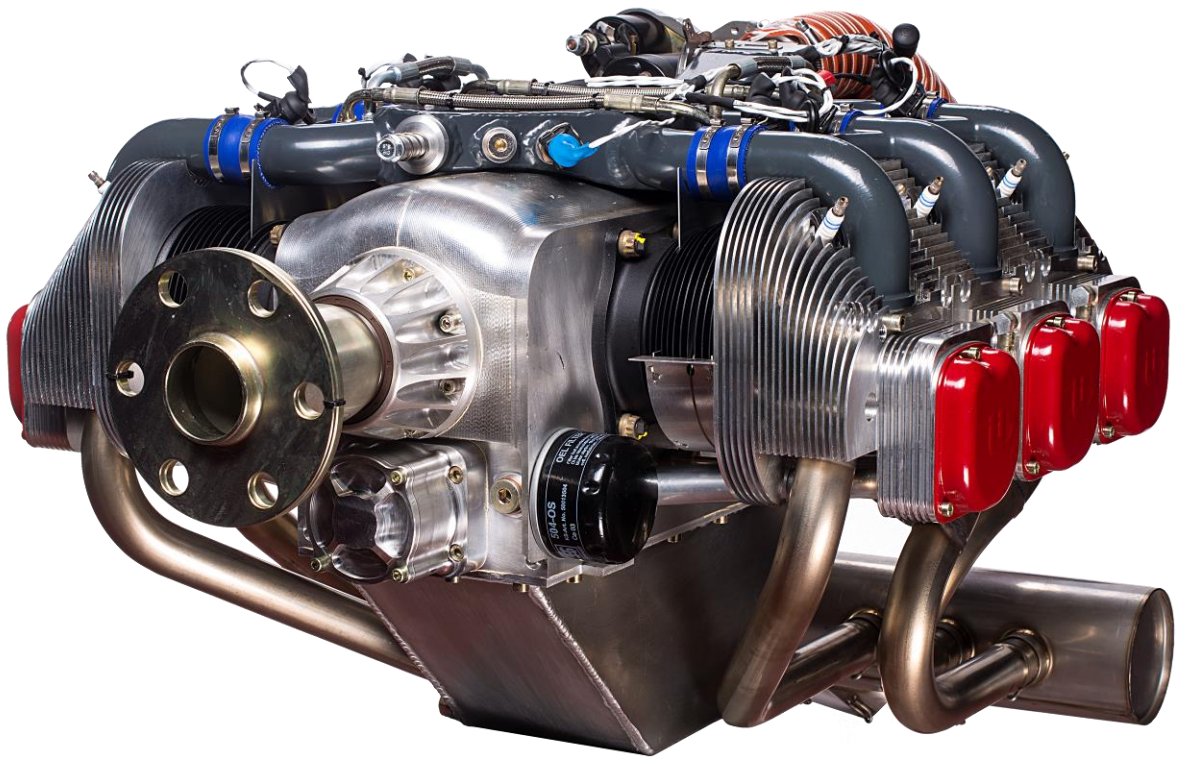




Illustrated Parts Catalogue



UL520/1S RR
AERO ENGINE

Please fill in your engine and aircraft details for further reference:

Engine Serial No. :

Aircraft type :

Model :

Serial No. :

Registration :

Introduction

Remarks

The illustrations in this Illustrated Parts Catalogue show the typical construction. They may not represent in full detail or the exact shape of the parts which have the same or similar function.

Modifications

All efforts are made to ensure the accuracy of this Illustrated Parts Catalogue at the time of publication. ULPower, however, maintains a policy of continuous improvement of its products without imposing upon itself any obligation to install them on its products previously manufactured.

ULPower reserves the right at any time to discontinue or change specifications, designs, features, models or equipment without incurring obligation.

Engine serial number

On all enquiries or spare parts orders, always indicate the engine serial number, as the manufacturer makes modifications to the engine for further development.

The engine serial number is located at the front left side of the crankcase (above oil filter).

Structure

Each section of this Illustrated Parts Catalogue starts with an exploded view or assembly drawing on the left side. The corresponding heading and the listing of the parts is on the right side and the following pages.

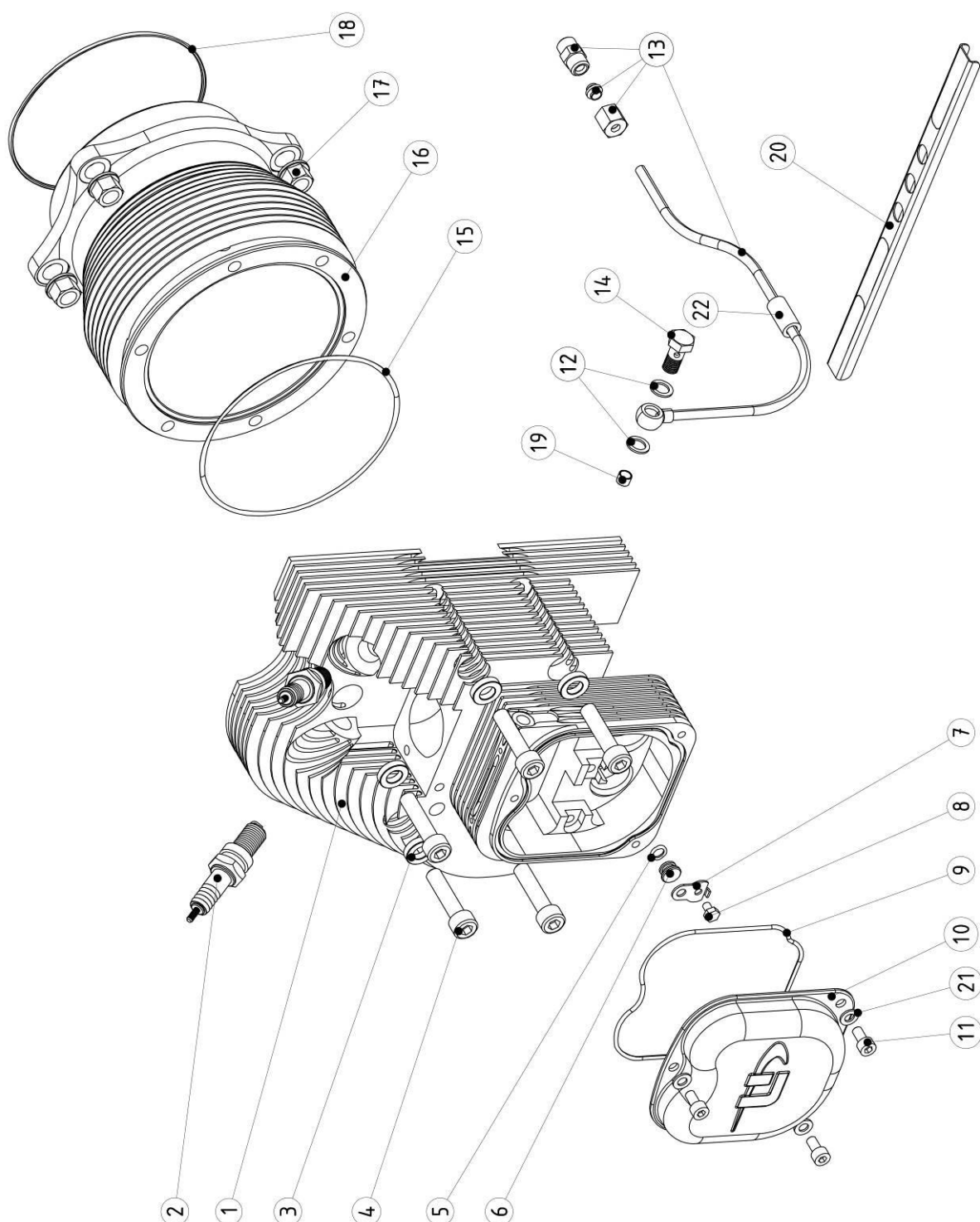
For each assembly drawing the right number of parts is listed in the relevant column. Because an engine can contain multiple times the illustrated assembly or a part can be used in several different applications, the total number of parts per engine is also given.

Generally all fasteners are tightened with a torque wrench. The "Notes" column indicates the appropriate torque or refers to extra information at the end of the section.

Blank

Table of Contents

Introduction	1
Remarks	1
Modifications	1
Engine serial number	1
Structure	1
Table of Contents	3
Cylinder Head and Cylinder	5
Crankcase, Oil Sump and Dipstick	7
Oil Pump Reverse Assembly: SE040516	9
Camshaft and Valve Train	11
Crankshaft, Conrod and Piston	13
Inlet Manifold, Injectors and Throttle (single ECU)	15
Inlet Manifold, Injectors and Throttle (double ECU)	19
Fuel lines	23
Engine Mount Plate, Starter and Alternator	25
Exhaust System	29
Breather and Oil/Air Separator	31
Oil Thermostat : E042515	33
Ignition and Engine Control Unit	35
Accessories	37
Section of drawings	38
Revision	39



Cylinder Head and Cylinder

Item	Part No.	Description	Parts in assembly	Note
1		Cylinder Head Assembly	1	
	BE012512	Cylinder Head Right	0	
	BE012513	Cylinder Head Left	1	
	SBE012512	Cylinder head middle	0	
	E035001	Valve Guide	2	
	E034501	Exhaust Valve Seat	1	
	E034502	Inlet Valve Seat	1	
2	E070502	Spark Plug	2	21Nm (5)
3	E012504	Cylinder Head Washer	6	
4	F0408035	Socket Cap Screw - M8x1x35 - 12.9 Steel	6	36 Nm (1)
5	S1006015	O-Ring Viton 6x1.5	1	
6	E012505	Cylinder Head Plug	1	
7	E02503	locking plate M4 cyl head	1	
8	F1004006	Hexagon head screw - M4x6 - 8.8 Steel - Zinc Plated	1	1.5 Nm
9	S1100020	O-Ring Viton 99x2	1	
10	E012506	Valve Cover	1	
11	F0105010	Socket Cap Screw - M5x10 - 8.8 Steel - Yellow Passivated	3	6 Nm
12	S3081210	Copper Sealing Ring ø8x12x1	2	
13	BE041505	Cylinder Head Oil Line Left Assembly	1	6 Nm(*)
	BE041506	Cylinder Head Oil Line Right Assembly	0	
14	F2520800	Banjo Bolt M8x1	1	8 Nm
15	E013001	Cylinder Gasket	1	(3)
16	SBE012004	Cylinder	1	(4)
17	E011003	Flanged Nut M10x1	4	36 Nm
18	S1105020	O-Ring Viton 105x2	1	
19	E012511	Cylinder Head Oil Filter	1	
20	SE012530	Bracket oil line	1	
21	F2110050	Nordlock washer	3	
22	F2550013	Cloth braided hose Ø5,5 x Ø10,5	1	

(1) Apply high temperature resistant grease

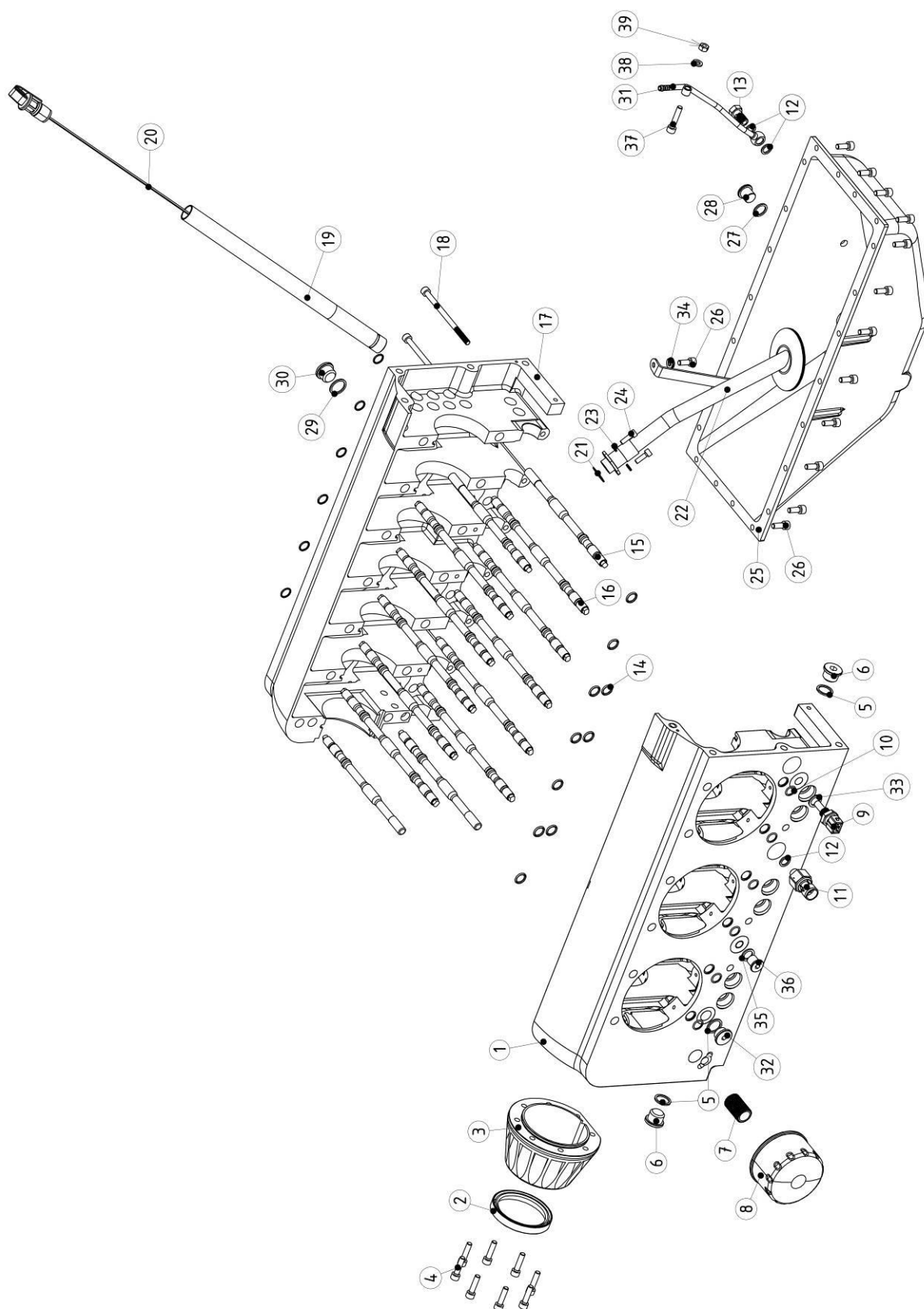
(2) Apply Loctite 266 (Loctite 26773)

(3) replace when removed

(4) Quick gasket (Loctite 5910) (Outer dia Seal)

(5) Wacker P12

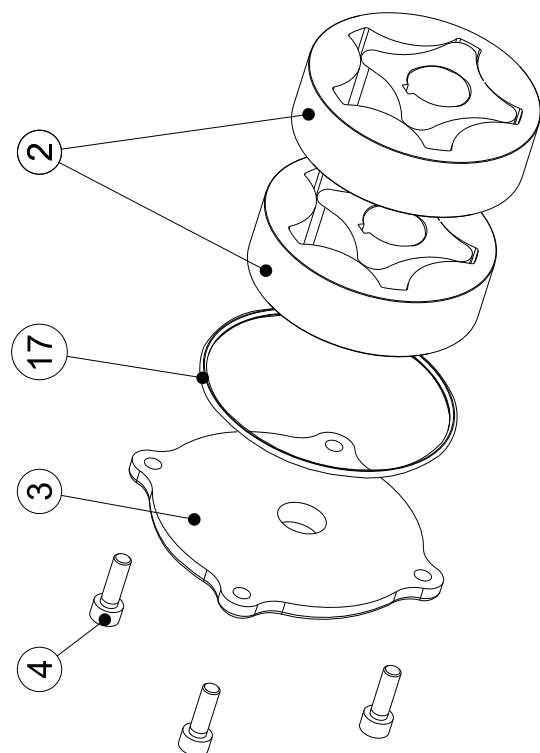
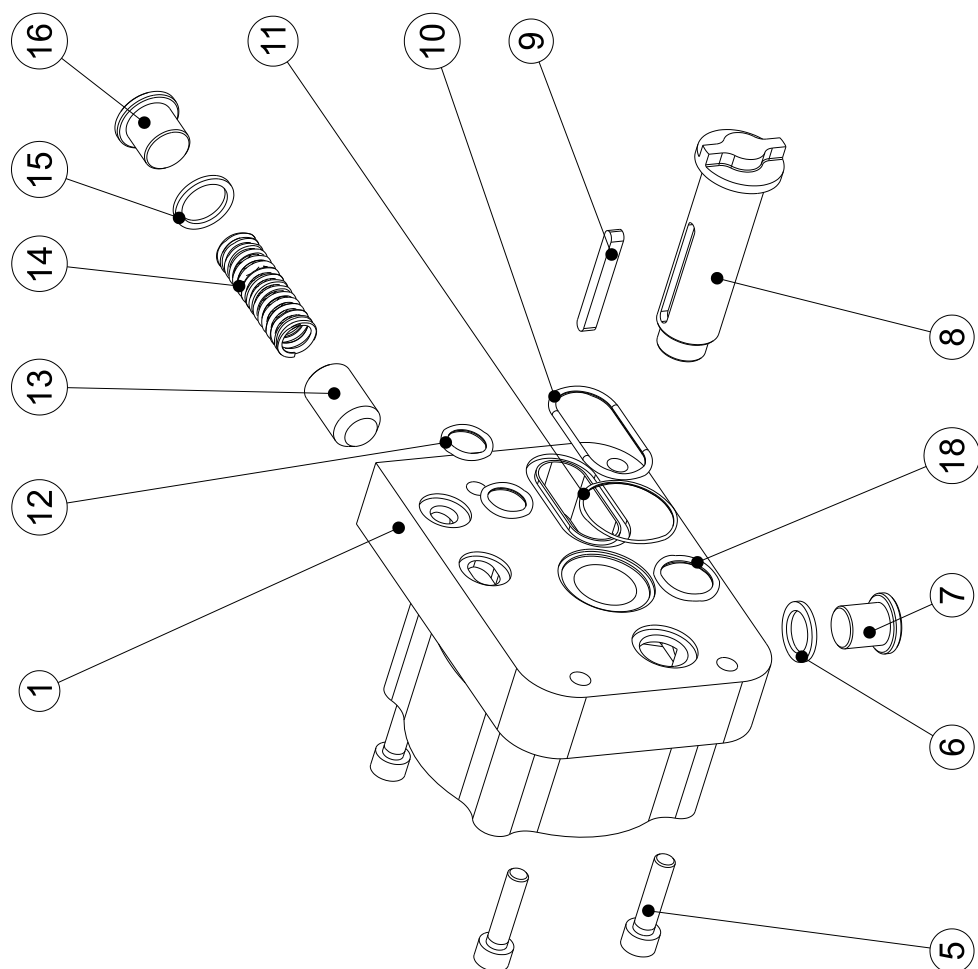
(*) Hold the nipple with a 11mm key while Torque the 14mm nut to 6 Nm



- (1) Apply Sealing Silicone - Elring No. 030.792
- (2) Apply Loctite 266 (Loctite 26773)
- (3) Apply Engine oil
- (4) Apply Loctite 542
- (5) Quick gasket (Loctite 5910) (Outer dia Seal)

Crankcase, Oil Sump and Dipstick

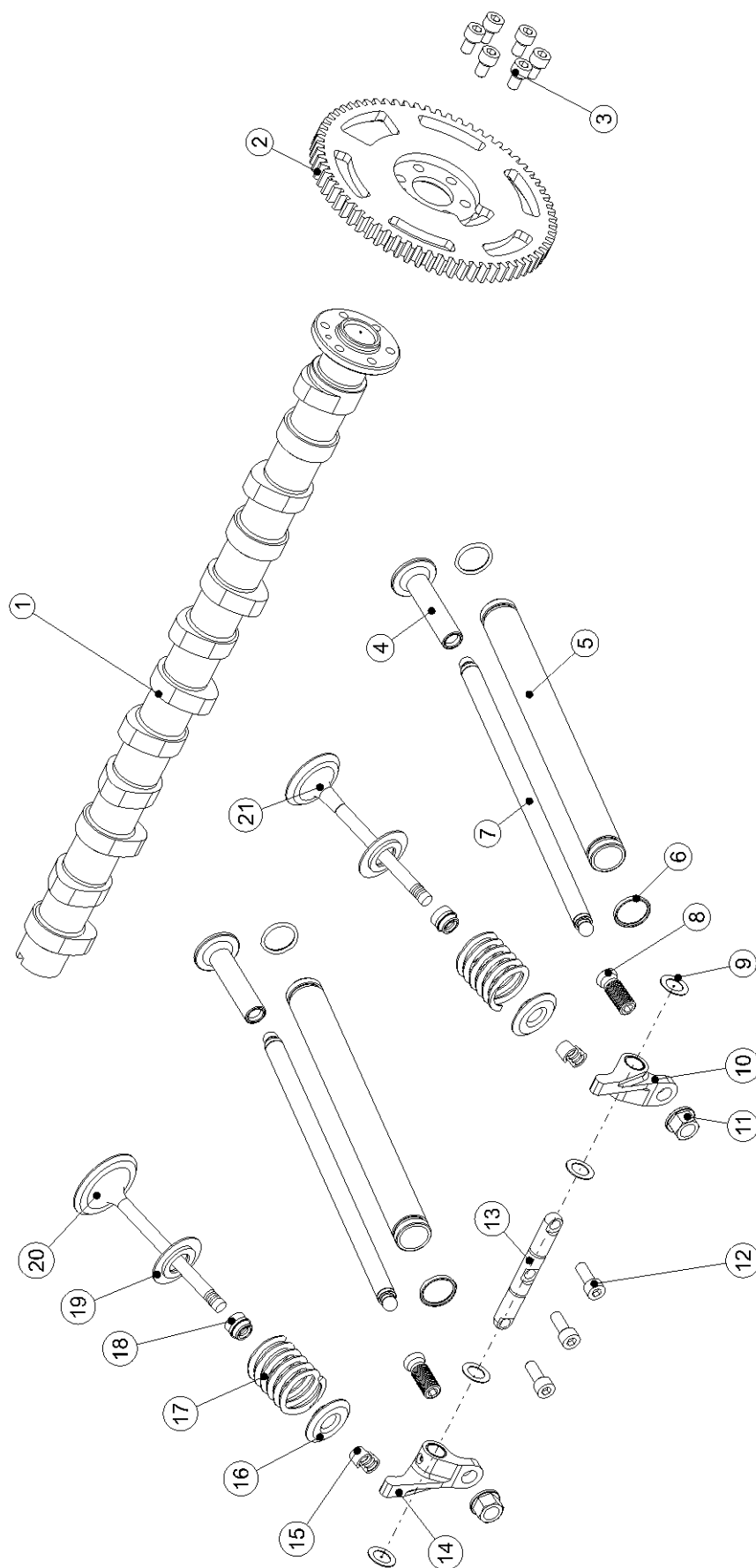
Item	Part No.	Description	Parts in assembly	Note
1	SE010502	Crankcase Left	1	(1)
2	S2607510	Oil Seal Viton 60x75x10 GR	1	(5)
3	BE010509	Thrust Bearing Mount	1	(1)
4	F0106025	Socket Cap Screw - M6x25 - 8.8 Steel - Yellow Passivated	8	10 Nm
5	S3162015	Copper Sealing Ring $\varnothing 16 \times 20 \times 1.5$	3	
6	F4621615	Hexagon Socket Screw Plug - M16x1.5	2	25 Nm (2)
7	E042006	Oil Filter Screw M20x1.5	1	/
8	E042010	Oil Filter	1	15 Nm (3)
9	E081516	Oil Temperature Sensor	1	20 Nm
10	S1011015	O-Ring Viton $\varnothing 11 \times 1.5$	12	
11	E081507	Oil Pressure Sensor	1	12 Nm
12	S3101415	Copper Sealing Ring $\varnothing 10 \times 14 \times 1.5$	3	
13	F2521000	Banjo Bolt M10x1 L = 25	1	10 Nm
14	S1011020	O-Ring Viton $\varnothing 11 \times 2$	10	(3)
15	E011002	Stud Short	4	
16	E011001	Stud Long	10	
17	SE010501	Crankcase Right	1	
18	F0206100	Socket Cap Screw - M6x100 - 8.8 Steel - Zinc Plated	6	10 Nm
19	E043003	Dipstick Tube	1	(4)
20	SE043004	Dipstick	1	
21	S1020010	O-Ring Viton $\varnothing 20 \times 1$	1	
22	SE044501	Oil Pickup Tube with Filter	1	
23	F2110050	NordLock Washer M5	2	
24	F0105016	Socket Cap Screw - M5x16 - 8.8 Steel - Yellow Passivated	2	6 Nm
25	SE041002	Oil Sump	1	(1)
26	F0106016	Socket Cap Screw - M6x16 - 8.8 Steel - Yellow Passivated	22	10 Nm
27	S3142015	Copper Sealing Ring $\varnothing 14 \times 20 \times 1.5$	1	
28	E041020	Carter plug Magnet M14x1,5	1	25 Nm
29	S3182415	Copper sealing ring $\varnothing 18 \times 24 \times 1.5$	1	
30	F2521815	Hex socket screw plug M18x1,5	1	25Nm
31	E043511	Oil return tube sump	1	
32	E041015	Plug 5/8 - 18UNF	1	
33	S3121715	Copper sealing ring d12xD17x1.5	1	
34	F2110060	Nordlock Washer M6	1	
35	S3121715	Copper sealing ring d12xD17x1.5	1	
36	F4621215	Hexagon socket screw plug M12x1.5 (Single ECU)	1	25Nm (2)
	E081518	Oil Pressure sensor (double ECU)	1	12Nm
37	F0206028	Socket Cap Screw M6x28 - 8,8Zn	1	
38	F2110060	Nordlock Washer M6	1	
39	F5001060	Hexagon Nut M6 - Zn	1	



Oil Pump Reverse Assembly: SE040516

Item	Part No.	Description	Parts in assembly	Note
1	SE040511	Oil Pump Reverse Housing	1	(1)
2	E040512	Oil Pump Rotor Set b = 20	2	
3	E040509	Oil Pump Cover	1	
4	F0105016	Socket Cap Screw - M5x16 - 8.8 Steel - Yellow Passivated	4	6 Nm
5	F0106025	Socket Cap Screw - M6x25 - 8.8 Steel - Yellow Passivated	4	10 Nm
6	S3121715	Copper Sealing Ring ø12x17x1.5	1	
7	F4621215	Hexagon Socket Screw Plug - M12x1.5	1	25 Nm
8	SE040513	Oil Pump Shaft	1	
9	F1704035	Parallel Key 4x4x35	1	
10	S1030020	O-Ring Viton ø30x2	1	
11	S1026010	O-Ring Viton ø26x1	1	
12	S1011020	O-Ring Viton ø11x2	2	
13	BE040516	Plunjer oil pump B20	1	
14	E040506	Pressure Relief Spring	1	
15	S3162015	Copper Sealing Ring ø16xD20x1.5	1	
16	E041040	Hexagon Socket Screw Plug - M16x1.5	1	25 Nm
17	S1070020	O-ring Viton 70x2	1	
18	S1016020	O-Ring Ø16x2	1	

(1) Apply sealing silicone - Elring No. 030.792



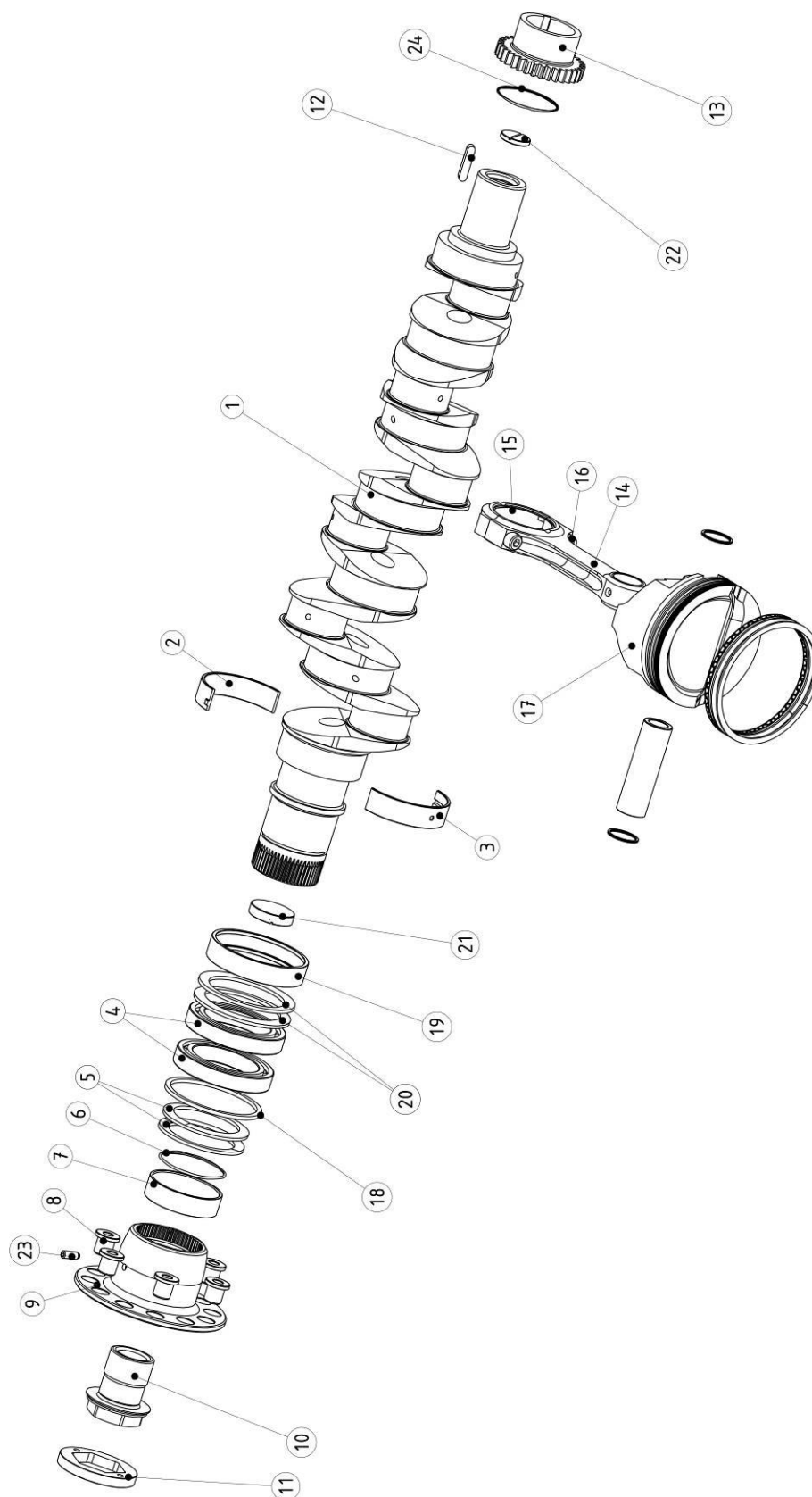
Camshaft and Valve Train

Item	Part No.	Description	Parts in assembly	Note
1	SBE030505	Camshaft 5.2 Reverse	1	
2	SE031005	Camshaft Gear Reverse	1	
3	F0306012	Socket Cap Screw - M6x12 - 12.9 Steel	6	18 Nm (1)
4	E031501	Cam Follower	2	
5	BE041501	Oil Return Tube	2	
6	S1017020	O-Ring Viton ø17x2	4	(3)
7	BE032005	Push Rod	2	
8	E032505	Tappet Adjusting Screw	2	
9	F2311016	Shim Ring 0.5mm - ø10x16	4	
10	E032506	Rocker Tappet Right	1	
11	E011003	Flanged Nut M10x1	2	20 Nm
12	F0306016	Socket Cap Screw - M6x16 - 12.9 Steel	3	12 Nm (1)
13	E032504	Rocker Shaft	1	
14	E032507	Rocker Tappet Left	1	
15	E034003	Collet Valve Spring Lock	4	
16	E034002	Valve Spring Retainer Top	2	
17	E033501	Valve Spring	2	
18	E035501	Valve Stem Seal	2	
19	E034001	Valve Spring Retainer Bottom	2	
20	E033002	Inlet Valve	1	
21	E033001	Exhaust Valve	1	

(1) Apply loctite 266

(2) Apply Loctite 266 (Loctite 26773)

(3) Apply engine oil



Crankshaft, Conrod and Piston

Item	Part No.	Description	Parts in assembly	Note
1	SBE020502	Crankshaft	1	
2	BE022005	Crankshaft Bearing Set (contains piece 2, 3)	7	
3		Crankshaft Bearing Half 1		
4		Crankshaft Bearing Half 1		
4	E022001	Thrust Bearing	2	
5	E021502	Thrust Bearing Disc Spring	2	
6	S1052020	O-Ring Viton ø50x1.78	1	
7	E021504	Thrust Bearing Retention Ring	1	
8	E023004	Prop Flange Drive Lug ø14	6	
9	E022501 E022505 E022506 E022504	Propeller Flange L = 55 (Standard) Propeller Flange L = 90 (6) Propeller Flange L = 35 (6) Propeller Flange L = 110 (6)	1	
10	E023001	Prop Flange Bolt	1	300Nm (5)
11	E022510	Locking propellor flange bolt	1	
12	F1706030	Parallel Key 6x6x30	1	
13	E021001	Crankshaft Gear	1	
14	BE023506	Connecting Rod Assembly	6	
15	E022004	Connecting Rod Bearing set (2)	6	
16	F0408035	Socket Cap Screw - M8x1x35 - 12.9 Steel	12	36 Nm (2+3)
17	E024001 E024005	Piston -18cc ("I" engines) Piston -7cc ("iS" engines)	6	
18	E021506	Thrust Bearing Disc	1	
19	SE021515	Thrust Bearing Retention Ring Outer	1	
20	E021510	Thrust Bearing Disc Spring Outer	2	
21	E020510	Oil Stop M36x2	1	(4)
22	E020511	Oil Stop M24x1,5L	1	(4)
23	F1305016	hexagon socket set screw M5x16	1	10 Nm
24	S1047017	O-ring Viton 47.35x1.78	1	

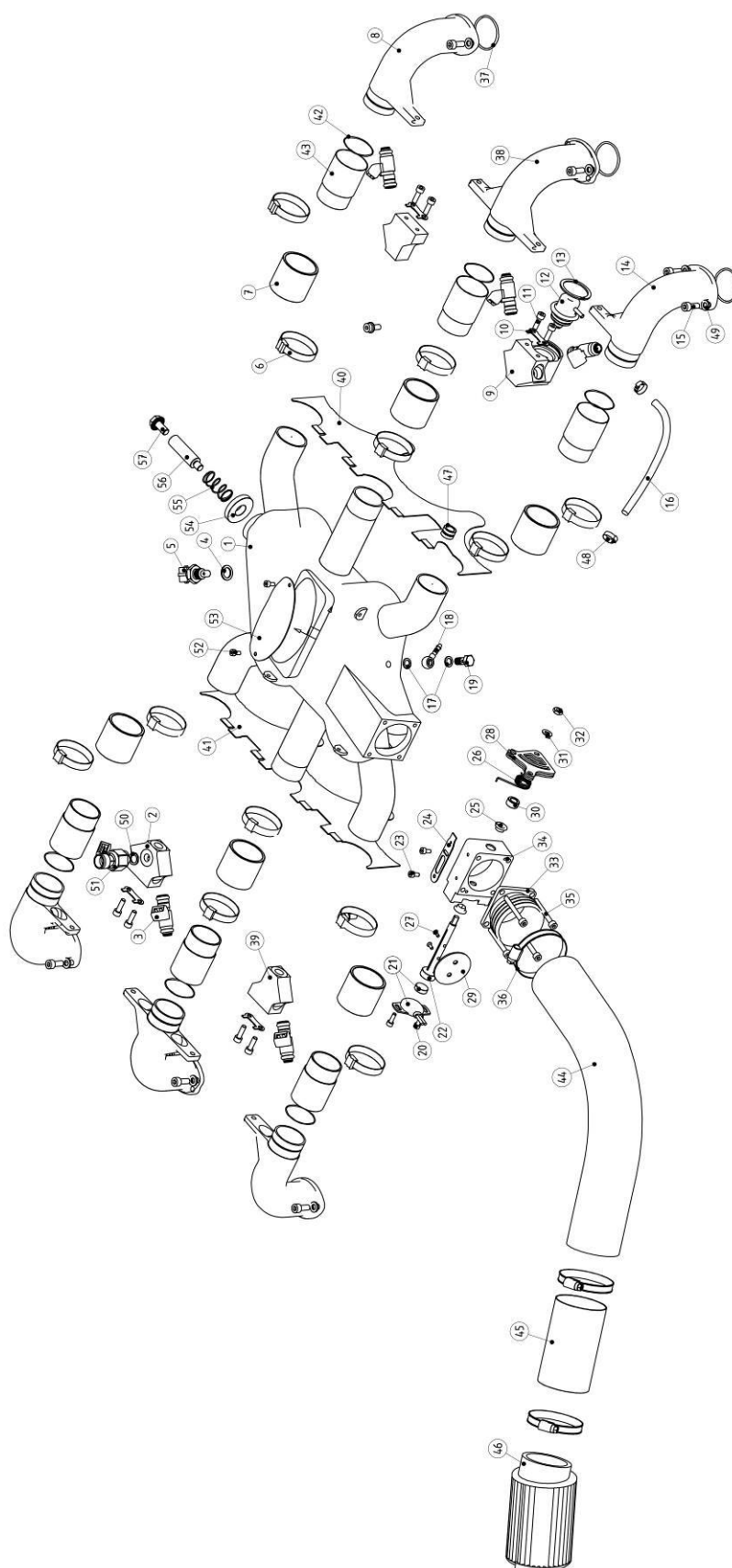
(2) Loctite 266 (Loctite 26773)

(3) Replace when removed

(4) Apply Loctite 542

(5) Apply grease

(6) Optional available: See Installation Manuel



(1) Apply Sealing Silicone - Elring No. 030.792

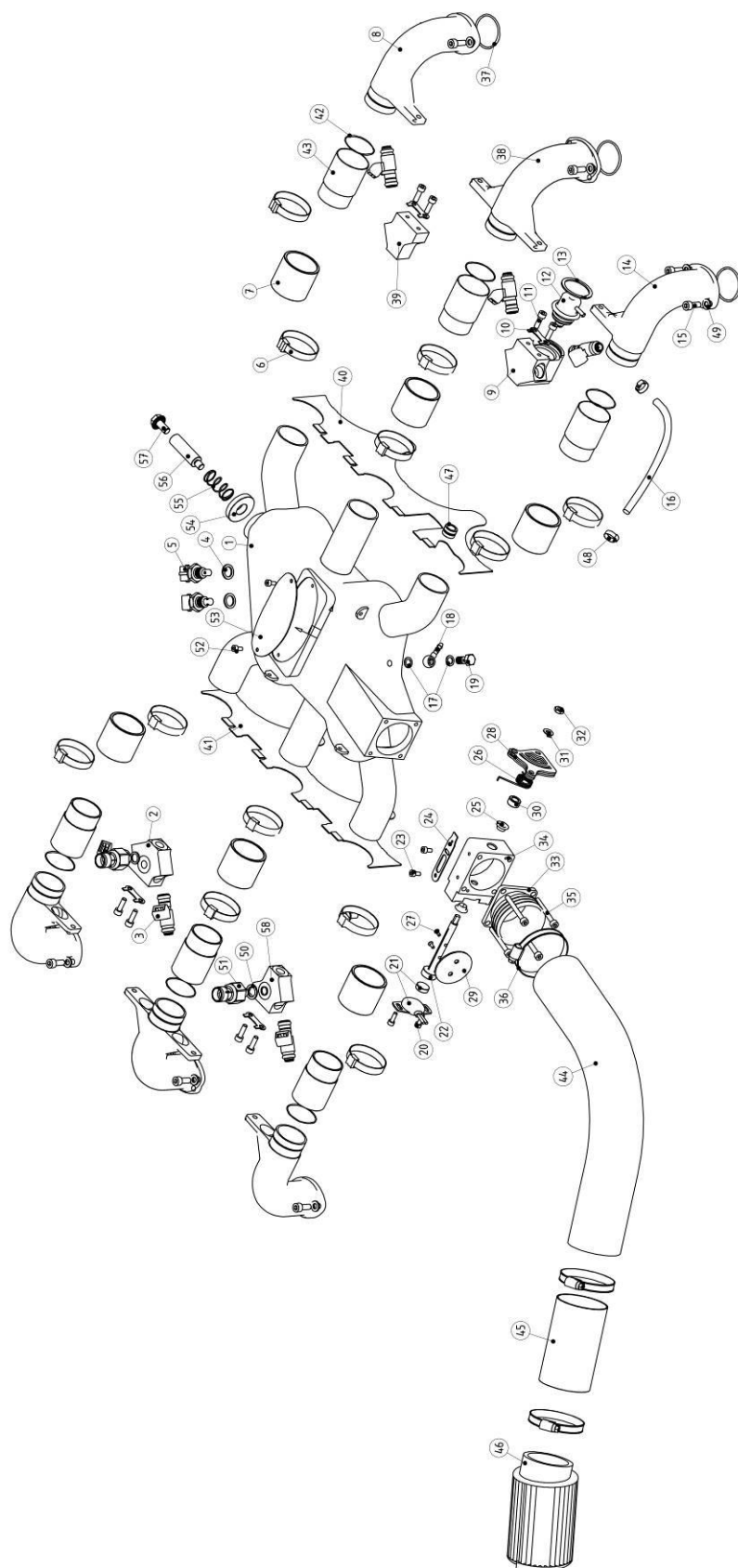
(2) Apply Loctite 266 (Loctite 26773)

(3) Apply engine oil

Inlet Manifold, Injectors and Throttle (single ECU)

Item	Part No.	Description	Parts in assembly	Note
1	SE061519	Inlet Collector	1	
2	SE061504 SE061506	Injector +sensor Holder Injector Holder + sensor holder (Forced Cooling)	1 1	
3	E062501	Injector	6	(3)
4	S3121715	Copper Sealing Ring $\varnothing 12 \times 17 \times 1.5$	1	
5	E081515	Air Temperature Sensor	1	20 Nm
6	F2580001	Hose Clamp single use $\varnothing 47$	12	
7	E061511	Rubber Hose 38x3x38	6	
8	E061509	Inlet Tube Right	2	(1)
9	SE061520	Injector + Fuel Pressure Regulator Holder / Bypass	1	
10	SE061512	Injector Holder Lock Plate	4	
11	F1005010	Hex Head Screw - M5x16 - 8.8 Steel - Yellow Passivated	8	6 Nm
12	E064501	Fuel Pressure Regulator - 3bar	1	(3)
13	F1600036	Retaining Ring - bore 36mm	1	
14	E061508	Inlet Tube Left	2	(1)
15	F0106016	Socket Cap Screw - M6x16 - 8.8 Steel - Yellow Passivated	12	10 Nm (2)
16	F2550006	Fuel Pressure Regulator Hose ($\varnothing 4.5 \times 9.5 \times 16 \text{cm}$)	0,3	
17	S3081210	Copper Sealing Ring $\varnothing 8 \times 12 \times 1$	2	
18	F2510708	Banjo Eye M8/ $\varnothing 5$	1	
19	F2520800	Banjo Bolt M8x1	1	6 Nm
20	SUSE060521	Throttle assy 6cyl (contains piece 20-34)	2	2 Nm 3Nm
21	F0104012	Socket cap screw M4x12 - Yellow passivated	1	
22	E081519	Hall sensor + magnet	1	
23	SE060530	Throttle Shaft	1	
24	F0104006	Socket Cap Screw - M4x8 - 8.8 Steel - Yellow Passivated	2	
25	E060506	Throttle Lever Stop	1	
26	B2200001	Flanged Bushing 8x10x5.5	2	
27	E060511	Throttle Lever Spring	1	
28	F3503008	Button Head Socket Cap Screw - M3x8 - 10.9 Steel - Zinc Plated	2	
29	E060543	Throttle lever outer plate hall sensor	1	
30	E060544	Throttle lever middle plate hall sensor	1	
31	E060545	Throttle lever inner plate hall sensor	1	
32	SE060525	Throttle plate D45	1	
33	E060542	Throttle bushing hall sensor	1	
34	SE061513	Locking plate throttle shaft	1	
35	F5103060	Prevailing torque type hexagon nut thin M6 Zinc plated	1	
36	SE060535	Throttle connection	1	
37	SE060521	Throttle housing D45 hall sensor	1	
38	F0105045	Socket Cap Screw - M5x45 - 8.8 Steel - Yellow Passivated	4	6 Nm
39	F2580007	Hose clamp $\varnothing 40 - 60$	3	
40	S1036020	O - Ring Viton 36 x 2	6	
41	SE061508	Inlet tube middle	2	
42	SE061505	Injector holder single hole	2	
43	SE012510	Baffle right	1	
44	SE012512	Baffle left	1	

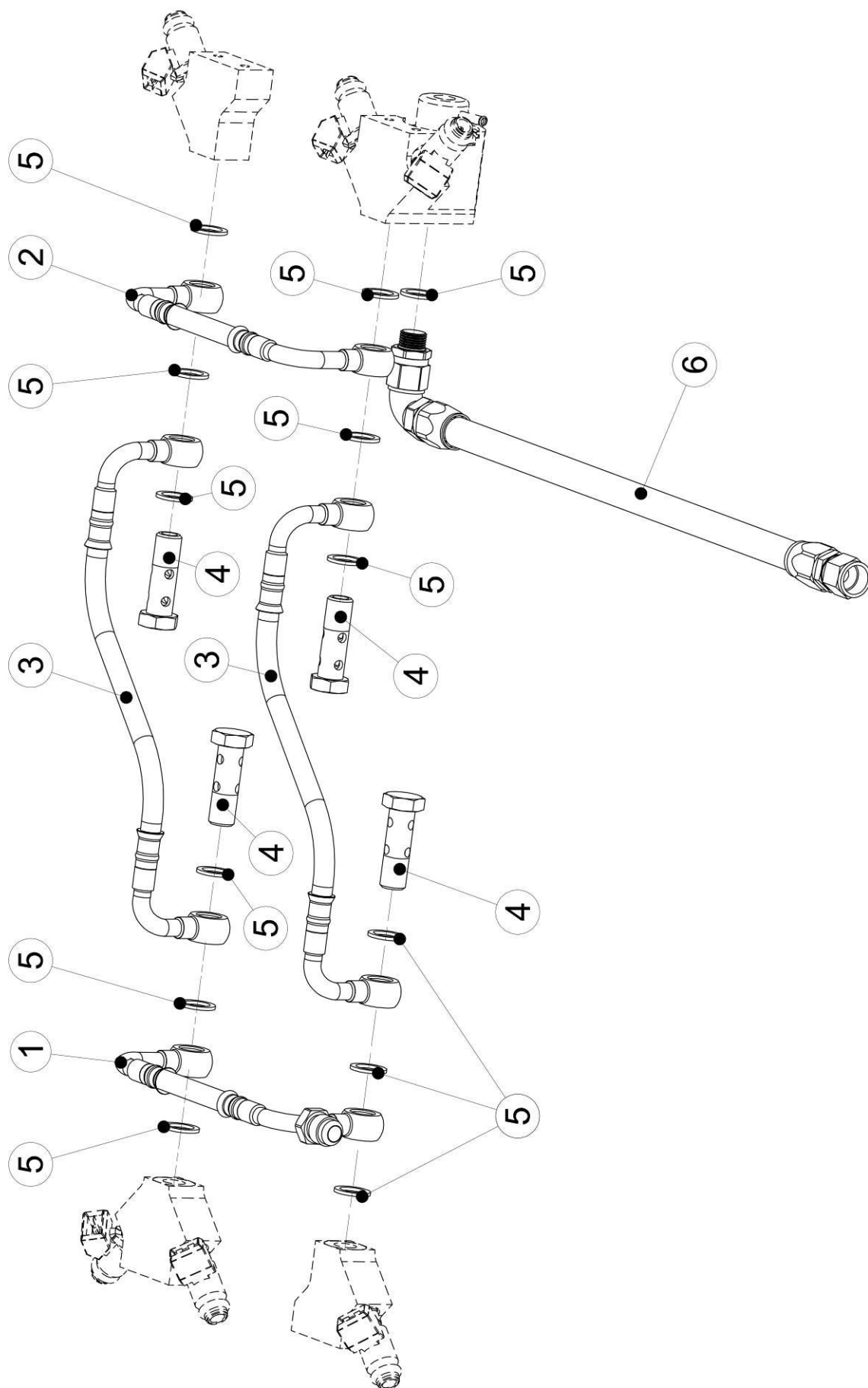
Item	Part No.	Description	Parts in assembly	Note
42	S1035010	O - Ring Viton 35 x 1	6	
43	BE061515	Inlet extension tube	6	
44	SE060565	Inlet hose D60 - L700	1	
45	SE060560	Inlet tube D60 x 1	1	
46	SE062003	Air filter D60 straight	1	
47	E012517	Protection hose Fp-regulator	1	
48	F2580002	Hose clamp single use Ø10	2	
49	F2110060	Nord lock washer	12	
50	S3101415	Copper sealing ring d10xD14x1.5	1	
51	E081507	Fuel pressure sensor	1	
52	F0904008	Hex socket button head cap screw M4x8 -10.2 Zn	2	
53	M900016	Logo plaatje	1	
54	SE061515	Overpressure valve	1	
55	F2010006	Spring Ø14,2 x 1,2 L=40	1	
56	SE061514	Overpressure valve body	1	
57	F0808060	hexagon flange bolt M8x60	1	



Inlet Manifold, Injectors and Throttle (double ECU)

Item	Part No.	Description	Parts in assembly	Note
1	SE061519	Inlet Collector	1	
2	SE061504	Injector +sensor Holder	1	
	SE061506	Injector Holder + sensor holder (Forced Cooling)	1	
3	E062501	Injector	6	(3)
4	S3121715	Copper Sealing Ring $\varnothing 12 \times 17 \times 1.5$	2	
5	E081515	Air Temperature Sensor	2	20 Nm
6	F2580001	Hose Clamp single use $\varnothing 47$	12	
7	E061511	Rubber Hose 38x3x38	6	
8	E061509	Inlet Tube Right	2	(1)
9	SE061520	Injector + Fuel Pressure Regulator Holder / Bypass	1	
10	SE061512	Injector Holder Lock Plate	4	
11	F1005010	Hex Head Screw - M5x16 - 8.8 Steel - Yellow Passivated	8	6 Nm
12	E064501	Fuel Pressure Regulator - 3bar	1	(3)
13	F1600036	Retaining Ring - bore 36mm	1	
14	E061508	Inlet Tube Left	2	(1)
15	F0106016	Socket Cap Screw - M6x16 - 8.8 Steel - Yellow Passivated	12	10 Nm (2)
16	F2550006	Fuel Pressure Regulator Hose ($\varnothing 4.5 \times 9.5 \times 16 \text{cm}$)	0,3	
17	S3081210	Copper Sealing Ring $\varnothing 8 \times 12 \times 1$	2	
18	F2510708	Banjo Eye M8/ $\varnothing 5$	1	
19	F2520800	Banjo Bolt M8x1	1	6 Nm
20	SUSE060521	Throttle assy 6cyl (contains piece 20-34)	2	2 Nm 3Nm
21	F0104012	Socket cap screw M4x12 - Yellow passivated	1	
22	E081519	Hall sensor + magnet	1	
23	SE060530	Throttle Shaft	1	
24	F0104006	Socket Cap Screw - M4x8 - 8.8 Steel - Yellow Passivated	2	
25	E060506	Throttle Lever Stop	1	
26	B2200001	Flanged Bushing 8x10x5.5	2	
27	E060511	Throttle Lever Spring	1	
28	F3503008	Button Head Socket Cap Screw - M3x8 - 10.9 Steel - Zinc Plated	2	
	E060543	Throttle lever outer plate hall sensor	1	
	E060544	Throttle lever middle plate hall sensor	1	
	E060545	Throttle lever inner plate hall sensor	1	
29	SE060525	Throttle plate D45	1	
30	E060542	Throttle bushing hall sensor	1	
31	SE061513	Locking plate throttle shaft	1	
32	F5103060	Prevailing torque type hexagon nut thin M6 Zinc plated	1	
33	SE060535	Throttle connection	1	
34	SE060521	Throttle housing D45 hall sensor	1	
35	F0105045	Socket Cap Screw - M5x45 - 8.8 Steel - Yellow Passivated	4	6 Nm
36	F2580007	Hose clamp $\varnothing 40 - 60$	3	
37	S1036020	O - Ring Viton 36 x 2	6	
38	SE061508	Inlet tube middle	2	
39	SE061505	Injector holder single hole	1	
40	SE012510	Baffle right	1	
41	SE012512	Baffle left	1	

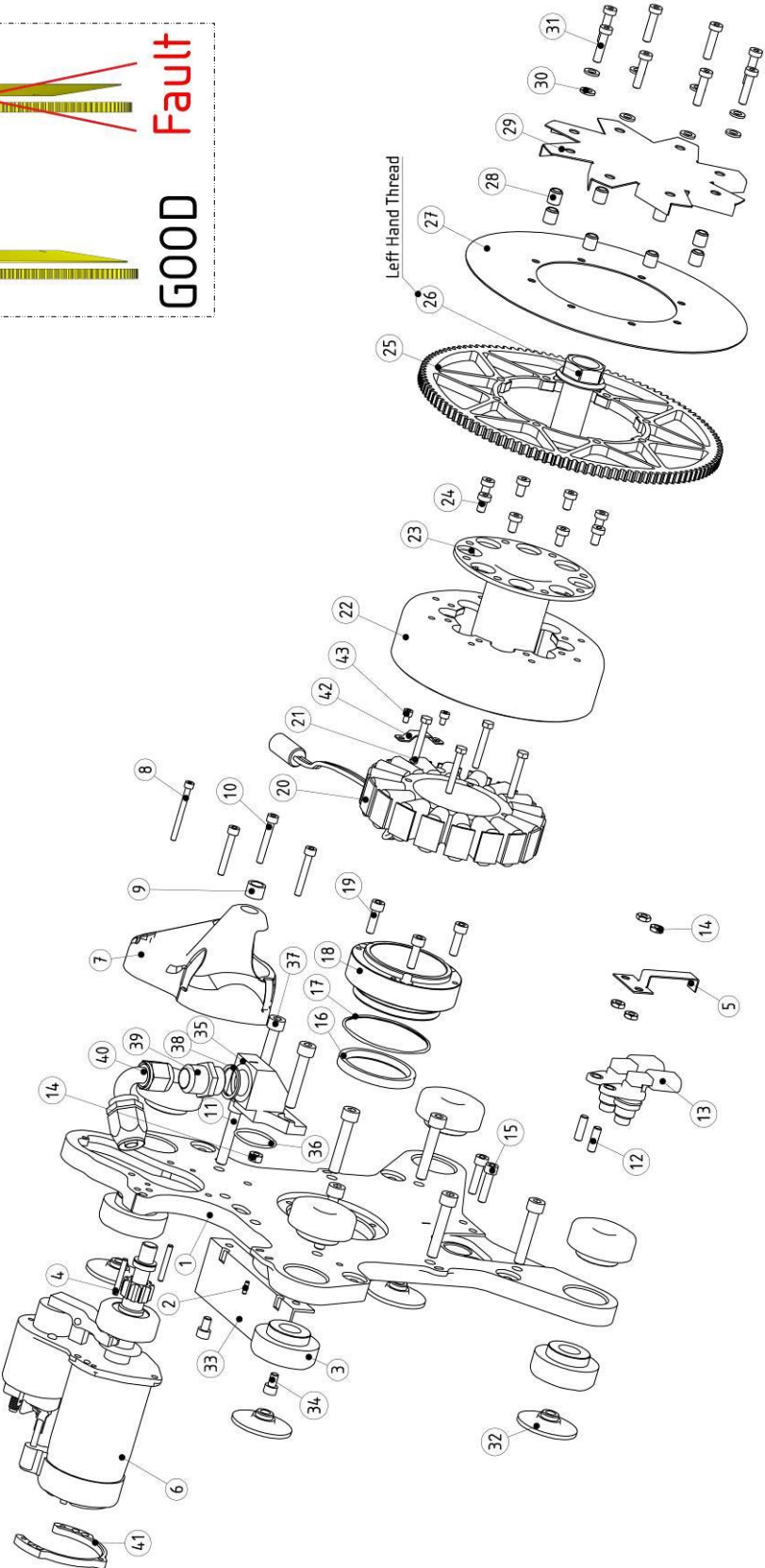
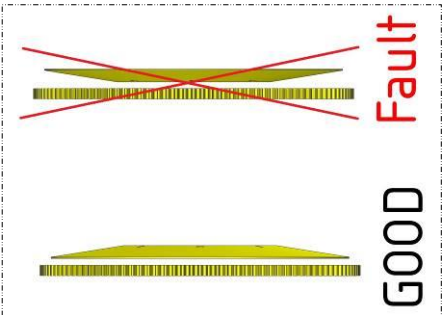
Item	Part No.	Description	Parts in assembly	Note
42	S1035010	O - Ring Viton 35 x 1	6	
43	BE061515	Inlet extension tube	6	
44	SE060565	Inlet hose D60 - L700	1	
45	SE060560	Inlet tube D60 x 1	1	
46	SE062003	Air filter D60 straight	1	
47	E012517	Protection hose Fp-regulator	1	
48	F2580002	Hose clamp single use Ø10	2	
49	F2110060	Nord lock washer	12	
50	S3101415	Copper sealing ring d10xD14x1.5	2	
51	E081507	Fuel pressure sensor	2	
52	F0904008	Hex socket button head cap screw M4x8 -10.2 Zn	2	
53	M900016	Logo plaatje	1	
54	SE061515	Overpressure valve	1	
55	F2010006	Spring Ø14,2 x 1,2 L=40	1	
56	SE061514	Overpressure valve body	1	
57	F0808060	hexagon flange bolt M8x60	1	
58	SE061502	Injector (single hole) + sensor holder	1	



Fuel lines

Item	Part No.	Description	Parts in assembly	Note
1	SE063010	Fuel line connection & feed line	1	
2	SE063011	Fuel line side	1	
3	E063013	Fuel line cross long	2	
4	F2521210	Banjo bolt M12x1.5 double	4	18 Nm
5	F2521200	Banjo bolt M12x1.5	1	18 Nm
6	S3121715	Copper sealing ring d12xD17x1.5	13	
7	E063015	Fuel return line 3.5 - 5.2	1	

Assemble 25 & 27



Engine Mount Plate, Starter and Alternator

Item	Part No.	Description	Parts in assembly	Note
1	ASE013506 ASE013502	Engine Mount Plate Acro Engine mount plate Acro double sensor	1	(1)
2	F1803010	Parallel Pin 3x10	2	
3	E014001	Rubber Engine Mount (65/70 Shore)	8	
4	F1804030	Parallel Pin 4x20	2	
5	E072001	Locking plate hall sensor	1	
6	E050502	Starter Engine reverse	1	
7	E050503	Starter Cap	1	
8	F0104035	Socket Cap Screw - M4x35 - 8.8 Steel - Zinc Plated	1	3 Nm
9	B2100001	Bushing 12x14x10	1	
10	F0105030	Socket Cap Screw - M5x30 - 8.8 Steel - Yellow Passivated	3	6 Nm(2)
11	F0108045	Socket Cap Screw - M8x45 - 8.8 Steel - Yellow Passivated	6	25 Nm
12	F4106020	Stud - M6x20 - Yellow Passivated	2	(2)
13	E081503	Hall Sensor	2	(4)
14	F5103060	Prevailing torque type hexagon nut - M6 - Zinc plated	4	10 Nm
15	F0106025	Socket Cap Screw - M6x25 - 8.8 Steel - Yellow Passivated	2	10 Nm
16	S2506207	Oil Seal Viton 50x62x7 GR	1	
17	S1066020	O-Ring Viton ø66x2	1	
18	SE051510	Alternator Stator Spacer	1	(1)
19	F0106020	Socket cap screw M6x20 - 8.8 Steel - Yellow passivated	3	10 Nm
20	SE052001	Alternator Stator	1	
21	F0705040	Hexagon head screw - M5x40 - 8.8 Steel - Zinc plated	4	10 Nm
22	SE052505	Alternator Magnet Ring	1	
23	SE052508	Alternator rotor flange	1	
24	F0306010	Socket cap screw thin - M6x10 - 12,9 Steel - Zinc plated	8	12 Nm
25	E051001	Starter Ring Gear	1	
26	E023002	Alternator Rotor Flange Bolt / Socket size 30 mm	1	280 Nm (3)
27	E052525	Alternator Fan Assembly (<i>Contains piece 27 , 28 , 29</i>) <i>Alternator fan base</i> <i>Spacer alternator fan</i> <i>Alternator fan top</i>	1	
28	E052503		1	
29	E052504		8	
30	E052506		1	
30	F2110060	NordLock Washer M6	8	
31	F0206028	Socket Cap Screw - M6x28 - 8.8 Steel - Zn	8	10 Nm
32	E013505	Engine Mount Washer	4	
33	AE013540	Drainer	1	
34	F0106010	Socket cap screw - ,M6x1010 - 8,8 Steel - Yellow passivated	2	
35	ASE045001	Oil distributor	1	

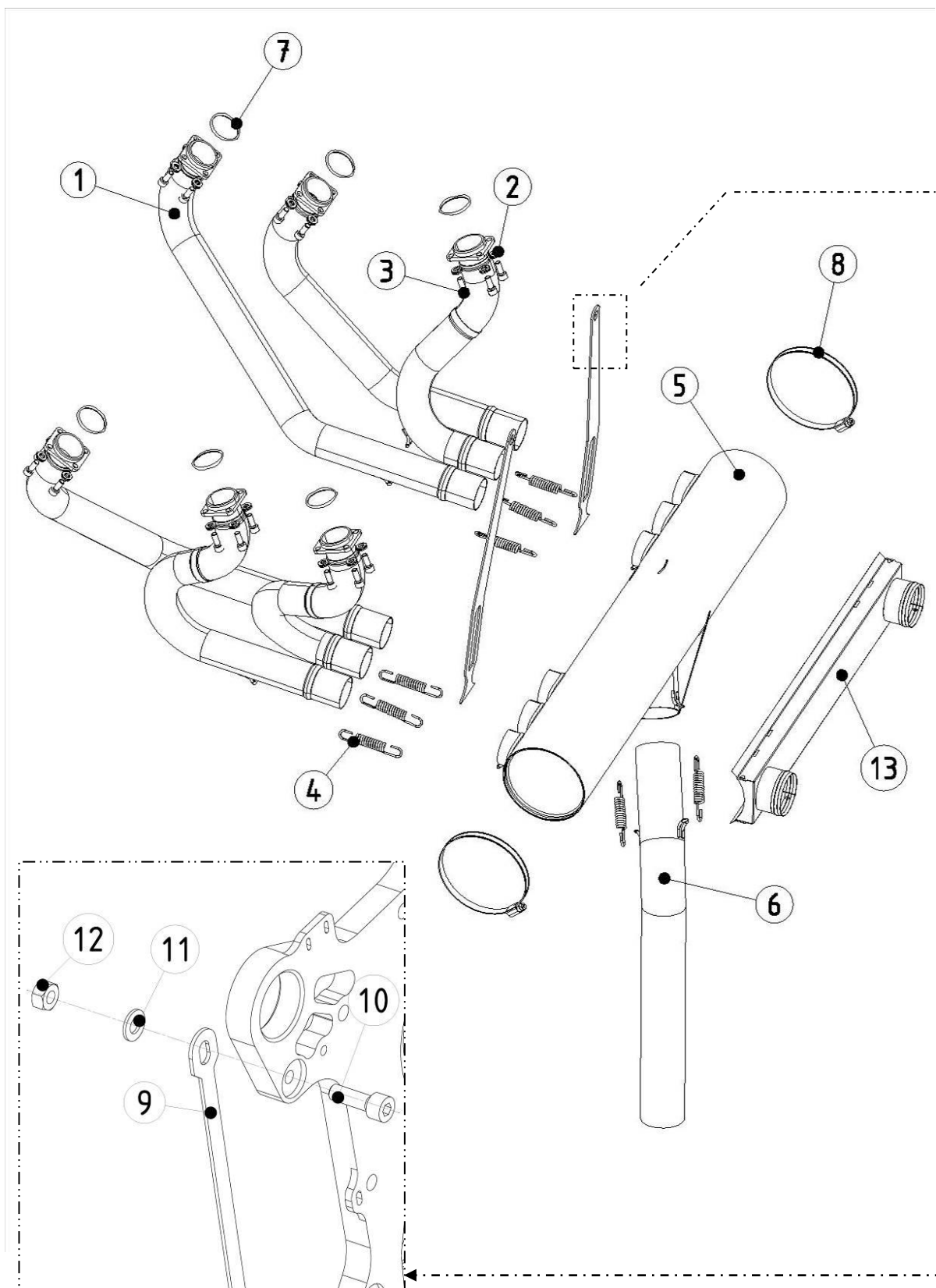
36	S1028015	O-ring Viton D28x1,5	1	
37	F0108045	Socket cap screw -M8x45 -8,8 Steel - yellow passivated	2	25Nm
38	S3222715	copper ring ø22x27x1,5	1	
39	F2560016	adaptor M22x1,5-10JIC	1	
40	F3010090	90° reusable - 10JIC swivel	1	
41	E050504	Starter Fixing Ring	1	
42	E013030	Bracket Alternator Guide	1	
43	F0104006	Socket Cap Screw M4x6 8-8 yellow	2	

(1) Apply Sealing Silicone - Elring No. 030.792

(2) Apply Loctite 2701

(3) Apply Loctite 266 (Loctite 26773)

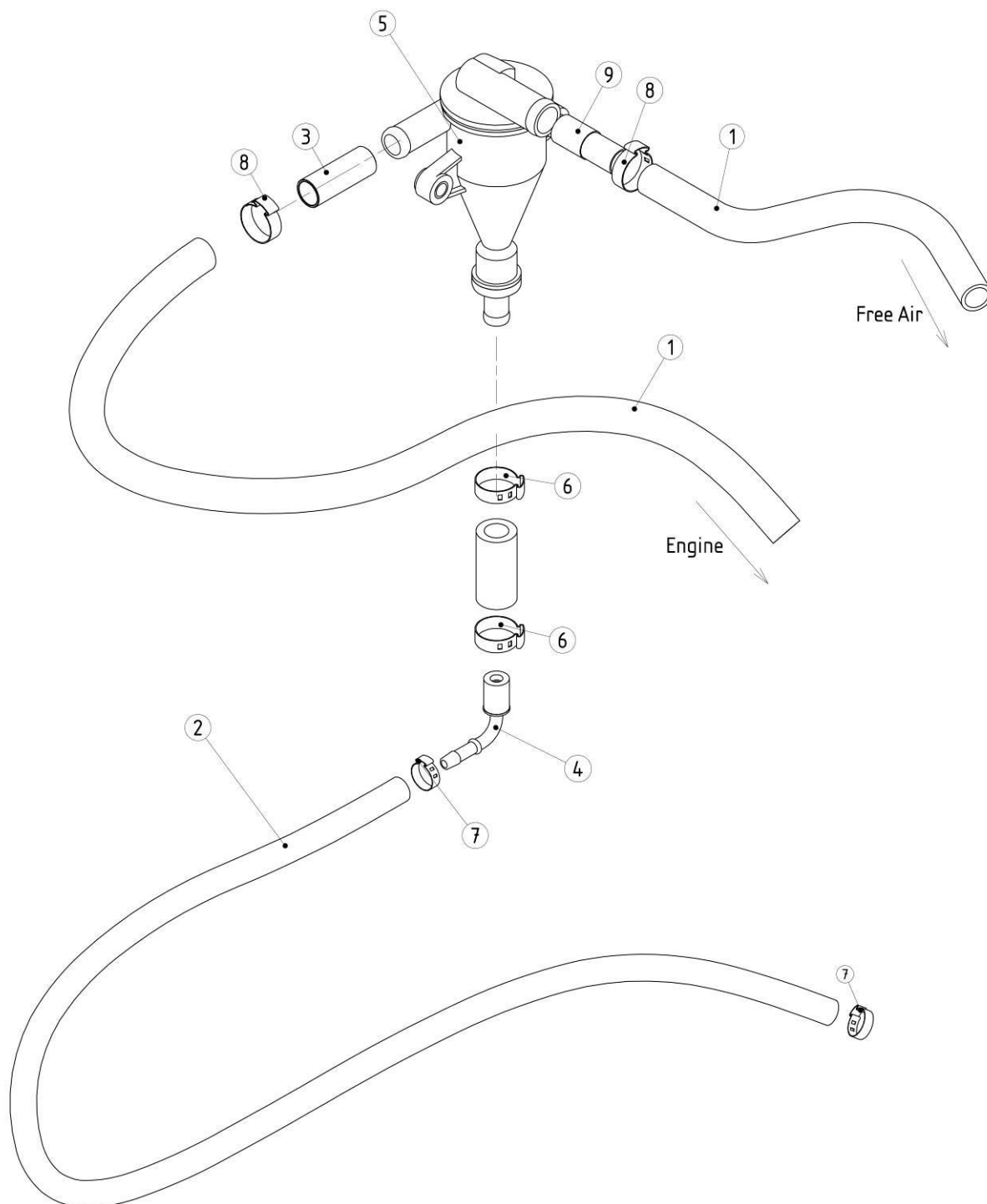
(4) Apply engine oil



Exhaust System

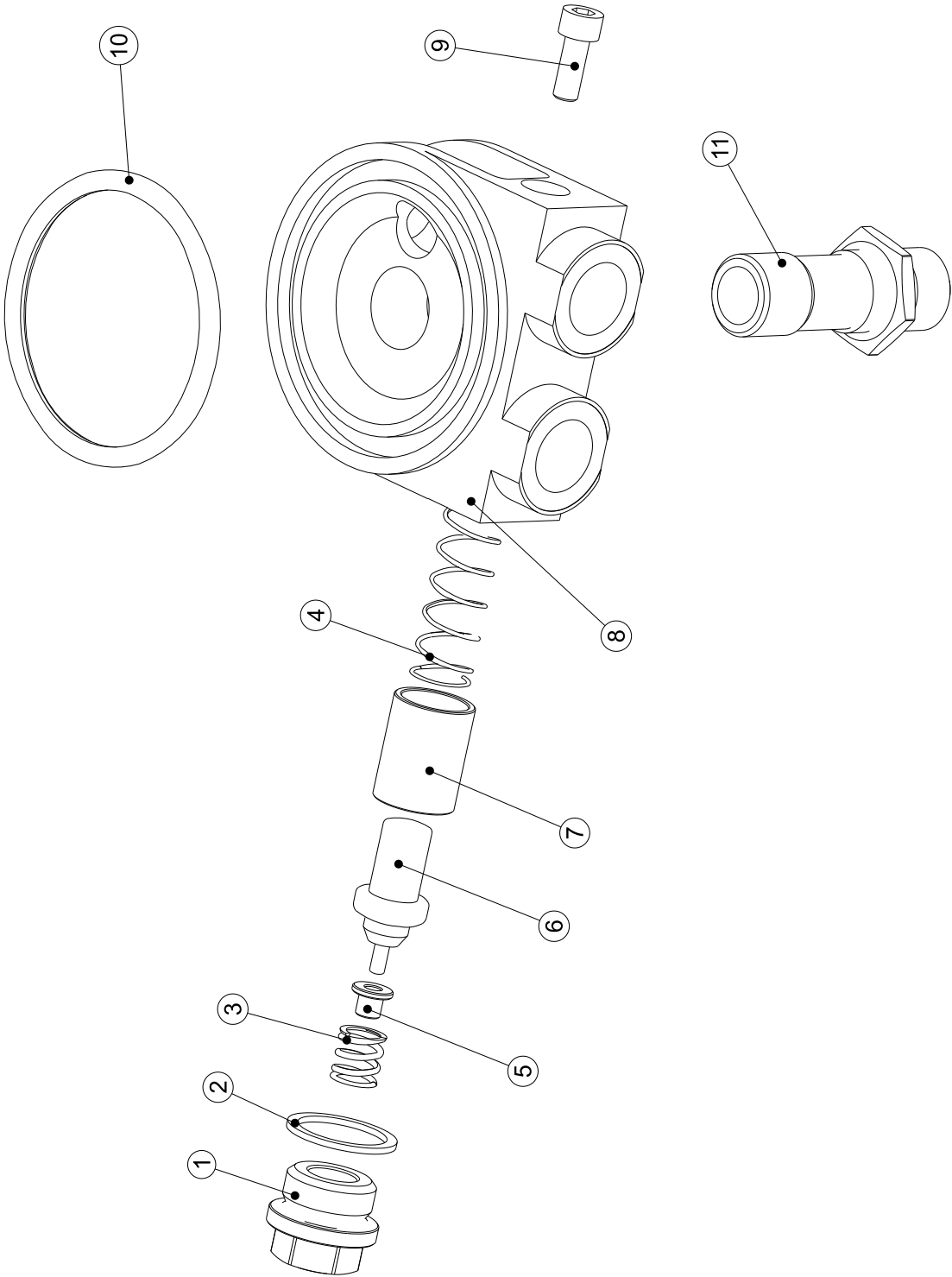
Item	Part No.	Description	Parts in assembly	Note
1	SBE091110	Stainless Steel Exhaust Tubes (set)	1	
2	F2110060	NordLock Washer M6	24	
3	F0106016	Socket Cap Screw - M6x16 - 8.8 Steel - Yellow Passivated	24	10 Nm (1)
4	E093001	Exhaust Spring	8	
5	SBE091516	Stainless Steel Muffler L=600	1	
6	SE093505	Exhaust Tube	1	
7	E092001	Exhaust gasket ring d32xD38x2.5	6	
8	F2580008	Hose clamp ø 90 - 110 / Stainless steel	2	
9	BE093005	Muffler bracket 3.5 - 5.2	2	
10	F0108025	Cap Screw M8x25 -8,8 Yellow	2	20 Nm
11	F2710008	Flat washer M8	2	
12	F5103080	Prevailing Hexagon nut all metal M8	2	
13	E092502	Muffler heating box (Optional)	1	

(1) Apply high temperature resistant grease



Breather and Oil/Air Separator

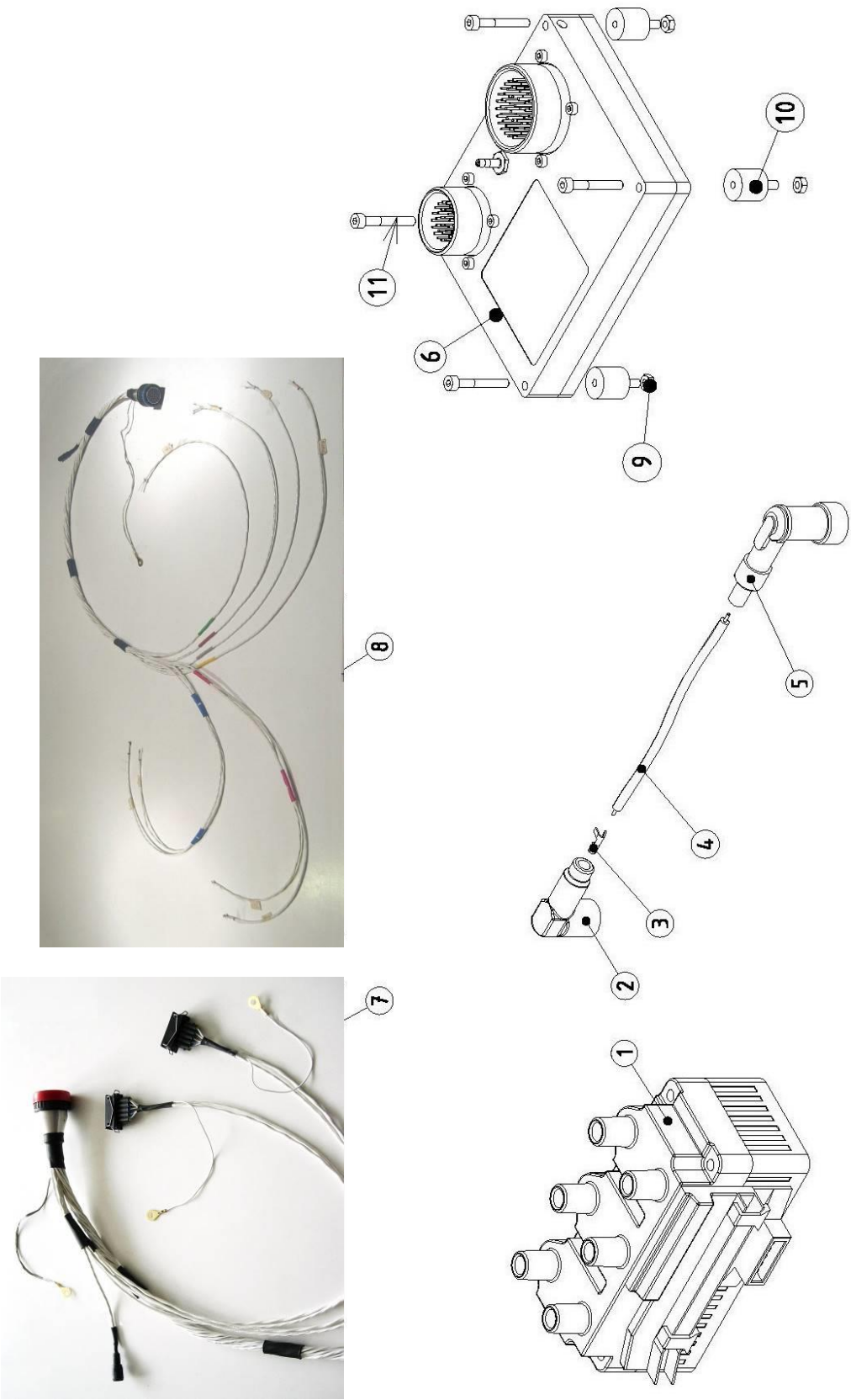
Item	Part No.	Description	Parts in assembly	Note
1	F2550010	Cloth Braided Hose ø15x20	1	
2	F2550007	Rubber Hose ø6x13.5 (125 °C)	1	
3	SE043500	Oil/Air separator assembly (<i>Contains piece 3,4,5,6,7</i>)		
	SE044006	Tube Ø15 x Ø 12.5 x 40	1	
4	E044003	Elbow connection oil return (assembly)	1	
5	E043506	Oil/Air separator	1	
6	F2580004	Hose clamp Ø20	2	
7	F2580003	Hose clamp Ø14.5	2	
8	F2580010	Hose clamp Ø21	2	
9	E043509	Reduction Oil/Air Separator	1	



Oil Thermostat : E042515

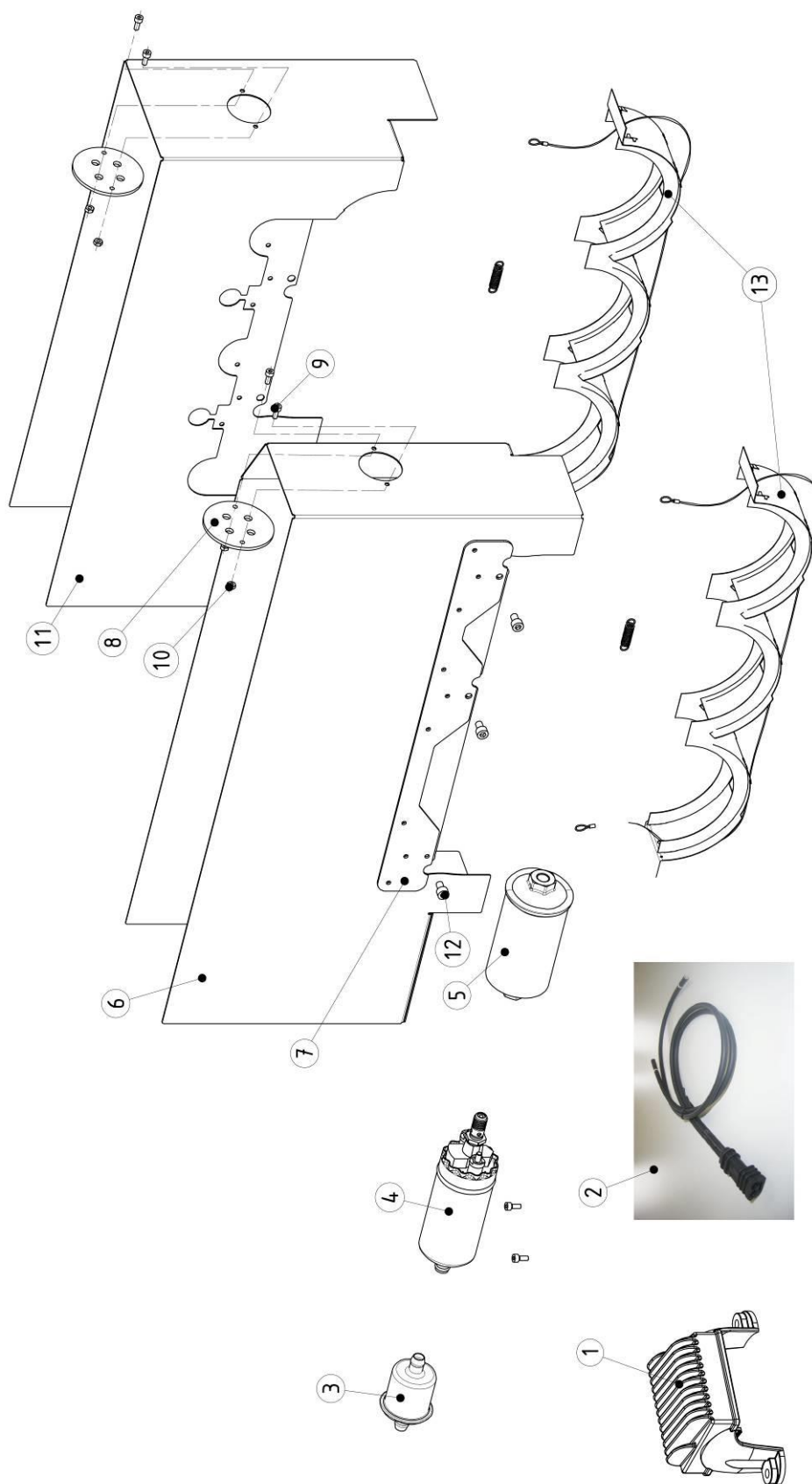
Item	Part No.	Description	Parts in assembly	Note
1	E42520	Plug M22x1,5	1	20 Nm
2	S3222715	Copper sealing 22x27x1,5	1	(1)
3	F2010010	Spring VDSiCr Ø1,60x8,00x14,50 mm	1	
4	F2010020	Spring VDSiCr Ø1,4x14,00x46,50 mm	1	
5	E042540	Spring Holder	1	
6	E042501	Bi metal	1	
7	E042530	Bimetal Cover	1	
8	SE042510	Thermostat housing	1	
9	F0206025	Socket Cap Screw - M6x25 - 8.8 Steel	1	10 Nm
10	S1062050	O-Ring Viton Ø 62x5	1	
11	E042007	Oil filter adapter screw M20 x 1.5	1	20 Nm

(1) Replace when removed



Ignition and Engine Control Unit

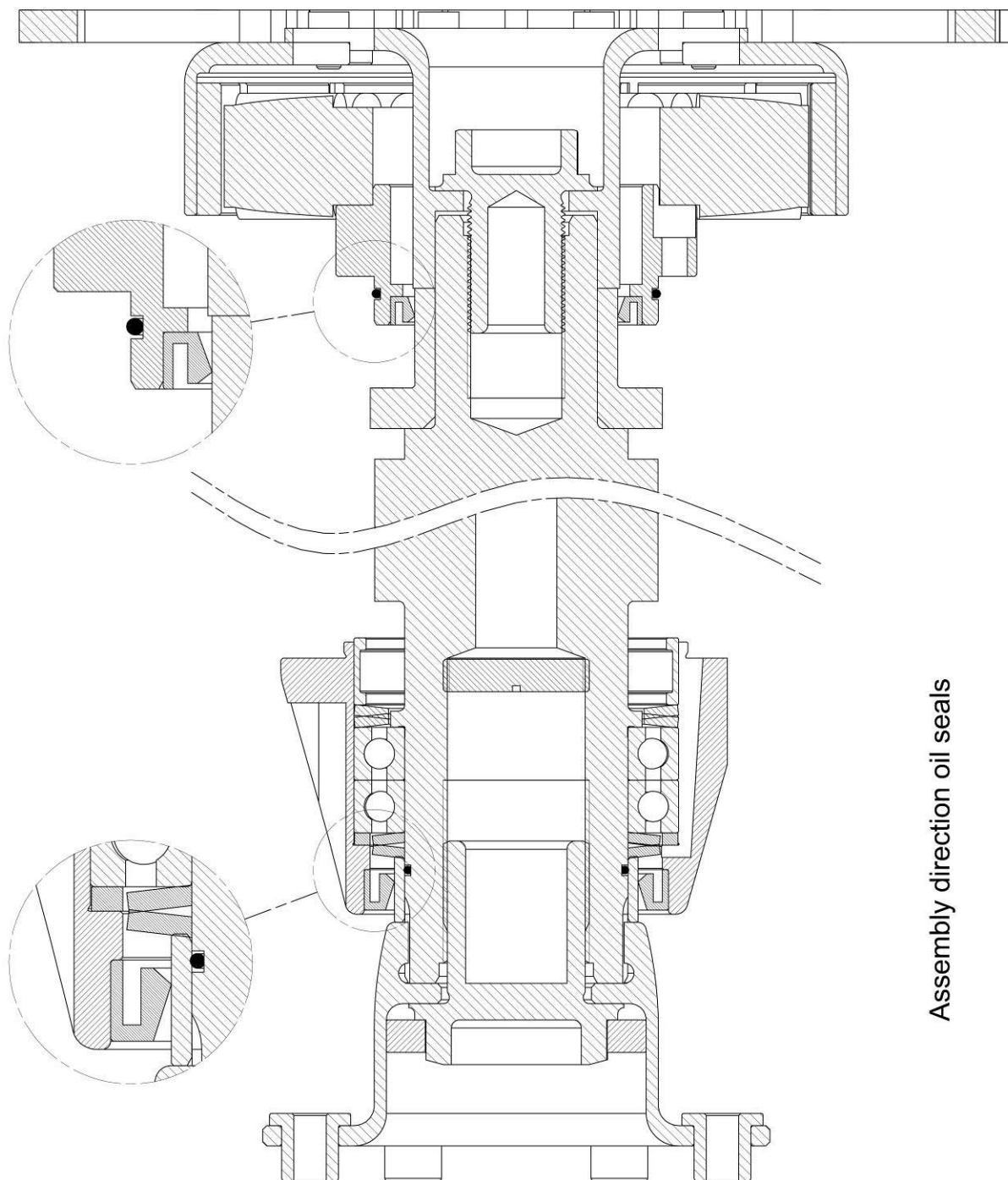
Item	Part No.	Description	Parts in assembly	Note
1	SE071005	Ignition Coil	1	
2	E071501	Ignition Coil Cover	1	
3	E071505	Copper Clamp (for Ignition Coil Cover)	1	
4	E071503	Ignition Lead Cable	1	
5	E071504	Spark Plug Cover	1	
6	SBE080510	Engine Control Unit UL 520i	1	
	SBE080511	Engine Control Unit UL 520iS	1	
7	SE081006 SE081008	ECU Wiring loom engine L = 1100 (Single ECU) ECU Wiring loom engine L = 1100 (Double ECU)	1	
8	SE081007 SE081009	ECU Wiring loom cockpit (4 + 6 cylinder) L = 1100 (Single ECU) ECU Wiring loom cockpit (4 + 6 cylinder) L = 1100 (Double ECU)	1	
9	F5102040	Prevailing hexagon nut M4	4	4Nm
10	F2641515	Silent bloc M4 type B - hoogte 15	4	
11	F0204030	cap screw M4x30-8,8 yellow	4	4Nm



Accessories

Item	Part No.	Description	Parts in assembly	Note
1	SE053003	Regulator 50A	1	
2	SE053010	Cable regulator - battery	1	
3	E064003	Fuel Filter (Pre-filter)	1	
4	E063502	Fuel Pump	1	
5	E064001	Fuel Filter (Fine)	1	
6	SE012507	Assembly Cylinder Head Ram Air Box (Left)	1	4 Nm
7	SE012524	Cylinder Head Ram Air Box (Left)	1	
8	SE011504	Reinforcing Rib	1	
9	SE011504	Ignition Cable Grommet	1	
10	F0204010	Cap screw M4x10 - 8.8 Zn	4	
10	F5102040	Prevailing Hexagon nut M4	4	
11	SE012508	Assembly Cylinder Head Ram Air Box (Right)	1	4 Nm
7	SE012524	Cylinder Head Ram Air Box (Right)	1	
8	SE011504	Reinforcing Rib	1	
9	SE011504	Ignition Cable Grommet	1	
10	F0204010	Cap screw M4x10 - 8.8 Zn	4	
10	F5102040	Prevailing Hexagon nut M4	4	
12	F0106016	Cap Screw M6x16-8-8 Yellow	6	10 Nm
13	SE013002	Cylinder baffle	2	
		Spring 1.0x8x35	2	
		Steel Cable	1	

Section of drawings



Assembly direction oil seals

Revision

Revision 1 (2019- 10- 01)

- **Pg 12 en 13:** Nr 24 F1305016 was F1306016
- **Pg 14 en 15:** Nr 9: SE061520 was SE061507
- **Pg 20 en 21:** Nr 8 F0104035 was F0104045 en Nr10 F0105030 was F0105035

Revision 2 (2020- 02- 10)

- Pg 6 en 7:** Nr 27- Nr 30 verwijderd. (Nylon Cable Tie)
Nr 37 - Nr39 Toegevoegd.
Nr 27: S3142015 was S3141815
Nr 36: Single ECU / Double ECU
- Pg 12 en 13:** Nr 24: O-ring Viton
- Pg 14 en 15:** Throttle assy SUSE060521 was SUE060520 / E081819 was E081506 / SE060521 was SE060520
- Pg 18 - 20:** Inlet manifold ... Double ECU
- Pg 18 - 20:** Inlet manifold ... Double ECU
- Pg 24-27:** Nr 27: E052525 was E052521 / E052503 was E052505
Nr41: Starter Fixing / (2) bij nr 10
Nr42 - 43: Bracket Alternator Guide
- Pg 32 en 33:** Nr 3: F2010010 was F2010002
Nr 4: F2010020 was F2010002
- Pg 36 en 37:** Nr 13 Spring 1.0x8x35 (F2010003) en Steel Cable (E013025) zit in assembly SE013002
- Pg 38:** Section of drawing

Revision 3 (2000-00-00)

- Pg 30 en 31:** Nr 9 (E043509) toegevoegd + nr 1 en 8