



# 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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## Part Description Abbreviations

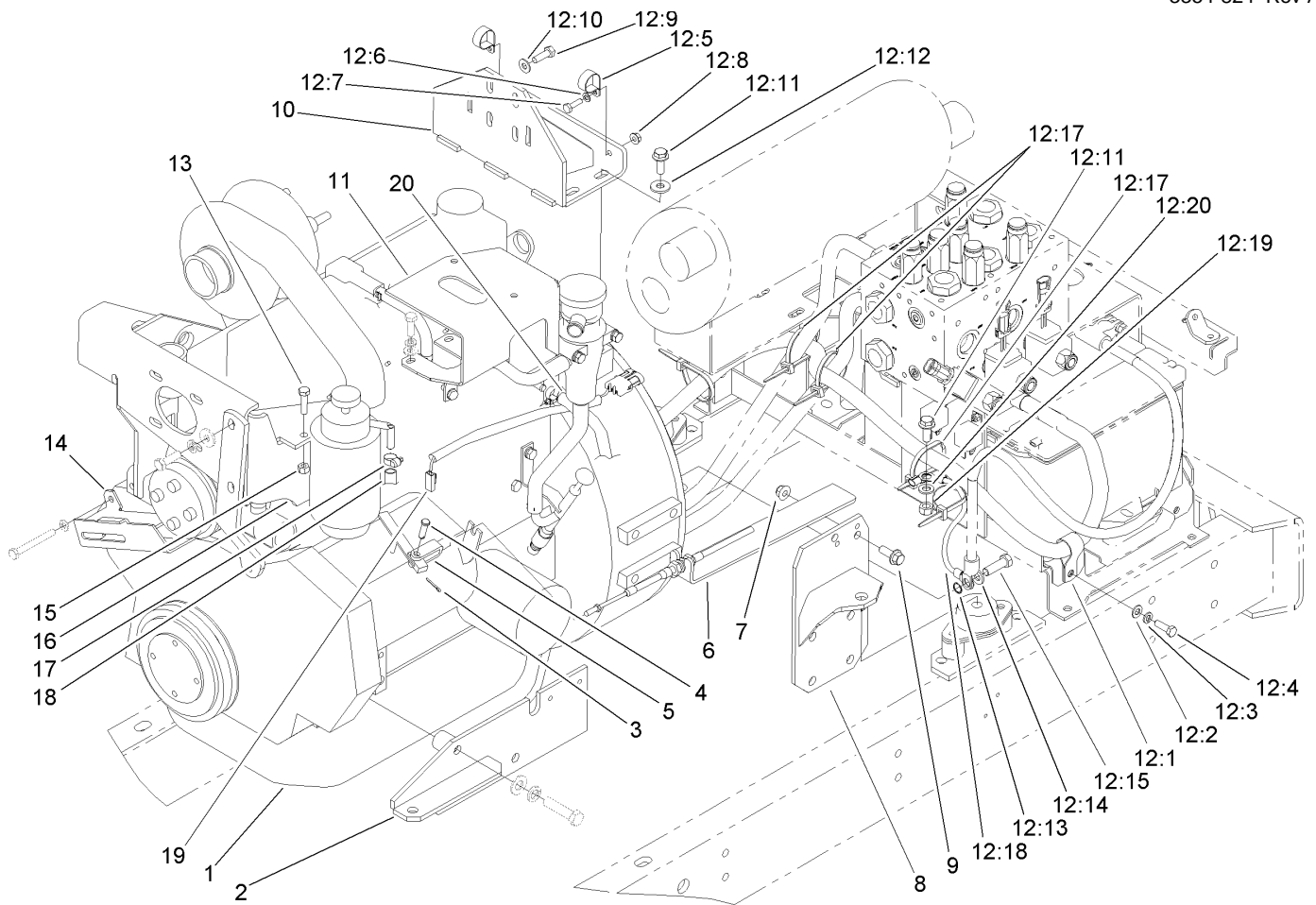
Part descriptions in this catalog may include the following abbreviations.

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

## Footnotes

❶ Not illustrated

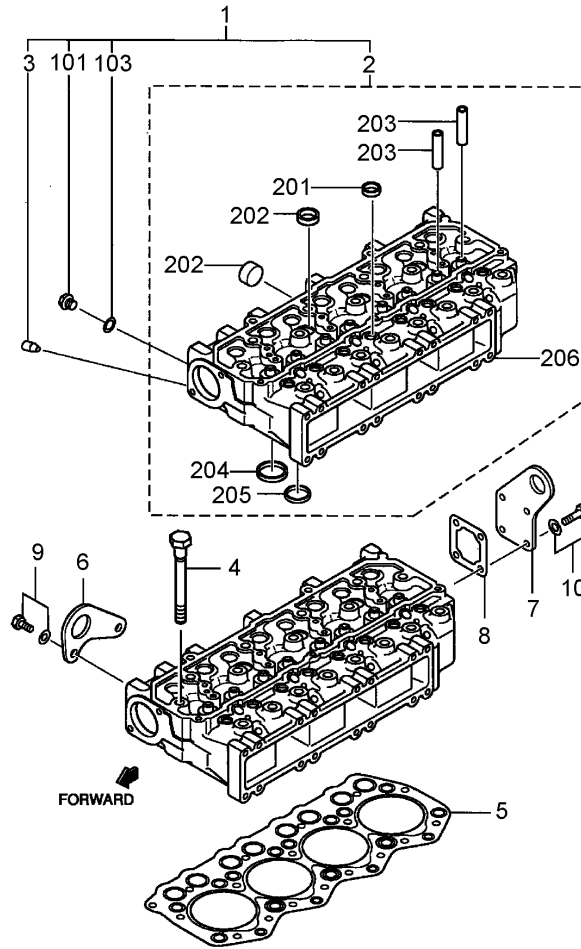
❷ Not serviced separately



## Engine Replacement Assembly

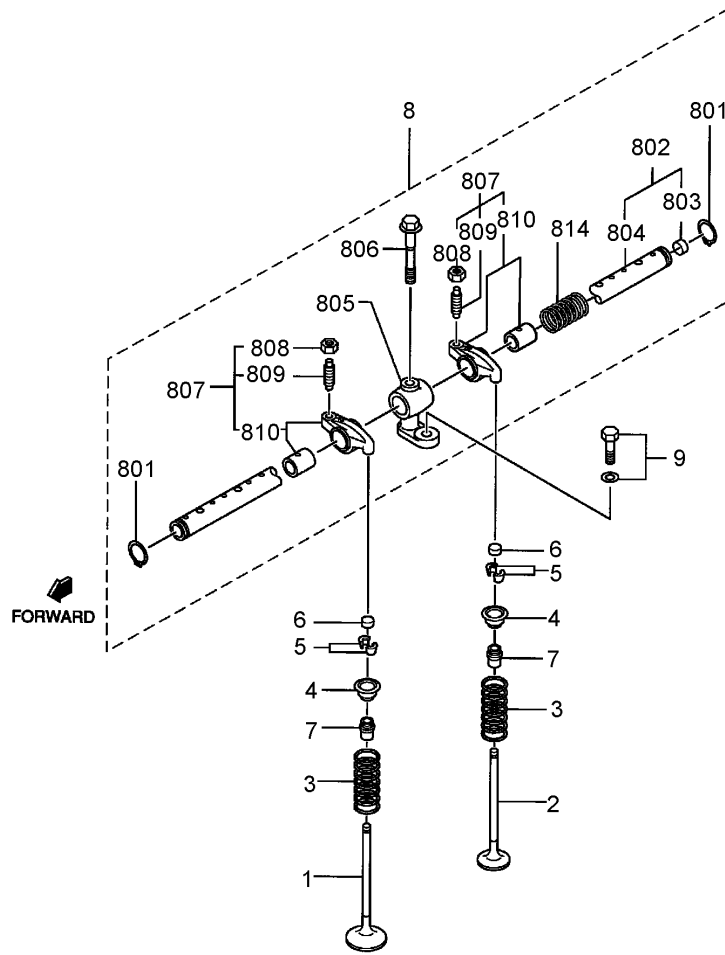
Ref	Part No.	Qty.	Description
1	106-0300	1	Engine ASM
2	95-6470-03	1	LH Front Mount ASM
3	3272-6	1	Pin-Cotter
4	283-61	1	Pin-Yoke
5	106-0306	1	Clevis
6	106-0305-03	1	Bracket-Cable, Throttle
7	104-8301	2	Nut-Flange, NI
8	106-0383-03	1	Mount-Motor, Rear (LH)
9	3234-42	2	Screw-HHF
10	106-0382-03	1	Support-Bellhousing
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
● 12:16	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
2		1	Cylinder Head Sub ASM
3		1	Plug
4	99-1806	17	Bolt-Head, Cylinder
5	99-1807	1	Gasket-Head, Cylinder
6		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
206		1	Head-Cylinder

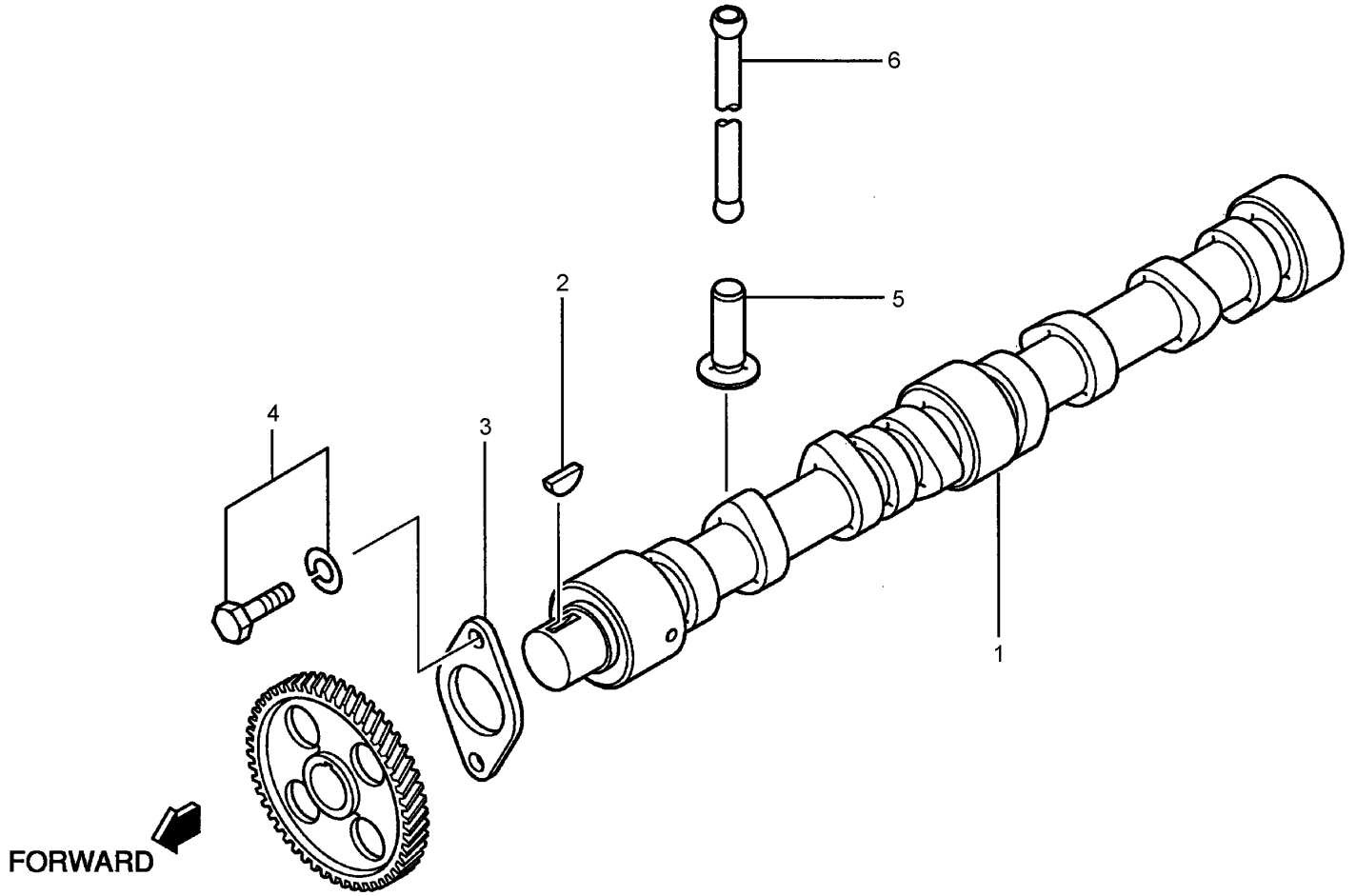


## Valve Mechanism Assembly

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
804		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
810		8	Rocker & Bushing
814	107-4807	3	Spring-Rocker

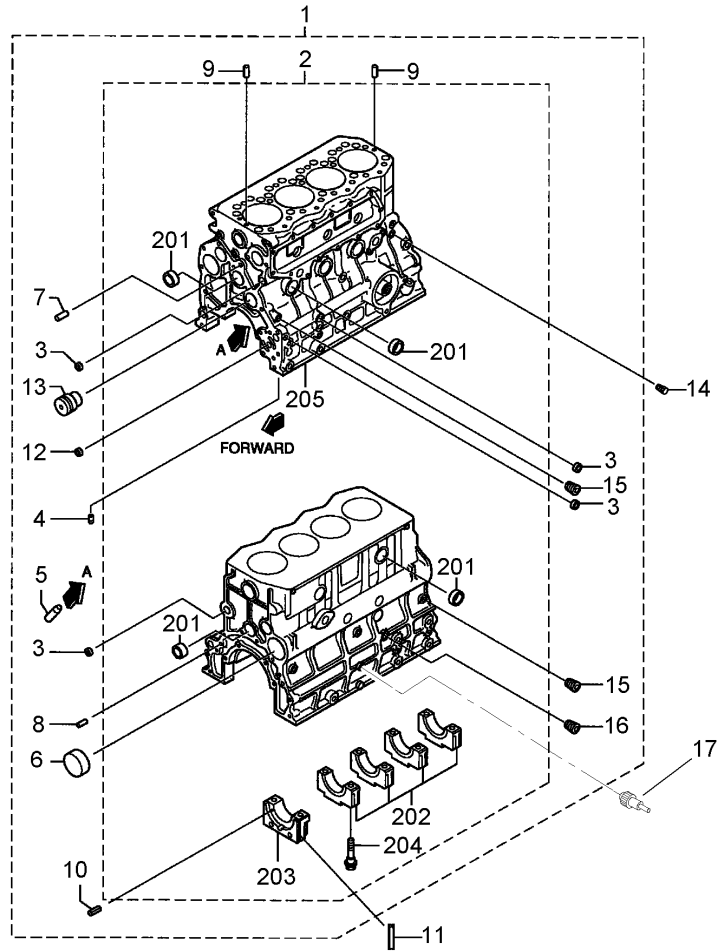
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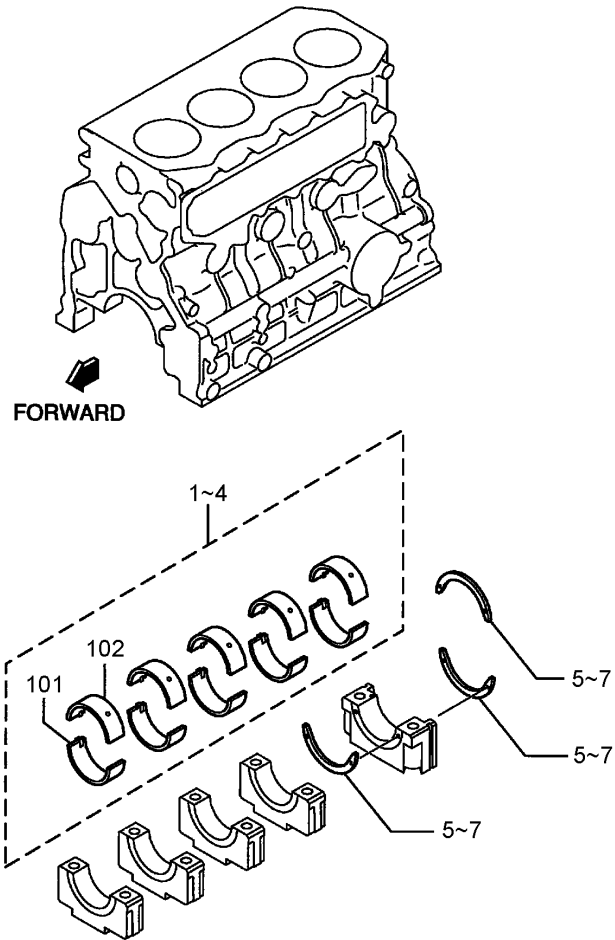
### Camshaft Assembly

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

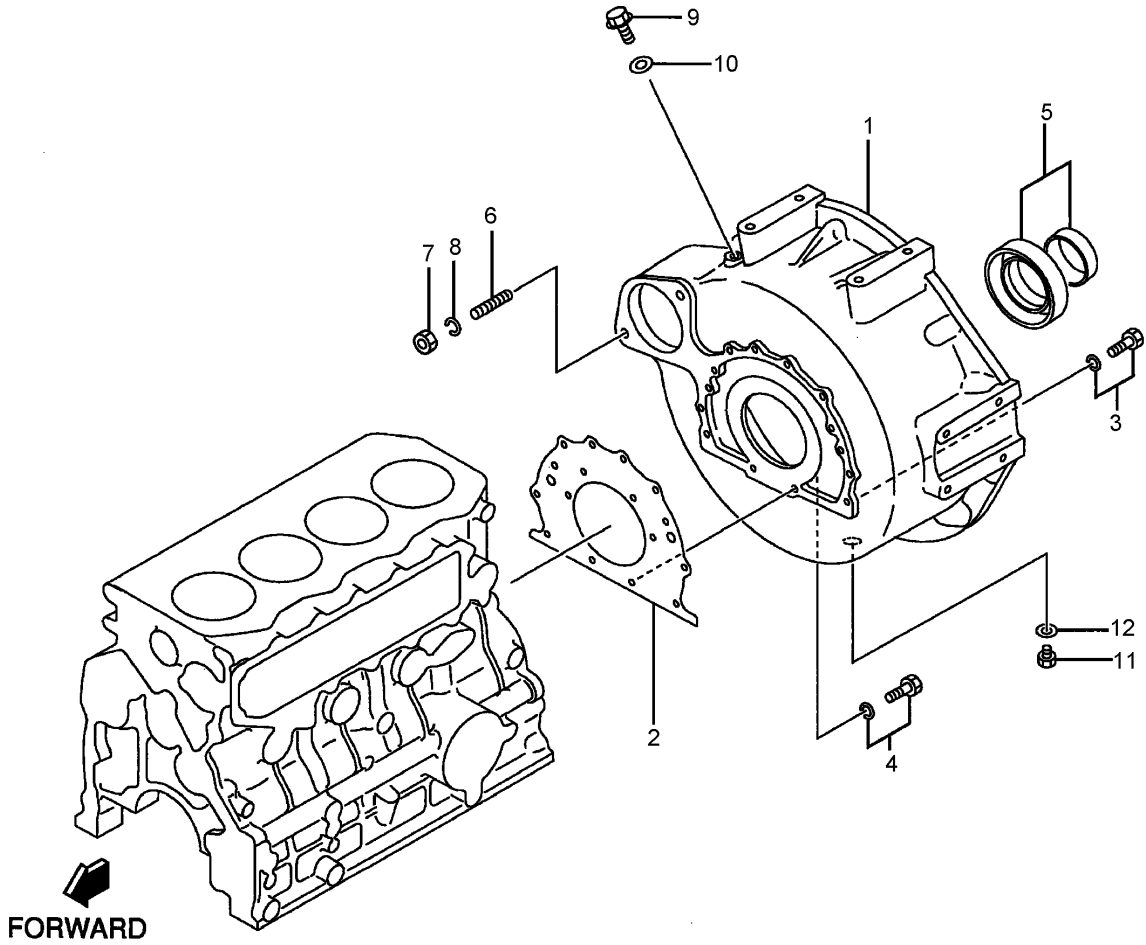
Ref	Part No.	Qty.	Description
1	99-1837	1	Crankcase ASM
2		1	Crankcase Sub ASM
3	70-3370	6	Cap
4		3	Plug
5	107-4809	4	Pipe-Jet, Oil
6	99-1840	1	Plug-Cam
7	99-1841	2	Pin-Dowel
8	70-3000	2	Pin
9	93-3365	2	Pin-Dowel
10	99-1842	6	Pin-Spring
11	99-1853	2	Seal-Side
12	99-1843	1	Bushing
13	99-1844	1	Shaft-Idler
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
202		4	Cap-Metal
203		1	Cap-Metal, Rear
204	99-1838	10	Bolt-Cap, Bearing
205		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				
②101		5	Main Metal, Lower				
②102		5	Main Metal, Upper				

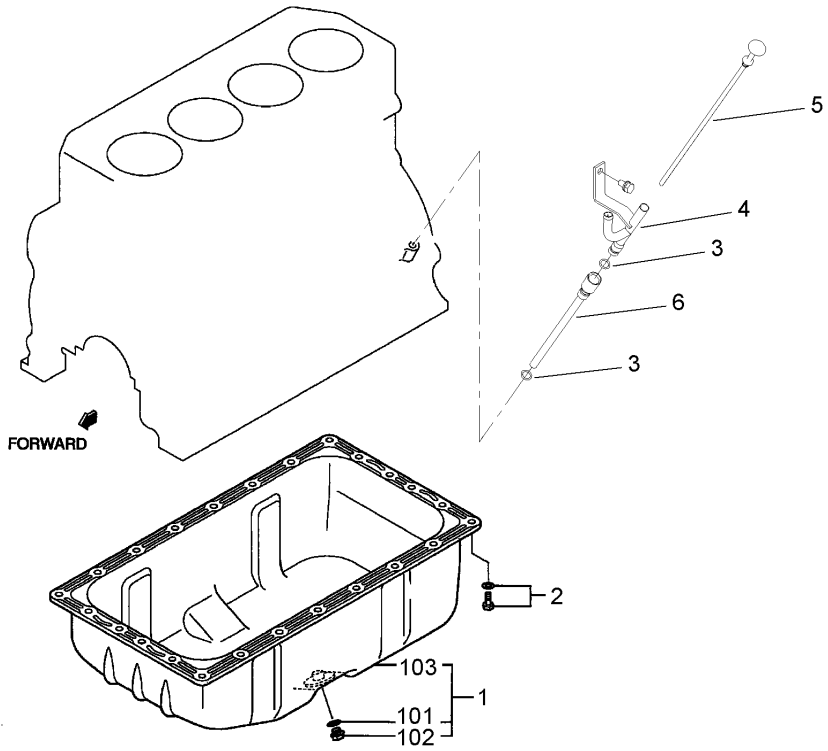




## Flywheel Housing Assembly

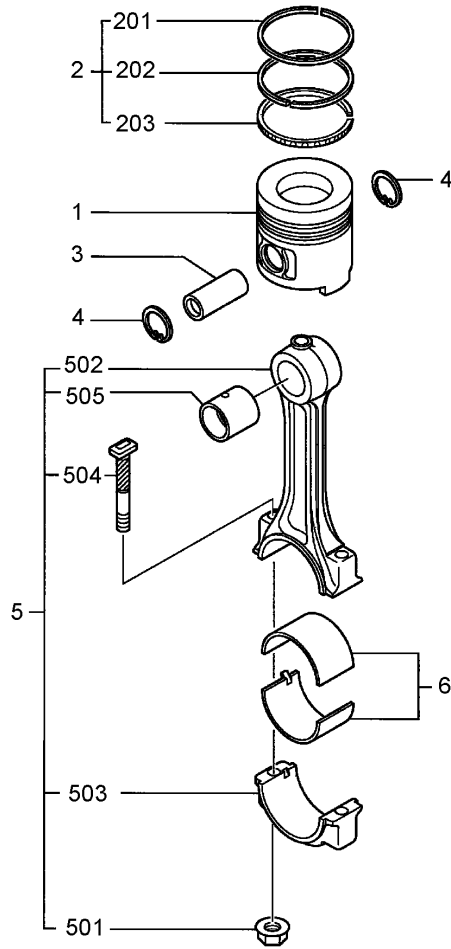
Ref	Part No.	Qty.	Description
1	99-1854	1	Housing-Flywheel
2	99-1855	1	Gasket-Rear
3	99-1856	10	Bolt W/Washer
4	99-1857	2	Bolt W/Washer
5	60-7430	1	Seal
6	51-5950	2	Stud
7	51-8670	2	Nut
8	51-6390	2	Washer
9	99-1812	1	Plug-Drain
10	99-1813	1	Gasket
11	67-2520	1	Plug
12	42-7290	1	Gasket-Plug

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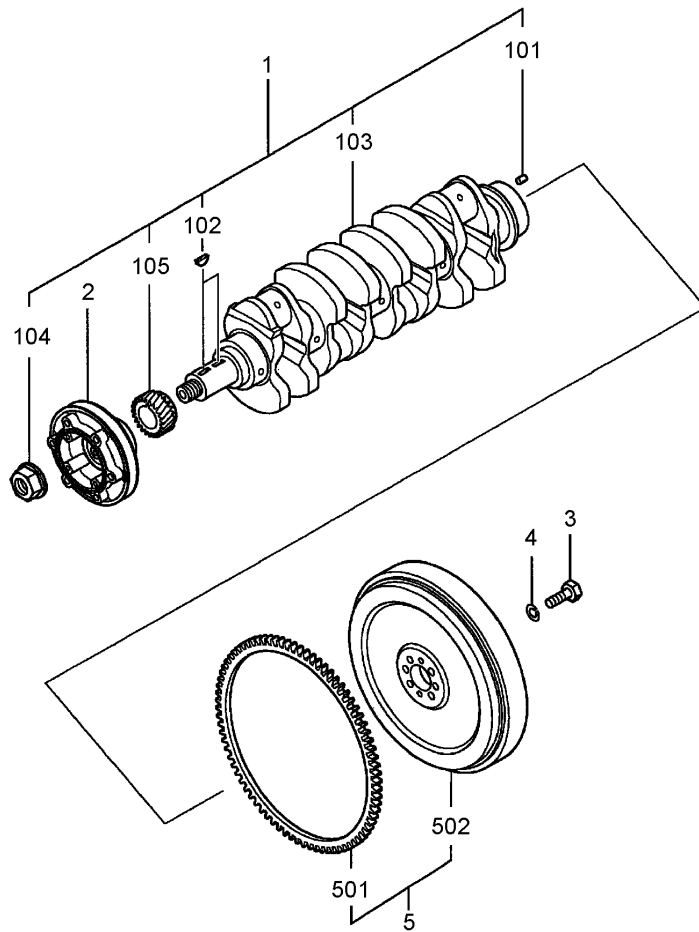
### Oil Pan Assembly

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
② 103		1	Pan-Oil



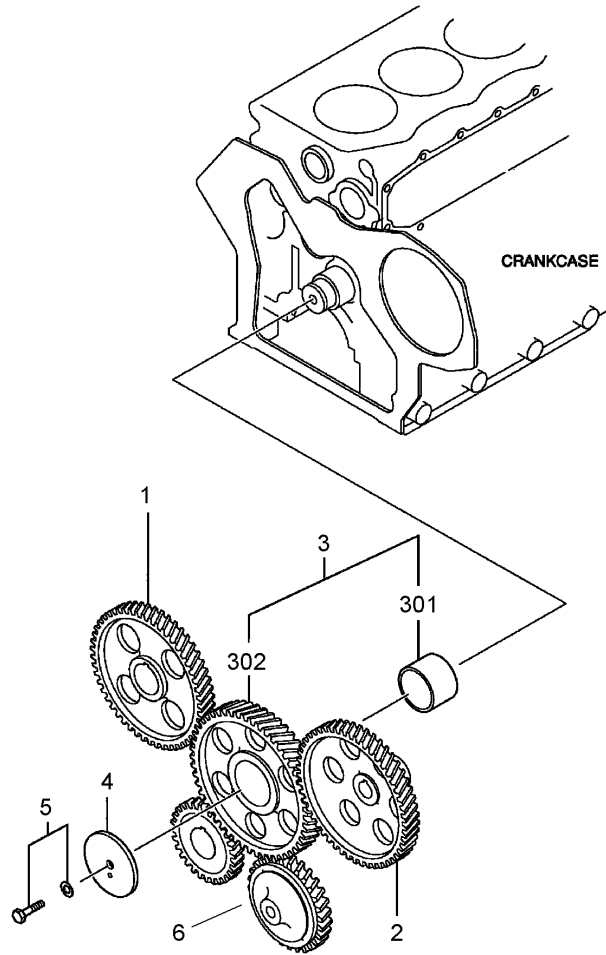
## Piston and Connection Rod Assembly

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)
201		4	Ring-#1
202		4	Ring-#2
203		4	Ring-Oil
501	51-6230	8	Nut
502		4	Rod-Connecting
503		4	Cap-Rod, Connecting
504	99-1889	8	Bolt-Connecting
505	99-1890	4	Bushing-Rod, Connecting



## Crankcase and Flywheel Assembly

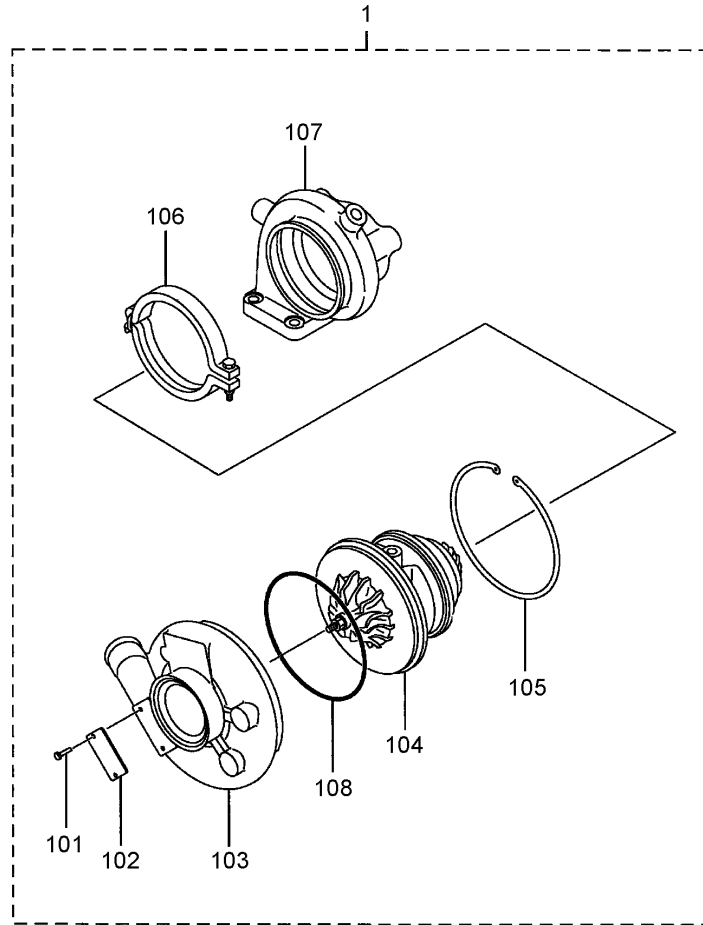
Ref	Part No.	Qty.	Description	
1	99-1895	1	Crankshaft ASM	
2	99-1896	1	Pulley-Crankshaft	
3	70-2880	4	Bolt	
4	51-8610	4	Washer-Spring	
5	99-1899	1	Flywheel ASM	
101	51-6300	2	Pin-Dowel	
102	51-5460	2	Key	
103		1	Crankshaft	
104	99-1897	1	Nut-Crankshaft	
105	99-1898	1	Gear-Crankshaft	
501	99-2100	1	Gear-Ring	
502		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
●301		1	Bushing-Idler
●302		1	Gear-Idler





## Turbocharger Assembly

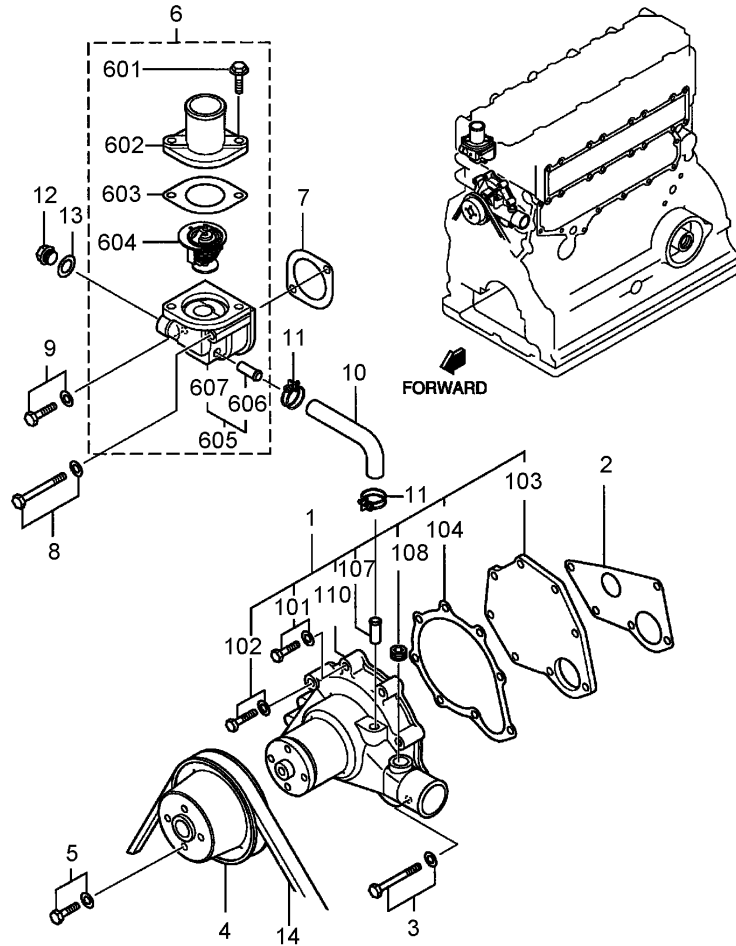
Ref	Part No.	Qty.	Description
1	99-2124	1	Turbocharger ASM
②101		2	Rivet
②102		1	Plate
②103		1	Cover-Compressor
②104		1	Cartridge ASM
②105		1	Ring-Retaining
②106		1	Coupling ASM
②107		1	Housing-Turbine
②108		1	O-Ring







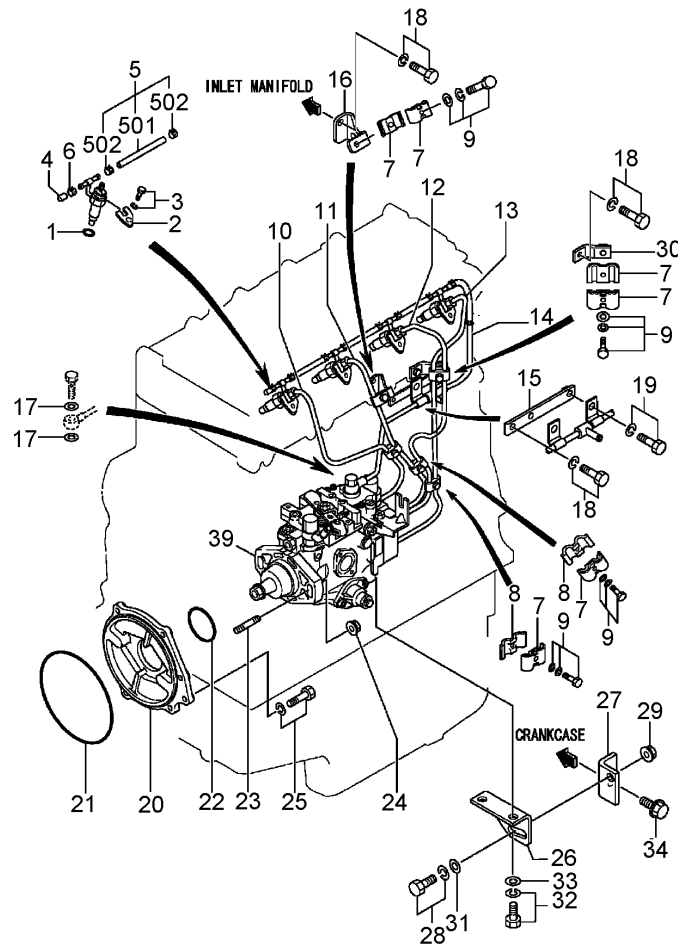




### Cooling System Assembly

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
107		1	Pipe-Pump, Water
108	107-4826	1	Plug-Taper
110		1	Case-Pump, Water
601	92-2133	2	Bolt-Flange
602	99-2153	1	Cover-Thermostat
603	107-4829	1	Gasket-Thermostat

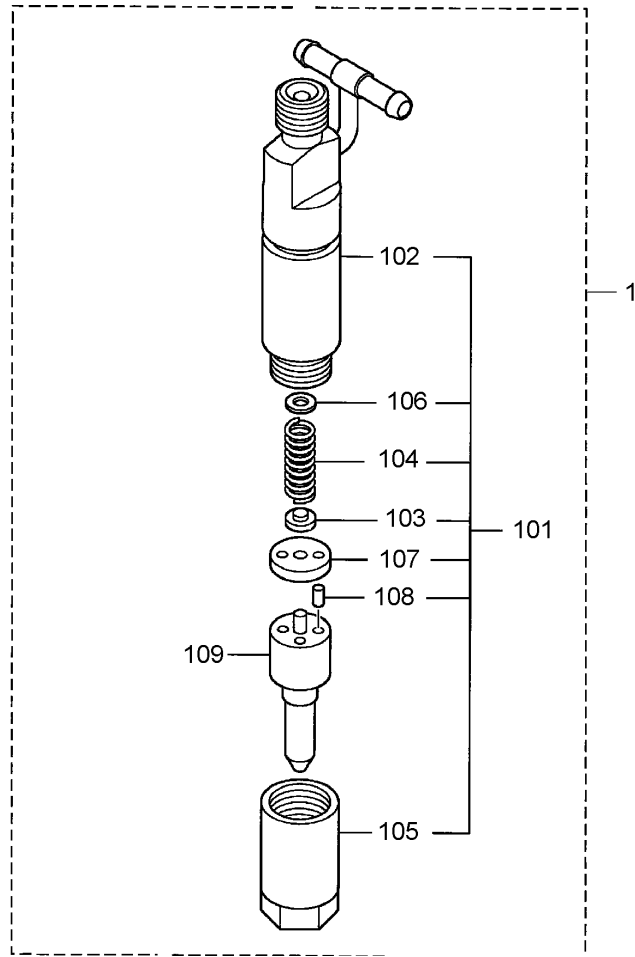
Ref	Part No.	Qty.	Description
604	99-2155	1	Thermostat
605	99-2156	1	Thermostat Case ASM
606		1	Pipe-Thermostat
607		1	Case-Thermostat



## 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

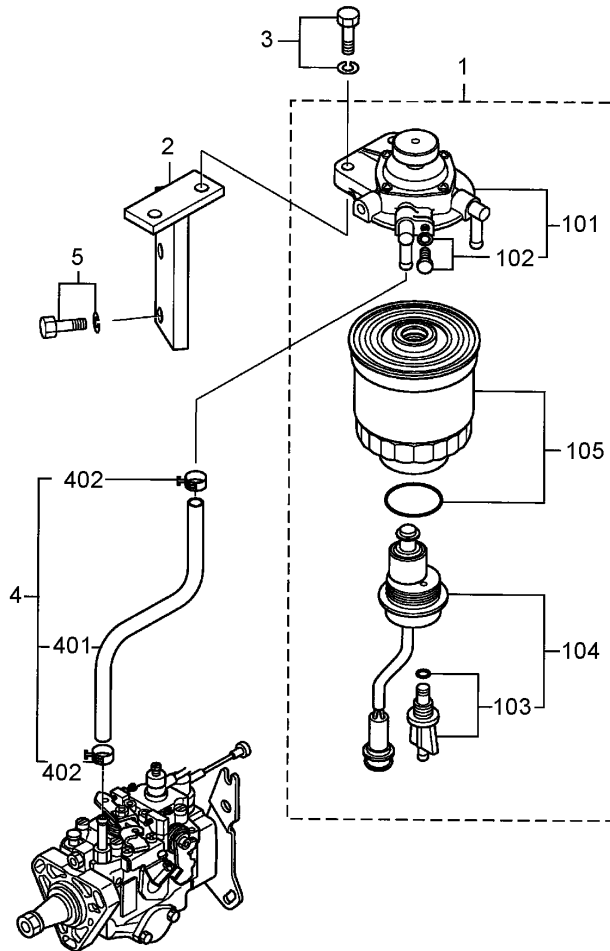
Ref	Part No.	Qty.	Description
25	99-1811	1	Bolt W/Washer
26	107-4843	1	Bracket-Pump, Injection
27	107-4844	1	Bracket-Pump, Injection
28	107-4845	1	Bolt W/Washer
29	107-4846	1	Nut-Flange
30	108-1599	1	Stay
31	108-1597	1	Washer
32	107-4849	2	Bolt W/Washer
33	70-2990	2	Washer
34	107-4847	1	Bolt-Flange
39	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
② 101		4	Holder ASM
② 102		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

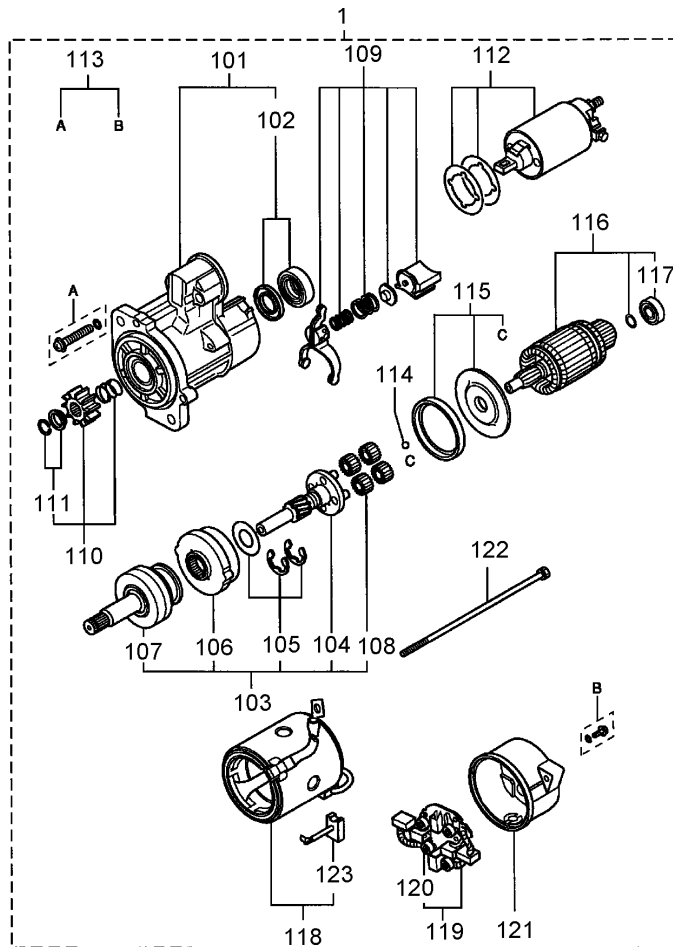


### Fuel Filter Assembly

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
② 101		1	Body ASM
102	107-4393	1	Air Plug Set
② 103		1	Plug-Drain
104	107-4394	1	Sensor ASM
105	107-4395	1	Element-Filter
② 401		1	Hose-Fuel
402	56-1400	2	Clip-Hose

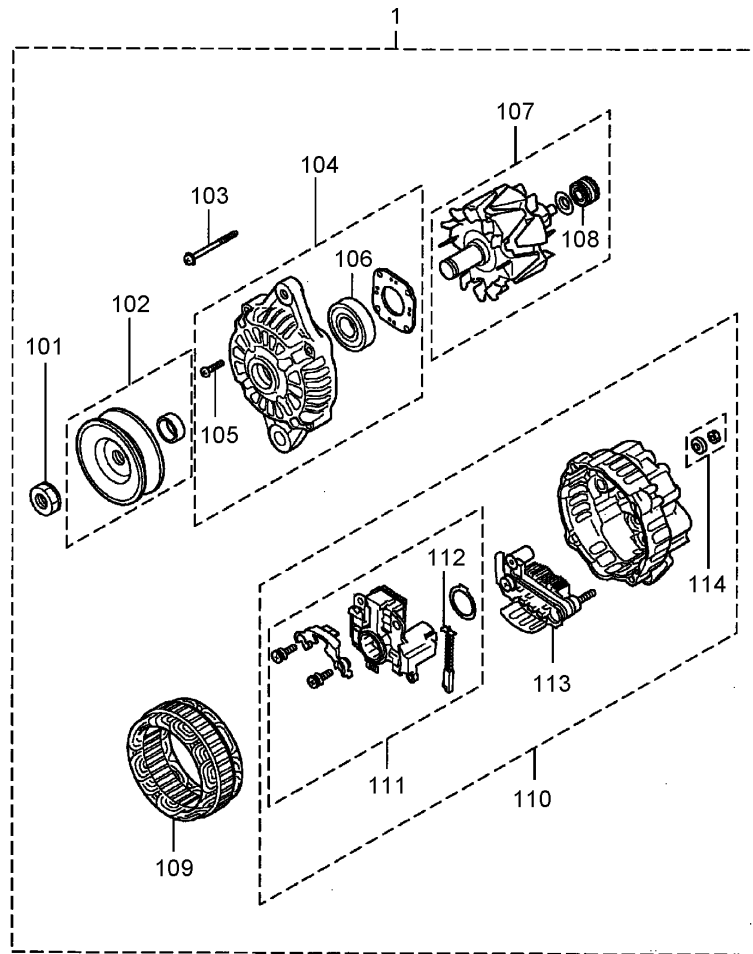
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## Starter Assembly

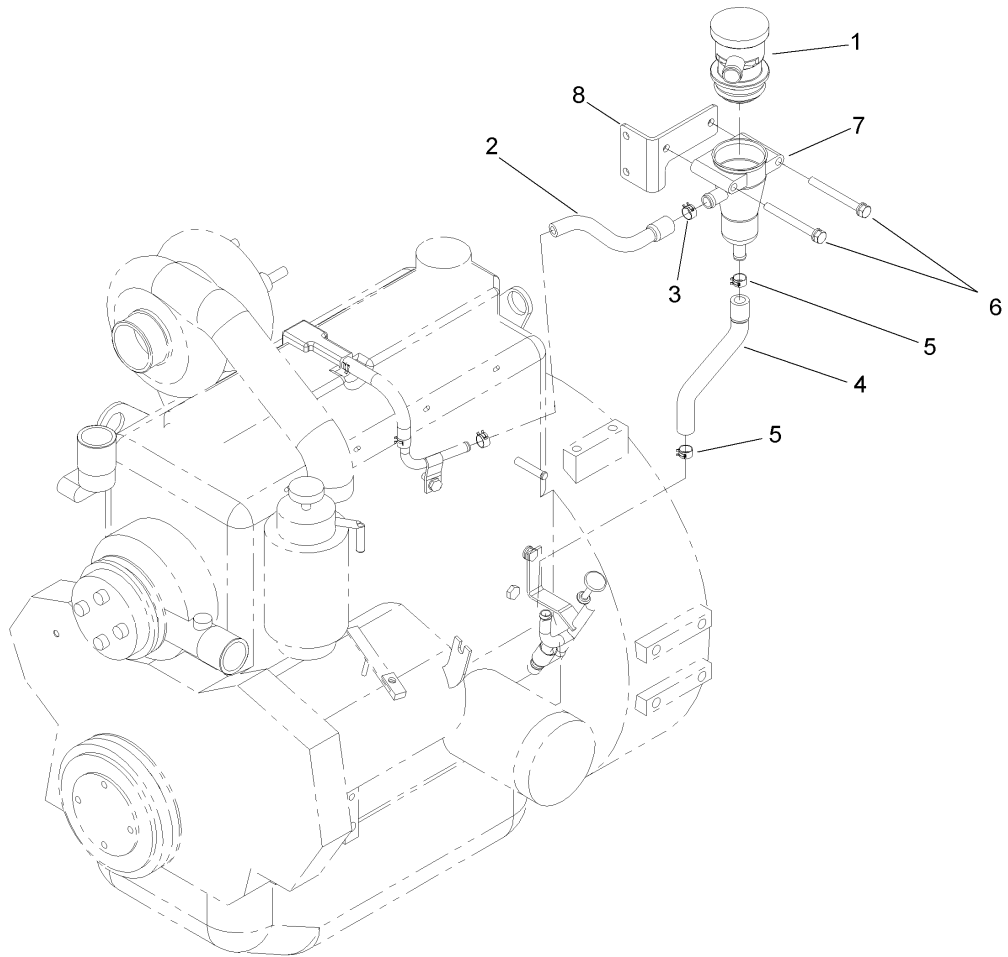
Ref	Part No.	Qty.	Description				
1	104-8609	1	Starter ASM				
101	104-8610	1	Front Bracket ASM				
102	104-8611	1	Bearing Set				
103	104-8612	1	Clutch Shaft ASM				
104	104-8613	1	Gear Shaft ASM				
105	104-8614	1	Washer Set				
106	104-8615	1	Internal Gear ASM				
107	104-8616	1	Clutch-Running, Over				
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





## 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

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## NOTES

