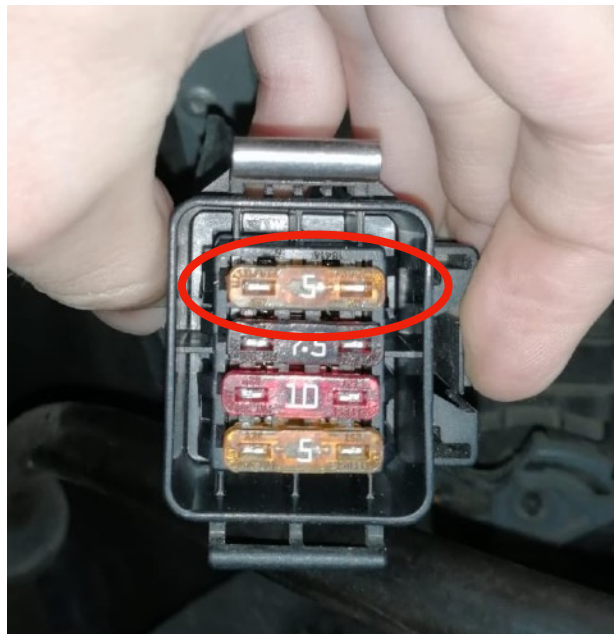


Fig. 5: Fuse box and fuse to replace (marked by red circle)

4. Connect the loose end of the Wiring loom JUBU gearbox oil cooling upgrade 2ZZ - JU00314ART (28) with the cable that leads to the fuse you have changed the step before by using the solder connector (30). NOTE: in the picture shown below, the required cable is green/gray, but may be different at your car because of different versions of the OEM wiring loom.

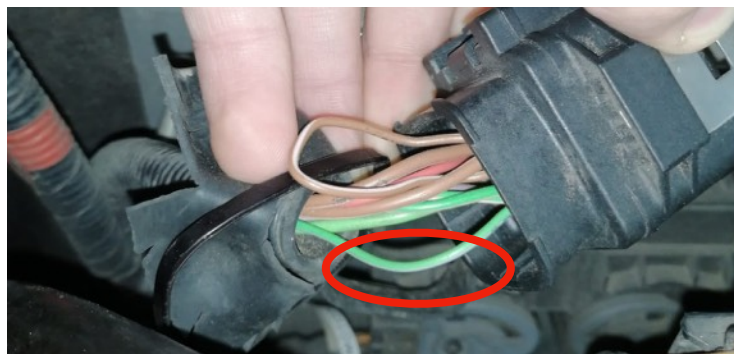


Fig. 6: Cable to connect with JUBU wiring loom via solder connector (cable marked with red circle)

5. Re-assemble the fuse box
6. Lay the wiring loom JUBU gearbox oil cooling upgrade 2ZZ - JU00314ART (28) down close to the OEM wiring loom and attach the new JUBU loom to the OEM loom with cable ties.
7. Connect the matching pump cable with the wiring loom JUBU gearbox oil cooling upgrade 2ZZ - JU00314ART (28).
8. Connect the cable of the pump that has a tab on its end with the ground-screw.



Fig. 7: Connection to ground screw

If you have any questions or need additional information, please contact us by email:
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