

***Shibaura Diesel Engine
S773L—Tier 4
Parts Manual***



HUSTLER®

ENGINEERING PERFORMANCE™

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67062

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General Information

This manual covers the Shibauro diesel engine **S773L—Tier 4**.

Service Literature

PART NO.	DESCRIPTION
109821	SHIBAURA DIESEL ENGINE MANUAL
109823	SHIBAURA DIESEL ENGINE SERVICE MANUAL

Note: When ordering parts, you must use the part number as shown for each part, not the index number. Always give the model and serial number to your parts and service representative.

Note: Items sold in bulk such as seals and hoses are sold by the foot.

Using This Manual

This manual is part of a service package for the Hustler® mowers. Use of this manual in conjunction with other Hustler® mower and component manuals will provide the information necessary to service and maintain Hustler® mowers.

This Parts Manual provides a complete parts listing for the unit. Use this manual when ordering parts. Illustrations used were current at the time of printing, but subsequent production changes may cause your machine to vary slightly in detail. Excel Industries, Inc. reserves the right to redesign and change the machine as deemed necessary, without notification. If a change has been made to your machine which is not reflected in this parts manual, see your authorized dealer for current information and parts.

The Service Manual is a service guide for use by Service Technicians. It provides the necessary information needed to perform normal maintenance requirements on these units.

The Operator's Manual provides fundamental operational information and operational safety that is needed when operating the mower.

The component manuals are furnished by the various manufacturers to be used for the troubleshooting and servicing of their products.

Hardware Description Codes & Abbreviations

The following codes are used throughout this parts manual. Refer to this list when ordering parts.

ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
CB	CARRIAGE BOLT	MB	MACHINE BUSHING
CE	CLEVIS PIN	MS	MACHINE SCREW
CN	CLIP NUT	NT	NUT
CP	COTTER PIN	SC	SELF TAPPING CAP SCREW
CS	CAP SCREW	SH	SOCKET HEAD
CW	CUP WASHER	SB	SHOULDER BOLT
FDRW	FENDER WASHER	SS	SET SCREW
FW	FLAT WASHER	OD	OUTSIDE DIAMETER
HX	HEX HEAD	ID	INSIDE DIAMETER
LW	LOCK WASHER	WN	WELD NUT

Standard Torques

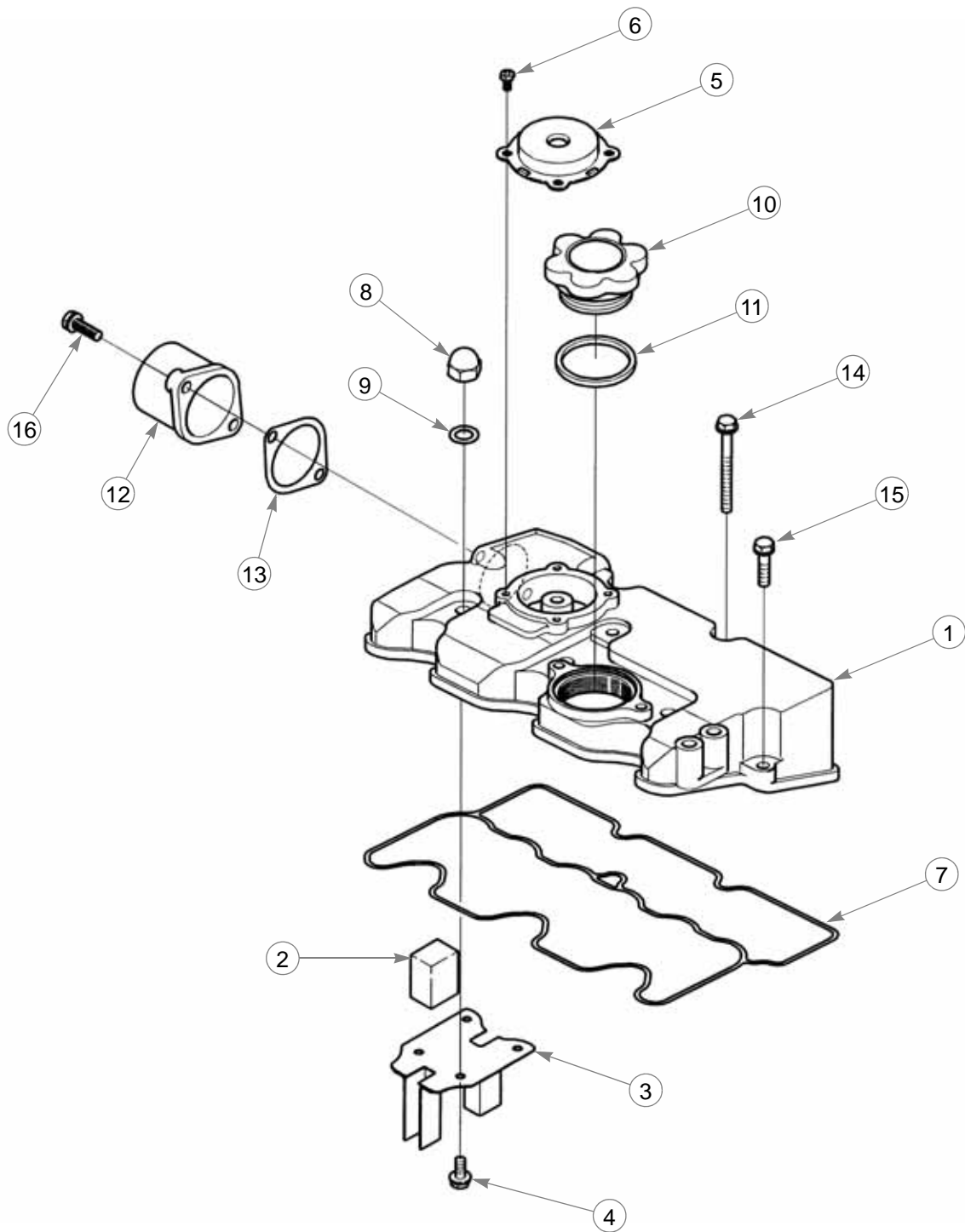
The following chart lists the standard torque values for the threaded fasteners found in this manual. Torque all cap screws, nuts and set screws to these values unless a different torque is shown in the Notes section next to the fastener.

SIZE	FT-LBS	N•M	SIZE	FT-LBS	N•M
.250	8.2	11.1	M3	1	1.3
.312	17	23	M4	2.2	3
.375	30	40	M5	4.5	6.1
.438	48	65	M6	7.7	10.4
.500	73	99	M8	18.5	25
.562	105	143	M10	37	50
.625	145	200	M12	64	87
.750	260	350	M14	80	108.5
.875	420	565	M16	160	215
1.00	625	850	M20	320	435
			M24	555	750

Section 2

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Valve Cover & Intake Manifold

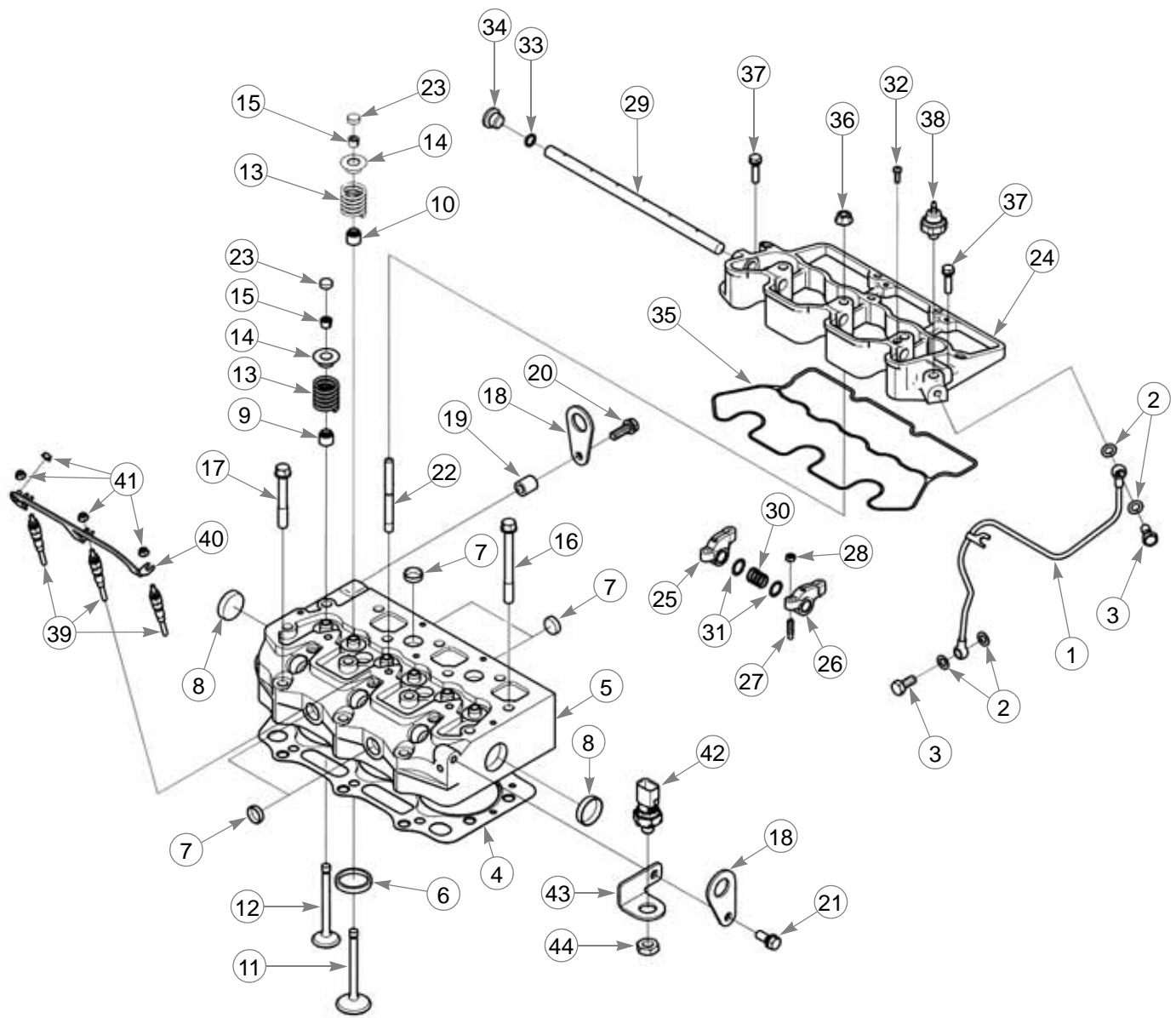


Valve Cover & Intake Manifold

INDEX NO.	PART NO.	QTY	DESCRIPTION
1	111211120	1	VALVE COVER
2	110666060	1	SCREEN, FILTER, ENGINE BREATHER
3	110666220	1	BAFFLE
4	015600406	4	SCREW
5	110566080	1	VALUE: BREATHER
6	011100408	4	BOLT
7	111996420	1	GASKET, HEAD COVER
8	024600008	3	CAP NUT
9	140996260	3	GASKET, COPPER WASHER
10	198436010	1	CAP, OIL FILL
11	052100400	1	O-RING, OIL FILL CAP
12	135566560	1	AIR INTAKE PIPE
13	135996751	1	AIR INTAKE GASKET
14	011310680	3	BOLT
15	011310625	2	BOLT, HEX, M6 X 25, 8.8
16	011310620	2	BOLT, HEX, M6 X 20, 8.8

NOTES:

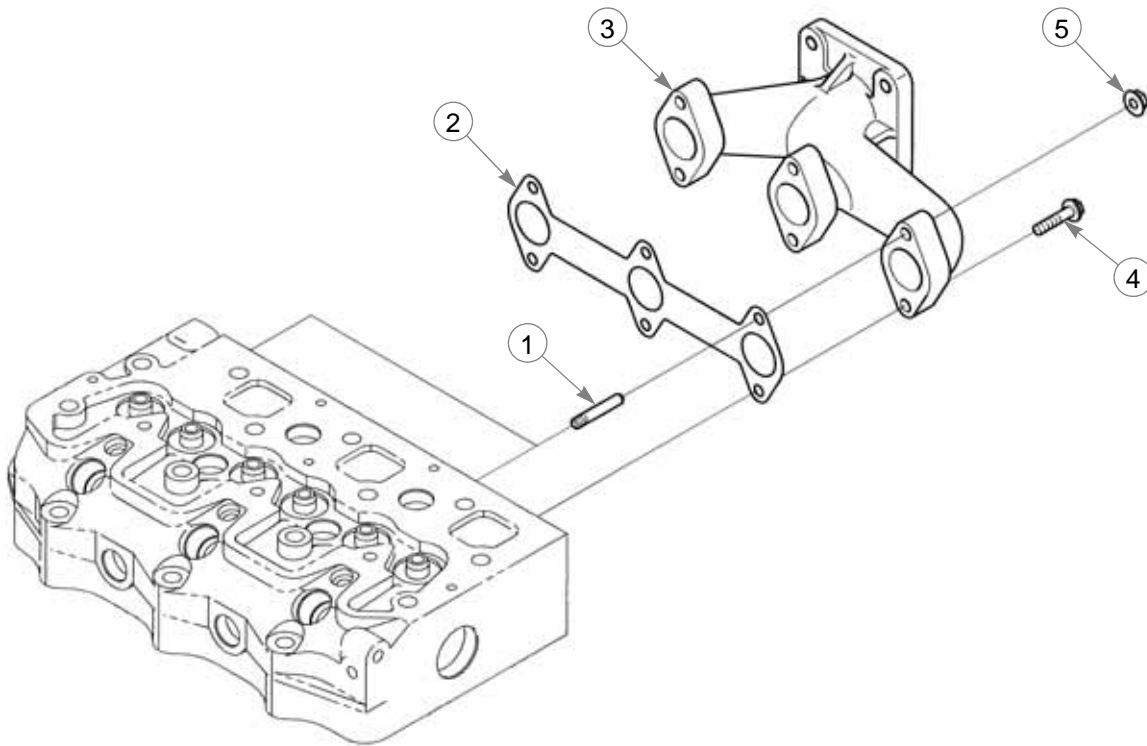
Cylinder Head



Cylinder Head

INDEX NO.	PART NO.	QTY	DESCRIPTION
1	140607270	1	OIL PIPE COMPL.
2	140996260	4	GASKET, COPPER WASHER
3	198486780	2	EYE BOLT
4	111147560	1	HEAD GASJET T=1.2
	111147570	1	HEAD GASKET T=1.3
5	111011440	1	CYLINDER HEAD ASSY (INCLUDES 6-15)
6	110136435	1	VALVE SEAT : INTAKE
7	064210018	8	SEALING CAP
8	064210030	2	SEALING CAP
9	120406050	3	VALVE GUIDE SEAL : EXHAUST
10	120406070	3	VALVE GUIDE SEAL : INTAKE
11	120166360	3	INTAKE VALVE
12	120176250	3	EXHAUST VALVE
13	198216700	6	SPRING
14	120186080	6	RETAINER
15	120226070	12	COTTER
16	111136440	11	HEAD BOLT
17	111136450	3	HEAD BOLT
18	195816370	2	HANGER
19	199236680	1	SPACER
20	011510830	1	BOLT
21	011510820	1	BOLT, M8 X 1.25 X 20
22	012109177	3	STUD BOLT
23	120216041	6	CAP
24	120036980	1	ROCKER ARM ASSY (INCLUDES 25-34)
25	120356200	3	ROCKER ARM COMPL : INTAKE
26	120356210	3	ROCKER ARM COMPL : EXHAUST
27	199486220	6	SCREW
28	020109076	6	NUT
29	120316300	1	ROCKER ARM SHAFT
30	198216780	2	SPRING
31	199280280	4	SHIM
32	015100410	1	SCREW
33	052100120	1	O-RING
34	198436150	1	PLUG
35	120996150	1	GASKET, ROCKER COVER LOW
36	023100008	3	NUT, M8 X 1.25
37	011310625	2	BOLT, HEX, M6 X 25, 8.8
38	185246250	1	OIL PRESSURE SWITCH
39	185366220	3	GLOW PLUG
40	185376372	1	CONNECTOR, GLOW PLUGS
41	023100004	4	NUT
42	U85746210	1	PRESSURE SENSOR
43	185977810	1	BRACKET
44	020109248	1	NUT

Exhaust Manifold

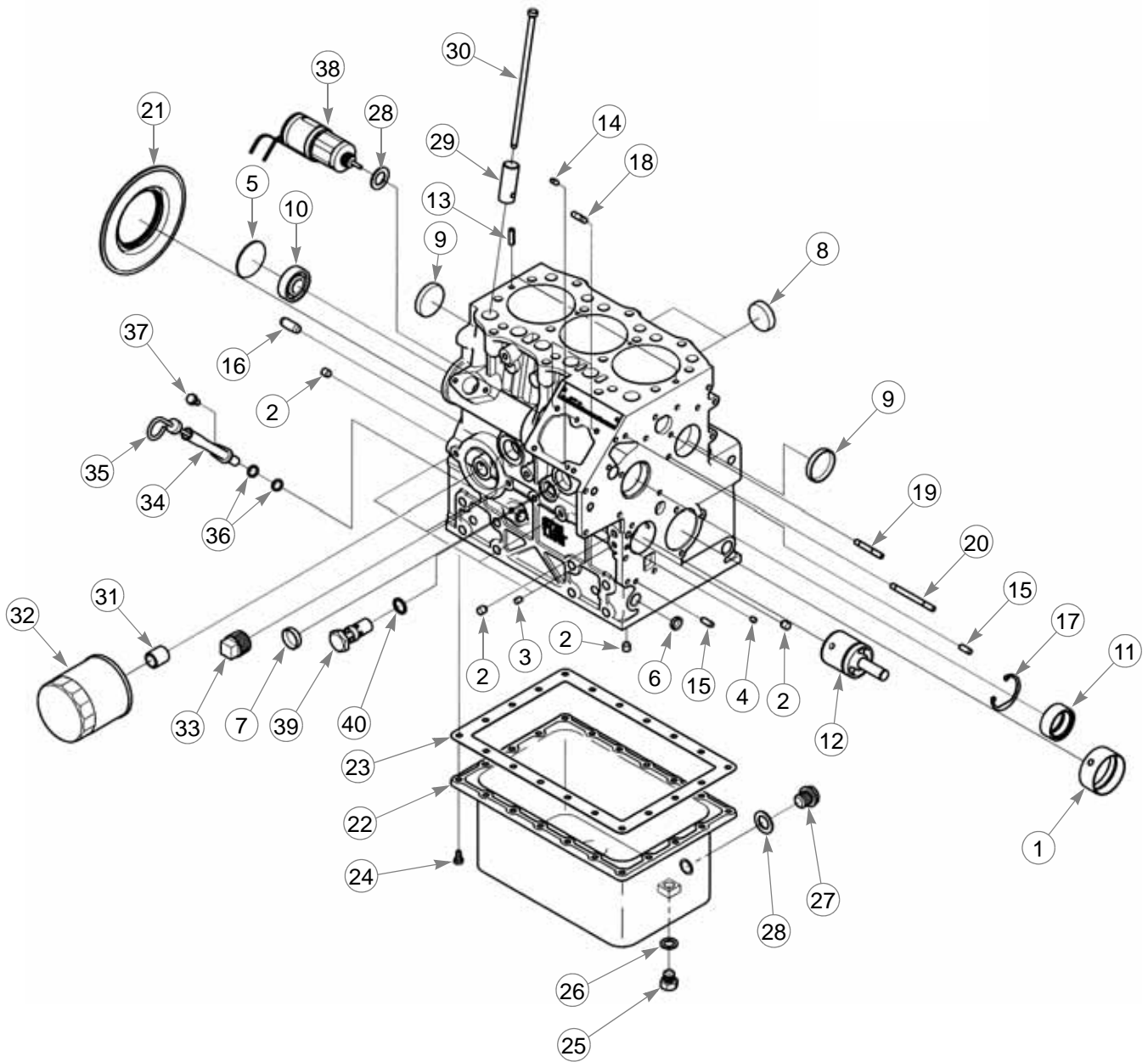


Exhaust Manifold

INDEX NO.	PART NO.	QTY	DESCRIPTION
1	012110625	2	STUD BOLT
2	135616311	1	EXHAUST MANIFOLD
3	135996541	1	GASKET, EX MANIFOLD
4	011310625	4	BOLT, HEX M6 X 25, 8.8
5	023100006	2	NUT, M6 X 1

NOTES:

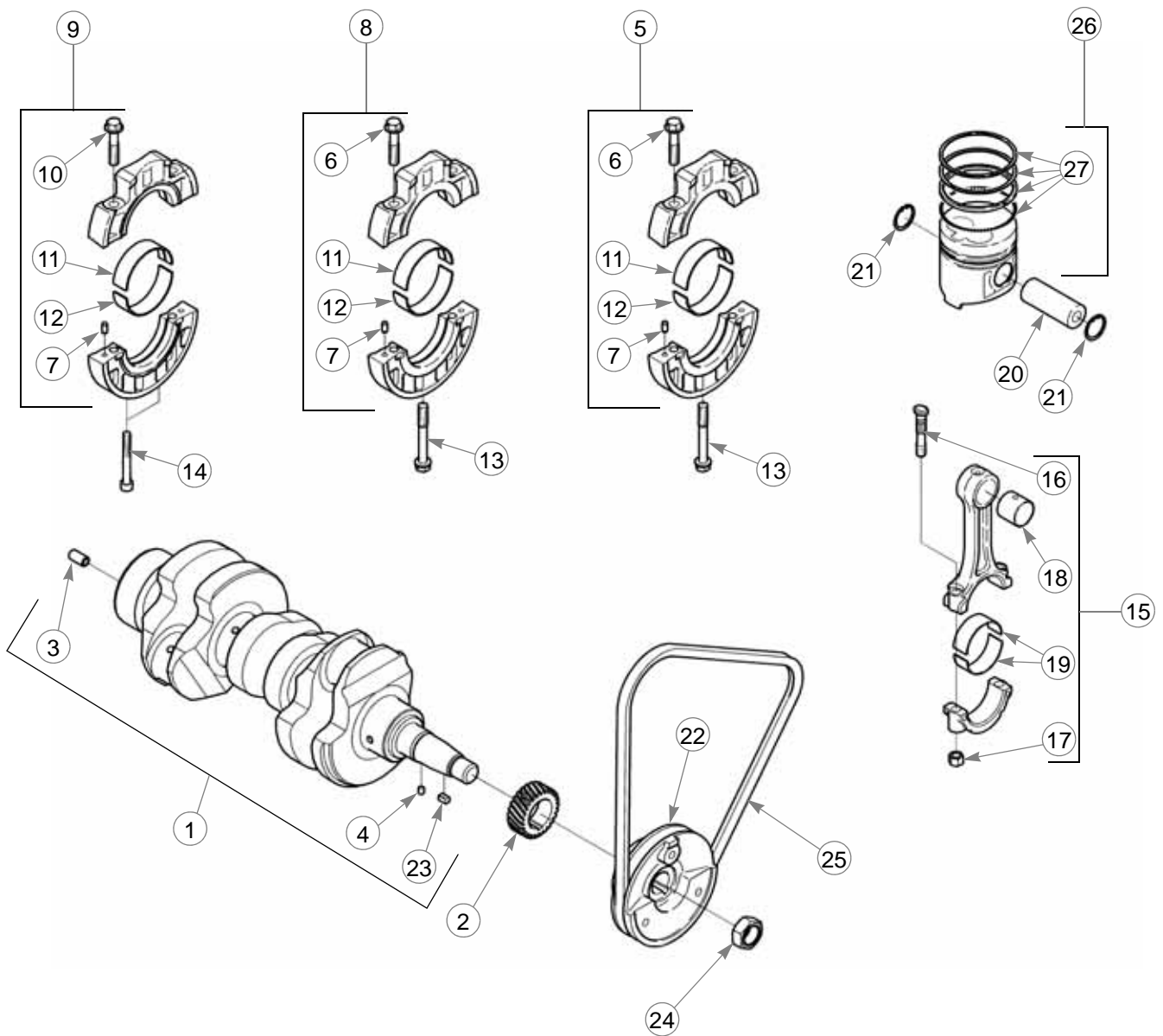
Cylinder Block 110101950



Cylinder Block 110101950

INDEX NO.	PART NO.	QTY	DESCRIPTION
1	198517592	1	BUSHING; S.T.D.
1	198517596	1	BUSHING; U.S. 0.25
1	198517599	1	BUSHING; U.S. 0.50
2	198466010	4	BLANK PLUG
3	198466030	4	BLANK PLUG
4	198466050	1	BLANK PLUG
5	064100045	1	EXPANSION PLUG
6	064210015	1	SEALING CAP
7	064210025	1	SEALING CAP
8	064210035	2	SEALING CAP
9	064209055	2	SEALING CAP
10	040106203	1	BEARING
11	042303015	1	NEEDLE BEARING
12	165296142	1	IDLE GEAR SHAFT COMPL
13	030309005	2	SPRING PIN
14	030500512	2	DOWEL PIN
15	030500616	2	DOWEL PIN
16	030501025	2	PIN, DOWEL
17	036509005	1	SNAP RING
18	012110620	2	STUD BOLT
19	012110635	1	STUD BOLT
20	012110660	1	STUD BOLT
21	050209107	1	OIL SEAL, REAR CRANK
22	110701110	1	OIL PAN COMPL
23	110996800	1	GASKET, OIL PAN
24	010109235	20	BOLT
25	010411212	1	PLUG, OIL DRAIN, BOTTOM
26	025100012	1	SEAL WASHER, OIL PLUG
27	010109238	1	PLUG, OIL DRAIN SIDE
28	025100016	2	WASHER
29	120116160	6	TAPPET
30	120456222	6	PUSH ROD COMPL
31	140546020	1	ADAPTER
32	140517020	1	OIL FILTER
33	064500060	1	PLUG
34	110756490	1	DIP STICK TUBE
35	198416610	1	DIP STICK
36	052109113	2	O-RING
37	011310612	1	BOLT
38	185206530	1	ACTUATOR
39	140036220	1	RELIEF VALVE ASSY
40	052109078	1	O-RING, RELIEF VALVE

Crankshaft & Pistons

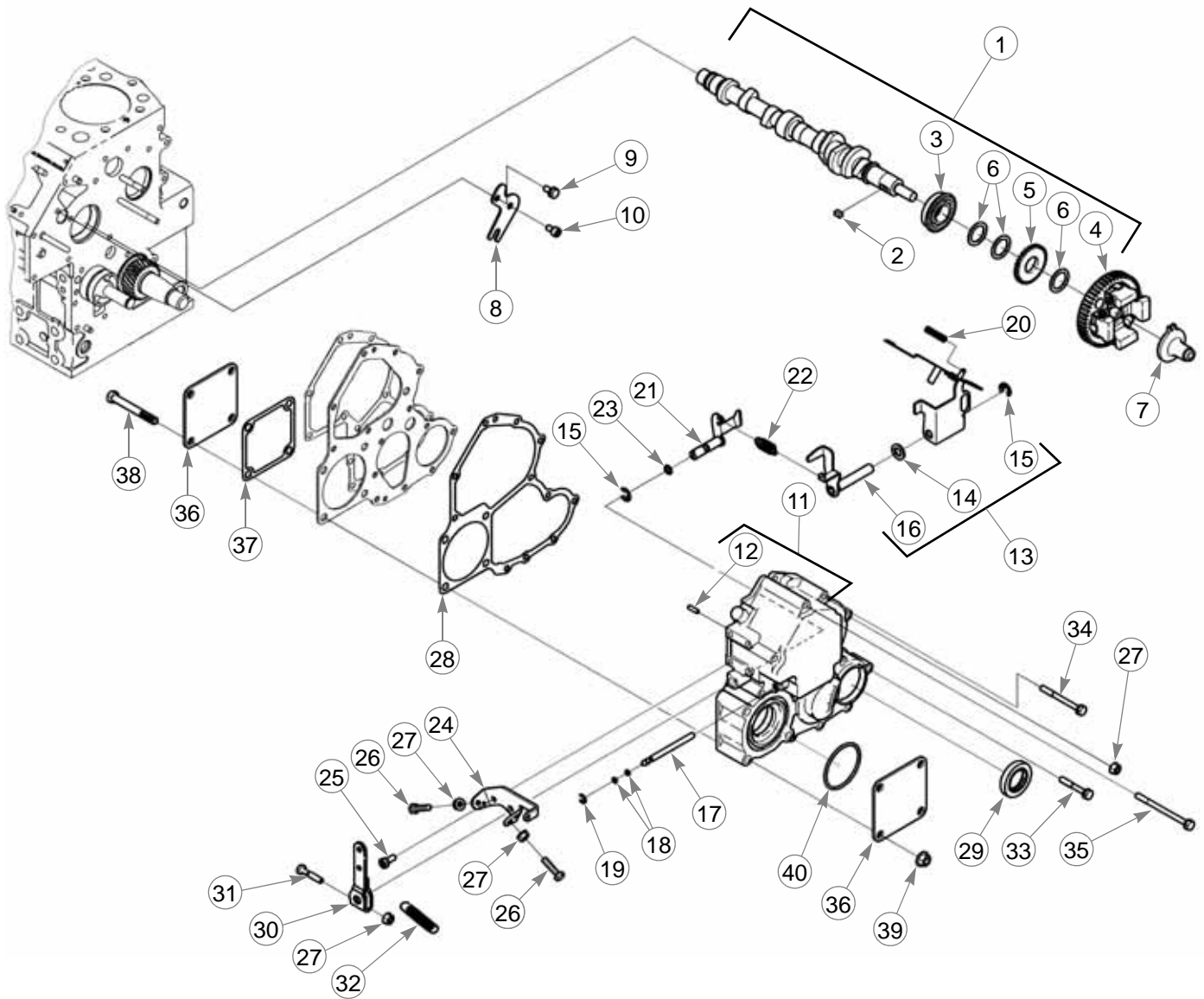


Crankshaft & Pistons

INDEX NO.	PART NO.	QTY	DESCRIPTION
1	115256830	1	CRANK SHAFT COMPL (INCL 2-4, 23)
2	115276180	1	CRANK SHAFT GEAR
3	030300816	1	SPRING PIN
4	030509020	1	DOWEL PIN
5	110156400	1	BEARING HOLDER ASSY (INCL 6, 7, 11, 12)
6	010810840	4	BOLT
7	030500612	6	DOWEL PIN
8	110156410	1	BEARING HOLDER ASSY (INCL 6, 7, 11, 12)
9	110156420	1	BEARING HOLDER ASSY (INCL 7, 10-12)
10	010810845	2	BOLT
11	198517572	3	METAL; UPPER S.T.D.
	198517576	3	METAL; UPPER U.S. 0.25
	198517579	3	METAL; UPPER U.S. 0.50
12	198517582	3	METAL; LOWER S.T.D.
	198517586	3	METAL; LOWER U.S. 0.25
	198517589	3	METAL ; LOWER U.S. 0.50
13	011510850	2	BOLT
14	010700845	2	BOLT
15	115026340	3	CONNECTING ROD ASSY (INCL 17-19)
16	115176150	2	CONNECTING ROD BOLT
17	020109075	2	NUT
18	198517125	3	BUSHING
19	198517602	6	METAL S.T.D.
	198517606	6	METAL S.T.D. 0.25
	198517609	6	METAL S.T.D. 0.50
20	115326231	3	PISTON PIN
21	036500021	6	SNAP RING
22	115391070	1	CRANK SHAFT PULLEY
23	034100508	1	KEY, CRANK PULLEY
24	020800018	1	NUT, FT. CRANK
25	080109108	1	V-BELT
26	115017611	3	PISTON KIT (INCL 27)
27	115107241	1	RING KIT

NOTES:

Camshaft & Gear Case

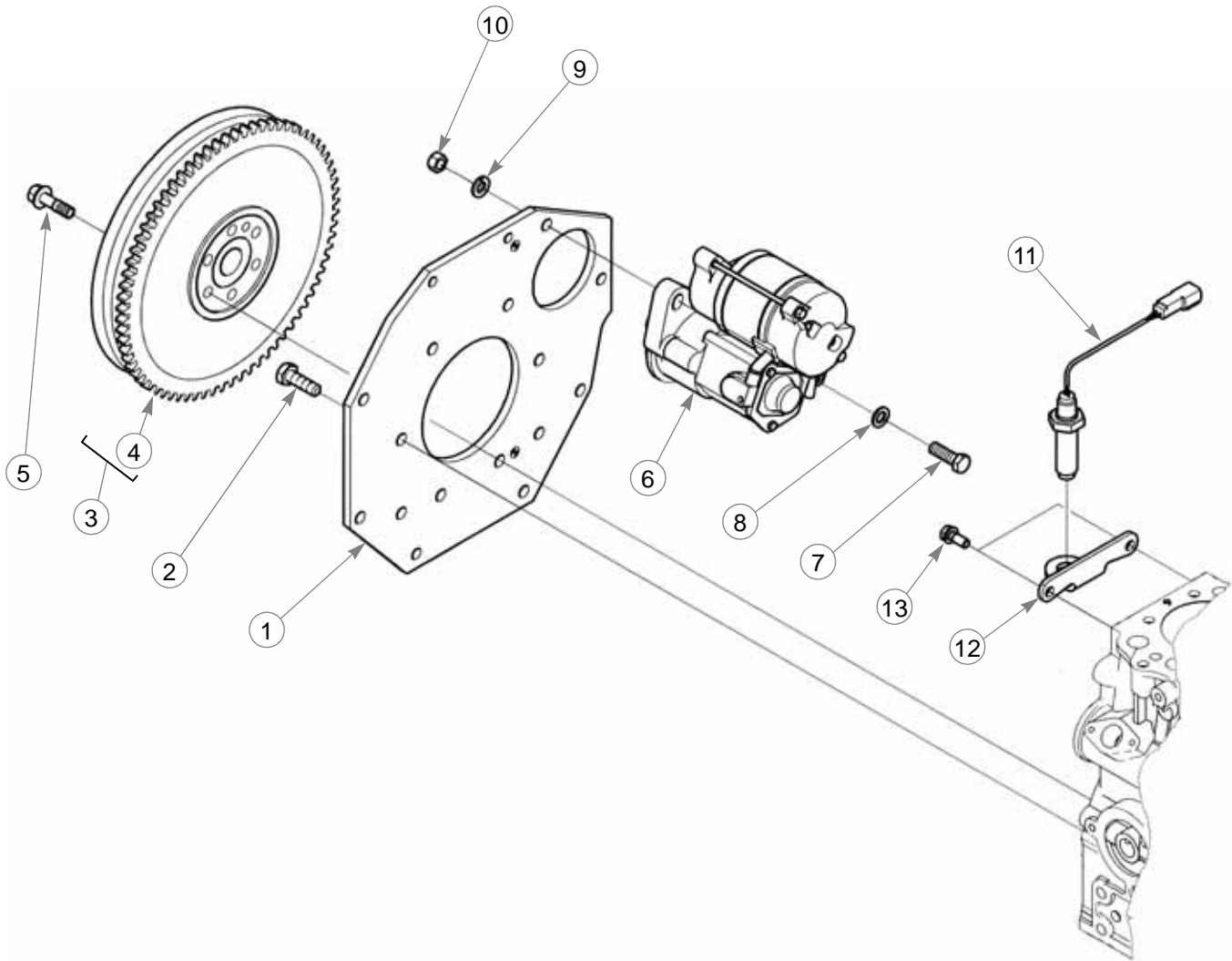


Camshaft & Gear Case

INDEX NO.	PART NO.	QTY	DESCRIPTION
1	120026090	1	CAM SHAFT ASSY (INCL 2-6)
2	034100508	1	KEY, CRANK PULLEY
3	040109059	1	BEARING
4	120016001	1	CAM GEAR COMPL
5	120736081	1	GEAR
6	199216230	3	SPACER
7	125256120	1	SLIDE COMPL
8	199566651	1	PLATE
9	011310612	1	BOLT
10	010700610	1	BOLT
11	165106930	1	TIMING GEAR CASE COMPL (INCL 12)
12	030300414	1	SPRING PIN
13	125046160	1	GOVERNOR LEVER ASSY (INCL 14-16)
14	026200010	1	WASHER
15	036800008	2	SNAP RING
16	125406071	1	GOVERNOR LEVER
17	125116131	1	SHAFT
18	052109108	2	O-RING
19	036800005	1	SNAP RING
20	198217560	1	START SPRING
21	125156170	1	ARM COMPL
22	198217110	1	MAIN SPRING
23	052109110	1	O-RING
24	125976120	1	STAY, GOVERNOR
25	011310614	2	BOLT
26	010109264	2	BOLT
27	023100006	4	NUT, M6 X 1
28	165996530	1	GASKET, TIMING CASE
29	198636090	1	OIL SEAL, FT CRANK
30	125416300	1	GOVERNOR LEVER
31	010110630	1	BOLT
32	398210070	1	SPRING
33	011310640	5	BOLT
34	011310660	3	BOLT
35	011310680	2	BOLT
36	165206700	2	COVER
37	165996610	1	GASKET
38	010310865	4	BOLT
39	023100008	4	NUT, M8 X 1.25
40	052300600	1	O-RING

NOTES:

Flywheel & Starting Motor

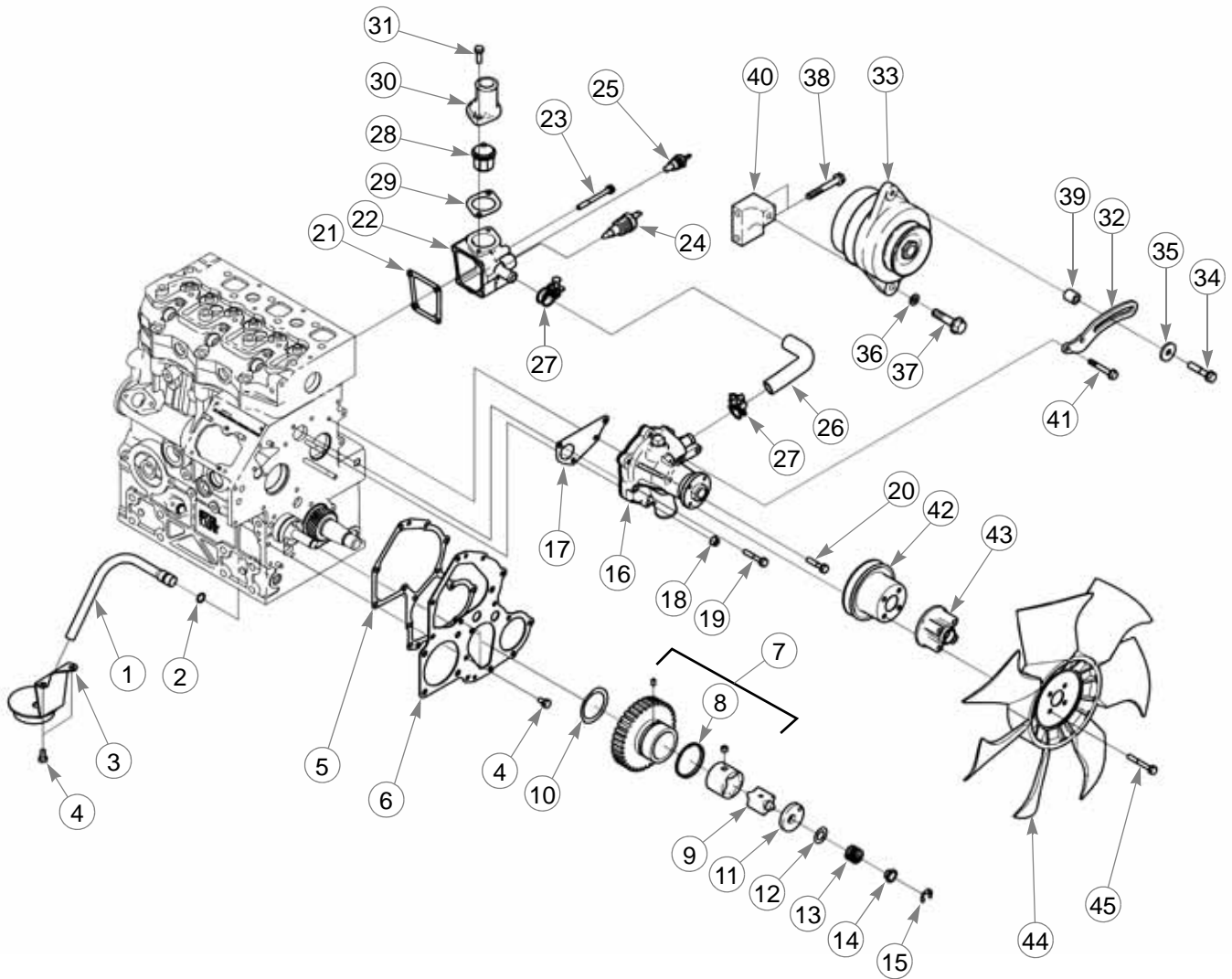


Flywheel & Starting Motor

INDEX NO.	PART NO.	QTY	DESCRIPTION
1	110361160	1	BACK PLATE
2	011511020	8	BOLT, M10 X 20
3	115357231	1	FLYWHEEL COMPL (INCL 4)
4	115376130	1	RING GEAR
5	010109340	6	BOLT
6	185086670	1	STARTING MOTOR
7	010311040	2	BOLT, HEX, M10 X 40, 8.8 FUL
8	026100010	2	WASHER, M10 X 20 X 2
9	027100010	2	M10 LOCK WASHER
10	020500010	2	NUT
11	U85746200	1	SPEED SENSOR
12	185977790	1	BRACKET
13	011510820	2	BOLT, M8 X 1.25 X 20

NOTES:

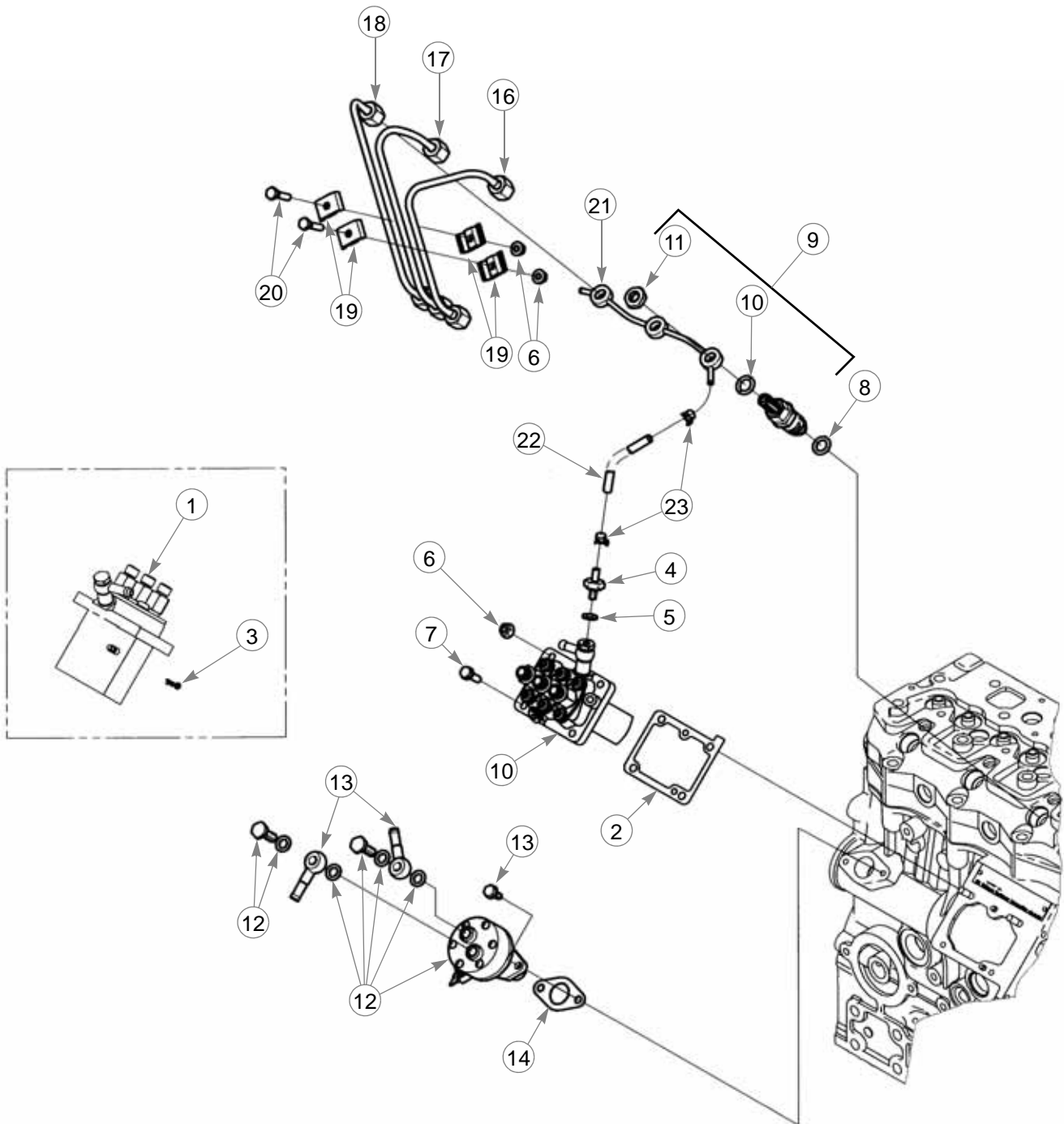
Pulley Assembly



Pulley Assembly

INDEX NO.	PART NO.	QTY	DESCRIPTION
1	140986830	1	OIL PIPE
2	052109076	1	O-RING
3	140406500	1	FILTER, SUCTION SCREEN
4	011310612	5	BOLT
5	165996520	1	GASKET
6	165166520	1	FRONT PLATE
7	165026101	1	GEAR ASSY IDLE (INCL 8)
8	198216821	1	SPRING
9	140166131	1	ROTOR
10	199266180	1	THRUST WASHER
11	140116140	1	OIL PUMP COVER
12	199286340	1	SHIM KIT
13	198216720	1	SPRING
14	199236540	1	COLLAR
15	036800010	1	RING, SNAP
16	145017920	1	WATER PUMP ASSY
17	145996830	1	GASKET, WATER PUMP
18	023100006	1	NUT, M6 X 1
19	011310635	1	BOLT
20	011310630	2	BOLT
21	145996840	1	GASKET, THERMOSTAT CASE
22	145216880	1	THERMOSTAT CASE, LOWER
23	011310660	4	BOLT
24	385720360	1	THERMO SWITCH
25	385720011	1	SENSOR, TEMP
26	145536051	1	HOSE
27	067100022	2	HOSE BAND
28	145206061	1	THERMOSTAT COMPL
29	145996850	1	GASKET, THERMOSTAT
30	145226510	1	THERMOSTAT COVER, UPPER
31	011310620	2	BOLT, HEX, M6 X 20, 8.8
32	185726971	1	ADJUSTING PLATE, ALT.
33	185046440	1	ALTERNATOR ASSY
34	011510840	1	BOLT, M8 X 40
35	026109017	1	WASHER
36	026100010	1	WASHER, M10 X 20 X 2
37	011511040	1	BOLT, M10 X 40
38	011510855	2	BOLT
39	199236680	1	SPACER
40	185977390	1	AH, MOUNT
41	011310616	2	BOLT, M6 X 16
42	145336490	1	FAN PULLEY
43	145386540	1	FAN SPACER
44	145306520	1	COOLING FAN
45	011310645	4	BOLT

Pump Assembly

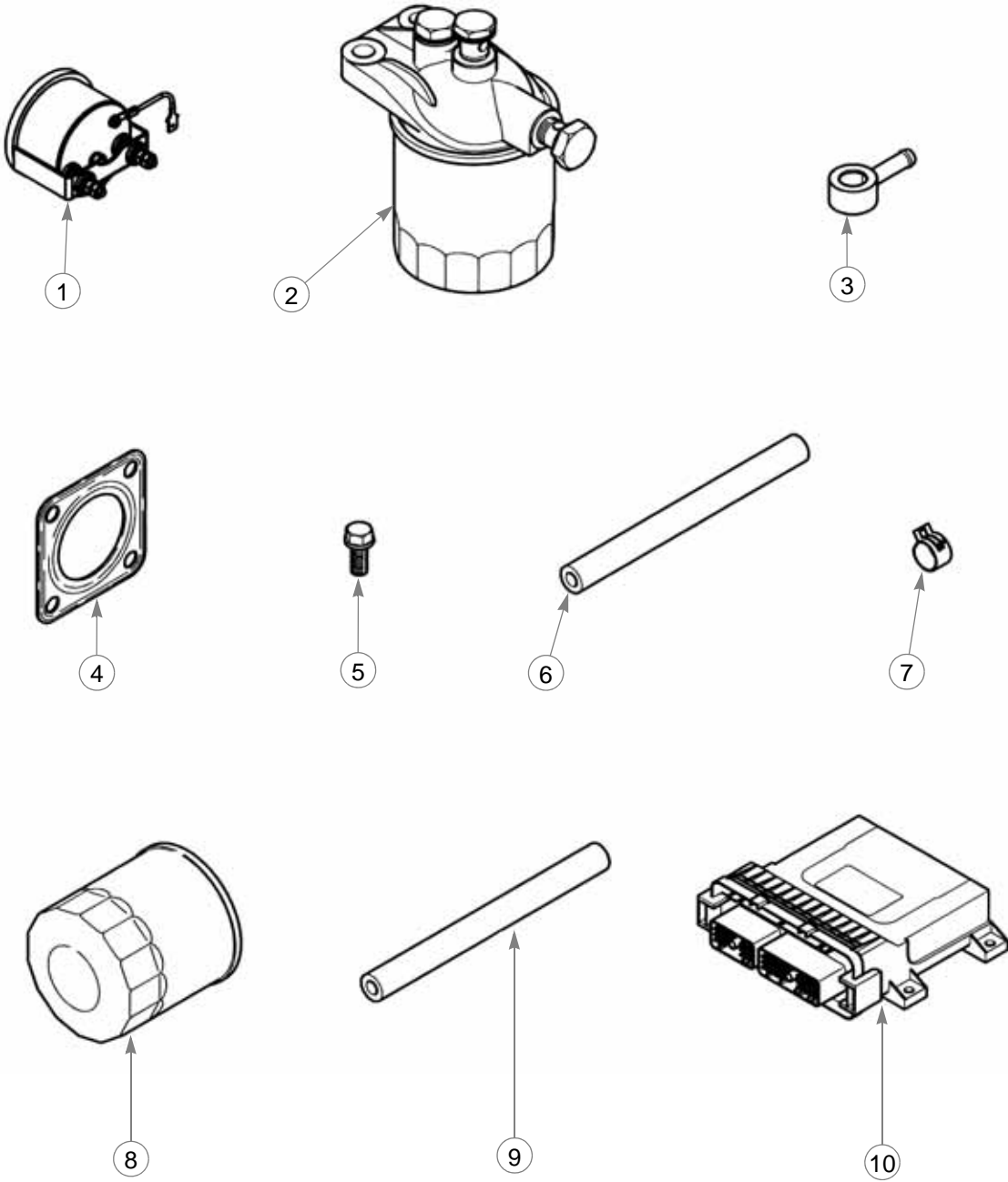


Pump Assembly

INDEX NO.	PART NO.	QTY	DESCRIPTION
1	131011111	1	INJECTION PUMP ASSY
2	131426300	1	ADJUSTING SHIM SET
3	031100004	1	HAIR PIN CLIP - RACK
4	131246280	1	CONNECTOR, INJECTION PUM
5	025100006	1	SEAL WASHER
6	023100006	4	NUT, M6 X 1
7	011310620	2	BOLT, HEX, M6 X 20, 8.8
8	131426200	3	GASKET - INJECTOR
9	131406440	3	INJECTOR ASSY (INCL 8, 10, 11)
10	131426230	1	GASKET
11	131446006	1	NUT
12	130506140	1	FEED PUMP ASSY (INCL 13, 15)
13	198486840	2	EYE COMPL
14	130996130	1	GASKET, FUEL PUMP
15	011310616	2	BOLT, M6 X 16
16	131507740	1	INJECTION PIPE COMPL, #1
17	131507750	1	INJECTION PIPE COMPL, #2
18	131507760	1	INJECTION PIPE COMPL, #3
19	199106021	4	CLAMP, INJECTION PUMP
20	010110625	2	BOLT
21	131606920	1	RETURN PIPE, INJECTORS
22	068204071	1	HOSE
23	067200078	2	HOSE CLIP

NOTES:

Accessory Parts



Accessory Parts

INDEX NO.	PART NO.	QTY	DESCRIPTION
1	385710011	1	GUAGE, TEMP HDZ
2	130306190	1	FUEL FILTER ASSY
3	131246240	2	PIPE JOINT
4	314990013	1	GASKET, MUFFLER
5	011510820	4	BOLT, M8 X 1.25 X 20
6	068209084	1	RUBBER HOSE
7	067200130	4	HOSE CLIP
8	140517020	1	OIL FILTER
9	068209104	1	HOSE, FUEL FUEL PUMP
10	185186210	1	CONTROLLER

NOTES:

1. The Oil Filter is mounted in a remote location. Refer to the mower's Parts Manual, 109744, for parts and hardware.

