Form Number 3354-824 Rev A

Engine Replacement Kit
Groundsmaster® 580-D Model 30581

Model No. 110-6120

Parts Catalog

Ordering Replacement Parts
To order replacement parts, please supply the part number, the quantity, and the description of each part desired.

Understanding Reference Numbers
Each Identified part in an illustration has a reference number. The reference number for a part also appears in the parts list, along with other information about the part.

This catalog uses two special reference number formats, one to indicate parts in a service assembly and another to indicate the quantity of a given part in an illustration.

Service Assembly Reference Numbers
Parts in service assemblies have reference numbers in the form a:b. The a represents the reference number of the entire service assembly and the b represents a sequential number unique to each part within the service assembly.

For example, a wheel assembly might be identified by reference number 6, the tire by 6:1, the valve by 6:2, and the wheel by 6:3. When you order the assembly identified by reference number 6, you receive all parts identified by reference numbers 6:1, 6:2, and 6:3. However, you may also order any part individually. Reference numbers of this type appear in illustrations and in part lists.

Reference Numbers Indicating Quantity
In an illustration, if a reference number indicates more than one part, the reference number has the form nX y. The n represents the quantity of the part, the X is the multiplication symbol, and the y represents the reference number.

For example, in an illustration, the reference number 2X 37 means that two of the parts identified by reference number 37 are indicated.

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Contents

Description	Page	Description	Page
Engine Replacement Assembly	3	Turbocharger Assembly	17
Cylinder Head Assembly	4	Oil Pump and Oil Strainer Assembly	18
Valve Mechanism Assembly	5	Oil Pipe Assembly	19
Rocker Cover and Breather Assembly	6	Oil Cooler Assembly	20
Camshaft Assembly	7	Oil Filter Assembly	21
Crankcase Assembly	8	Cooling System Assembly	22
Main Metal Assembly	9	Fuel System Assembly	23
Timing Gearcase Assembly	10	Nozzle Assembly	24
Flywheel Housing Assembly	11	Fuel Filter Assembly	25
Oil Pan Assembly	12	Electric Parts Assembly	26
Piston and Connection Rod Assembly	13	Starter Assembly	27
Crankcase and Flywheel Assembly	14	Alternator Assembly	28
Timing Gear Assembly	15	Accessory Assembly	29
Inlet and Exhaust System Assembly	16	Breather Assembly	30

Part Description Abbreviations

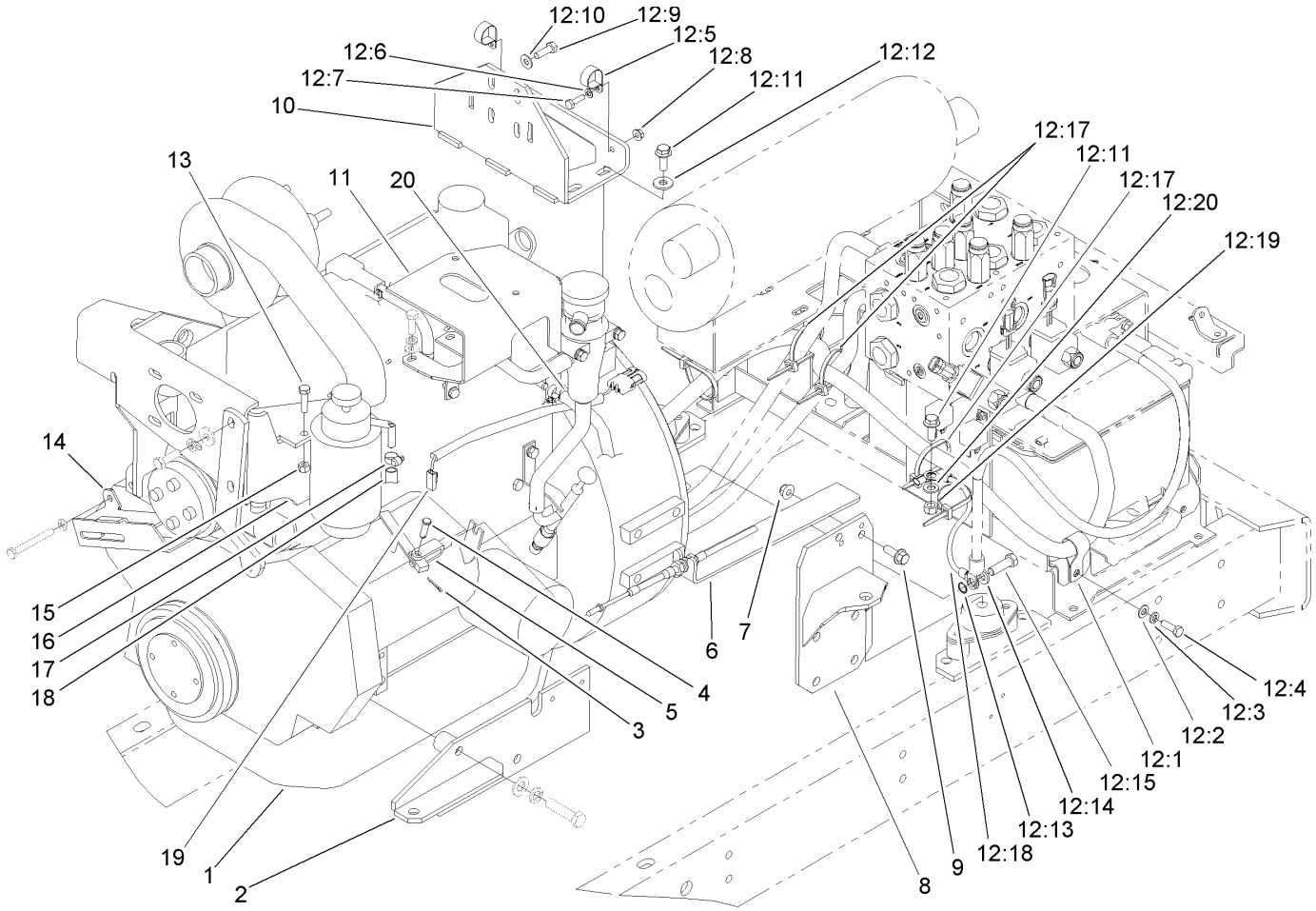
Part descriptions in this catalog may include the following abbreviations.

AR	as required
ASM	assembly
BBC	blade brake clutch
CARR	carriage
DEG	degrees
EXT	external
FH	flat head
GA	gauge
HF	hex flange
HH	hex head
HHF	hex head flange
HHFTF	hex head flange thread forming
HJ	hex jam
HLH	hex lag head
HOC	height-of-cut
HSBH	hex socket button head
HSFH	hex socket flat head
HSH	hex socket head
HWH	hex washer head
HWHTF	hex washer head thread forming
HYD	hydraulic
INC	incorporated
LH	left hand
NI	nylon insert
NPTF	national pipe thread fine
PFH	phillips flat head
PPH	phillips pan head
PPHTF	phillips pan head thread forming
PRH	phillips round head
PTH	phillips truss head
PTO	power-take-off
RH	right hand
ROPS	roll-over-protection-system
SFH	slotted fillister head
SHH	slotted hex head
SHWH	slotted hex washer head
SPH	slotted pan head
SQH	square head
SRH	slotted round head
STD	standard
TAP	self tapping
TTH	torx truss head

Footnotes

❶ Not illustrated

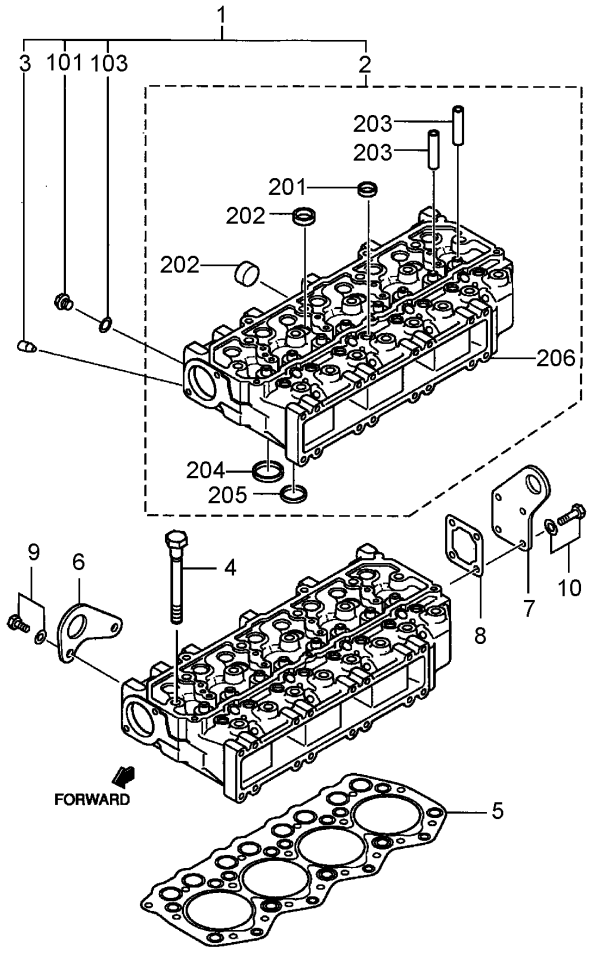
❷ Not serviced separately



Engine Replacement Assembly

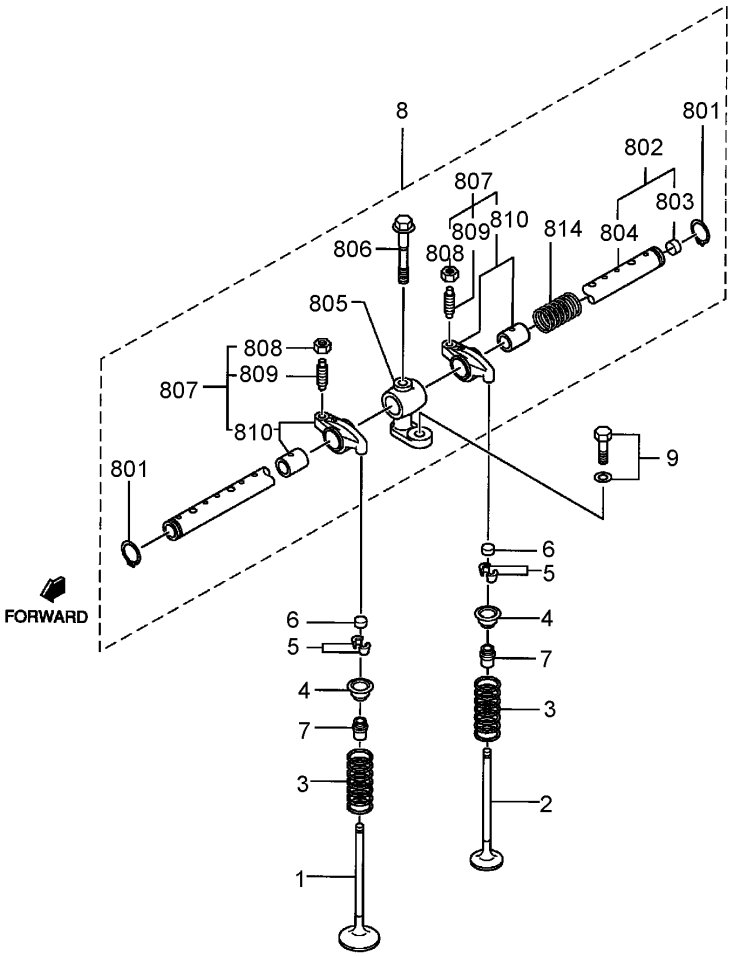
Ref	Part No.	Qty.	Description
1	106-0300	1	Engine ASM
2	95-6470-03	1	LH Front Mount ASM
3	3272-6	1	Pin-Cotter
4	283-61	1	Pin-Yoke
5	106-0306	1	Clevis
6	106-0305-03	1	Bracket-Cable, Throttle
7	104-8301	2	Nut-Flange, NI
8	106-0383-03	1	Mount-Motor, Rear (LH)
9	3234-42	2	Screw-HHF
10	106-0382-03	1	Support-Bellhousing
11	95-6462-03	1	Bracket-Cleaner, Air
12	108-8046	1	Bellhousing Support Kit
12:1	98-3883	1	Clamp-Wire
12:2	3256-23	1	Washer-Flat
12:3	3253-4	1	Washer-Lock
12:4	322-5	1	Screw-HH
12:5	2412-106	2	Clamp-R
12:6	3256-60	2	Washer-Flat
12:7	321-5	2	Screw-HH
12:8	3296-42	2	Nut-Lock, NI
12:9	33114-025	4	Screw-HH
12:10	87-8640	4	Washer-Flat
12:11	108-1531	5	Screw-HHF
12:12	80-6990	4	Washer-Hardened

Ref	Part No.	Qty.	Description
12:13	3254-20	1	Washer-Lock, Int
12:14	100-4852	1	Washer-Hardened
12:15	33115-035	1	Screw-HH
❶12:16	99-1809	1	Gasket-Head, Rear
12:17	3290-378	5	Tie-Cable
12:18	108-8062	1	Harness-Wire, Ground
12:19	33025-00	1	Nut-Lock
12:20	33095-00	1	Washer-Flat
13	322-6	2	Screw-HH
14	106-0375-03	1	Bracket-Idler
15	3296-29	2	Nut-Lock, NI
16	106-0308-03	1	Bracket ASM
17	2412-108	2	Clamp-Worm
18	110-6187	1	Hose-Fuel
19	110-6122	1	Adaptor-Harness
20	110-6184	1	Hose-Fuel



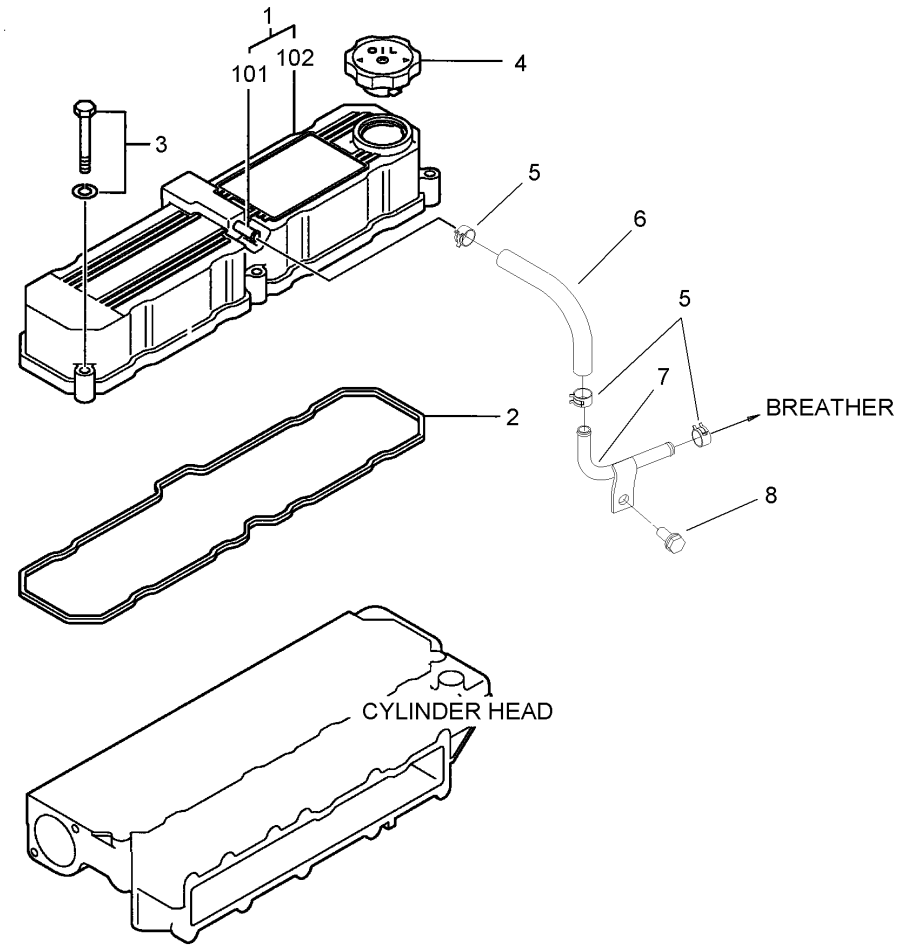
Cylinder Head Assembly

Ref	Part No.	Qty.	Description
1	107-4801	1	Cylinder Head ASM
❷2		1	Cylinder Head Sub ASM
❷3		1	Plug
4	99-1806	17	Bolt-Head, Cylinder
5	99-1807	1	Gasket-Head, Cylinder
❷6		1	Eye-Lifting
7	99-1808	1	Eye-Lifting, Head Rear
8	99-1809	1	Gasket-Head, Rear
9	99-1810	2	Bolt W/Washer
10	99-1811	4	Bolt W/Washer
101	99-1812	1	Plug-Drain
103	99-1813	1	Gasket
201	107-4802	12	Cap-Sealing
202	107-4803	7	Cap-Sealing
203	99-1803	8	Guide-Valve
204	99-1804	4	Seat-Valve, In
205	99-1805	4	Seat-Valve, Ex
❷206		1	Head-Cylinder



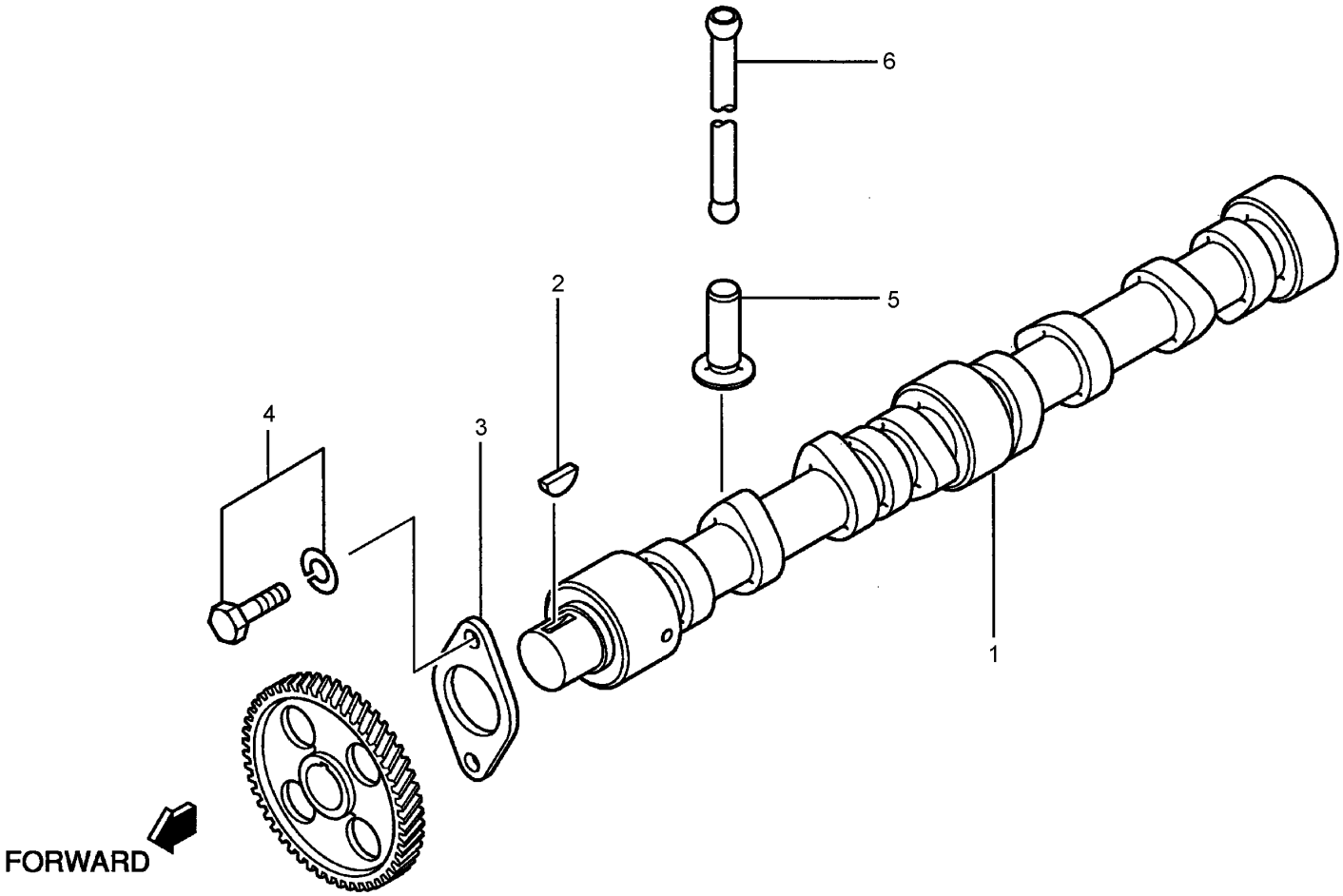
Valve Mechanism Assembly

Ref	Part No.	Qty.	Description
1	99-1814	4	Valve-Inlet
2	99-1815	4	Valve-Exhaust
3	51-5320	8	Spring
4	99-1816	8	Retainer-Upper
5	60-7420	16	Valve-Cotter
6	51-5280	8	Cap
7	99-1817	8	Seal-Stem, Valve
8	107-4804	1	Rocker And Shaft ASM
9	99-1825	4	Bolt W/Washer
801	42-7990	2	Ring-Snap
802	99-1821	1	Rocker Shaft ASM
803	107-4805	2	Cap-Sealing
❷804		1	Shaft-Rocker
805	99-1823	4	Bracket-Shaft, Rocker
806	99-1824	4	Bolt-Bracket, Rocker
807	107-4806	8	Rocker ASM
808	70-2970	8	Nut
809	93-3401	8	Rocker Screw ASM
❷810		8	Rocker & Bushing
814	107-4807	3	Spring-Rocker



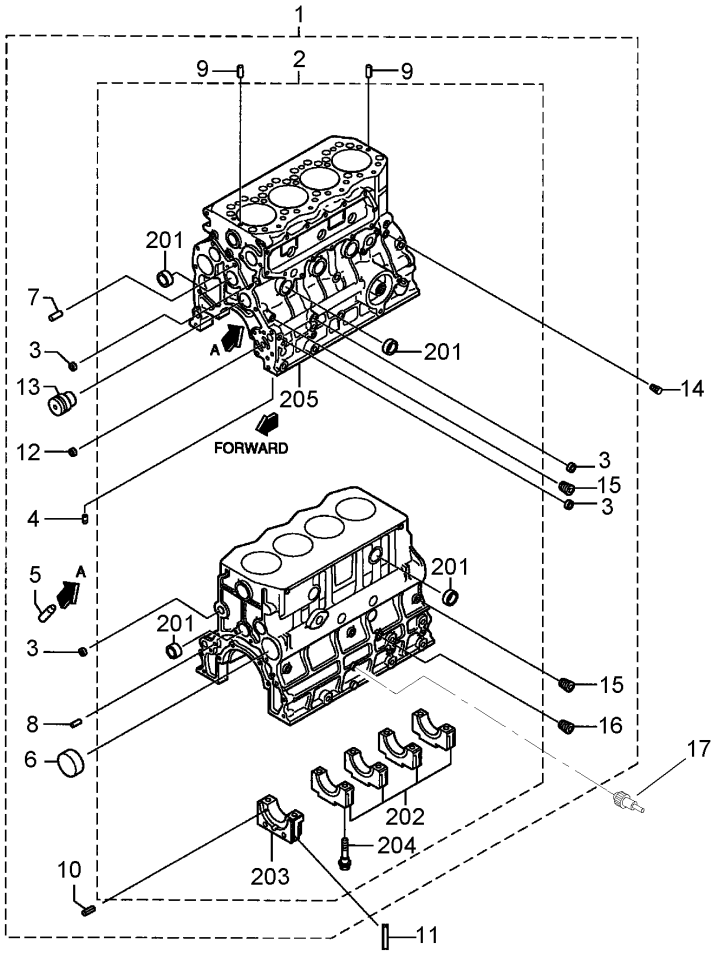
Rocker Cover and Breather Assembly

Ref	Part No.	Qty.	Description
1	99-1826	1	Rocker Cover ASM
2	99-1827	1	Gasket-Rocker
3	99-1828	5	Bolt W/Washer
4	42-7420	1	Cap-Filler
5	99-1833	3	Clip-Hose
6	108-8082	1	Hose-Breather
7	108-8083	1	Pipe-Breather
8	99-1836	1	Bolt W/Washer
❷101		1	Pipe
❷102		1	Cover-Rocker



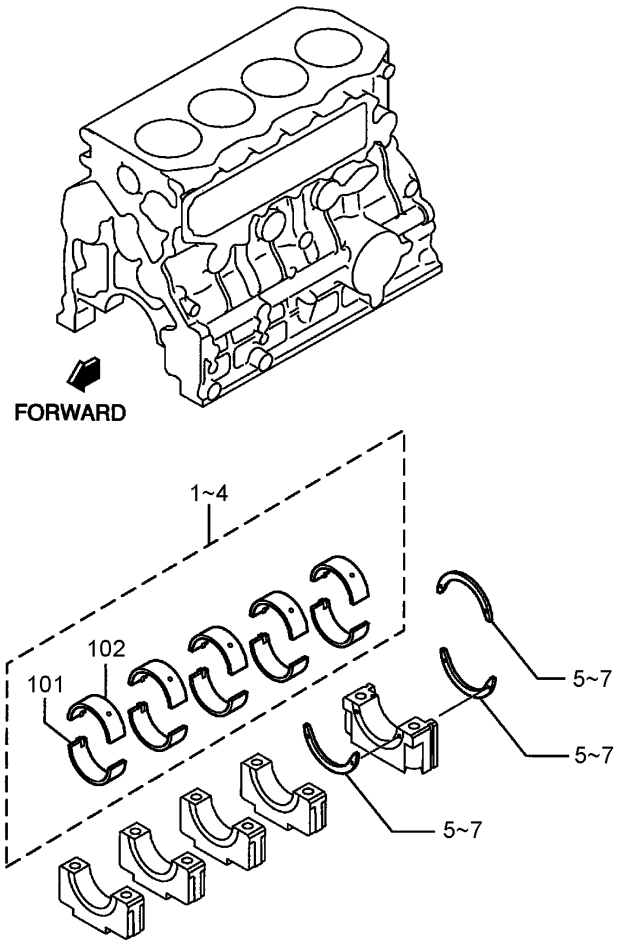
Camshaft Assembly

Ref	Part No.	Qty.	Description
1	99-1829	1	Camshaft
2	51-5460	1	Key
3	51-5470	1	Plate
4	99-1810	2	Bolt W/Washer
5	99-1831	8	Tappet
6	99-1832	8	Rod-Push



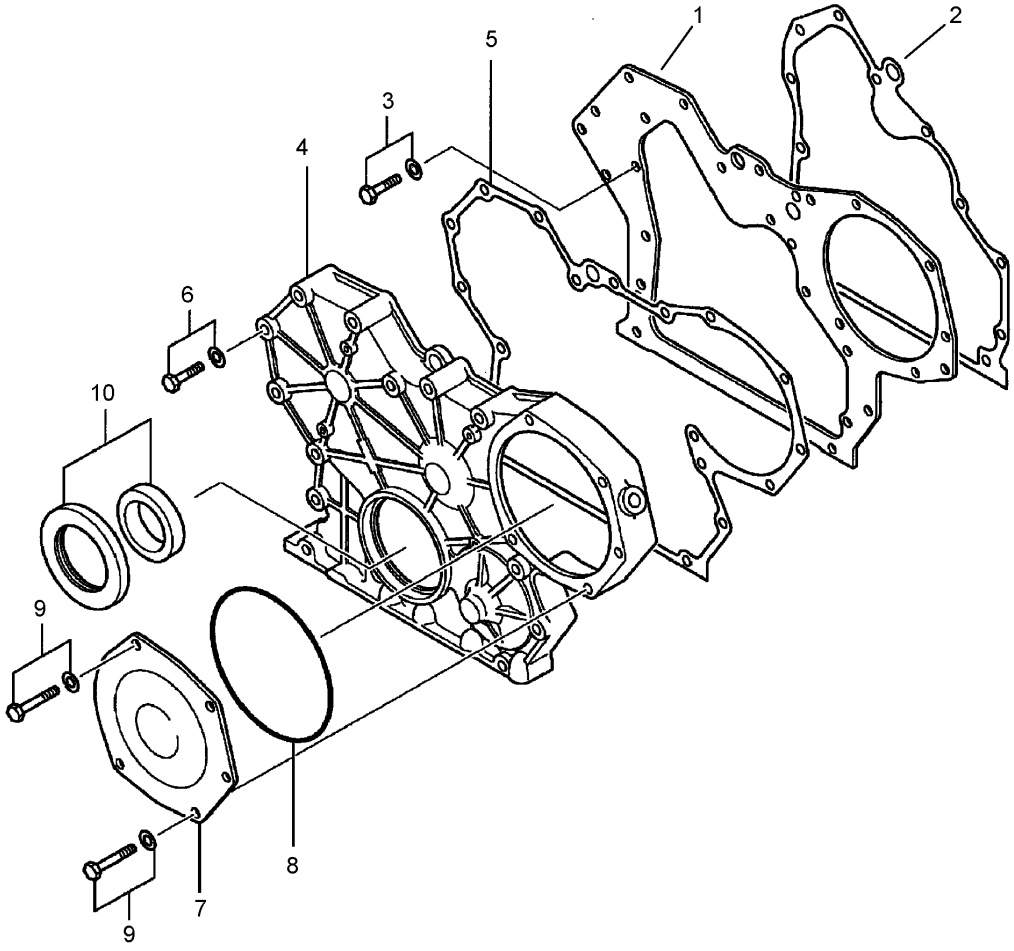
Crankcase Assembly

Ref	Part No.	Qty.	Description
1	99-1837	1	Crankcase ASM
❷2		1	Crankcase Sub ASM
3	70-3370	6	Cap
❷4		3	Plug
5	107-4809	4	Pipe-Jet, Oil
6	99-1840	1	Plug-Cam
7	99-1841	2	Pin-Dowel
8	70-3000	2	Pin
9	93-3365	2	Pin-Dowel
10	99-1842	6	Pin-Spring
11	99-1853	2	Seal-Side
12	99-1843	1	Bushing
13	99-1844	1	Shaft-Idler
14	56-0100	1	Plug-Drain
15	86-6240	5	Plug-Tapered
16	99-1845	1	Plug-Taper
17	56-1310	1	Switch ASM
201	107-4808	10	Cap-Sealing
❷202		4	Cap-Metal
❷203		1	Cap-Metal, Rear
204	99-1838	10	Bolt-Cap, Bearing
❷205		1	Crankcase



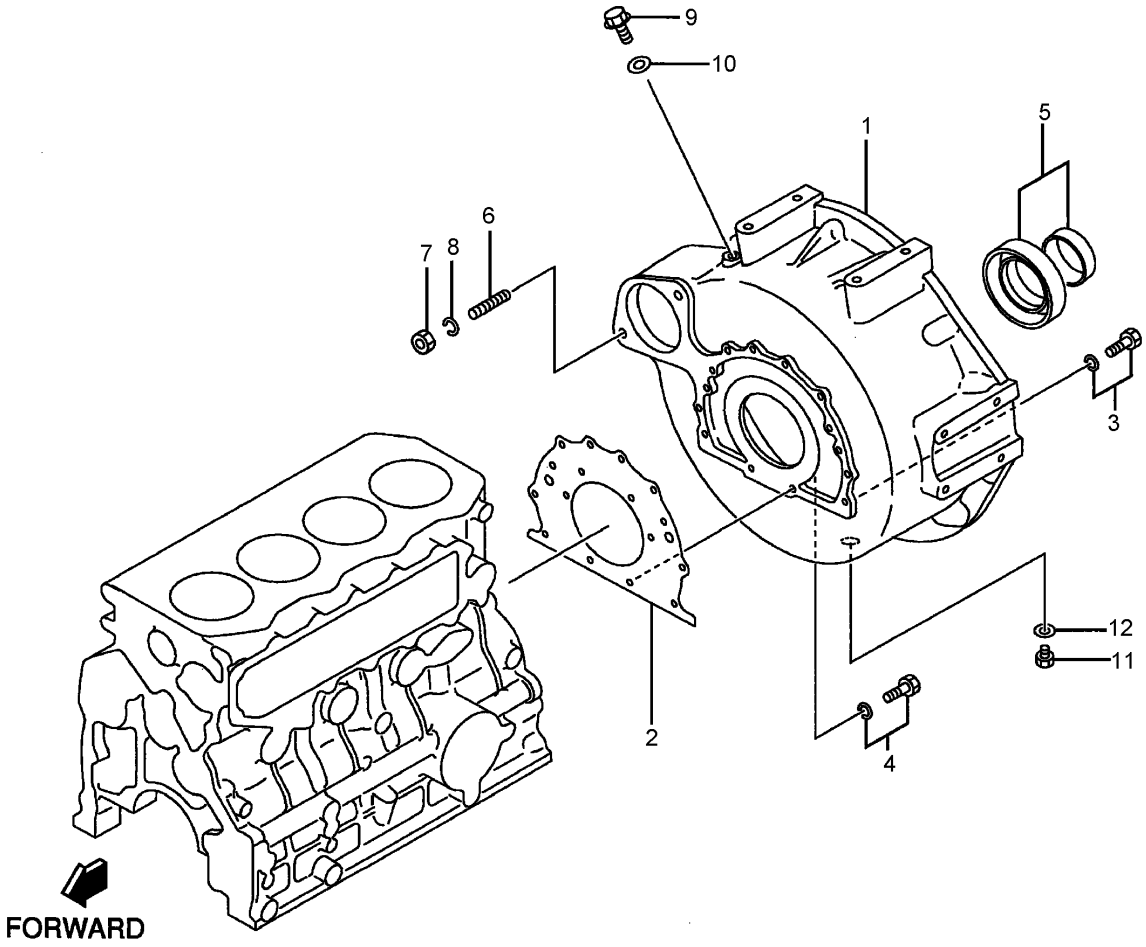
Main Metal Assembly

Ref	Part No.	Qty.	Description
1	99-1846	1	Set-Metal, Main
2	99-1847	1	Set-Metal, Main
3	99-1848	1	Set-Metal, Main
4	99-1849	1	Set-Metal, Main
5	99-1850	3	Plate-Thrust, C/S
6	99-1851	3	Plate-Thrust, C/S
7	99-1852	3	Plate-Thrust, C/S
❷101		5	Main Metal, Lower
❷102		5	Main Metal, Upper



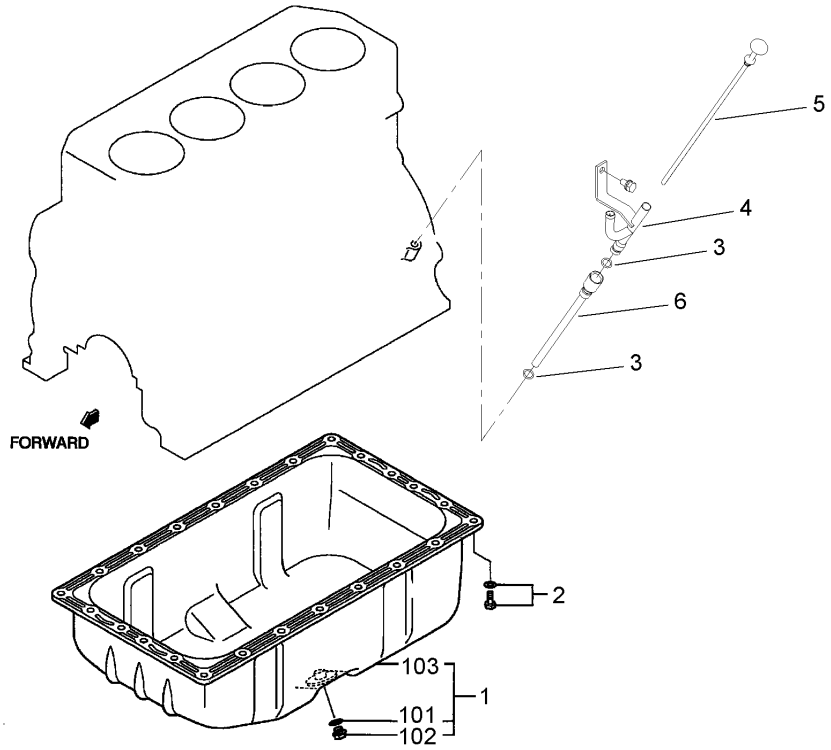
Timing Gearcase Assembly

Ref	Part No.	Qty.	Description
1	99-1859	1	Plate-Front
2	99-1860	1	Gasket-Plate, Front
3	99-1810	5	Bolt W/Washer
4	99-1861	1	Case-Gear, Timing
5	99-1862	1	Gasket-Gear
6	99-1864	13	Bolt W/Washer
7	99-1863	1	Cover-Case, Gear
8	107-4812	1	O-Ring
9	99-1866	5	Bolt W/Washer
10	107-4813	1	Oil Seal ASM



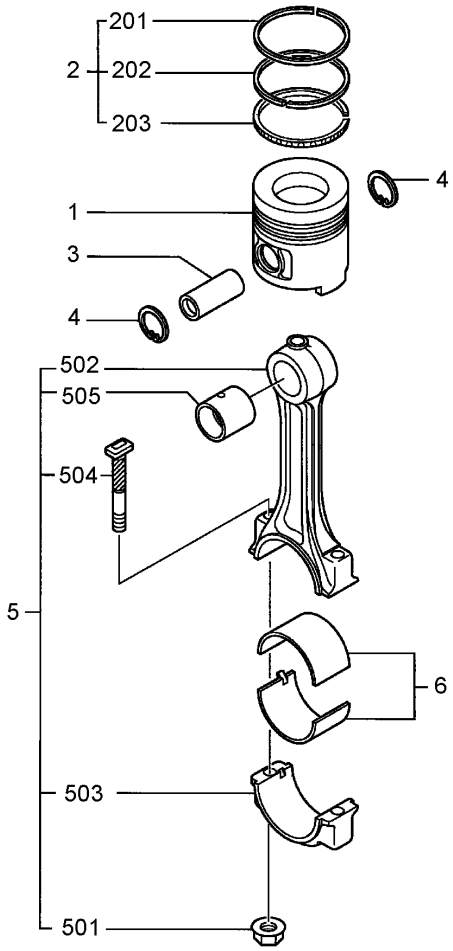
Flywheel Housing Assembly

Ref	Part No.	Qty.	Description
1	99-1854	1	Housing-Flywheel
2	99-1855	1	Gasket-Rear
3	99-1856	10	Bolt W/Washer
4	99-1857	2	Bolt W/Washer
5	60-7430	1	Seal
6	51-5950	2	Stud
7	51-8670	2	Nut
8	51-6390	2	Washer
9	99-1812	1	Plug-Drain
10	99-1813	1	Gasket
11	67-2520	1	Plug
12	42-7290	1	Gasket-Plug



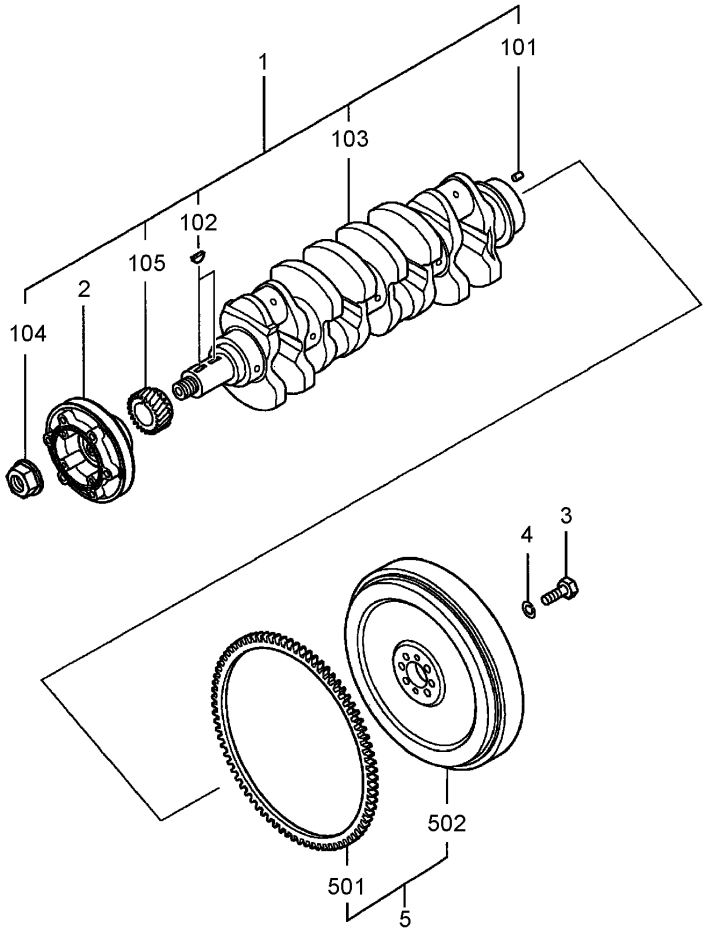
Oil Pan Assembly

Ref	Part No.	Qty.	Description
1	99-1874	1	Oil Pan ASM
2	99-1810	25	Bolt W/Washer
3	107-4814	2	O-Ring
4	108-8091	1	Guide-Oil Level
5	108-1595	1	Gage-Oil Level
6	108-8092	1	Pipe-Oil Level
101	92-1921	1	Gasket-Oil
102	92-1920	1	Plug-Oil
❷103		1	Pan-Oil



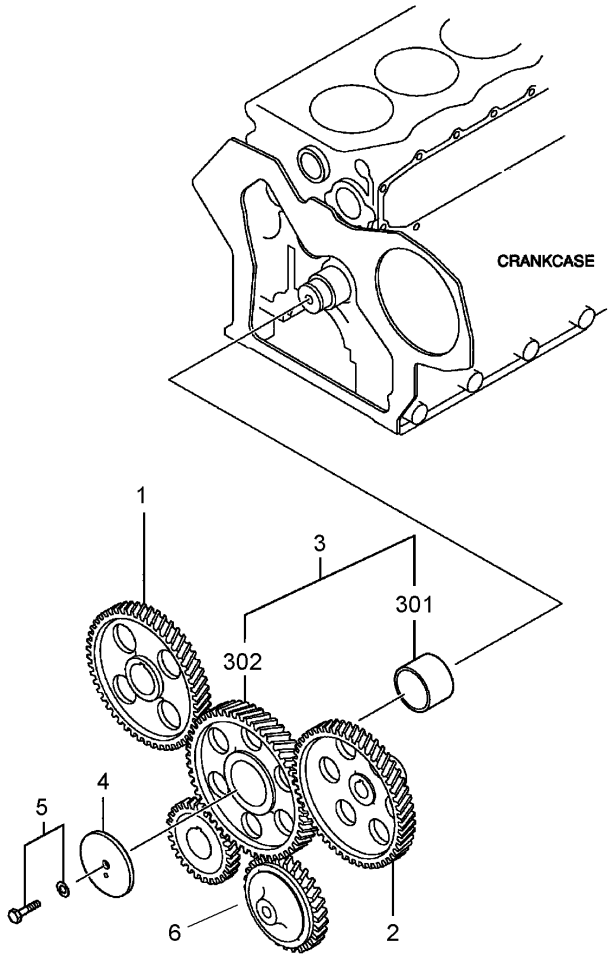
Piston and Connection Rod Assembly

Ref	Part No.	Qty.	Description
1	107-4816	4	Piston
2	99-1883	4	Set-Ring, Piston
3	107-4817	4	Pin-Piston
4	99-1887	8	Ring-Snap
5	99-1888	4	Connecting Rod ASM
6	99-1891	1	Metal Set (Connecting Rod)
❷201		4	Ring-#1
❷202		4	Ring-#2
❷203		4	Ring-Oil
501	51-6230	8	Nut
❷502		4	Rod-Connecting
❷503		4	Cap-Rod, Connecting
504	99-1889	8	Bolt-Connecting
505	99-1890	4	Bushing-Rod, Connecting



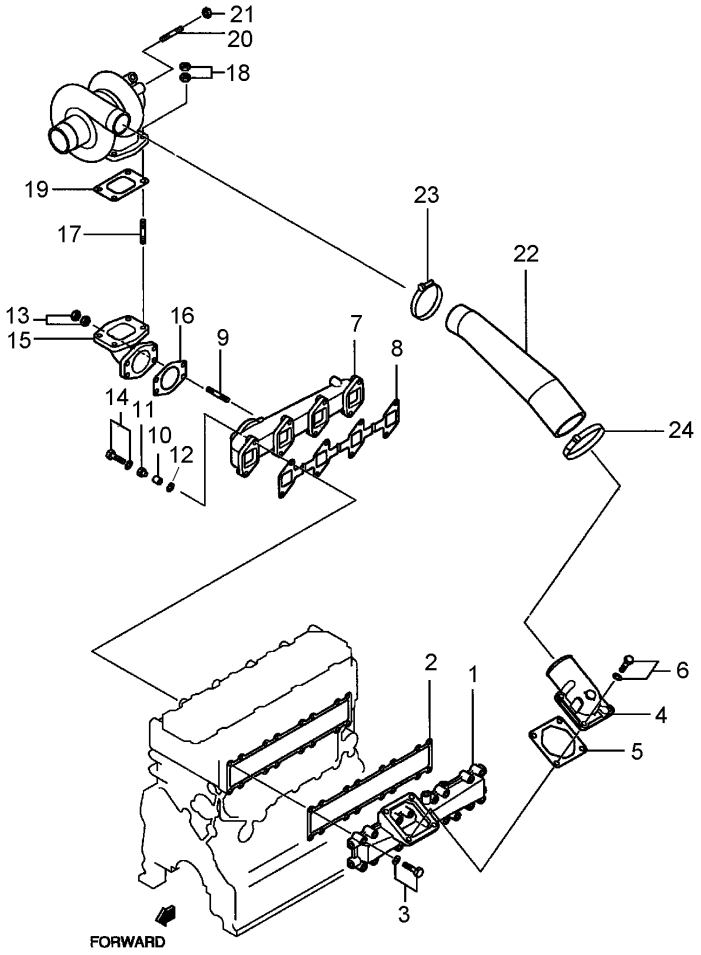
Crankcase and Flywheel Assembly

Ref	Part No.	Qty.	Description
1	99-1895	1	Crankshaft ASM
2	99-1896	1	Pulley-Crankshaft
3	70-2880	4	Bolt
4	51-8610	4	Washer-Spring
5	99-1899	1	Flywheel ASM
101	51-6300	2	Pin-Dowel
102	51-5460	2	Key
❷103		1	Crankshaft
104	99-1897	1	Nut-Crankshaft
105	99-1898	1	Gear-Crankshaft
501	99-2100	1	Gear-Ring
❷502		1	Flywheel



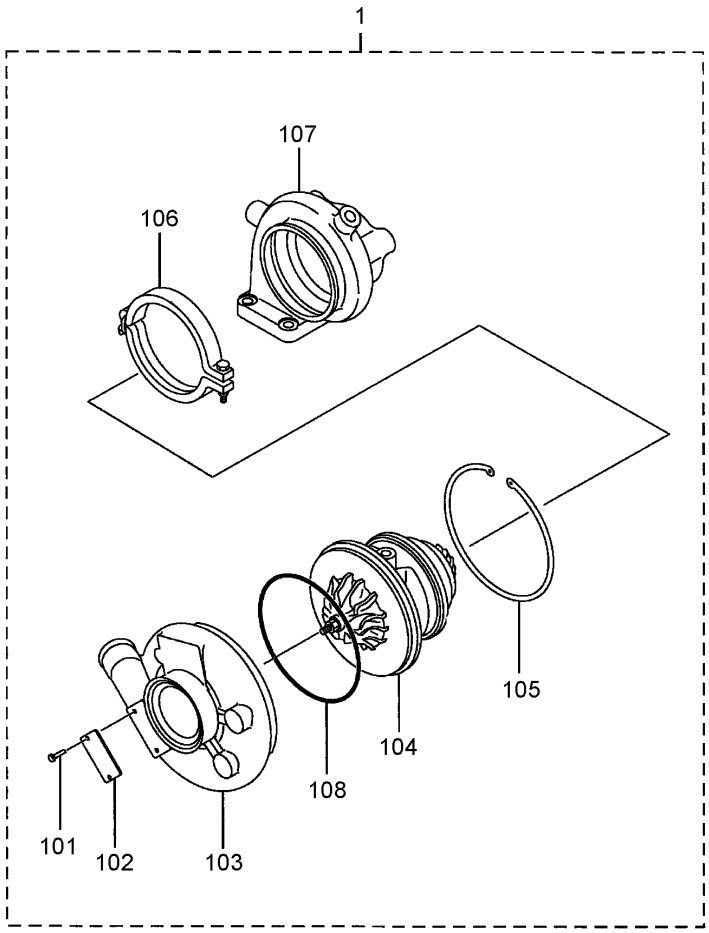
Timing Gear Assembly

Ref	Part No.	Qty.	Description
1	99-1868	1	Gear-Camshaft
2	107-4818	1	Gear-Pump, Injection
3	99-1870	1	Gear Idler ASM
4	99-1871	1	Plate-Thrust
5	99-1872	1	Bolt W/Washer
6	99-1873	1	Gear-Pump, Oil
❷301		1	Bushing-Idler
❷302		1	Gear-Idler



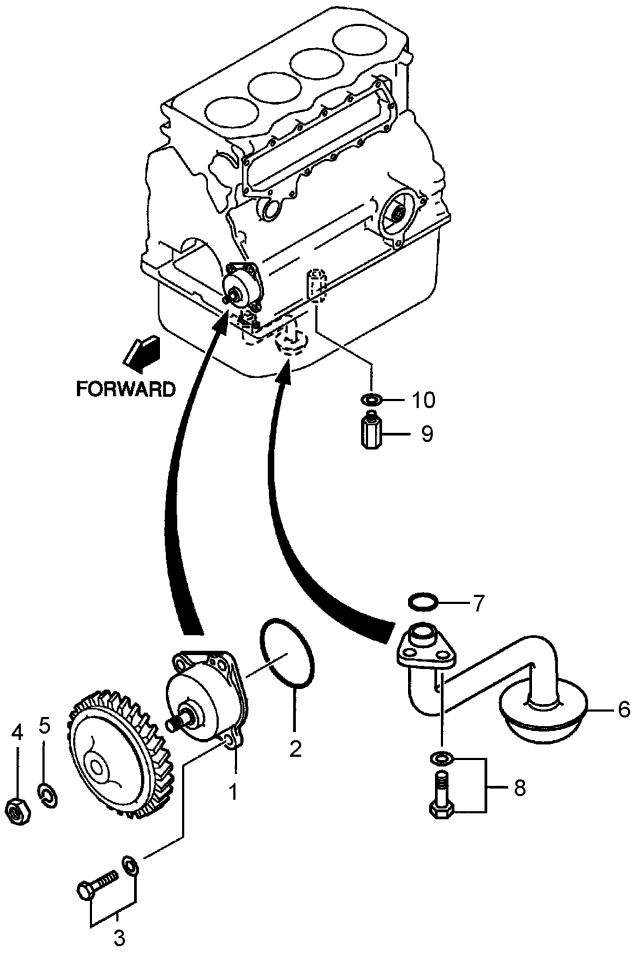
Inlet and Exhaust System Assembly

Ref	Part No.	Qty.	Description
1	99-2101	1	Inlet Manifold ASM
2	99-2102	1	Gasket-Inlet, Manifold
3	99-1828	16	Bolt W/Washer
4	70-6090	1	Elbow
5	99-2104	1	Gasket-Heater, Air
6	99-1811	4	Bolt W/Washer
7	99-2108	1	Exhaust Manifold ASM
8	99-2105	1	Gasket-Exhaust, Manifold
9	107-4819	4	Stud
10	99-2109	8	Spacer
11	99-2110	8	Washer
12	51-7250	8	Washer
13	60-7120	8	Nut
14	99-2111	8	Bolt W/Washer
15	99-2106	1	Pipe-Exhaust
16	99-2107	1	Gasket-Exhaust
17	99-2112	4	Stud
18	99-2113	8	Nut-Lock
19	99-2114	1	Gasket-Exhaust
20	107-4820	3	Stud
21	99-2113	6	Nut-Lock
22	99-2116	1	Hose-Air
23	107-4821	1	Clamp-Hose
24	107-4822	1	Clamp-Hose



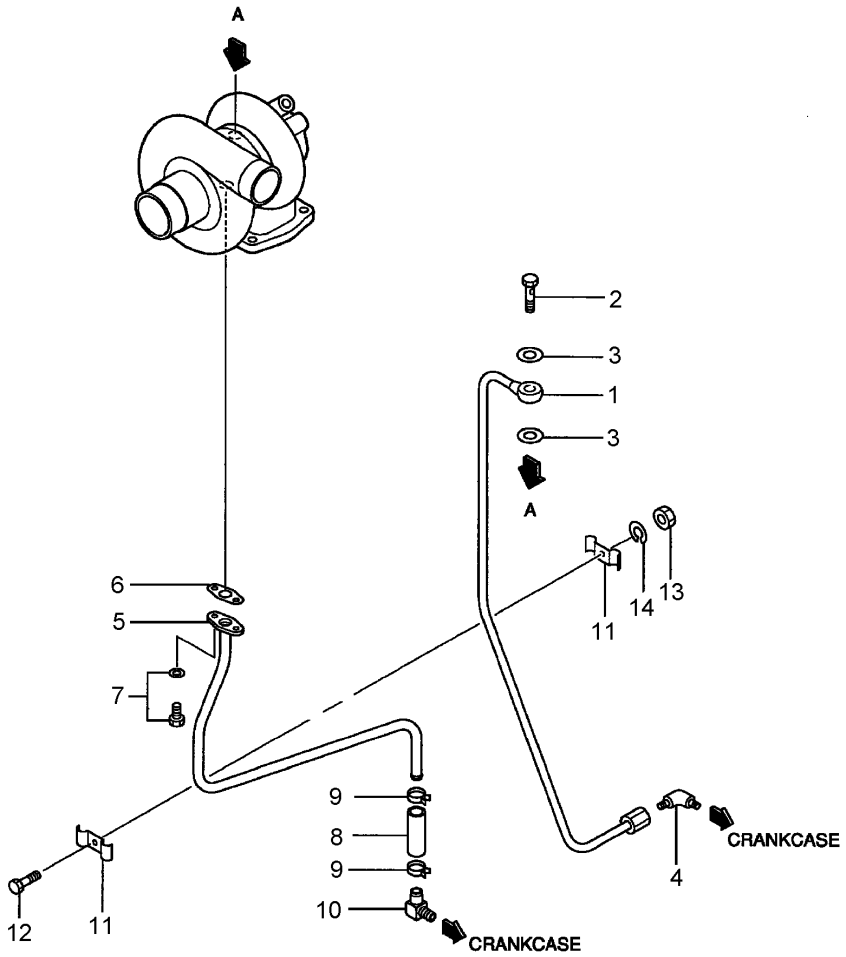
Turbocharger Assembly

Ref	Part No.	Qty.	Description
1	99-2124	1	Turbocharger ASM
❷101		2	Rivet
❷102		1	Plate
❷103		1	Cover-Compressor
❷104		1	Cartridge ASM
❷105		1	Ring-Retaining
❷106		1	Coupling ASM
❷107		1	Housing-Turbine
❷108		1	O-Ring



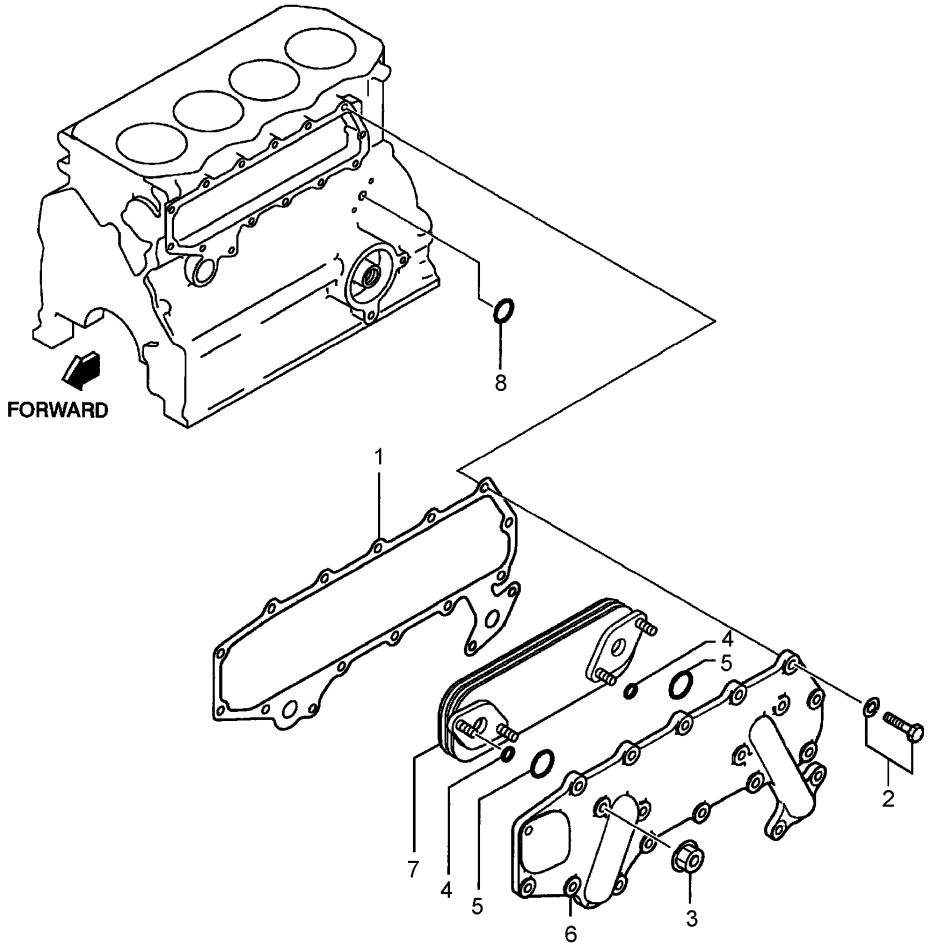
Oil Pump and Oil Strainer Assembly

Ref	Part No.	Qty.	Description
1	107-4823	1	Oil Pump ASM
2	108-1598	1	O-Ring
3	99-1811	4	Bolt W/Washer
4	99-2129	1	Nut-Jam
5	51-6390	1	Washer
6	110-3253	1	Strainer-Oil
7	99-2131	1	O-Ring
8	99-1810	2	Bolt W/Washer
9	99-2133	1	Valve
10	99-2134	1	Gasket



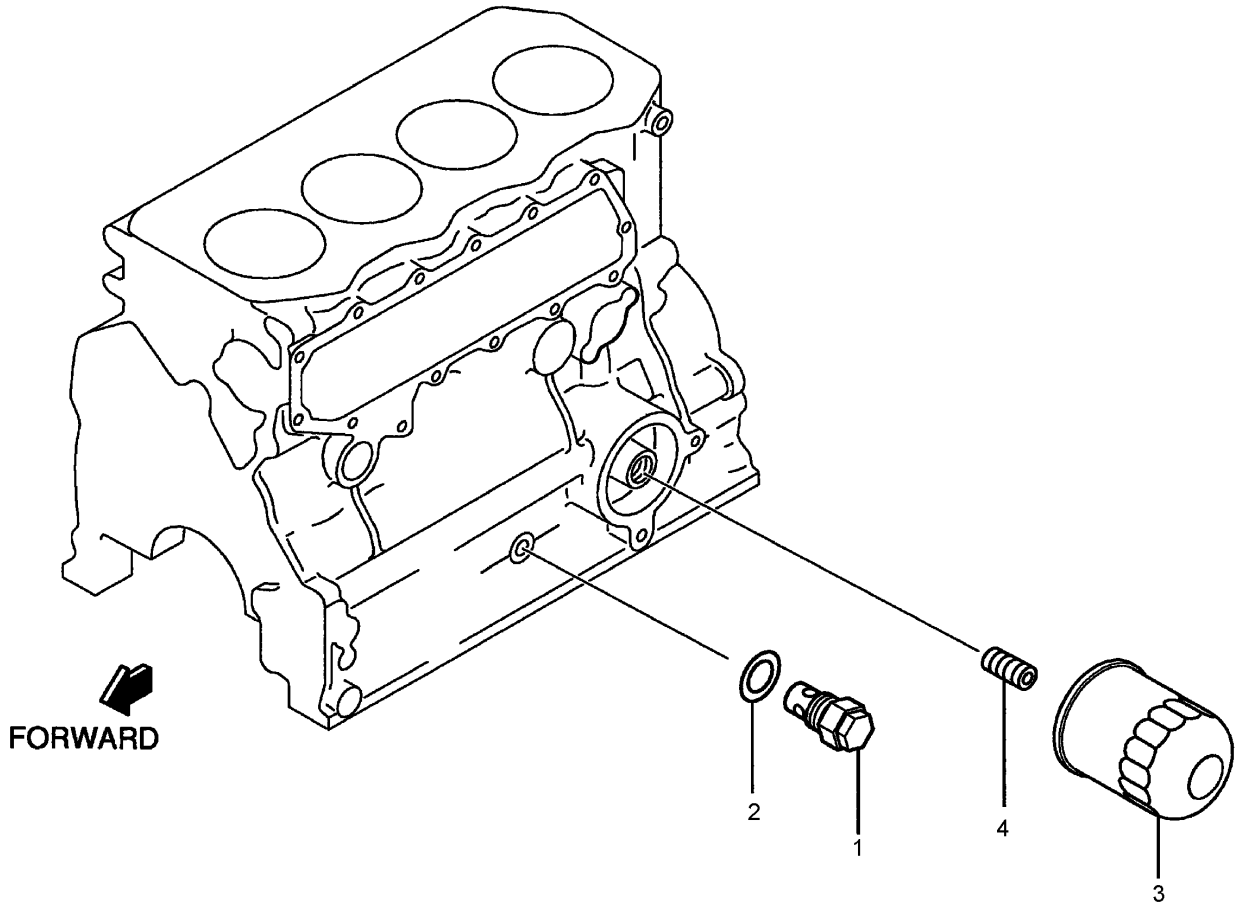
Oil Pipe Assembly

Ref	Part No.	Qty.	Description
1	99-2119	1	Pipe-Oil
2	70-4980	1	Bolt
3	70-3060	2	Gasket
4	99-2120	1	Elbow
5	99-2118	1	Pipe-Oil
6	99-2121	1	Gasket-Pipe, Oil
7	99-2122	2	Bolt W/Washer
8	99-2123	1	Hose-Oil
9	70-3090	2	Clamp
10	70-5310	1	Elbow
11	99-2125	2	Clamp
12	60-7290	1	Bolt
13	70-2960	1	Nut
14	51-7400	1	Washer



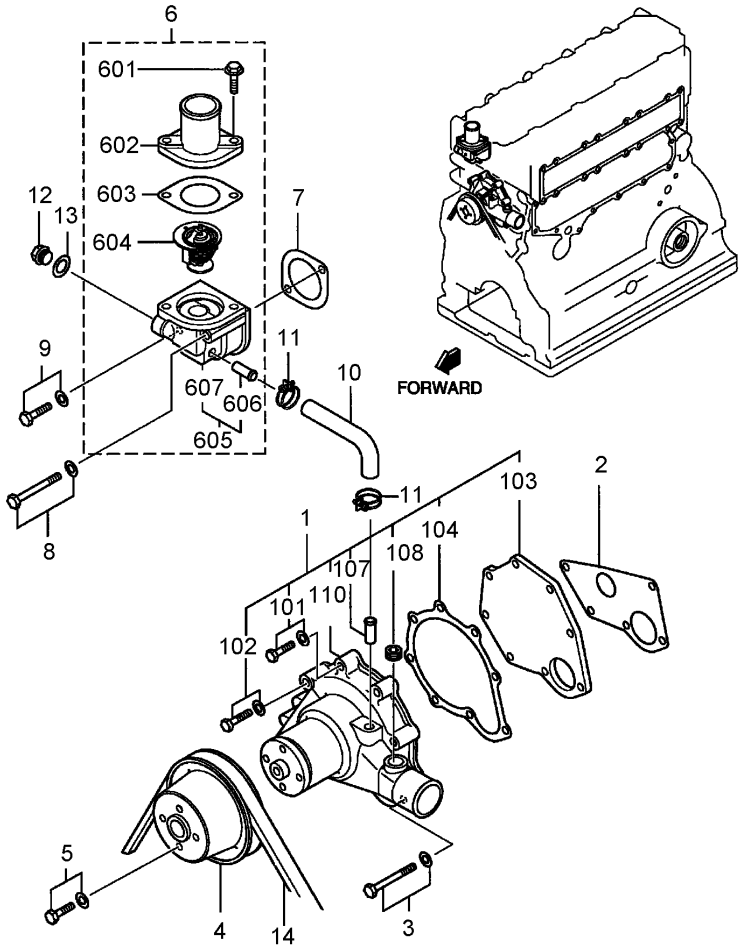
Oil Cooler Assembly

Ref	Part No.	Qty.	Description
1	107-4381	1	Gasket-Cover, Side
2	99-1811	14	Bolt W/Washer
3	107-4842	4	Nut-Flange
4	107-4383	4	O-Ring
5	107-4384	2	O-Ring
6	107-4385	1	Case-Cooler, Oil
7	107-4386	1	Element-Cooler, Oil
8	99-2131	2	O-Ring



Oil Filter Assembly

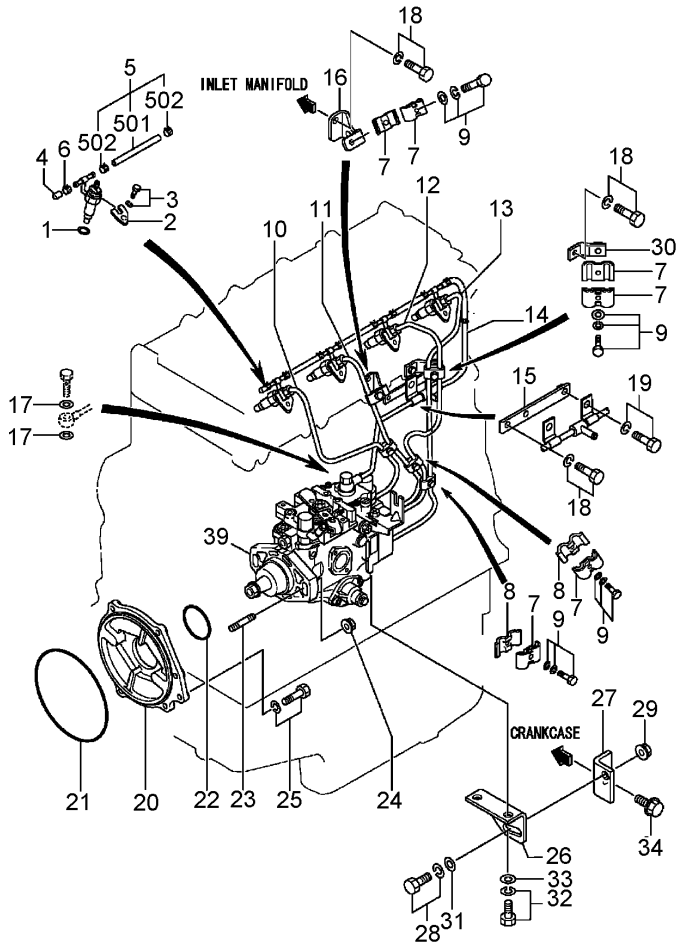
Ref	Part No.	Qty.	Description
1	93-3415	1	Relief Valve ASM
2	107-4825	1	Gasket
3	99-2143	1	Cartridge
4	99-2144	1	Union-Filter, Oil



Cooling System Assembly

Ref	Part No.	Qty.	Description
1	99-2145	1	Water Pump ASM
2	99-2148	1	Gasket-Water
3	99-2150	5	Bolt W/Washer
4	99-2149	1	Pulley-Pump, Water
5	107-4827	4	Bolt
6	107-4828	1	Thermostat ASM
7	51-7210	1	Gasket
8	99-2158	1	Bolt W/Washer
9	99-2150	1	Bolt W/Washer
10	99-2152	1	Hose-Bypass
11	93-4297	2	Clamp-Hose
12	99-1812	1	Plug-Drain
13	99-1813	2	Gasket
14	107-4388	1	Belt-Edge, Raw
101	92-2133	2	Bolt-Flange
102	99-2151	1	Bolt-Flange
103	99-2146	1	Cover-Pump, Water
104	99-2147	1	Gasket-Cover, Pump
❷107		1	Pipe-Pump, Water
108	107-4826	1	Plug-Taper
❷110		1	Case-Pump, Water
601	92-2133	2	Bolt-Flange
602	99-2153	1	Cover-Thermostat
603	107-4829	1	Gasket-Thermostat

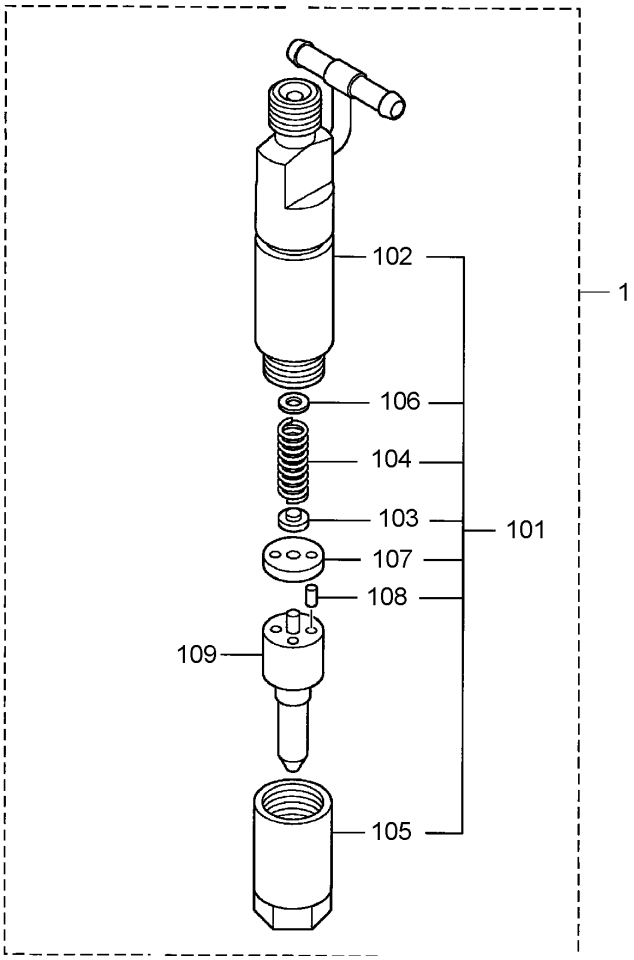
Ref	Part No.	Qty.	Description
604	99-2155	1	Thermostat
605	99-2156	1	Thermostat Case ASM
❷606		1	Pipe-Thermostat
❷607		1	Case-Thermostat



Fuel System Assembly

Ref	Part No.	Qty.	Description
1	98-7375	4	Gasket-Nozzle
2	107-4831	4	Support-Nozzle
3	99-2166	4	Bolt W/Washer
4	99-2167	1	Cap
5	99-2168	4	Oil Hose ASM
6	99-2169	1	Clip
7	56-0750	7	Clamp
8	56-0760	3	Clamp
9	99-2179	5	Bolt W/Washer
10	107-4832	1	Pipe-Injection #1
11	107-4833	1	Pipe-Injection #2
12	107-4834	1	Pipe-Injection #3
13	107-4835	1	Pipe-Injection #4
14	107-4836	1	Pipe-Return, Fuel
15	107-4837	1	Stay
16	107-4838	1	Stay-Pipe
17	107-4839	2	Washer-Sealing
18	99-1810	3	Bolt W/Washer
19	99-1825	2	Bolt W/Washer
20	108-1596	1	Flange-Pump
21	107-4840	1	O-Ring
22	107-4387	1	O-Ring
23	86-6390	2	Stud
24	107-4842	2	Nut-Flange

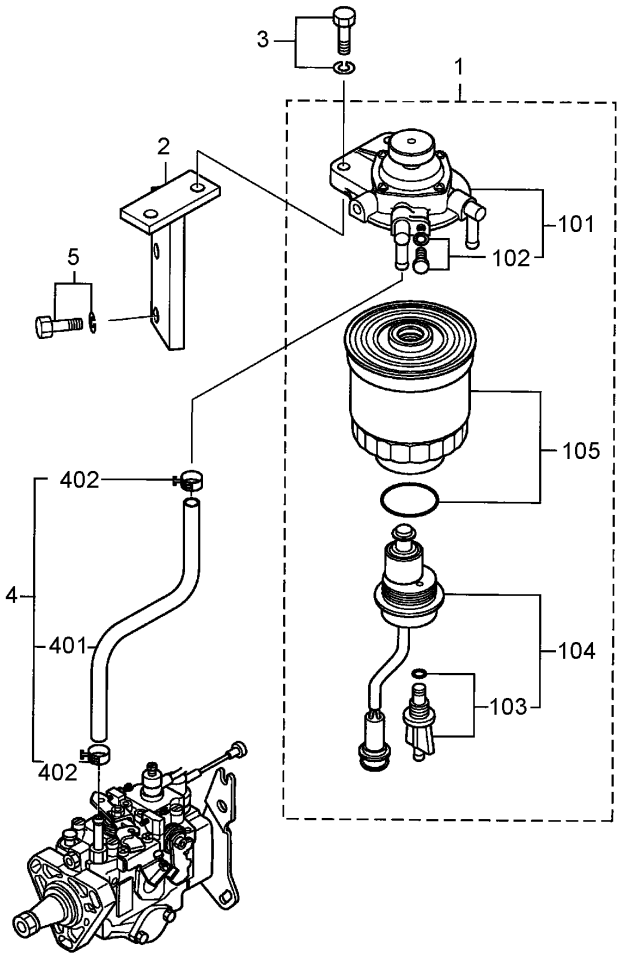
Ref	Part No.	Qty.	Description
25	99-1811	1	Bolt W/Washer
26	107-4843	1	Bracket-Pump, Injection
27	107-4844	1	Bracket-Pump, Injection
28	107-4845	1	Bolt W/Washer
29	107-4846	1	Nut-Flange
30	108-1599	1	Stay
31	108-1597	1	Washer
32	107-4849	2	Bolt W/Washer
33	70-2990	2	Washer
34	107-4847	1	Bolt-Flange
39	107-4848	1	Injection Pump ASM
501	105-0558	4	Hose
502	99-2169	8	Clip



Nozzle Assembly

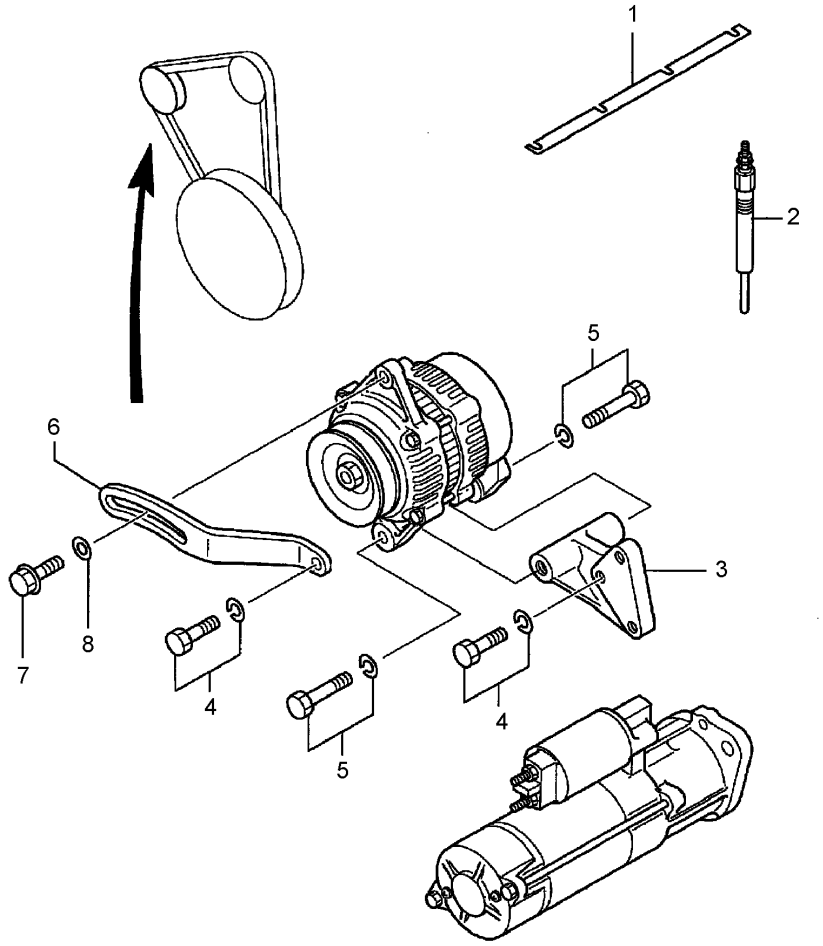
Ref	Part No.	Qty.	Description
1	107-4389	4	Nozzle ASM
❷101		4	Holder ASM
❷102		4	Body Sub ASM
103	99-2280	4	Pin-Pressure
104	99-2281	4	Spring-Pressure
105	70-4840	4	Nut
106	99-2190	1	Washer
106	99-2191	1	Washer
106	99-2192	1	Washer
106	99-2193	1	Washer
106	99-2194	1	Washer
106	99-2195	1	Washer
106	99-2196	1	Washer
106	99-2197	1	Washer
106	99-2198	1	Washer
106	99-2199	1	Washer
106	99-2200	1	Washer
106	99-2201	1	Washer
106	99-2202	1	Washer
106	99-2203	1	Washer
106	70-4890	1	Washer
106	70-4900	1	Washer
106	99-2204	1	Washer
106	99-2205	1	Washer

Ref	Part No.	Qty.	Description
106	99-2206	1	Washer
106	70-4920	1	Washer
106	99-2207	1	Washer
106	107-4390	1	Washer
106	99-2208	1	Washer
106	99-2209	1	Washer
106	99-2210	1	Washer
106	99-2211	1	Washer
106	99-2212	1	Washer
106	99-2213	1	Washer
106	99-2214	1	Washer
106	99-2215	1	Washer
106	99-2216	1	Washer
106	70-4860	1	Washer
106	70-4870	1	Washer
106	70-4880	1	Washer
107	99-2218	4	Packing
108	70-6830	8	Pin
109	107-4391	4	Nozzle Tip ASM



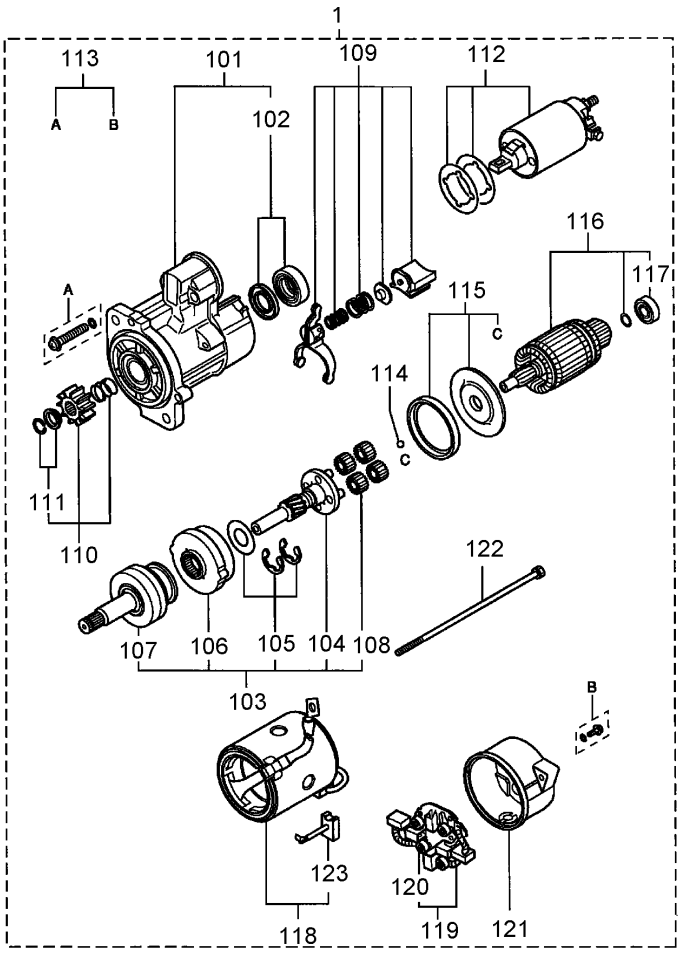
Fuel Filter Assembly

Ref	Part No.	Qty.	Description
1	107-4392	1	Fuel Filter ASM
2	107-4396	1	Bracket-Filter, Fuel
3	99-2166	2	Bolt W/Washer
4	107-4397	1	Fuel Hose ASM
5	99-1811	2	Bolt W/Washer
❷101		1	Body ASM
102	107-4393	1	Air Plug Set
❷103		1	Plug-Drain
104	107-4394	1	Sensor ASM
105	107-4395	1	Element-Filter
❷401		1	Hose-Fuel
402	56-1400	2	Clip-Hose



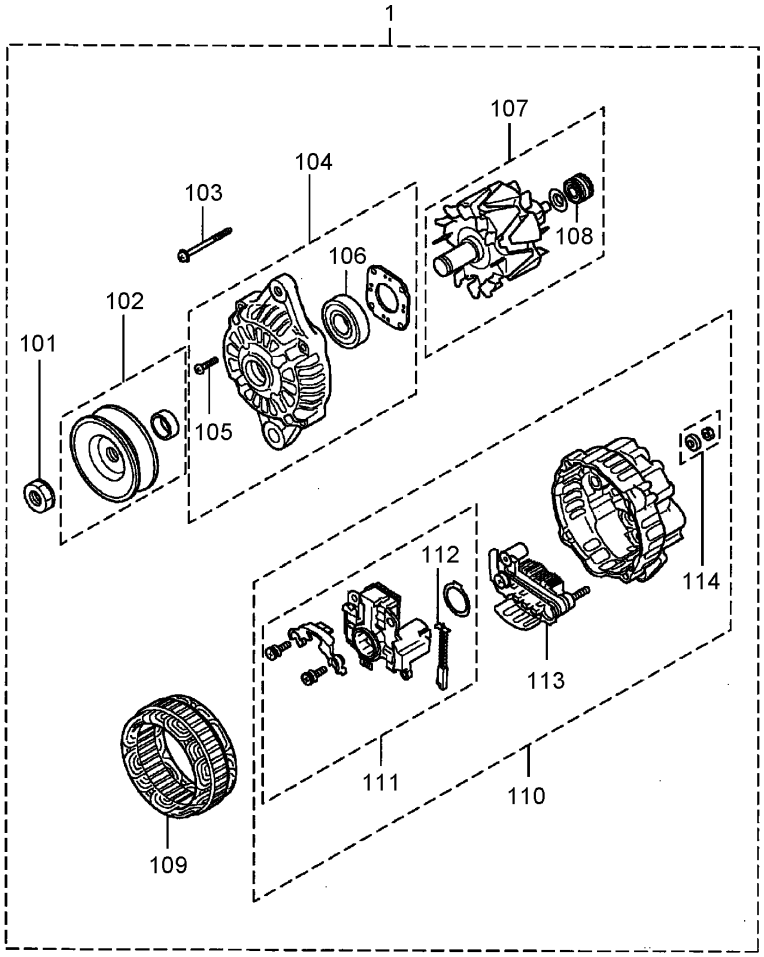
Electric Parts Assembly

Ref	Part No.	Qty.	Description
1	99-2265	1	Plate-Connection
2	99-2266	4	Plug-Glow
3	99-2268	1	Bracket-Alternator
4	99-1811	2	Bolt W/Washer
5	99-1857	2	Bolt W/Washer
6	99-2270	1	Plate-Adjusting
7	67-4660	1	Bolt-Flange
8	54-8660	1	Washer



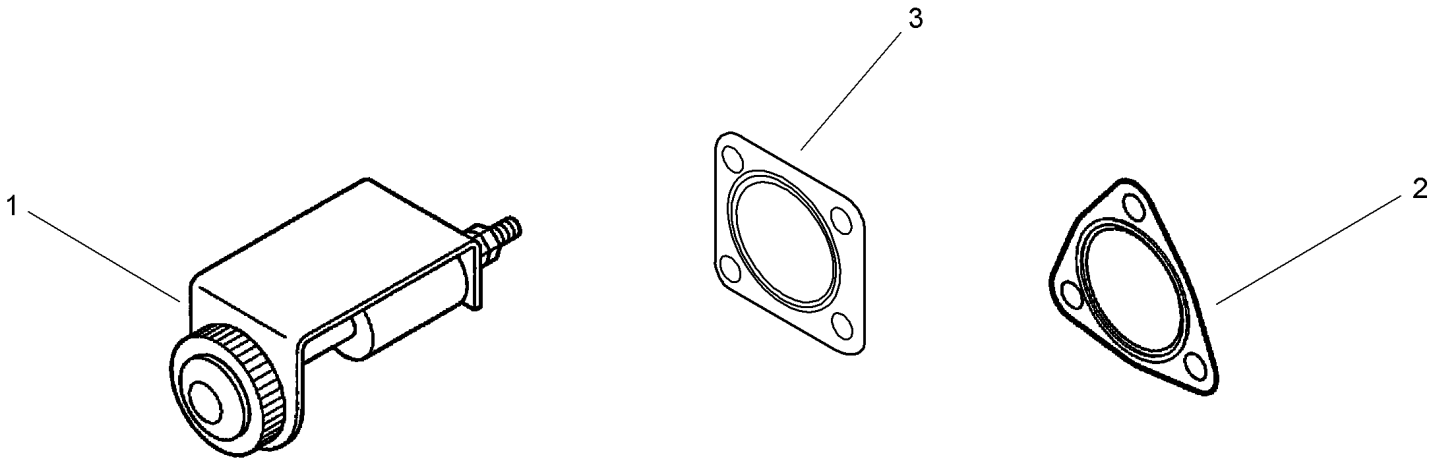
Starter Assembly

Ref	Part No.	Qty.	Description
1	104-8609	1	Starter ASM
101	104-8610	1	Front Bracket ASM
102	104-8611	1	Bearing Set
103	104-8612	1	Clutch Shaft ASM
104	104-8613	1	Gear Shaft ASM
105	104-8614	1	Washer Set
106	104-8615	1	Internal Gear ASM
107	104-8616	1	Clutch-Running, Over
108	104-8617	1	Gear ASM
109	104-8618	1	Lever ASM
110	104-8619	1	Pinion Set
111	51-7740	1	Stopper Set
112	104-8620	1	Switch ASM
113	104-8621	1	Screw Set
114	104-8622	1	Ball
115	104-8623	1	Packing Set
116	104-8624	1	Armature Set
117	107-4398	1	Bearing
118	104-8625	1	Yoke ASM
119	104-8626	1	Brush Holder ASM
120	104-8627	4	Spring-Brush
121	104-8628	1	Rear Bracket ASM
122	93-3687	1	Bolt Set
123	104-8629	2	Brush



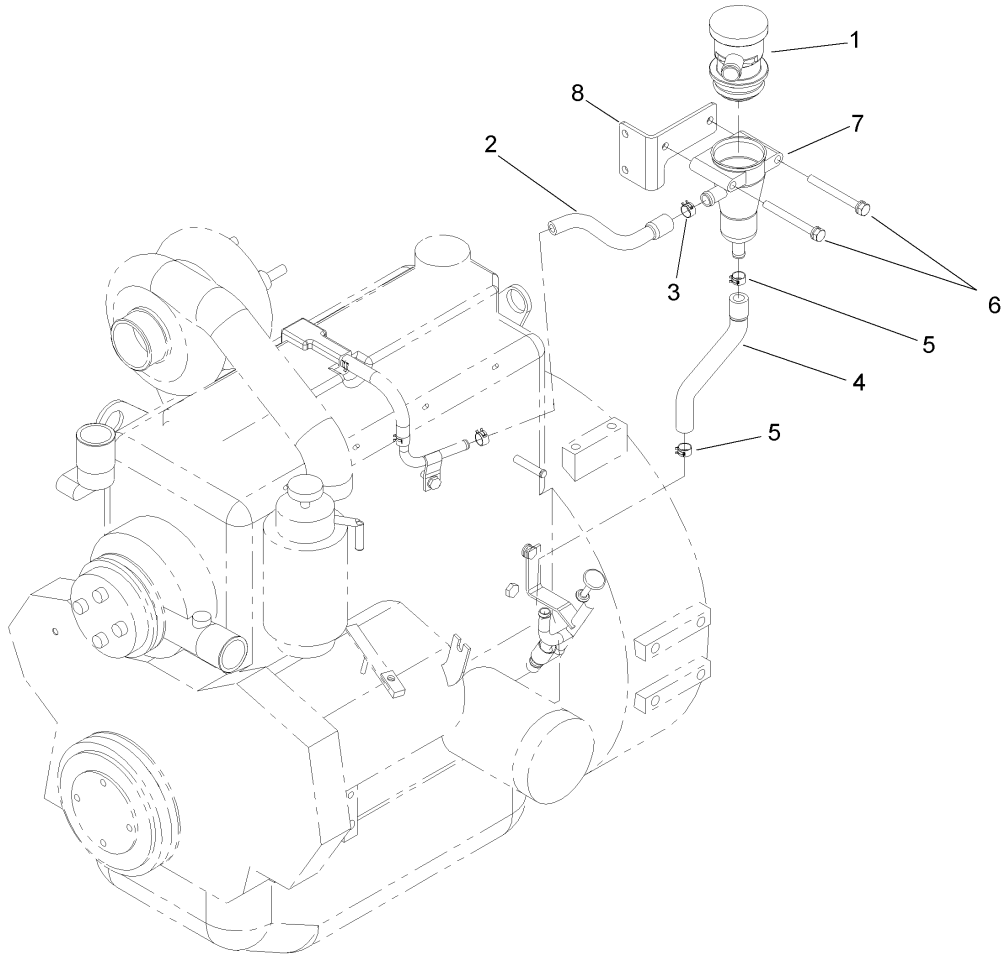
Alternator Assembly

Ref	Part No.	Qty.	Description
1	107-1169	1	Alternator
101	93-3578	1	Nut-Set
102	108-2890	1	Pulley ASM
103	93-3580	1	Bolt Set
104	108-2891	1	Front Bracket ASM
105	108-2892	1	Screw Set
106	108-2893	1	Bearing, Front
107	108-2894	1	Rotor ASM
108	98-2932	1	Bearing-Rear
109	108-2895	1	Stator ASM
110	108-2896	1	Rear Bracket ASM
111	108-2897	1	Regulator Set
112	93-3589	1	Brush
113	108-2898	1	Rectifier Set
114	108-2899	1	Nut Set



Accessory Assembly

Ref	Part No.	Qty.	Description
1	99-2276	1	Indicator ASM
2	99-2277	1	Gasket
3	99-1809	1	Gasket-Head, Rear



Breather Assembly

Ref	Part No.	Qty.	Description
1	108-8086	1	Breather
2	108-8084	1	Hose-Breather, Formed
3	108-8093	1	Clip-Hose
4	108-8087	1	Hose-Oil Drain
5	108-8094	2	Clip-Hose
6	108-8097	2	Screw-HWH
7	108-8085	1	Adapter-Breather
8	108-8088	1	Bracket-Breather

NOTES


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