Form Number 3324-170 Rev A

Dingo® 220-D Traction Unit

Model No. 22302 - 990001 and up.

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.

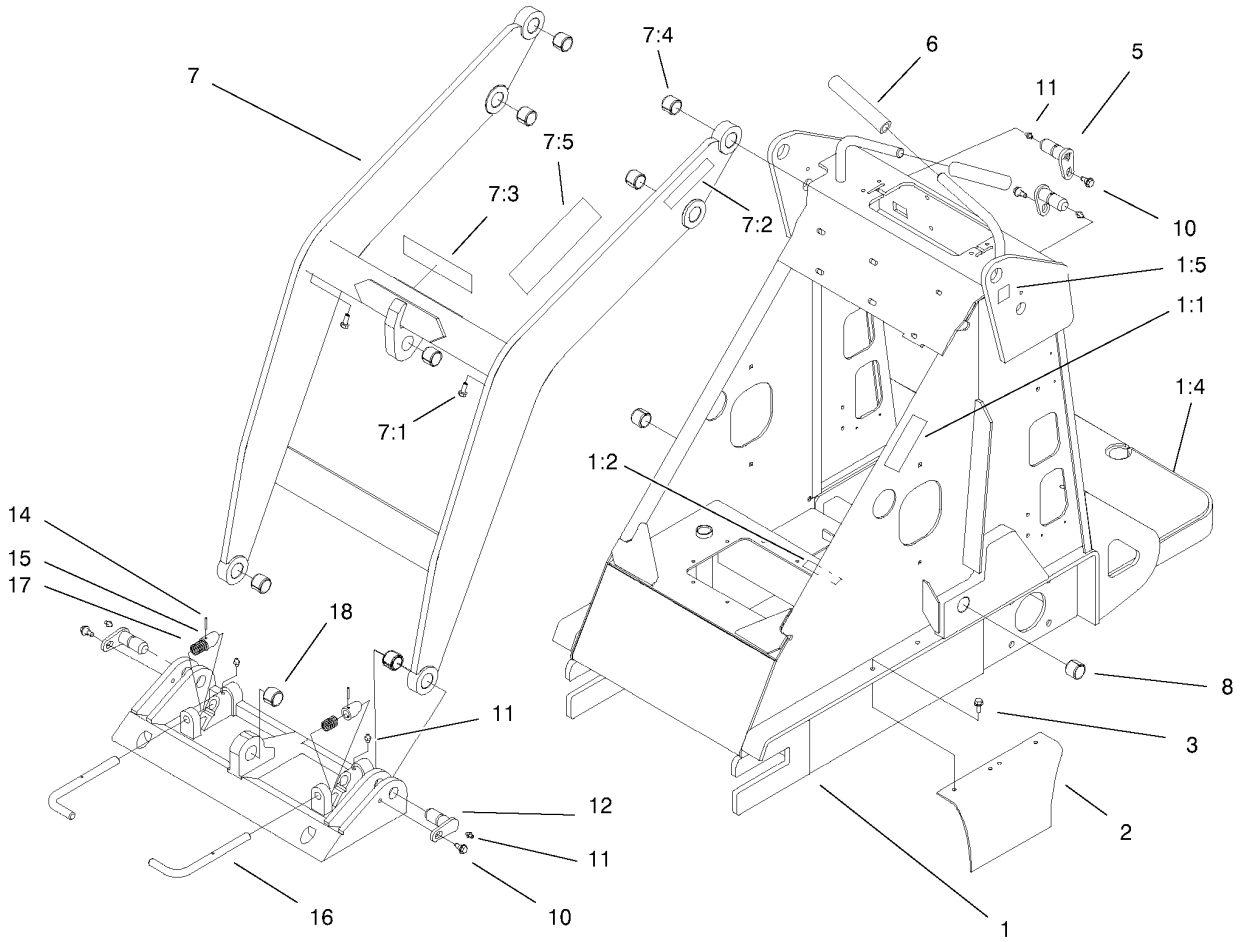
AR	as required
ASM	assembly
BBC	blade brake clutch
CARR	carriage
DEG	degrees
EXT	external
FH	flat head
GA	gauge
HD	heavy-duty
HF	hex flange
HH	hex head
HHF	hex head flange
HHFTF	hex head flange thread forming
HJ	hex jam
HLH	hex lag head
HOC	height-of-cut
HSBH	hex socket button head
HSFH	hex socket flat head
HSH	hex socket head
HWH	hex washer head
HWHTF	hex washer head thread forming
HYD	hydraulic
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 Obtain Locally

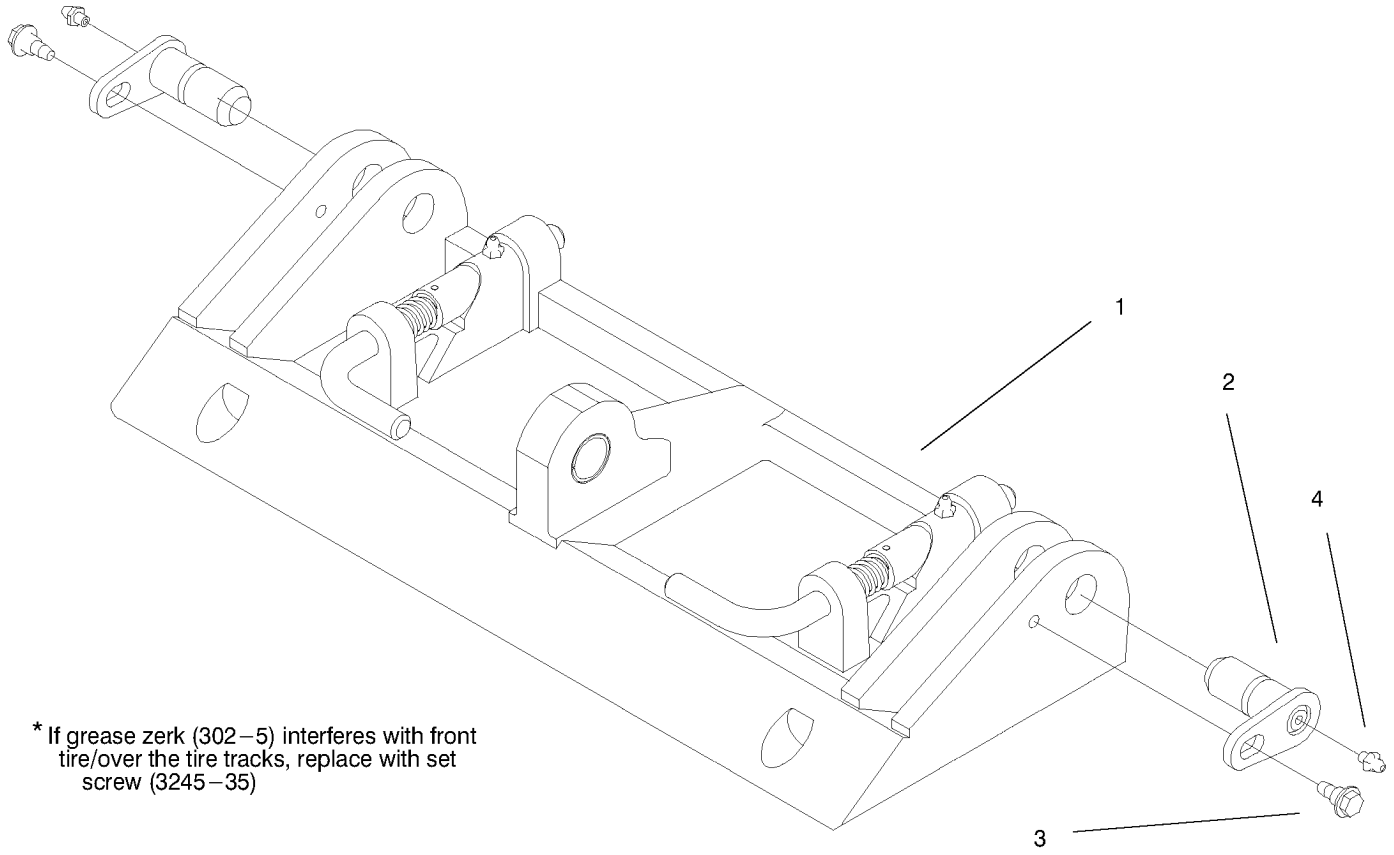
❸ Not Serviced Seperately



Frame And Loader Arm Assembly

Ref	Part No.	Qty.	Description
1	99-3039	1	Frame ASM
1:1	93-9367	2	Decal-Warning
1:2	93-7272	1	Decal-Warning
1:4	98-9947	2	Tread-Foot
1:5	93-9084	4	Decal-Point, Lift
2	98-4669	2	Cover-Chain
3	32144-70	4	Screw-HWHTF
5	98-4716	2	Pin-Pivot
6	99-3251	2	Grip-Cushion
7	99-1354	1	Loader ASM
7:1	32144-70	2	Screw-HWHTF
7:2	80-8010	2	Decal-Warning, Keep Hands Away
7:3	98-4682	1	Decal-Caution
7:4	98-4871	2	Bushing-Tension
7:5	98-9051	1	Decal-Danger
8	98-4871	9	Bushing-Tension
10	99-5105	10	Bolt-Shoulder
11	302-5	12	Fitting-Grease
12	98-4714	2	Pin-Pivot
14	32121-94	2	Pin-Special
15	98-4692	2	Cam-Attach, Quick
16	100-3373	2	Pin
17	98-4694	2	Spring-Compression

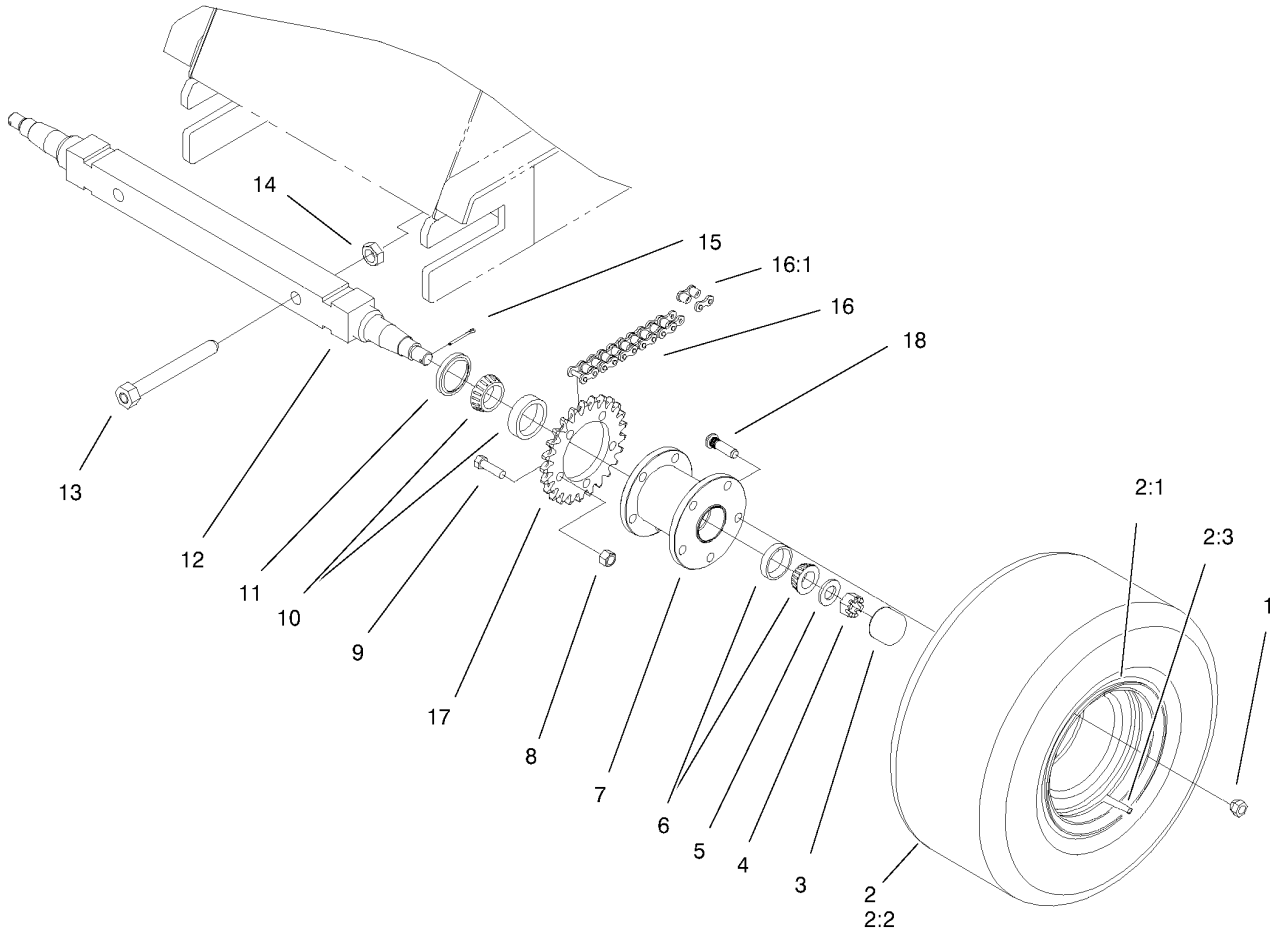
Ref	Part No.	Qty.	Description
18	98-4871	1	Bushing-Tension
	98-2656	1	Quick Attach Service ASM



* If grease zerk (302−5) interferes with front tire/over the tire tracks, replace with set screw (3245−35)

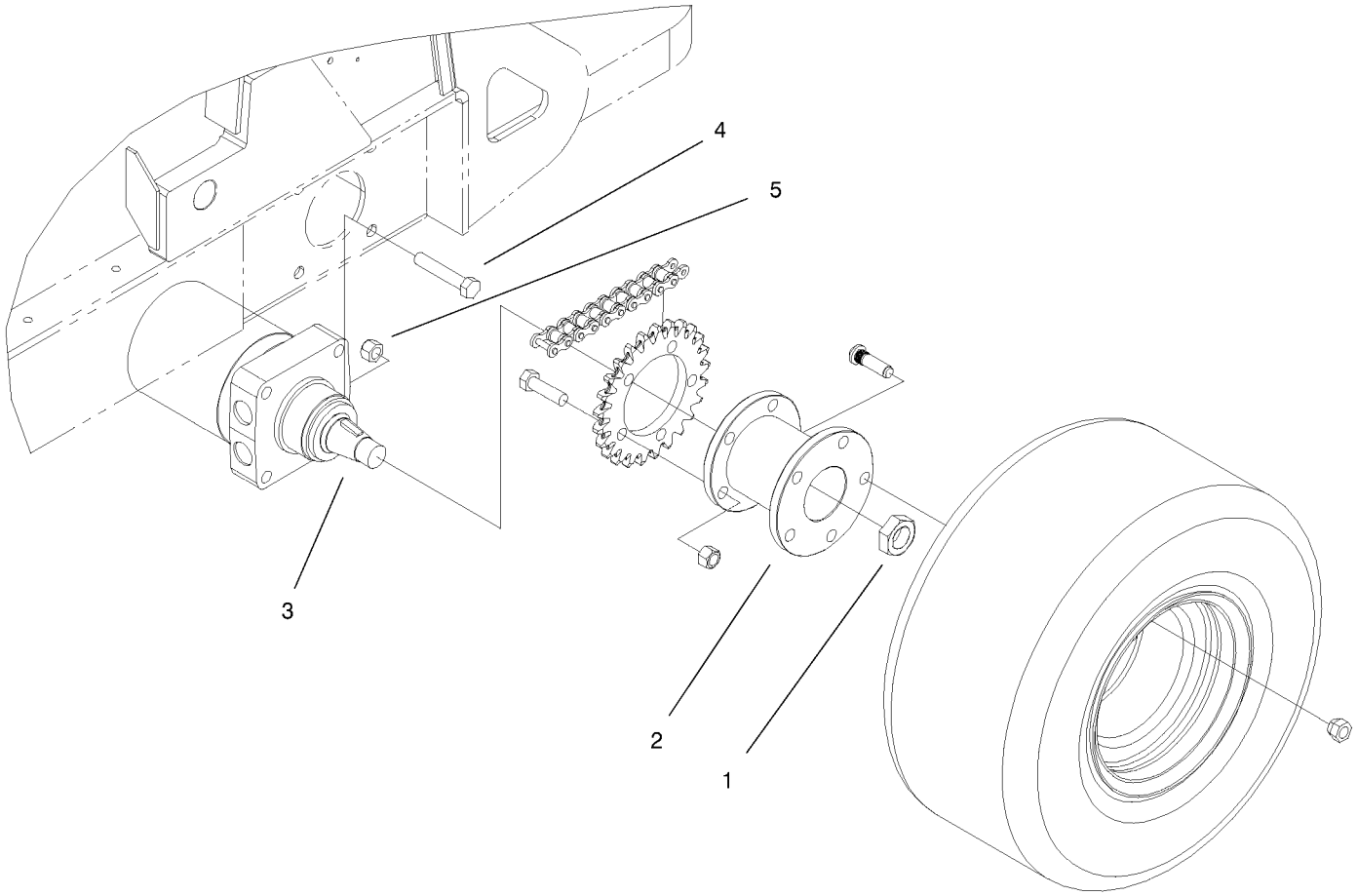
Quick Attach Service Assembly No. 98-2656

Ref	Part No.	Qty.	Description
1	98-4690	1	Quick Attach ASM
2	98-2654	2	Pivot Pin ASM
3	99-5105	2	Bolt-Shoulder
4	302-5	2	Fitting-Grease
❶	3245-35	2	Screw-Set



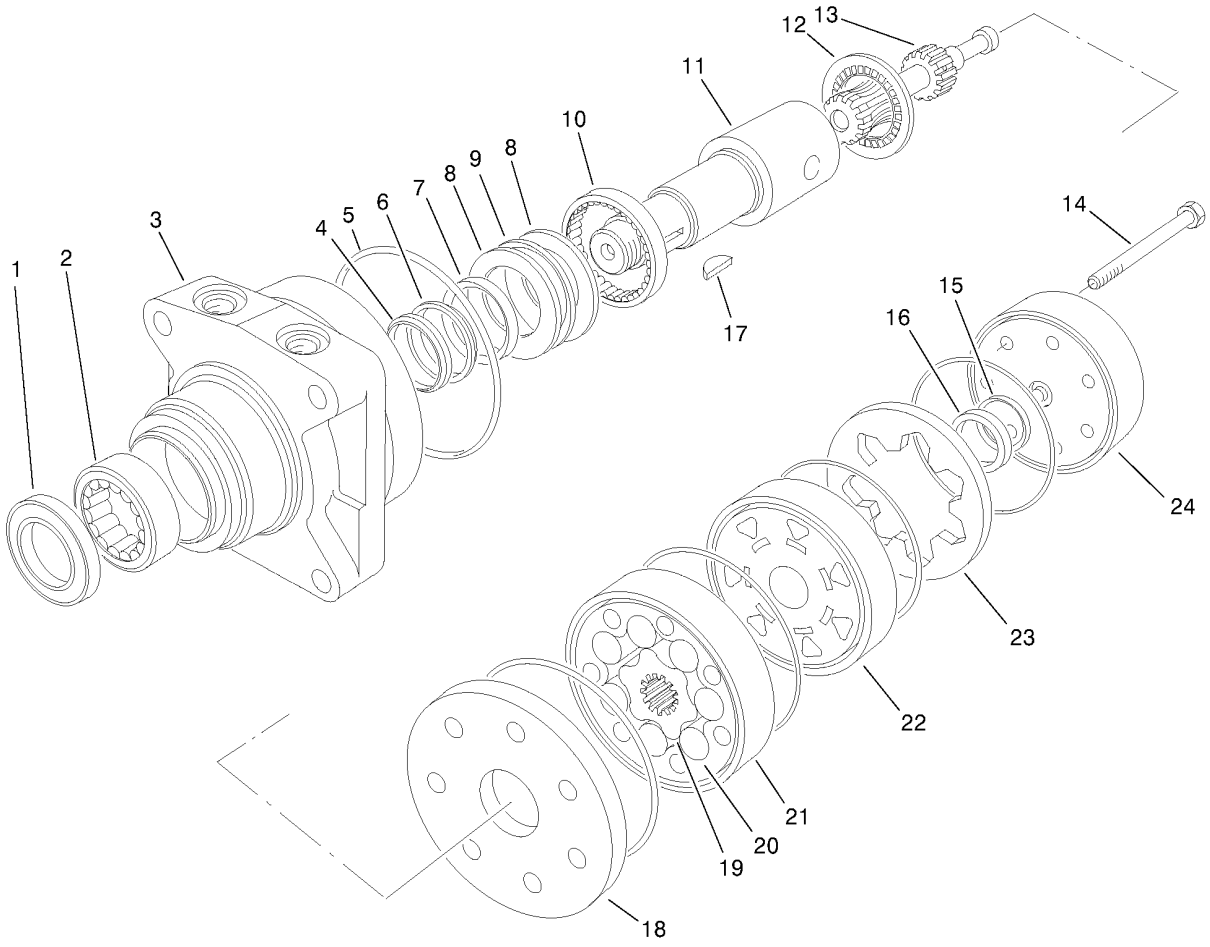
Front Wheel Assembly

Ref	Part No.	Qty.	Description
1	242-35	20	Nut-Wheel
2	99-3257	4	Tire And Wheel ASM
2:1	99-3063	1	Wheel
2:2	99-3062	1	Tire
2:3	106396	1	Tube-Tire
3	99-3258	2	Dust Cap
4	32146-14	2	Locknut
5	3256-28	2	Washer-Flat
6	99-3260	2	Bearing-Roller Tapered
7	99-3261	2	Hub-Front
8	3219-4	20	Nut-Hex
9	324-6	20	Screw-HH
10	99-3262	2	Bearing-Cup And Cone
11	106-8184	2	Seal-Bearing, Wheel
12	99-3264	1	Axle-Front
13	98-4706	2	Bolt-Tension
14	3218-7	4	Nut-Jam
15	3272-12	2	Pin-Cotter
16	98-4906	2	Chain-Roller
16:1	98-9089	1	Link-Connecting
17	98-9937	4	Sprocket-25T
18	242-34	20	Stud-Drive



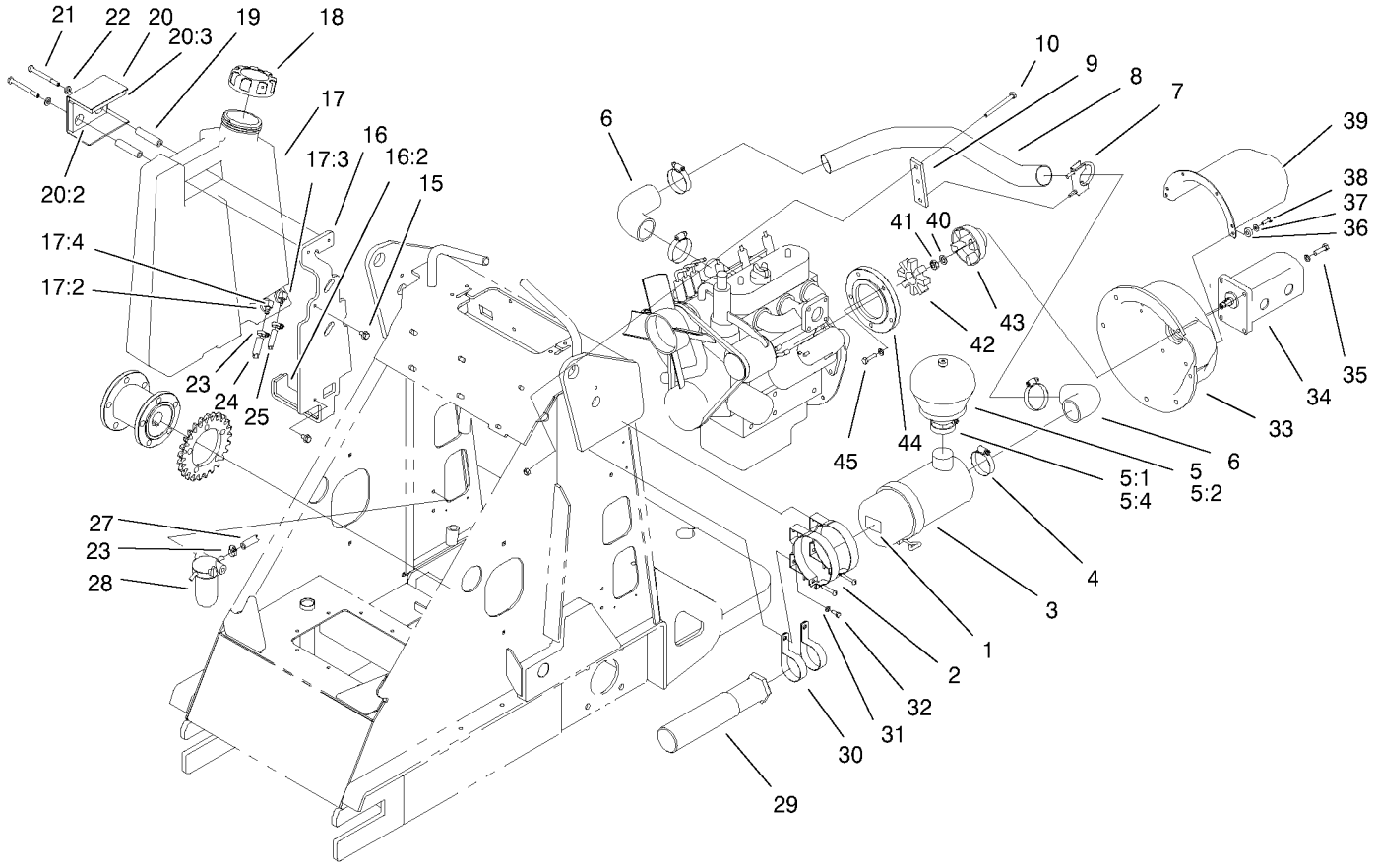
Rear Wheel Assembly

Ref	Part No.	Qty.	Description
1	26-3790	2	Nut-Lock
2	99-3255	2	Hub - Rear
3	98-4704	2	Hydraulic Motor ASM
❶3:1	94-8178	1	Seal Kit
4	48-9450	8	Bolt
5	48-9540	8	Nut-Lock, Hex NI



Hydraulic Motor Assembly No. 98-4704

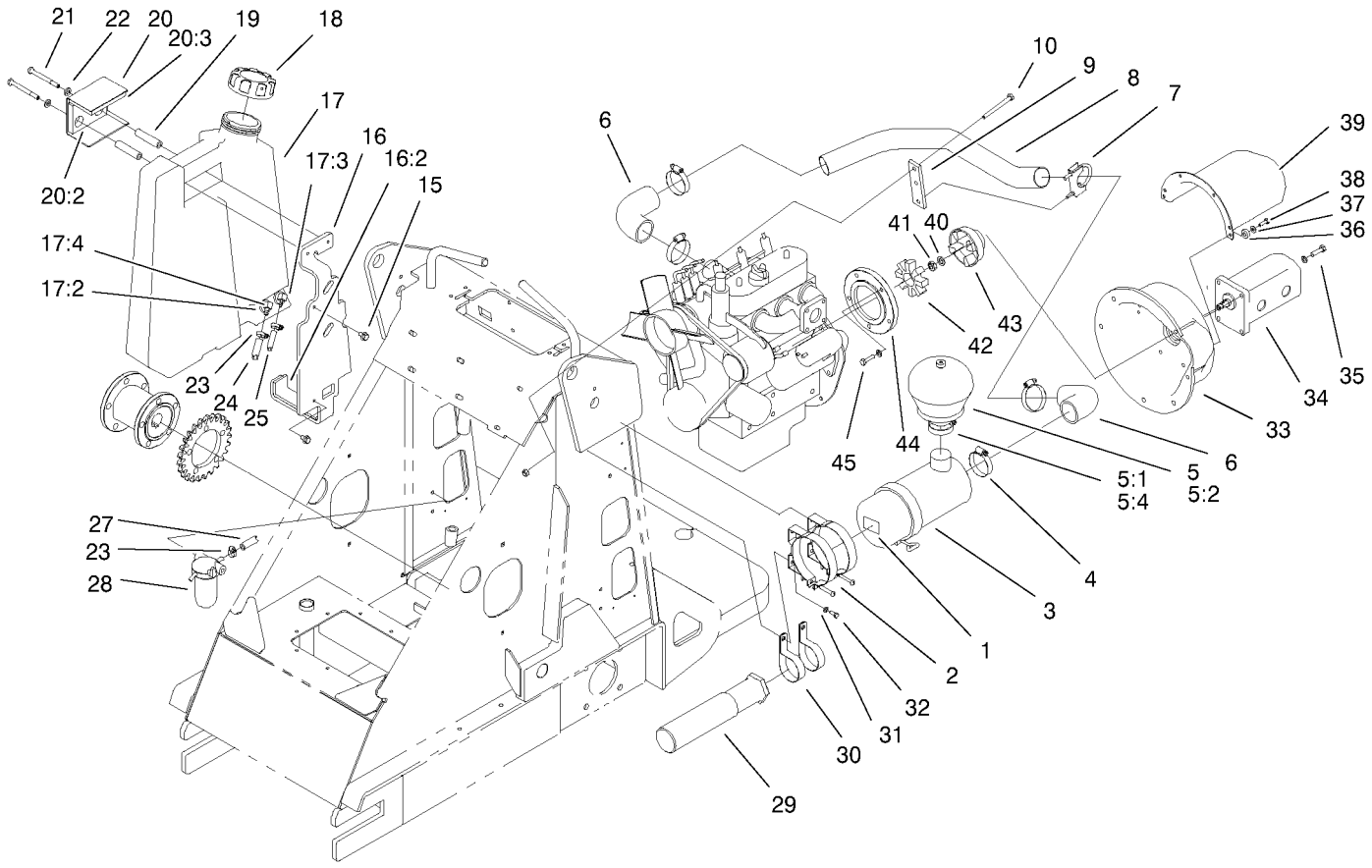
Ref	Part No.	Qty.	Description
❸4		1	Screw
11	99-3090	1	Shaft-Coupling
❸13		7	Link-Drive
❸14	99-3091	1	Screw-Cap, HH
❸17	3257-42	1	Key-Woodruff
❸18		1	Plate-Wear
❸22		1	Manifold
❸24		1	End Cover Assembly
❶	94-8178	1	Seal Kit (Incl. Ref. #1, 4-7 & 15)



Fuel Tank And Engine Assembly

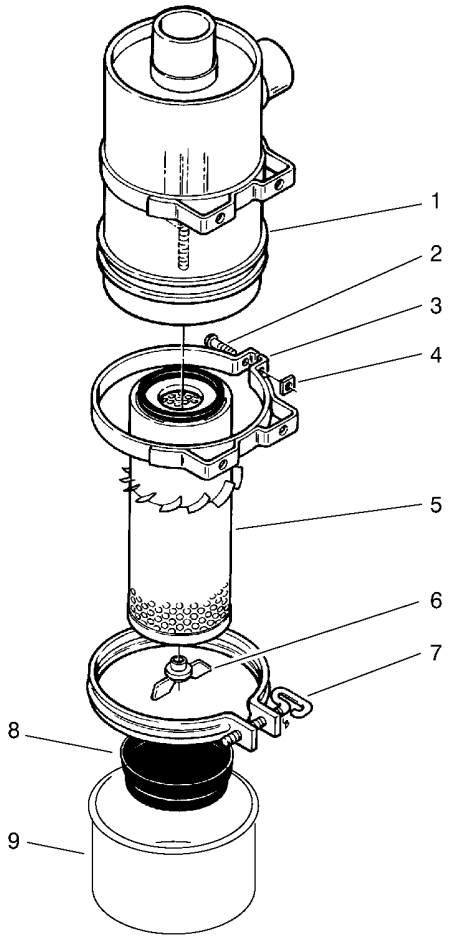
Ref	Part No.	Qty.	Description
1	93-7275	1	Decal-Fluid, Starting
2	33-1350	2	Mtg Band ASM
3	85-4910	1	Air Cleaner ASM
4	2412-92	4	Clamp-Hose
5	100-2138	1	Pre Cleaner
5:1	33-1260	1	Cover ASM
5:2	33-1270	1	Bowl-Clear
❶5:3	100-2139	1	Clamp
5:4	94-6873	1	Clamp
6	100-2103	2	Hose-Air Filter
7	100-2141	1	U-Bolt
8	100-2104	1	Tube-Air Filter
8:1	100-4165	1	Kit-Seal
9	100-2128	1	Mount-Tube
10	322-20	1	Screw-HH
15	100-1719	2	Screw-Flange
16	100-2540	1	Mount ASM
16:2	100-2194	1	Pad-Foam
❶16:3	100-2196	2	Pad-Foam
17	100-1594	1	Fuel Tank ASM, Diesel
17:2	104047	2	Bushing
17:3	100-1596	1	Fitting-90 DEG
17:4	100-1597	1	Fitting-90 Degree
18	98-2710	1	Diesel Fuel Cap ASM

Ref	Part No.	Qty.	Description
19	100-1718	2	Spacer
20	100-2541	1	Plate ASM
20:2	100-2195	1	Pad-Foam
20:3	100-2196	1	Pad-Foam
21	100-1720	2	Screw-HH
22	3256-23	2	Washer-Flat
23	2412-108	3	Clamp-Worm
24	63-7621	1	Hose-Fuel
25	75-4701	1	Hose-Fuel
27	71-3370	1	Hose
28	100-1855	1	Fuel Filter ASM
29	74-0720	1	Tube-Manual
30	2412-133	2	R-Clamp
31	3253-3	2	Washer-Lock
32	48-7620	2	Screw-HH
33	100-2106	1	Mount-Pump, Diesel
34	99-3270	1	Pump-Gear, Tandem
❶34:2	99-5004	1	Seal Kit - Pump
❶34:3	48-8070	1	Washer-Lock
❶34:4	100-2112	1	Nut-Jam
35	48-7730	4	Screw-HH
36	100-2100	6	Washer-Rubber
37	3256-3	6	Washer-Flat
38	48-7630	6	Screw



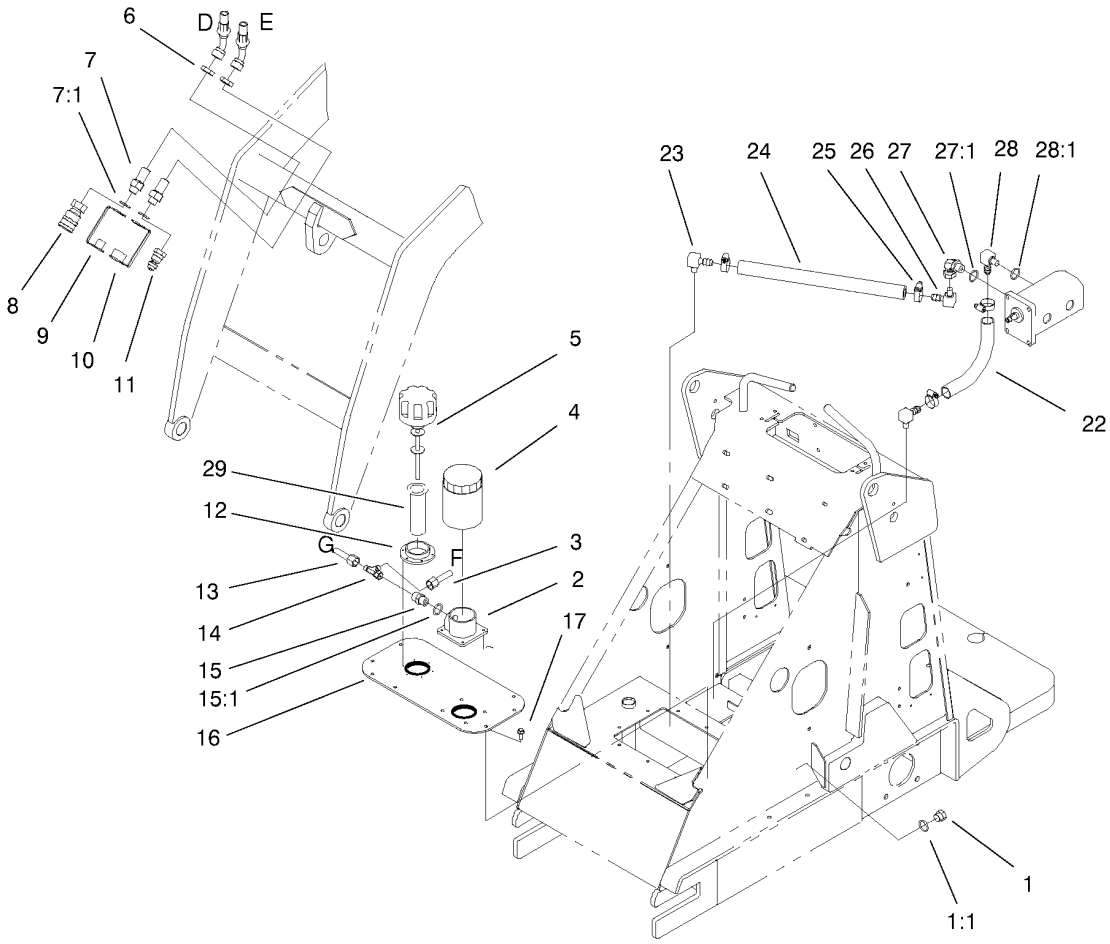
Fuel Tank And Engine Assembly (continued)

Ref	Part No.	Qty.	Description
39	100-2101	1	Guard-Pump
40	48-8070	1	Washer-Lock
41	100-2112	1	Nut-Jam
42	99-3268	1	Hub-Pump
43	99-3269	1	Coupling
44	100-2107	1	Coupler-Pump, Diesel
45	100-1770	2	Bolt



Air Filter Assembly No. 85-4910

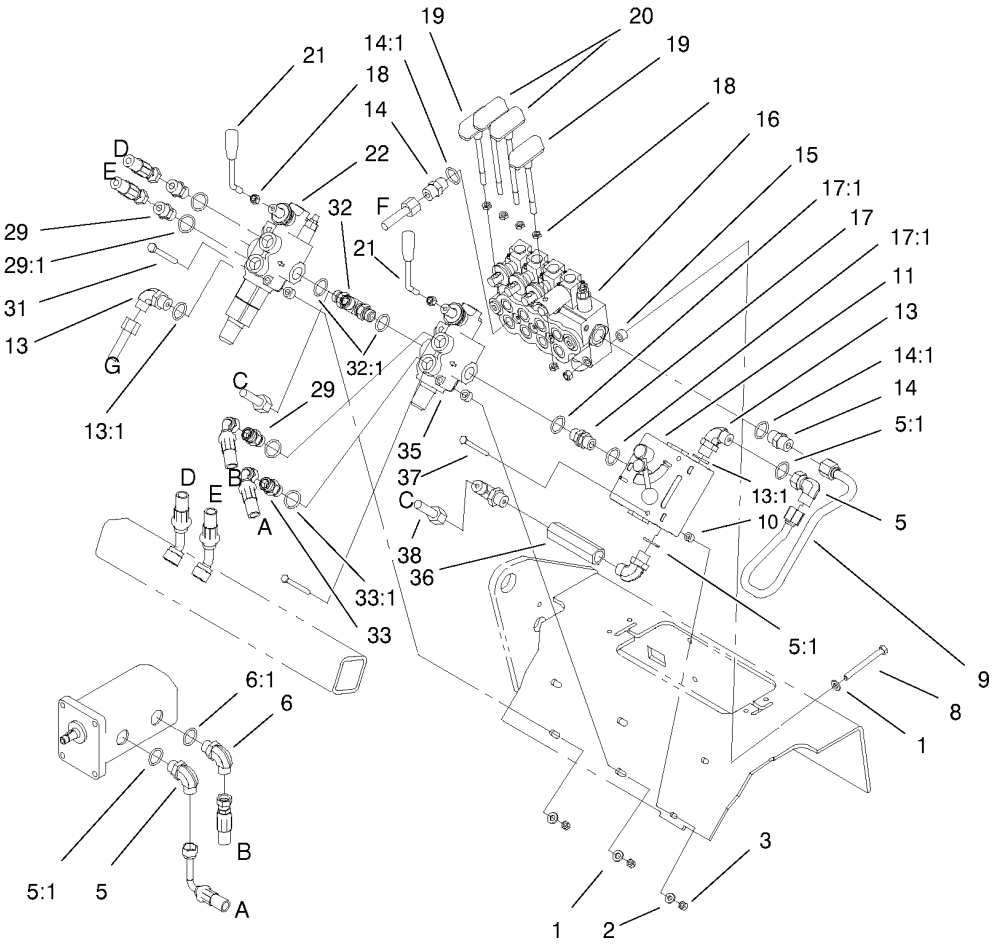
Ref	Part No.	Qty.	Description
2	3258-19	2	Screw
3	33-1350	2	Band Assembly (Incl. Ref. #2 & 4)
4	32107-11	2	Nut-Square
5	33-1300	1	Element ASM
6	33-1330	1	Nut ASM
7	33-1340	1	Clamp ASM
8	33-1310	1	Baffle
9	33-1320	1	Cup ASM
	85-4910	1	Air Cleaner ASM (Incl. Ref. 1 & 5-9)



Hydraulic Cover And Hose Assembly

Ref	Part No.	Qty.	Description
1	353-988	1	Plug-Hex
1:1	237-79	1	O-Ring
2	99-3289	1	Filter-Mount
3	99-5061	1	Tube-HYD
4	99-5084	1	Filter-Element
5	99-3287	1	Cap-HYD
6	99-5070	2	Nut-Bulkhead
7	99-5071	2	Union-Bulkhead
7:1	99-5078	2	O-Ring
8	99-1394	1	Quick Coupler-Female
9	98-9913	1	Dust Plug
10	98-9912	1	Cap-Dust
11	99-1393	1	Quick Coupler - Male
12	99-3288	1	Cap-Mount
13	99-5060	1	Tube-HYD
14	94-7022	1	Tee
15	99-5083	1	Fitting-Straight
15:1	99-5085	1	O-Ring
16	100-2135	1	Cover-Tank, Top
17	33113-020	16	Screw-HH
22	100-2130	1	Hose-Suction
23	99-5088	2	Fitting-Barbed 90 DEG
24	100-2129	1	Hose-Suction
25	2412-129	4	Clamp-Hose

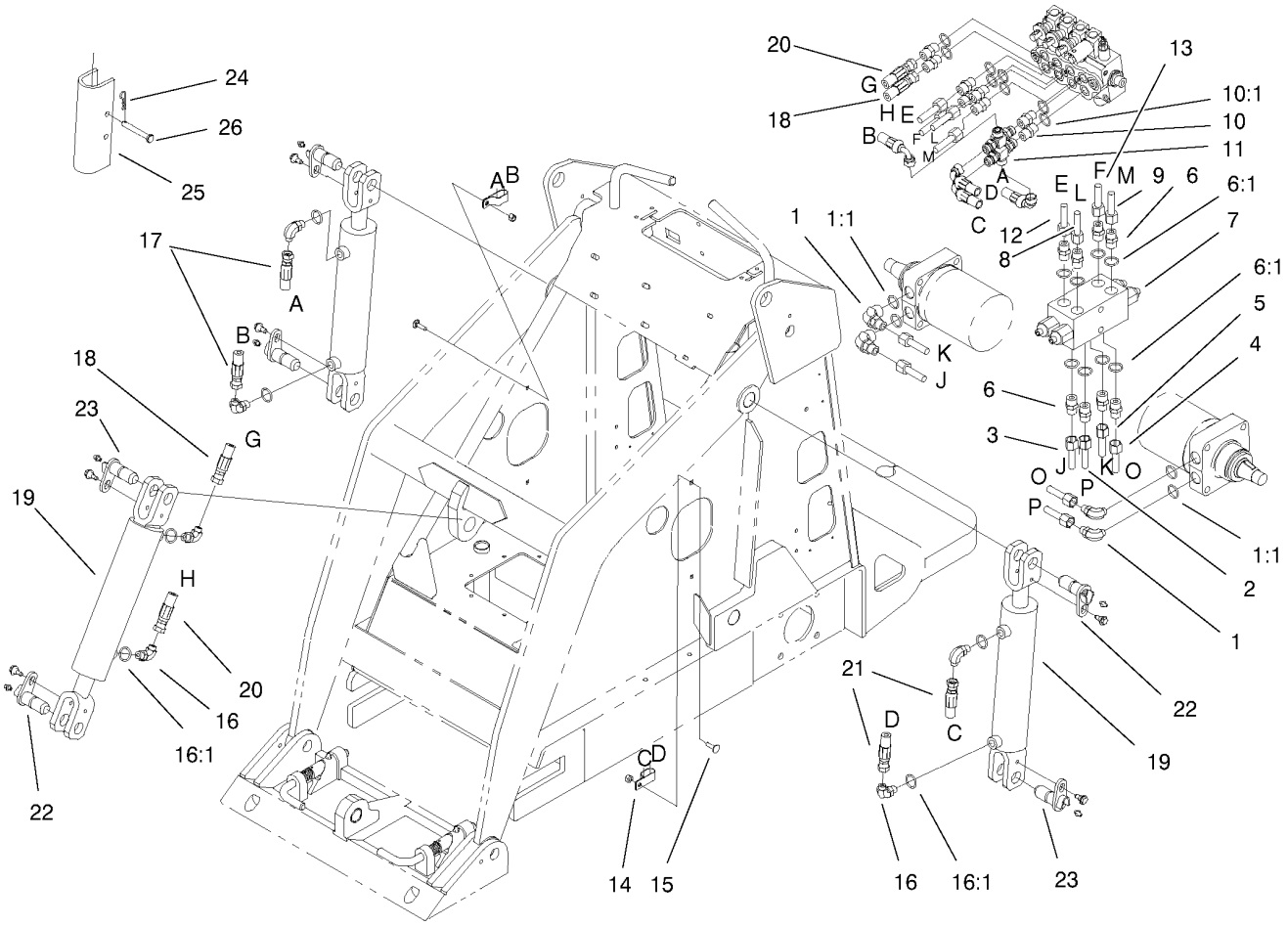
Ref	Part No.	Qty.	Description
26	99-5086	1	Fitting-Barbed 90 DEG
27	99-3096	1	Fitting
27:1	99-5078	1	O-Ring
28	99-5087	1	Fitting-Barbed 90 DEG
28:1	99-5075	1	O-Ring
29	61-2790	1	Filter-Screen



Hydraulic Assembly

Ref	Part No.	Qty.	Description
1	3256-23	7	Washer-Flat
2	3256-22	3	Washer-Flat
3	3296-42	6	Nut-Lock, NI
5	99-3291	1	Adapter
5:1	99-5078	1	O-Ring
6	99-5072	1	Adaptor - 90 DEG
6:1	99-5075	1	O-Ring
8	322-20	2	Screw-HH
9	99-5059	1	Tube-HYD
10	98-4799	2	Tube-Spacer
11	99-3277	1	Valve - HYD, Flow
❶11:1	99-3298	1	Seal Kit - Valve
❶11:2	98-9098	1	Handle Hardware Kit
13	99-5079	1	Adaptor - 90 DEG
13:1	99-5078	1	O-Ring
14	99-5081	2	Fitting-Straight
14:1	99-5078	2	O-Ring
15	98-4695	7	Spacer
16	99-3275	1	Valve - HYD, 4-Spool
❶16:1	98-4720	1	Seal Kit
17	99-5080	1	Connector-Straight Adj.
17:1	99-5078	2	O-Ring
18	42-9580	10	Nut-Hex
19	98-4671	2	Cylinder Handle ASM

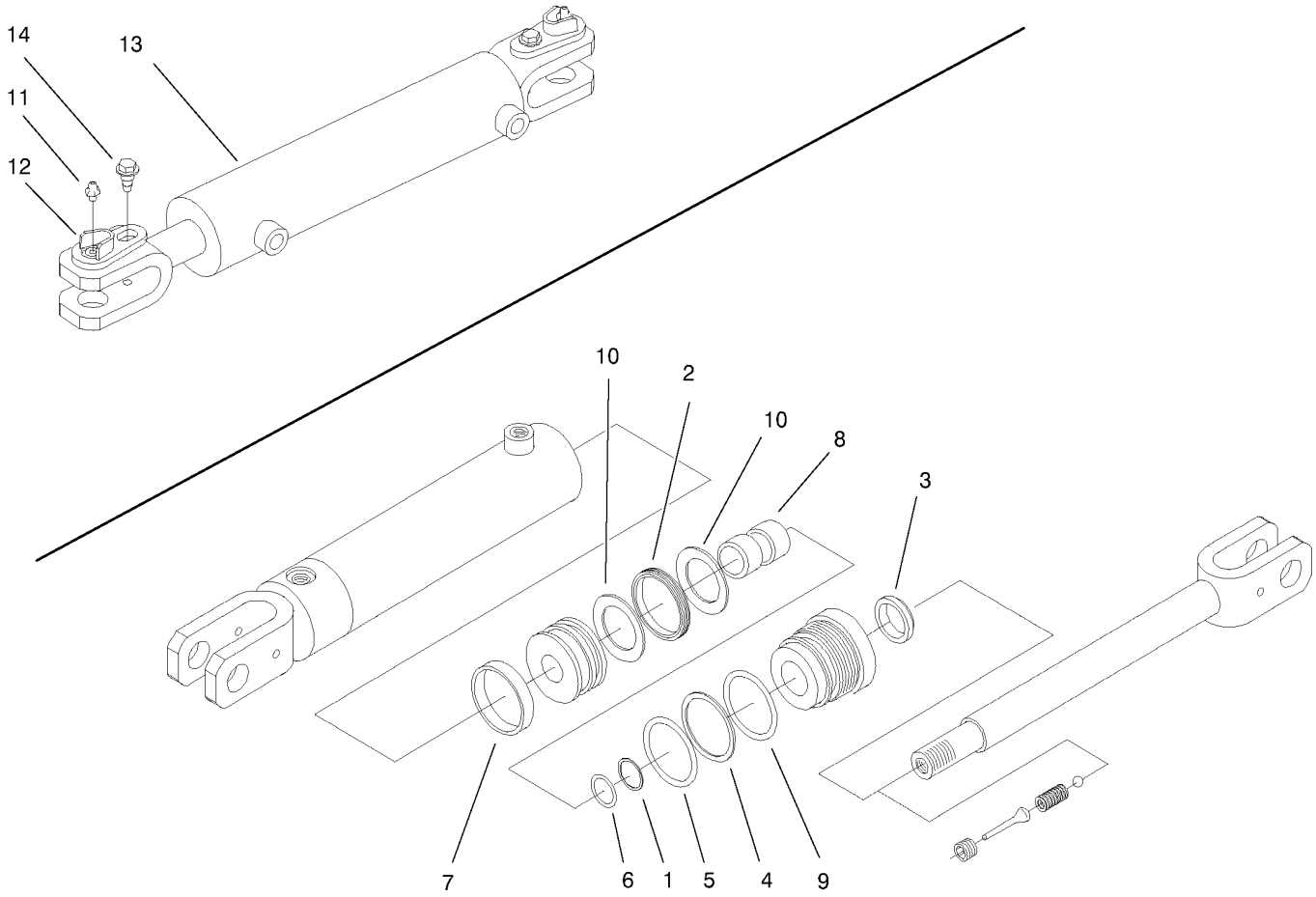
Ref	Part No.	Qty.	Description
❶19	98-4722	2	Lever - Valve
20	98-4670	2	Drive Handle ASM
❶20	98-4723	2	Lever - Valve
21	98-4729	2	Lever-Valve
22	99-3274	1	Valve-HYD, Aux.
❶22:1	98-4721	1	Seal Kit
29	99-5082	7	Fitting-Straight
29:1	99-5075	14	O-Ring
30	99-3098	1	Bracket-Aux.
31	322-13	4	Screw-HH
32	99-5090	1	Adapter-Tee Adjustable
32:1	99-5078	2	O-Ring
33	99-5073	1	Fitting
33:1	99-5075	1	O-Ring
35	99-3276	1	Valve - HYD, Selector
❶35:1	98-4721	1	Seal Kit
36	99-5077	1	Valve-Inline Check
37	321-14	2	Screw-HH
38	99-5058	1	Tube-HYD



Hydraulic Cylinder Assembly

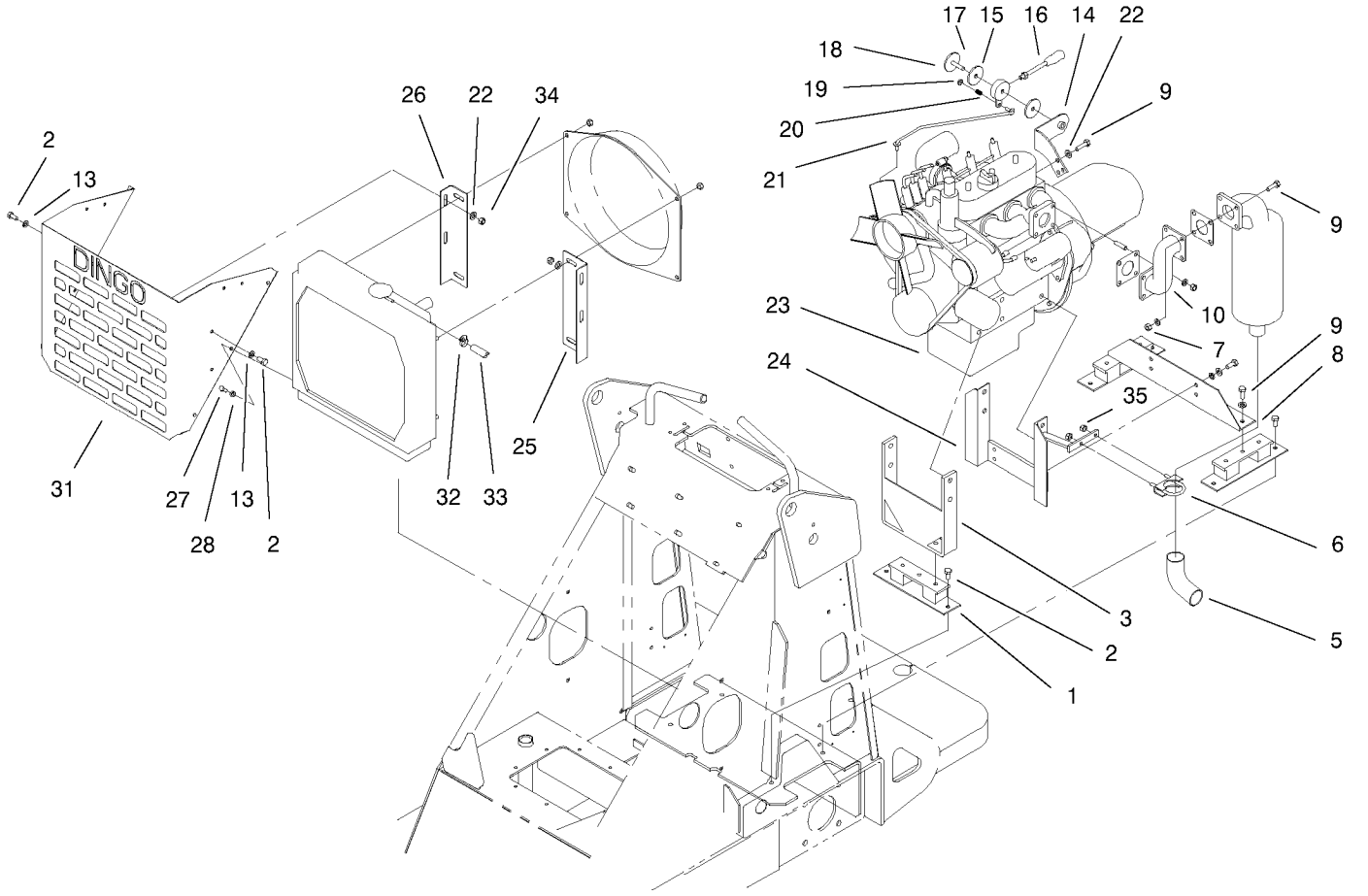
Ref	Part No.	Qty.	Description
1	353-370	4	Elbow-90 DEG
1:1	237-80	1	O-Ring
2	99-3047	1	Tube-HYD
3	99-3048	1	Tube-HYD.
4	99-3049	1	Tube-HYD.
5	99-3004	1	Tube-HYD.
6	353-388	8	Fitting-Straight
6:1	237-80	1	O-Ring
7	99-3279	1	Valve-Counterbalance
❶7:1	98-2712	1	Seal Kit
8	100-2151	1	Tube-HYD
9	100-2152	1	Tube-HYD.
10	99-5074	4	Fitting
10:1	99-5075	1	O-Ring
11	99-5076	2	Connector-Swivel
12	100-2153	1	Tube-HYD
13	100-2154	1	Tube-HYD
14	2412-137	2	Clamp-R, Double
15	3230-2	2	Bolt-CARR
16	353-374	6	Elbow-90 DEG
16:1	237-42	1	O-Ring
17	99-5062	2	Hose-HYD
18	99-5063	1	Hose-HYD
19		3	Hydraulic Cylinder

Ref	Part No.	Qty.	Description
❶19:1	99-3181	1	Seal Kit-Cylinder
20	99-5064	1	Hose-HYD
21	99-5065	2	Hose-HYD
24	3290-467	2	Pin-Hair
22	99-3045	3	ASM - Pivot Pin, Au
23	99-3044	3	ASM - Pivot Pin, Au
25	98-4675	2	Lock-Cylinder
26	283-52	2	Pin-Clevis
❶	99-3278	1	Hydraulic Cylinder ASM



Hydraulic Cylinder Assembly No. 99-3278

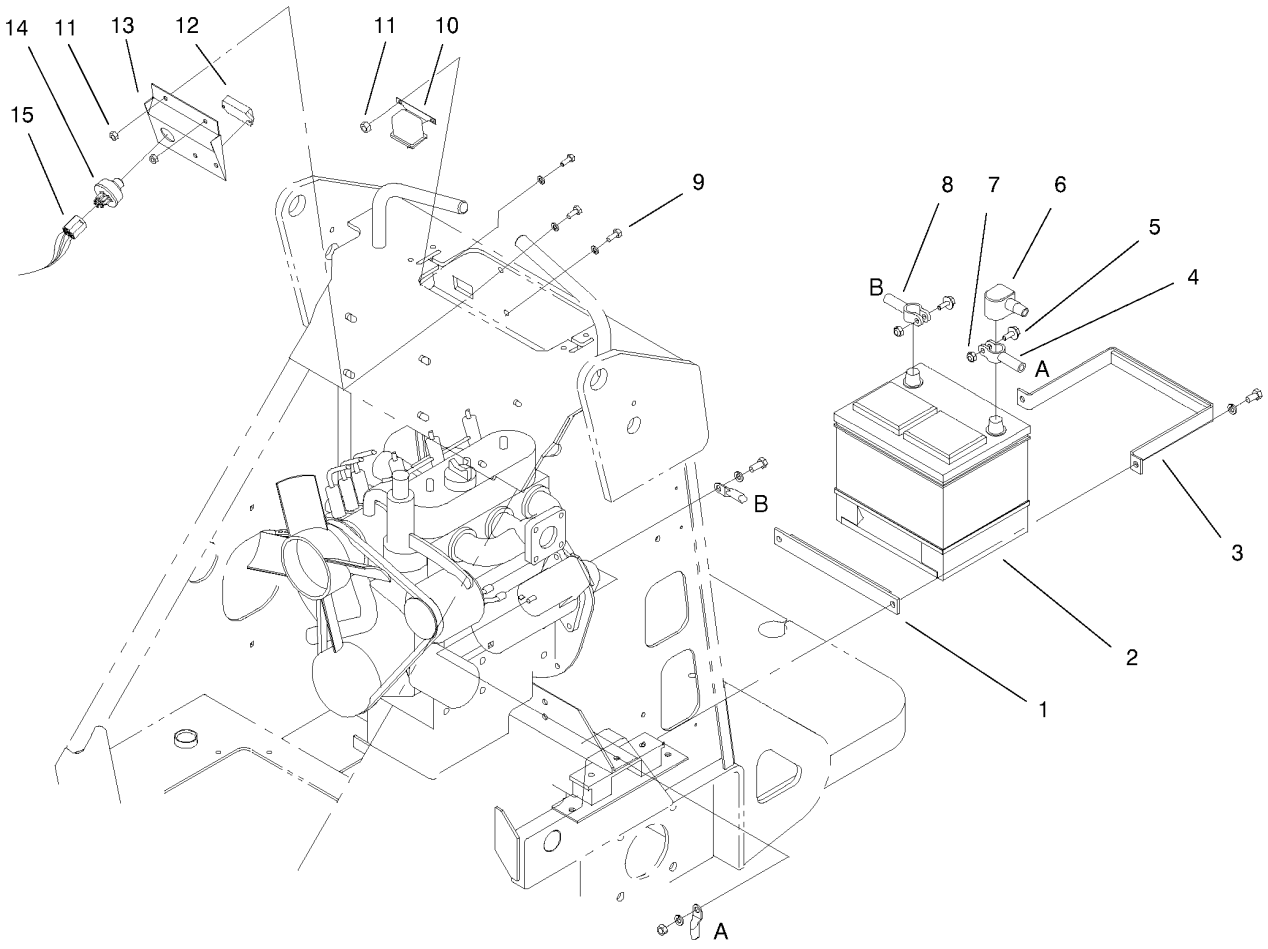
Ref	Part No.	Qty.	Description
2		1	Psp Seal
3		1	Rod-Wiper
6		1	Polypak
7		1	Ring-Wear
8		2	Ring-Wear
11	302-5	2	Fitting-Grease
12	99-1414	2	Pin-Pivot
13	99-3051	1	Cylinder-Hydraulic
14	99-5105	2	Bolt-Shoulder
	99-3065	1	Seal Kit (Incl. Ref. #1-10)



Engine Mounting Assembly

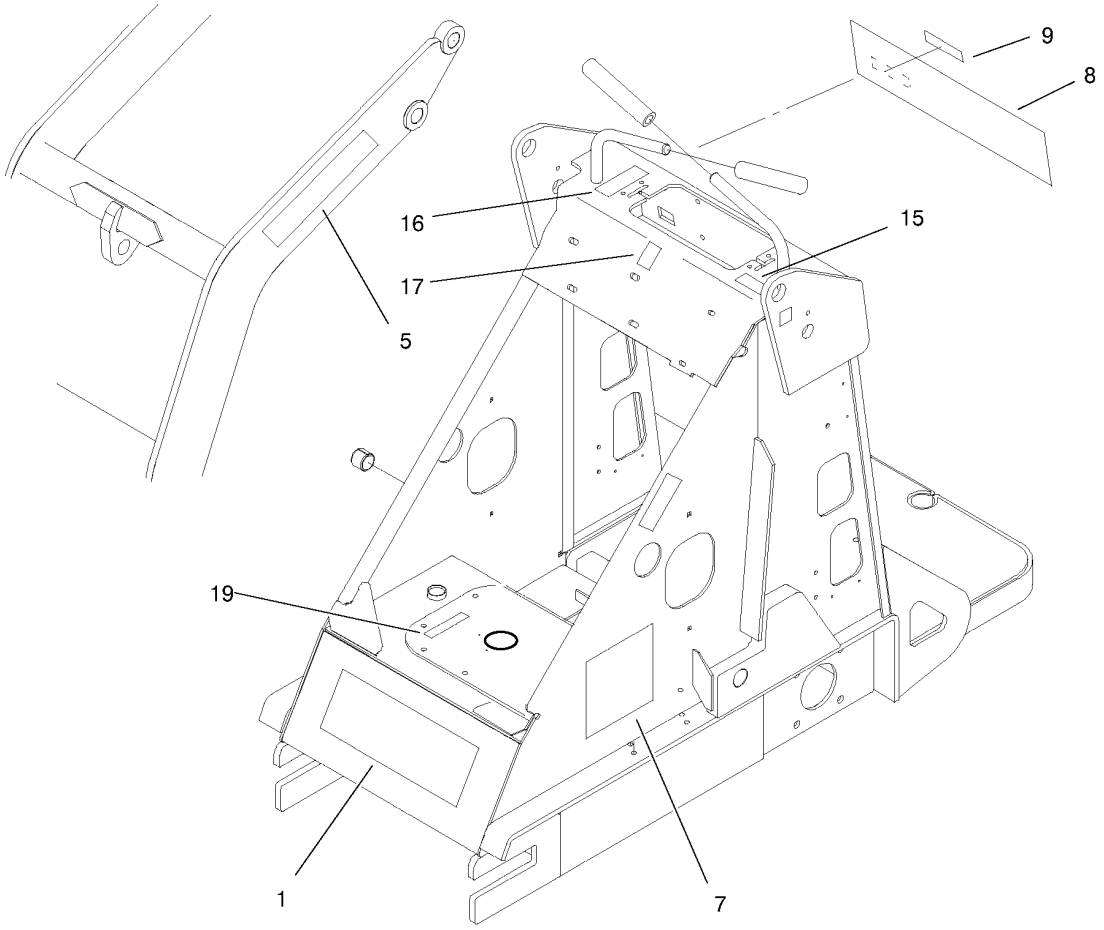
Ref	Part No.	Qty.	Description
1	100-2108	3	Mount-Engine, Rubber
2	48-7700	11	Screw-HH
3	100-2109	1	Mount-Engine, Front
5	100-2102	1	Tailpipe-Muffler
6	100-2140	1	U-Bolt
7	48-7930	4	Nut
8	100-2111	1	Support-Engine
9	48-7710	10	Bolt
10	100-2105	1	Tube-Mount, Muffler
13	3253-4	18	Washer-Lock
14	100-2121	1	Bracket-Throttle
15	100-2123	1	Control-Throttle
16	98-4722	1	Lever - Valve
17	100-2122	2	Spacer-Throttle
18	100-2124	1	Retainer-Throttle
19	32146-17	2	Nut-Lock
20	100-2127	1	Spring-Throttle
21	100-2126	1	Linkage-Throttle
22	3256-23	5	Washer-Flat
23		1	Engine ASM-Kubota
24	100-2110	1	Mount-Engine, Rear
25	100-2116	1	Radiator Mount, Brkt-LH
26	100-2142	1	Radiator Mount, Brkt-RH
27	48-7620	10	Screw-HH

Ref	Part No.	Qty.	Description
28	3253-3	10	Washer-Lock
31	100-2136	1	Shroud-Radiator
32	2412-108	1	Clamp-Worm
33	63-7621	1	Hose-Fuel
34	33024-00	4	Nut-Lock
35	3296-29	2	Nut-Lock, NI



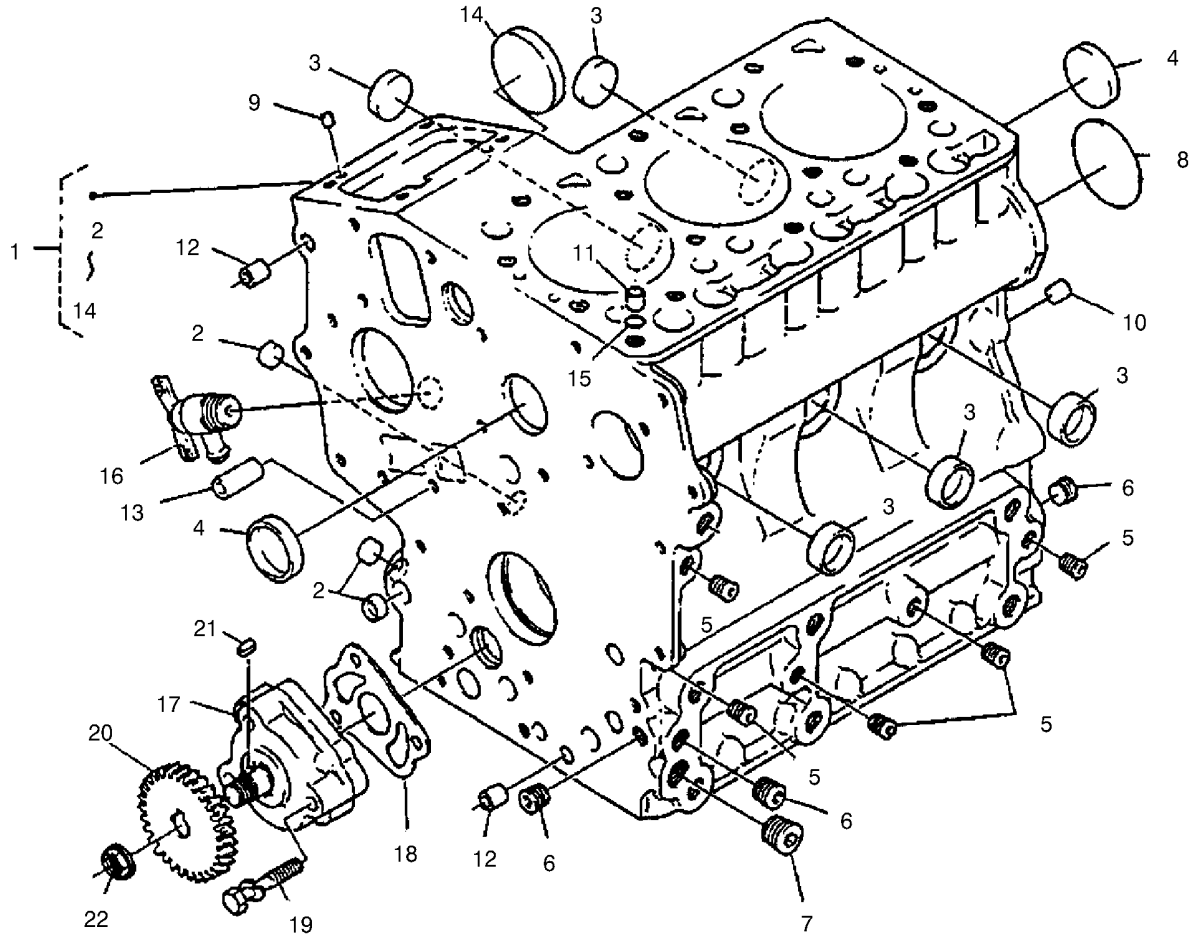
Electrical Assembly

Ref	Part No.	Qty.	Description
1	99-3153	1	Plate-Battery Mount
❷2		1	Battery
3	99-3159	1	Bracket-Battery
4	100-2081	1	Cable-Pos
5	3234-4	2	Screw-HHF
6	77-0981	1	Boot-Terminal, Red
7	3296-16	2	Nut-Lock, NI
8	100-2082	1	Cable-Neg
9	48-7630	4	Screw
10	100-2078	1	Buzzer
11	48-7890	4	Nut
12	99-3143	1	Tachometer
13	99-3142	1	Bracket
14	100-1985	1	Assy Switch, Starter
15	100-4698	1	Harness-Electrical



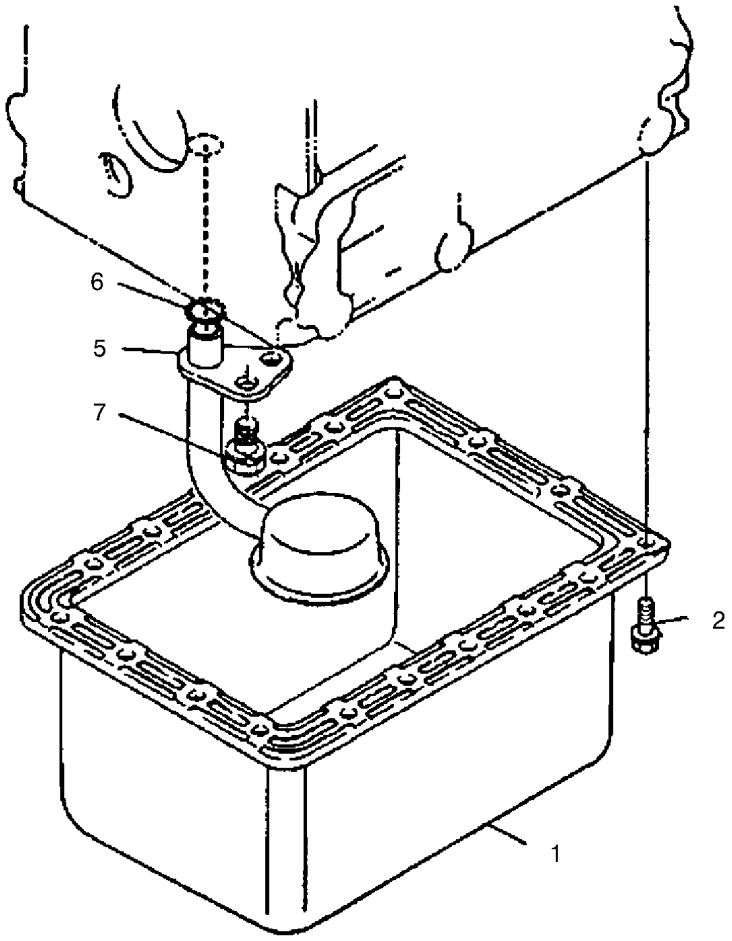
Decal Assembly

Ref	Part No.	Qty.	Description
1	98-4679	1	Decal - Front
5	98-8218	2	Decal - Dingo 220D
7	98-4680	2	Decal - Side
8	98-4676	1	Decal - Control Panel
9	52-1320	1	Decal-Diesel Fuel
15	98-8220	1	Decal-Limiter, Speed
16	98-4677	1	Decal-Power, Auxiliary
17	98-8235	1	Decal-Selector
19	85-4730	1	Decal-Only, HYD Oil
❶	98-8219	1	Decal-Throttle



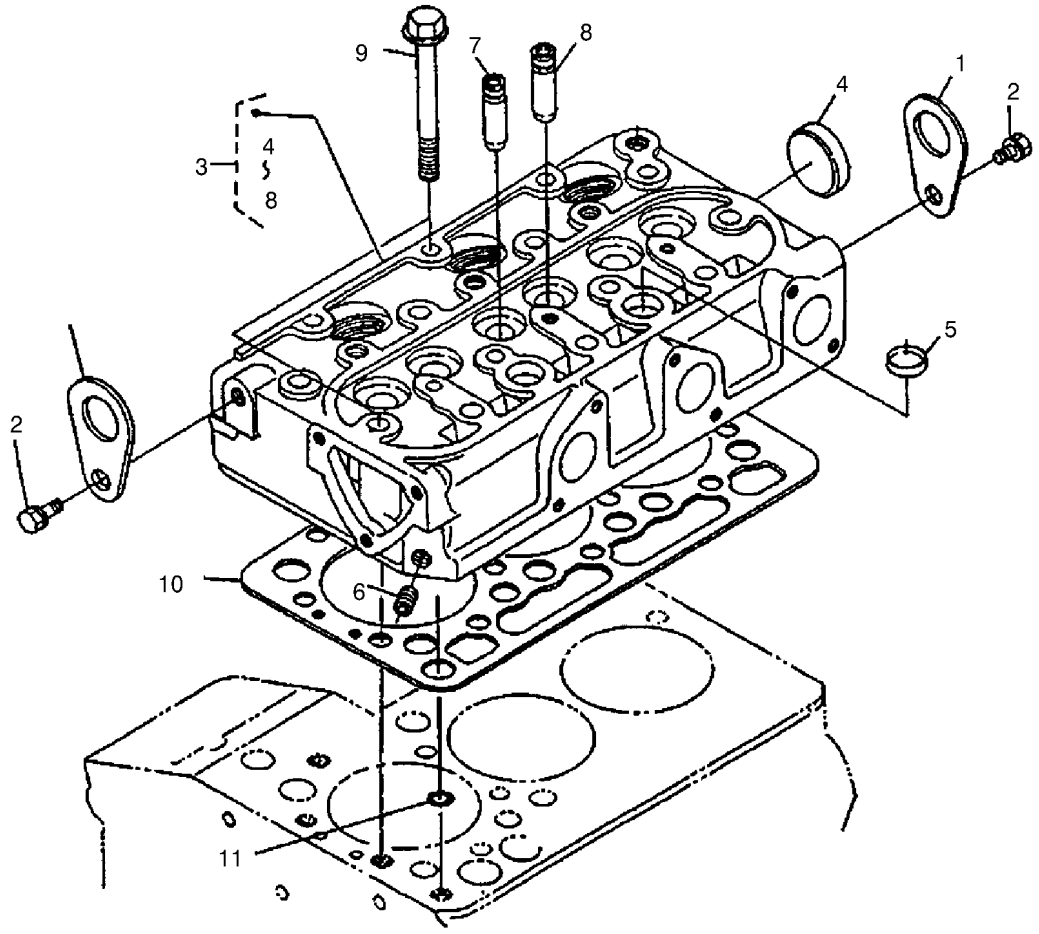
Crankcase Assembly

Ref	Part No.	Qty.	Description
1	100-2045	1	Comp. Crankcase
2	100-2019	3	Cap-Sealing
3	100-2020	5	Cap-Sealing
4	98-9398	2	Cap-Sealing
5	98-7540	5	Plug
6	98-7487	3	Plug
7	98-7488	1	Plug
8	100-1851	1	Plug
9	98-9375	2	Pin-Straight
10	98-9377	2	Pin-Straight
11	98-7506	1	Pin-Pipe
12	98-9387	2	Pin-Pipe
13	100-2051	2	Pin-Pipe
14	100-1991	1	Cover-Fuel, Camshaft
15	98-7509	1	O-Ring
16	98-9436	1	Drain Cock ASM
17	100-2002	1	Oil Pump ASM
18	100-1958	1	Gasket-Pump, Oil
18	100-2003	1	Gasket-Pump, Oil
19	100-1923	3	Bolt
20	100-1893	1	Gear-Drive, Oil Pump
21	98-7658	1	Key-Feather
22	100-1779	1	Nut-Flange



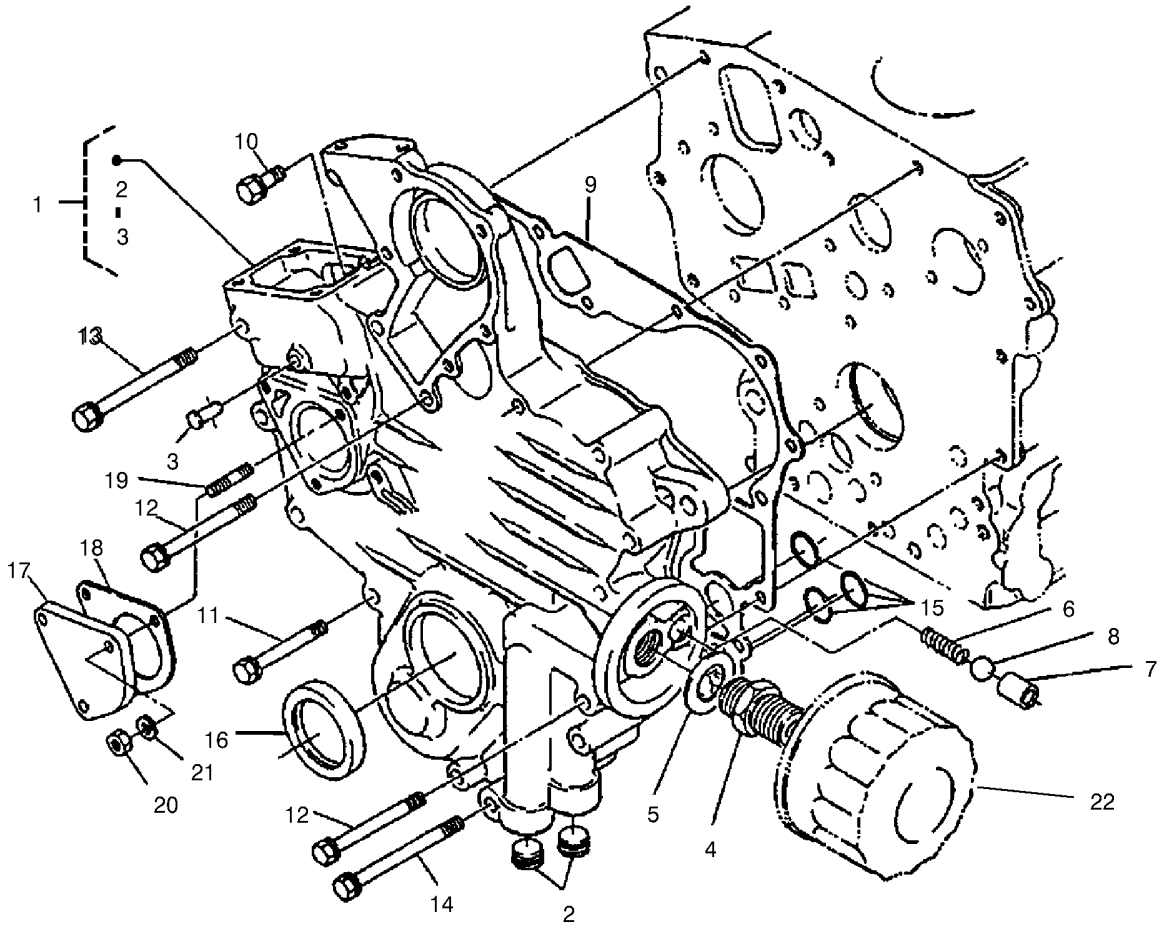
Oil Pan Assembly

Ref	Part No.	Qty.	Description
1	100-2041	1	Comp, Oil Pan
2	98-9350	18	Bolt
5	100-2001	1	Strainer-Oil, Pick-Up
6	98-7527	1	O-Ring
7	98-7585	1	Bolt



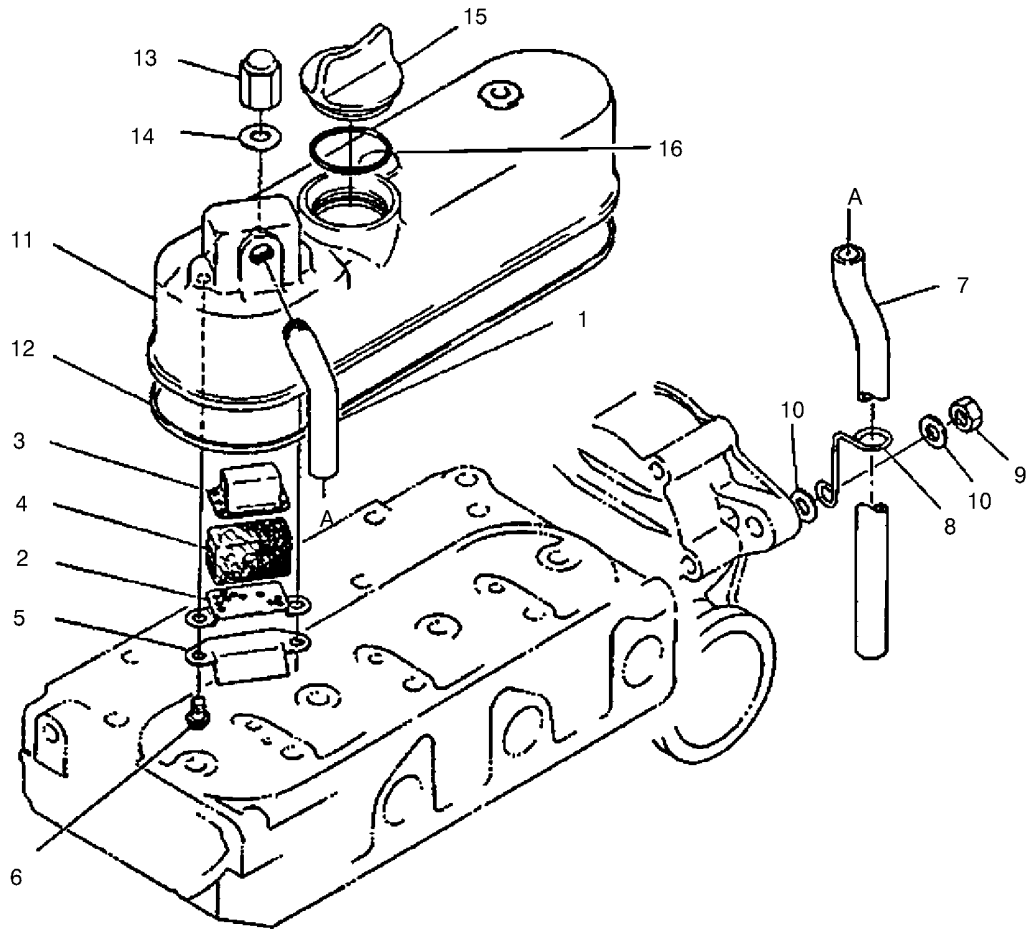
Cylinder Head Assembly

Ref	Part No.	Qty.	Description
1	100-1872	2	Hook, Engine
2	98-7585	2	Bolt
3	100-2046	1	Comp, Cylinder Head (S/N < 489915)
3	100-2047	1	Comp, Cylinder Head (S/N > 489916)
4	98-9395	1	Cap-Sealing
5	98-9389	2	Cap-Sealing
6	98-7540	1	Plug
7	100-1882	3	Guide-Valve, Inlet
8	100-1883	3	Guide-Valve, Exhaust
9	100-1820	14	Bolt-Head, Cylinder
10	100-2043	1	Gasket-Head, Cylinder
11	98-7509	1	O-Ring



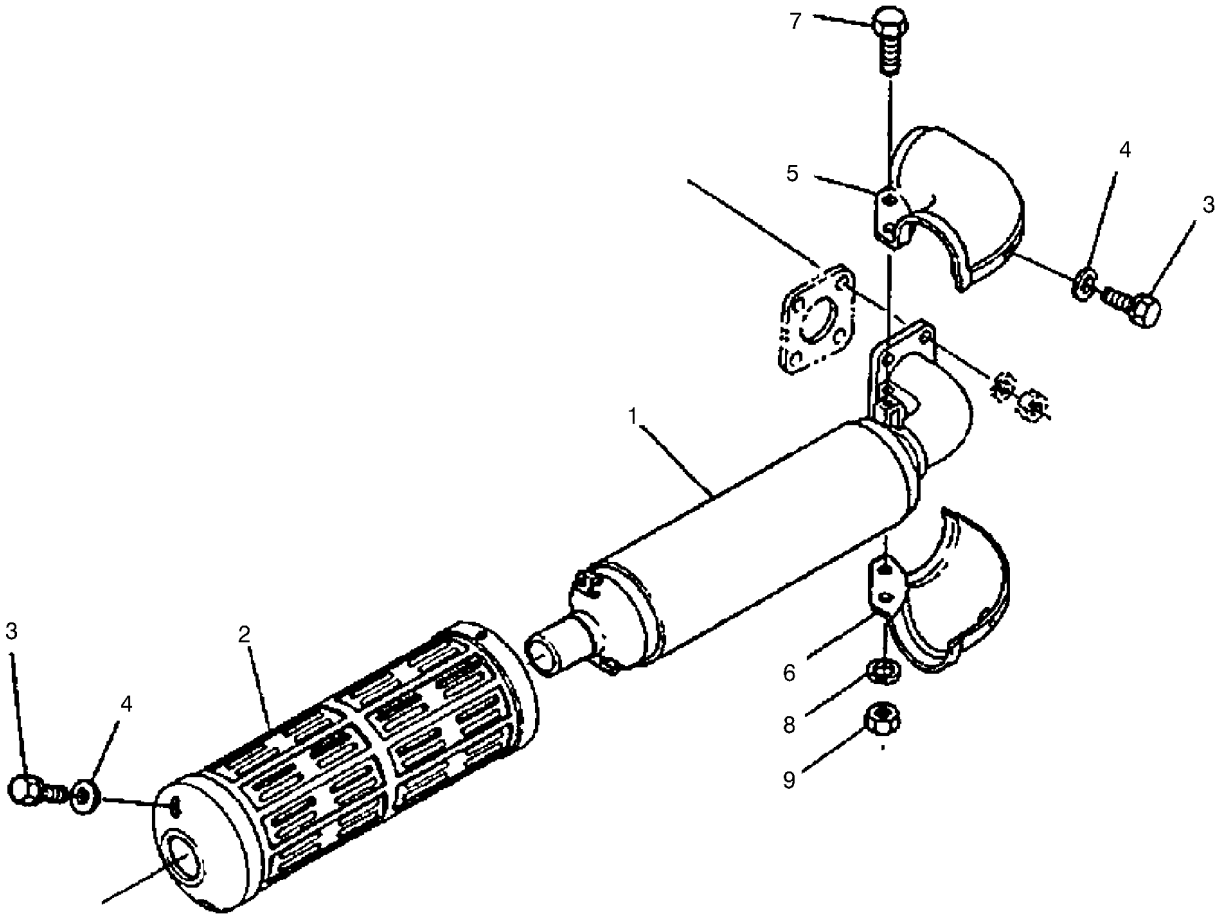
Gear Case Assembly

Ref	Part No.	Qty.	Description
1	100-2048	1	Case-Gear, Comp.
2	98-7546	2	Plug
3	100-1910	1	Pin-Spring, Start
4	98-9388	1	Joint-Pipe
5	100-1926	1	Washer-Plain
6	100-2004	1	Spring
7	100-1894	1	Seat-Valve
8	100-1792	1	Ball
9	100-1954	1	Gasket-Case, Gear
9	100-1955	1	Gasket, Gear Case (From Sept. 1994)
10	98-7605	1	Bolt
11	98-9355	8	Bolt
12	100-1922	5	Bolt
13	100-1766	1	Bolt
14	100-1767	1	Bolt
15	100-1785	3	O-Ring
16	100-1971	1	Seal-Oil
17	100-2060	1	Cover
18	100-2061	1	Gasket-Gearcase
18	100-2062	1	Gasket, H/M Gearcase (From Sept. 1994)
19	98-7571	3	Stud
20	98-7572	3	Nut
21	98-9367	3	Washer-Spring
22	100-1892	1	Cartridge-Filter, Oil



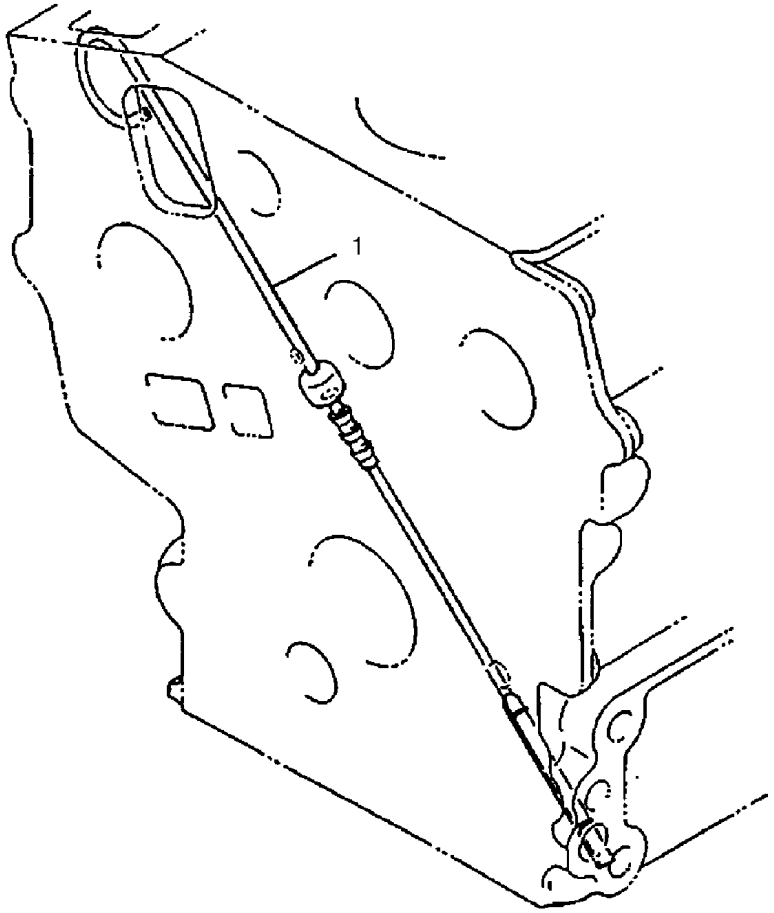
Head Cover Assembly

Ref	Part No.	Qty.	Description
1	100-1972	1	Joint-Pipe, Breather
2	100-1877	1	Plate-Element
3	100-1878	1	Plate-Element
4	100-1881	1	Element-Breather
5	100-1879	1	Breather-Shield, Oil
6	100-2040	2	Screw
6	98-9364	2	Screw (W/Washer)
7	100-1880	1	Pipe-Breather
8	100-1973	1	Clamp-Pipe
9	98-7739	1	Nut
10	98-7660	2	Washer-Plain
11	100-2028	1	Cover, Cyl. Head (S/N < 384779)
11	100-2029	1	Cover-Head, Cylinder
12	100-2030	1	Gasket-Cover, Head
13	98-7655	3	Nut-Cap
14	98-7654	3	Gasket
15	98-9449	1	Plug-Filler, Oil
16	98-7430	1	O-Ring



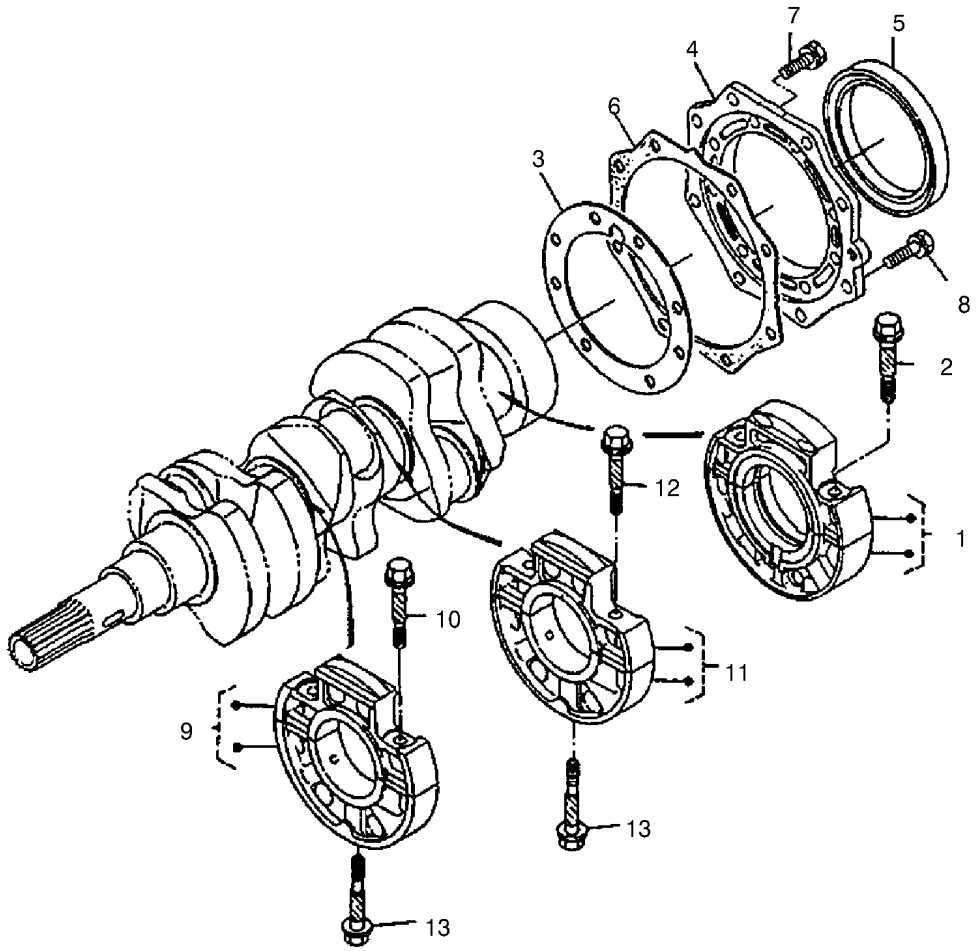
Muffler Assembly

Ref	Part No.	Qty.	Description
1	100-1852	1	Muffler
2	100-2073	1	Cover, Muffler
3	100-1772	4	Bolt
4	100-1781	4	Washer, Plain
5	100-2071	1	Cover, Muffler Flange
6	100-2072	1	Cover, Muffler Flange
7	100-1768	2	Bolt
8	98-9367	2	Washer-Spring
9	100-1776	2	Nut



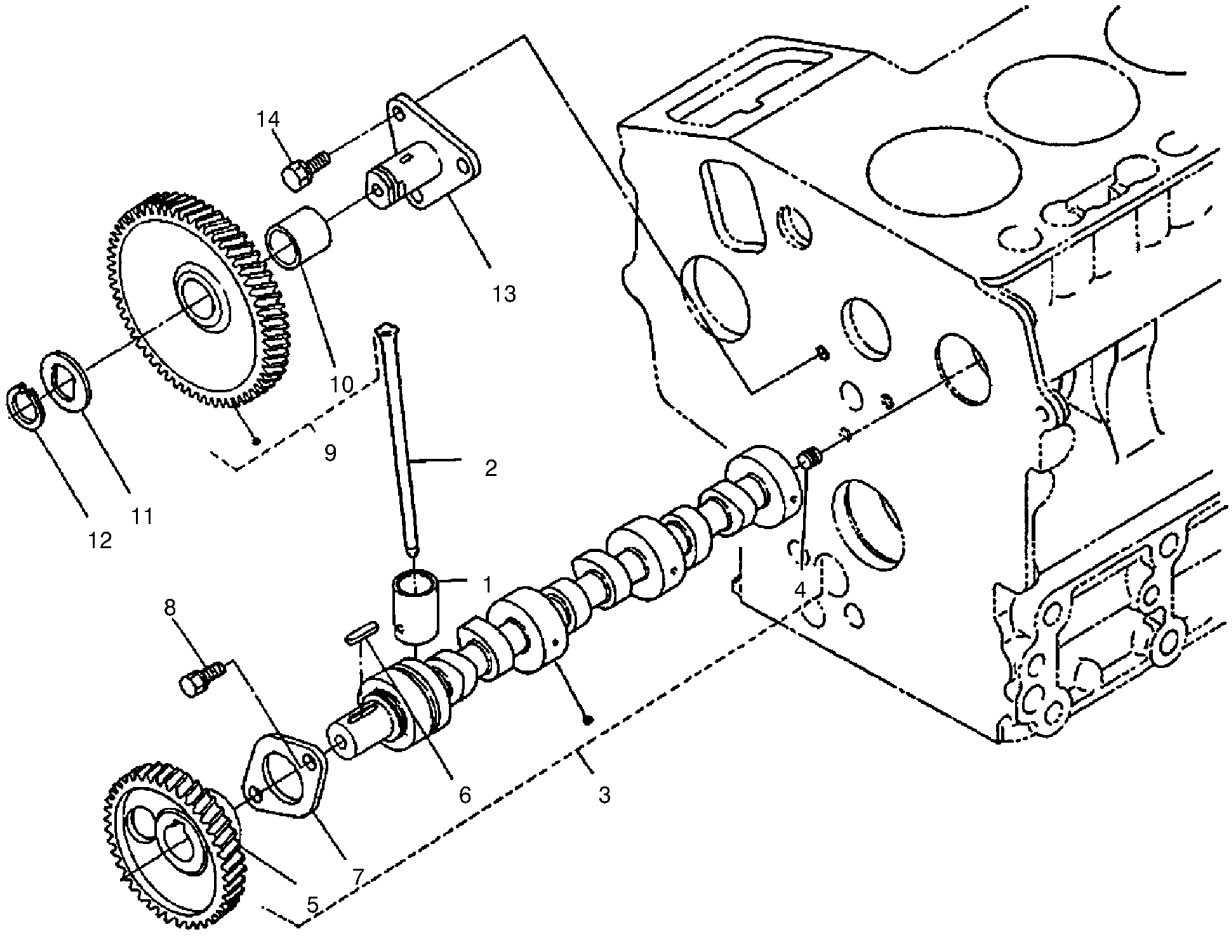
Oil Gauge (dipstick)

Ref	Part No.	Qty.	Description
1	100-2075	1	Gauge, Oil



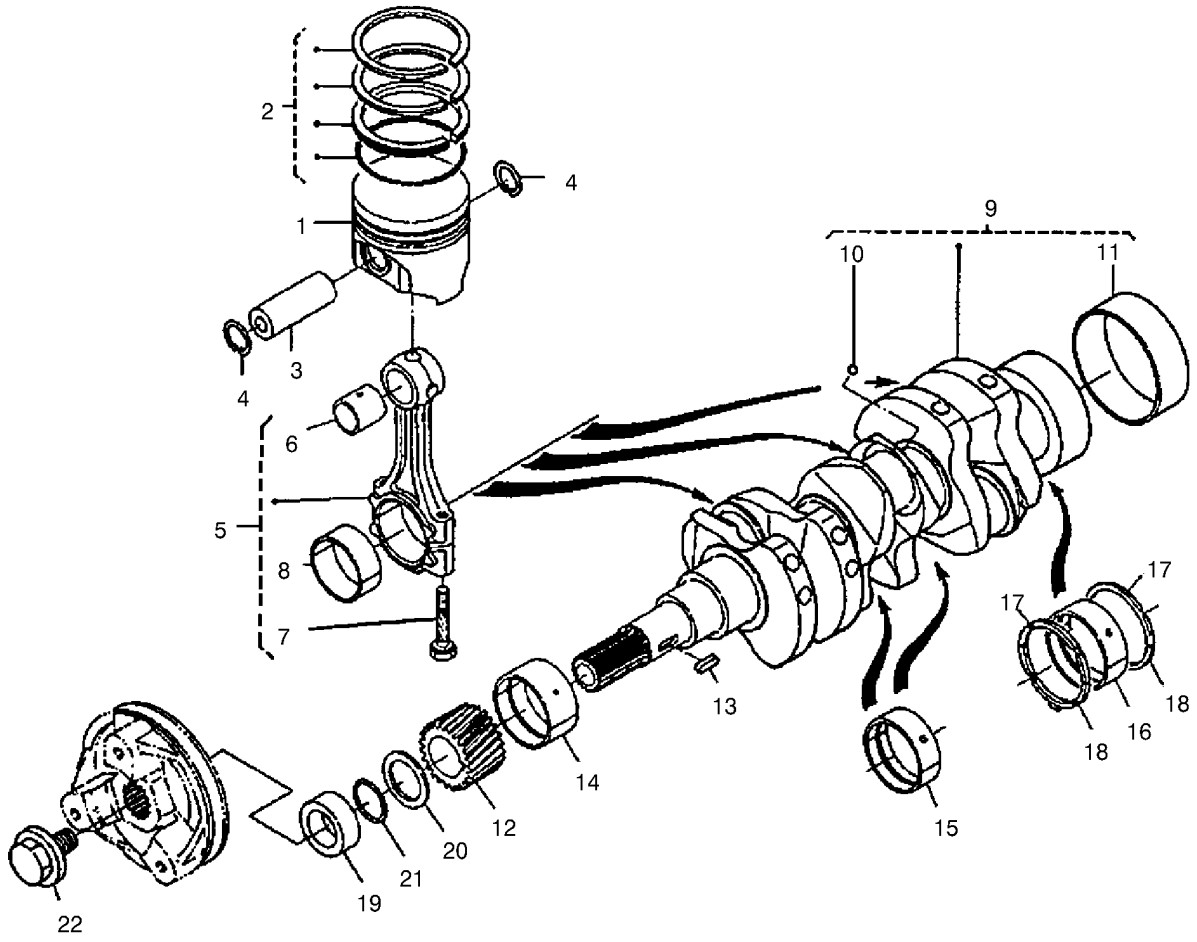
Main Bearing Case Assembly

Ref	Part No.	Qty.	Description
1	100-1988	1	Main Bearing Case ASM
2	100-1757	2	Bolt-Case, Bearing
3	100-1873	1	Gasket-Case, Bearing
3	100-1929	1	Gasket-Case, Bearing
4	100-1875	1	Cover-Case, Bearing
5	100-2055	1	Seal-Oil
6	100-1876	1	Gasket-Case, Bearing
6	100-1956	1	Gasket, Brg. Case (From Sept. 1994)
7	98-7568	8	Bolt
8	100-1750	8	Bolt
9	100-1987	1	Main Bearing Case ASM
10	100-1757	2	Bolt-Case, Bearing
11	100-2027	1	Main Bearing Case ASM
12	100-1757	2	Bolt-Case, Bearing
13	100-1874	2	Bolt-Case, Bearing



Camshaft Assembly

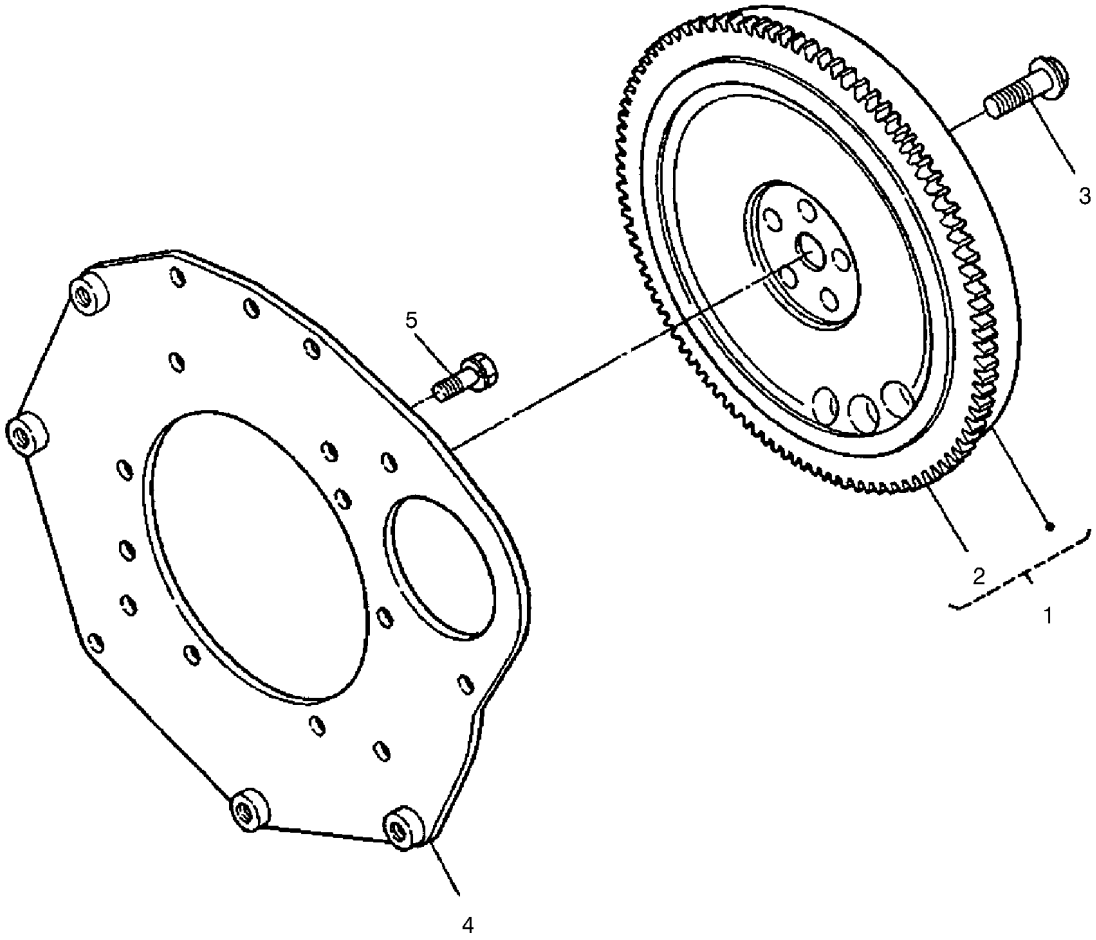
Ref	Part No.	Qty.	Description
1	100-1990	6	Tappet
2	100-1989	6	Rod-Push
3	100-1941	1	Assy Camshaft
4	98-7449	1	Screw-Set
5	100-1889	1	Gear, Camshaft
6	98-9378	1	Key-Feather
7	100-1887	1	Camshaft-Stopper
8	98-9350	2	Bolt
9	100-1966	1	Gear-Idle
10	100-1968	1	Bushing
11	100-1970	1	Collar-Gear, Idle
12	100-1969	1	Ring-Snap
13	100-1967	1	Shaft-Gear, Idle
14	98-9351	3	Bolt



Piston And Crankshaft Assembly

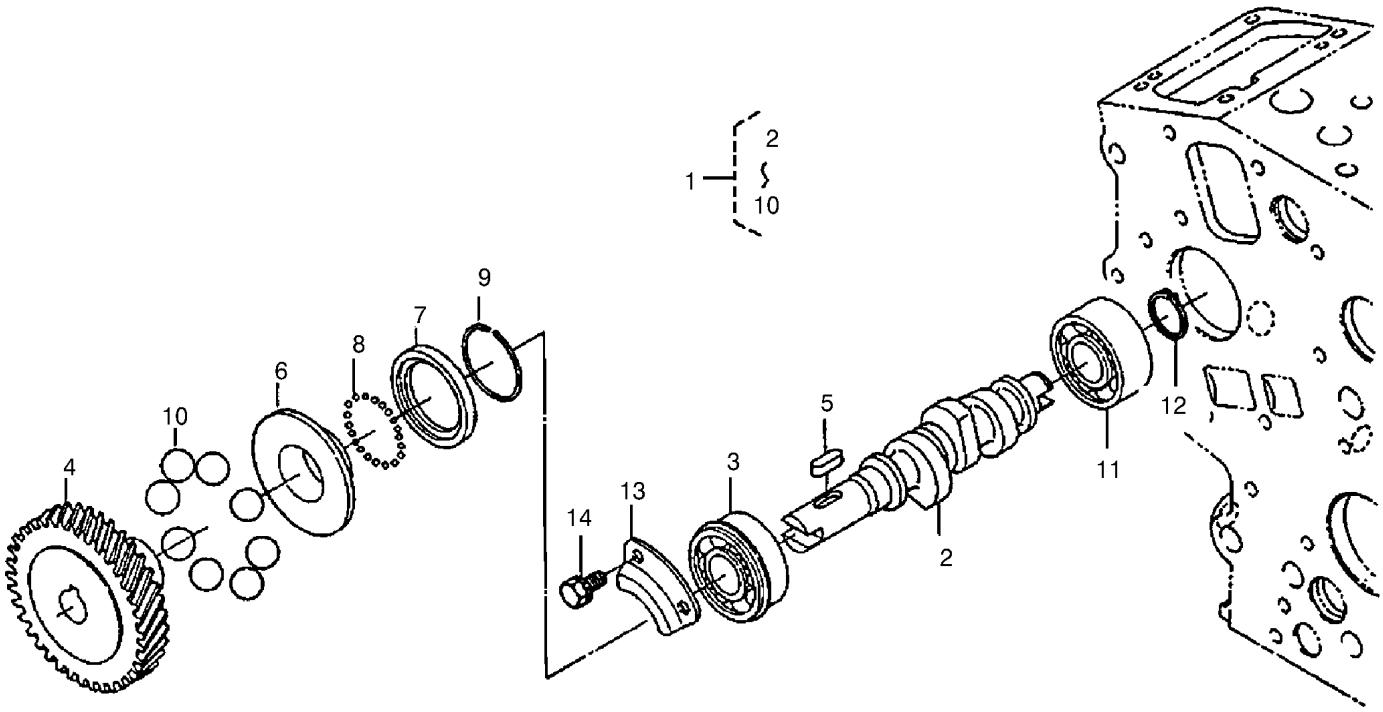
Ref	Part No.	Qty.	Description
1	100-1994	3	Piston (STD)
1	100-1996	3	Piston (+0.25Mm)
2	100-1992	3	Assy Piston Ring (STD.)
2	100-1993	3	Assy Piston Ring (+0.25 Mm)
3	100-1995	3	Pin-Piston
4	100-1835	6	Clip-Pin, Piston
5	100-1998	3	Connecting Rod ASM
6	100-1997	3	Bush-Pin, Piston
7	100-1999	6	Bolt-Rod, Connecting
8	100-1942	3	Crankpin-Metal (-0.2Mm)
8	100-1943	3	Crankpin-Metal (-0.4Mm)
8	100-2000	3	Metal-Crankpin (STD)
9	100-2042	1	Comp. Crankshaft
10	100-1791	3	Ball
11	100-2054	1	Sleeve-Crankshaft
12	100-1891	1	Gear-Crankshaft
13	100-1752	1	Key-Feather
14	100-1944	1	Crankshaft-Metal (STD)
14	100-1947	1	Crankshaft-Metal (-0.2Mm)
14	100-1948	1	Crankshaft-Metal (-0.4Mm)
15	100-1870	1	Crankshaft-Metal (-0.2Mm Set)
15	100-1871	1	Crankshaft-Metal (-0.4Mm Set)
15	100-2032	1	Crankshaft-Metal (STD Set)
16	100-1945	2	Crankshaft-Metal (-0.2Mm Set)

Ref	Part No.	Qty.	Description
16	100-1946	2	Crankshaft-Metal (-0.4Mm Set)
16	100-2033	2	Crankshaft-Metal (STD Set)
17	100-1836	2	Metal-Side (STD)
17	100-1838	2	Metal-Side (+0.2Mm)
17	100-1839	2	Metal-Side (+0.4Mm)
18	100-1837	2	Metal-Side (STD)
18	100-1840	2	Metal-Side (+0.2Mm)
18	100-1841	2	Metal-Side (+0.4Mm)
19	100-1890	1	Collar-Crankshaft
20	100-1974	1	Slinger-Oil
21	100-1788	1	O-Ring
22	100-1978	1	Bolt



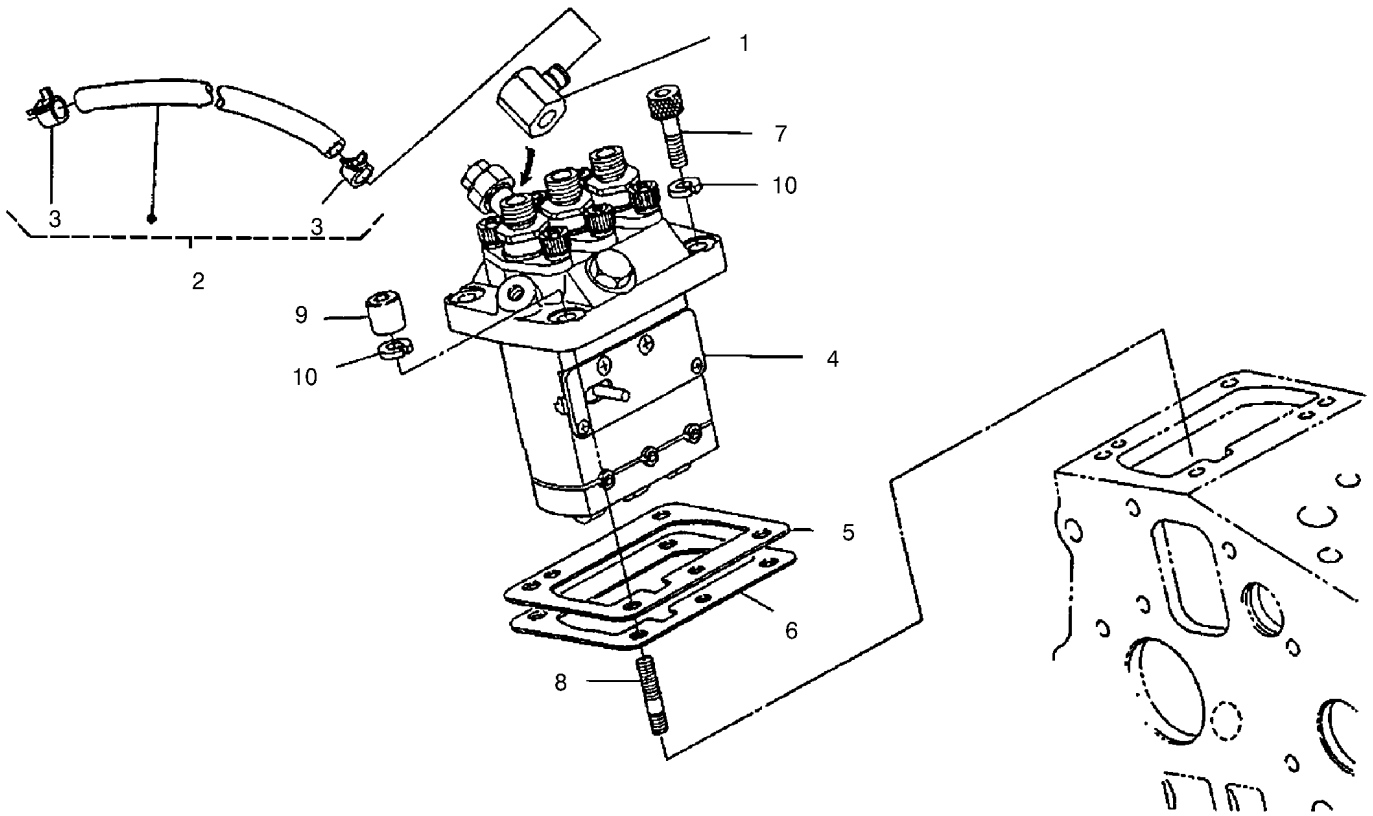
Flywheel Assembly

Ref	Part No.	Qty.	Description
1	100-2034	1	Flywheel-Comp.
2	100-1917	1	Gear, Ring
3	100-1930	5	Bolt-Flywheel
4	100-2064	1	Plate, Rear End
5	98-7526	10	Bolt



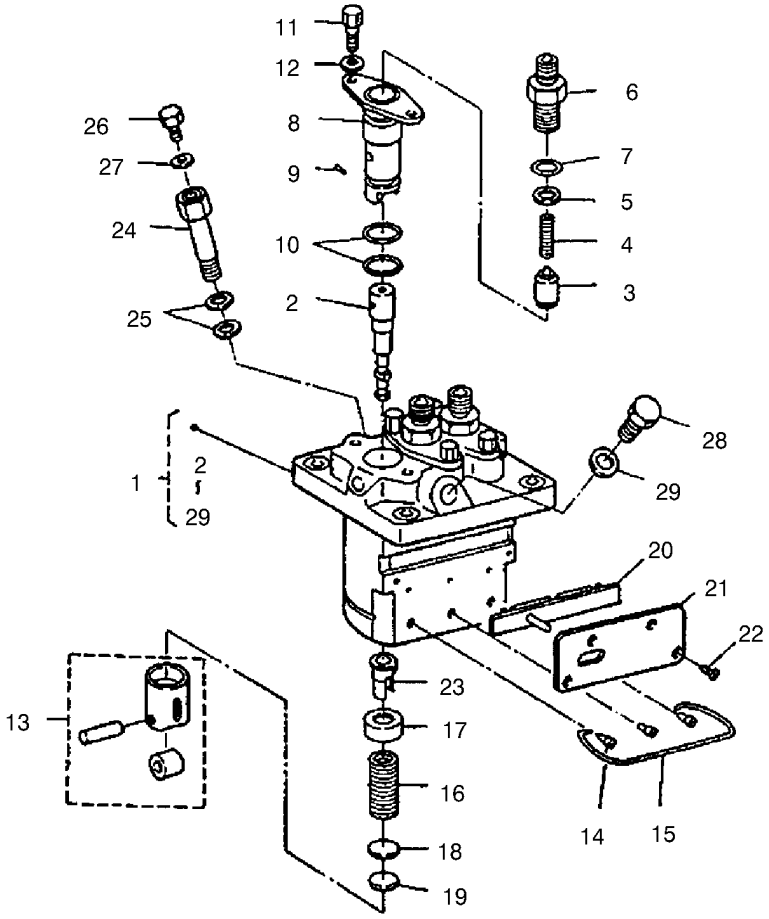
Fuel Camshaft Assembly

Ref	Part No.	Qty.	Description
1	100-2031	1	Fuel Camshaft ASM
2	100-1965	1	Camshaft
3	100-1795	1	Bearing-Ball
4	100-2006	1	Gear-Pump, Injection
5	100-1752	1	Key-Feather
6	100-1903	1	Sleeve-Governor
7	100-1904	1	Case-Ball, Governor
8	100-1790	32	Ball
9	100-1843	1	Clip-Sleeve, Governor
10	100-1793	8	Ball
11	100-1794	1	Bearing-Ball
12	100-1784	1	Clip-External
13	100-1888	1	Stopper-Fuel, Camshaft
14	98-9350	2	Bolt



Injection Pump Assembly

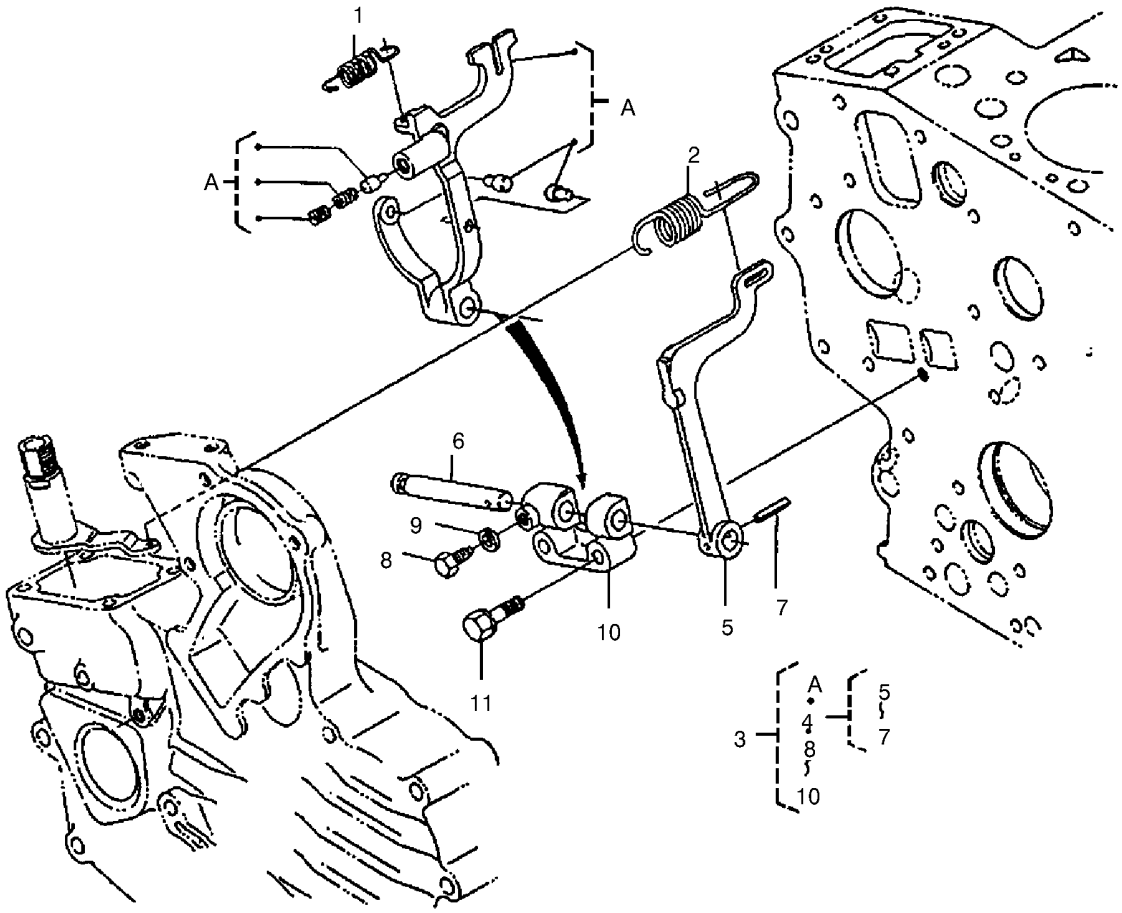
Ref	Part No.	Qty.	Description
1	100-1928	1	Joint-Eye
2	100-1842	1	Fuel Pipe ASM
3	98-9545	2	Band-Pipe
4	100-1759	1	Injection Pump ASM
4	100-1761	1	Assy Pump, Inj. (S/N < 489915)
5	100-1951	2	Shim-Pump, Injection
5	98-9456	1	Shim (0.2Mm)
6	100-1952	1	Shim-Pump, Injection
6	98-9457	1	Shim-Injection (0.25Mm)
6	98-9458	1	Shim-Injection (0.30Mm)
7	98-9361	2	Bolt-HSH
8	98-9438	2	Stud
9	98-9440	2	Nut-Cap
10	98-9367	4	Washer-Spring



Injection Pump (Component Part) Assembly

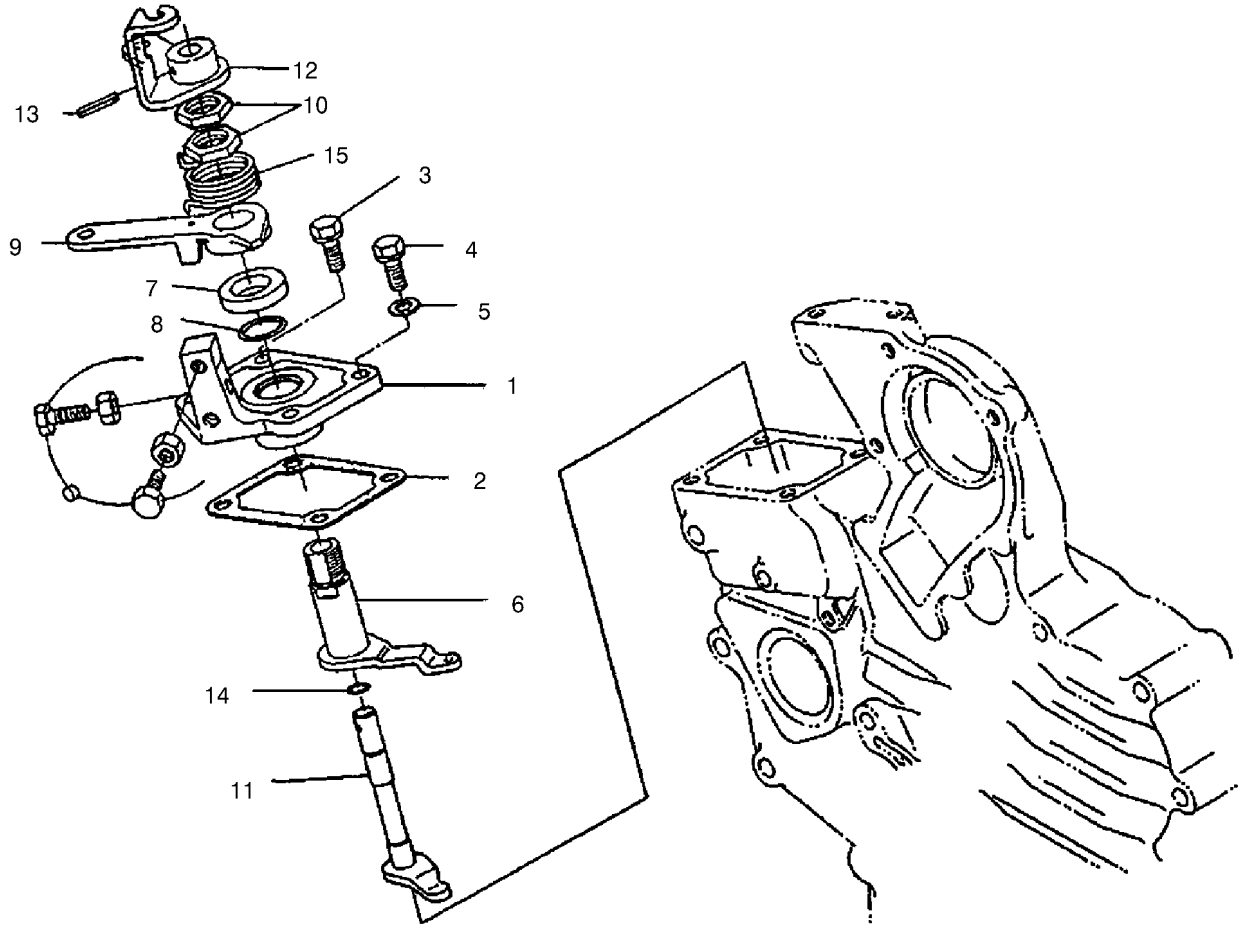
Ref	Part No.	Qty.	Description
1	100-1759	1	Injection Pump ASM
1	100-1761	1	Assy Pump, Inj. (S/N < 489915)
2	100-2005	3	Plunger-Pump
3	98-9421	3	Valve-Delivery
4	98-9424	3	Spring-Valve, Delivery
5	98-9425	3	Gasket-Valve, Delivery
6	100-2007	3	Holder-Valve, Deliv.
7	98-9447	3	O-Ring
8	98-9434	3	Flange-Sleeve
9	98-9443	3	Pin-Joint
10	100-1895	6	O-Ring
11	100-1935	6	Screw
12	100-1931	6	Washer
13	98-9422	3	Tappet ASM
14	98-9426	3	Pin-Guide, Tappet
15	98-9450	1	Pin-Clamp
16	98-9428	3	Spring-Plunger
17	98-9427	3	Seat-Spring, Upper
18	98-9429	3	Seat-Spring, Lower
19	98-9433	1	Shim
20	100-1949	1	Rack-Control
21	100-1950	1	Plate
22	98-9442	4	Screw
23	98-9432	3	Sleeve-Control

Ref	Part No.	Qty.	Description
24	100-1896	1	Screw-Hollow
25	98-9445	2	Gasket
26	98-9430	1	Screw
27	98-9446	1	Gasket
28	100-1953	1	Bolt
29	98-9451	1	Gasket



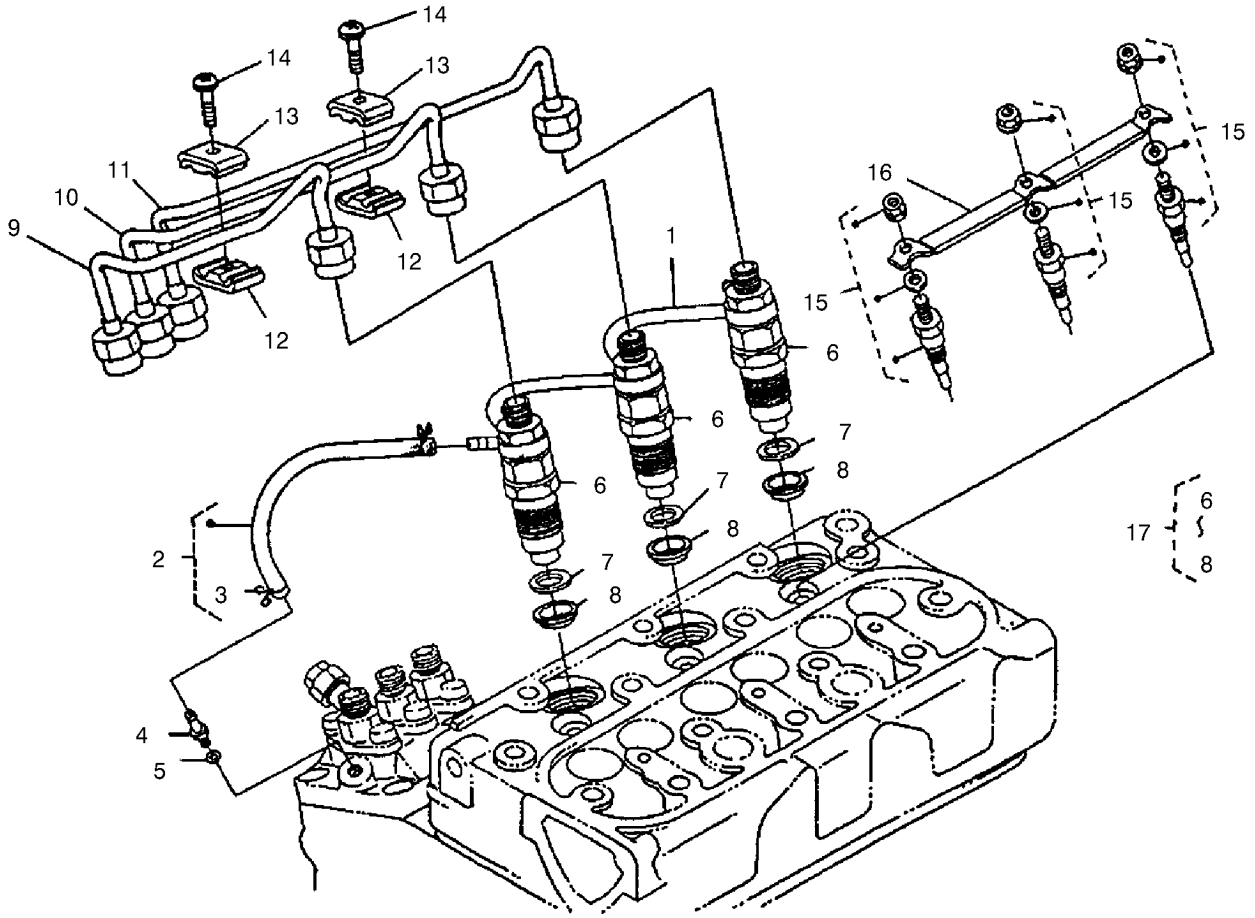
Governor Assembly

Ref	Part No.	Qty.	Description
1	100-1911	1	Spring-Start
2	100-2059	1	Spring-Governor
3	100-1981	1	Fork Lever ASM
3	100-2022	1	Assy Lever, Fork (S/N < 489915)
4	100-1905	1	Fork Lever ASM
5	100-1907	1	Lever-Fork
6	100-1908	1	Shaft-Lever, Fork
7	100-1751	1	Pin-Spring
8	100-1845	1	Bolt
9	100-1783	1	Washer-Spring
10	100-1909	1	Holder-Lever, Fork
11	100-1763	2	Bolt



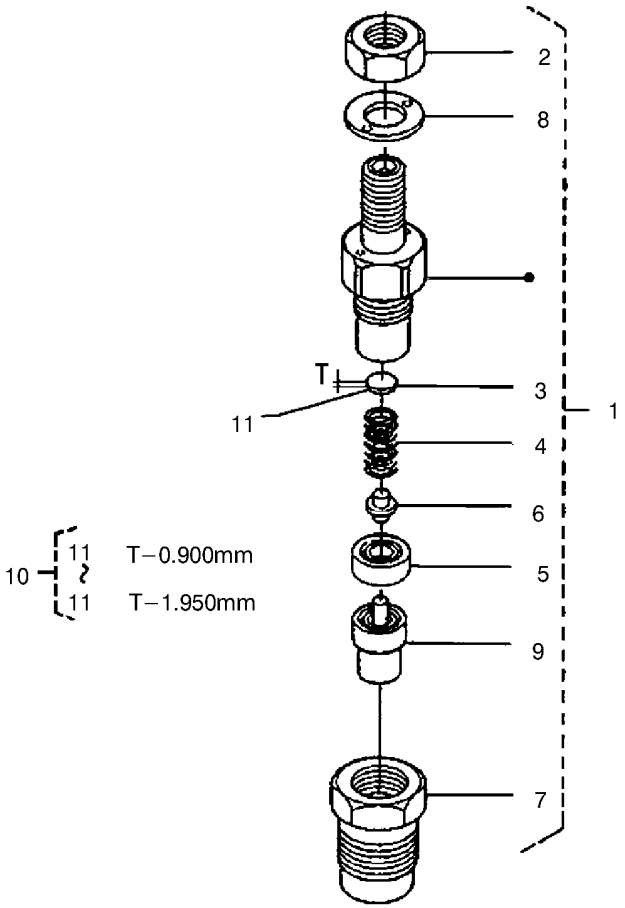
Speed Control Plate Assembly

Ref	Part No.	Qty.	Description
1	100-1912	1	Plate-Speed, Cont.
2	100-1914	1	Gasket
2	100-1962	1	Gasket
3	98-7605	2	Bolt
4	100-1769	2	Bolt
5	98-7654	2	Gasket
6	100-1906	1	Lever, Governor
7	100-1915	1	Collar
8	100-1787	1	O-Ring
9	100-1913	1	Lever, Speed Cont. (S/N < 468068)
9	100-1986	1	Lever-Cont., Speed
10	100-1925	2	Nut
11	100-2050	1	Shaft-Lever
11	100-2063	1	Shaft, Lever (S/N < 445506)
12	100-2014	1	Lever, Engine Stop
13	100-1751	1	Pin-Spring
14	100-1786	1	O-Ring
15	100-1916	1	Spring, Return



Nozzle Holder And Glow Plug Assembly

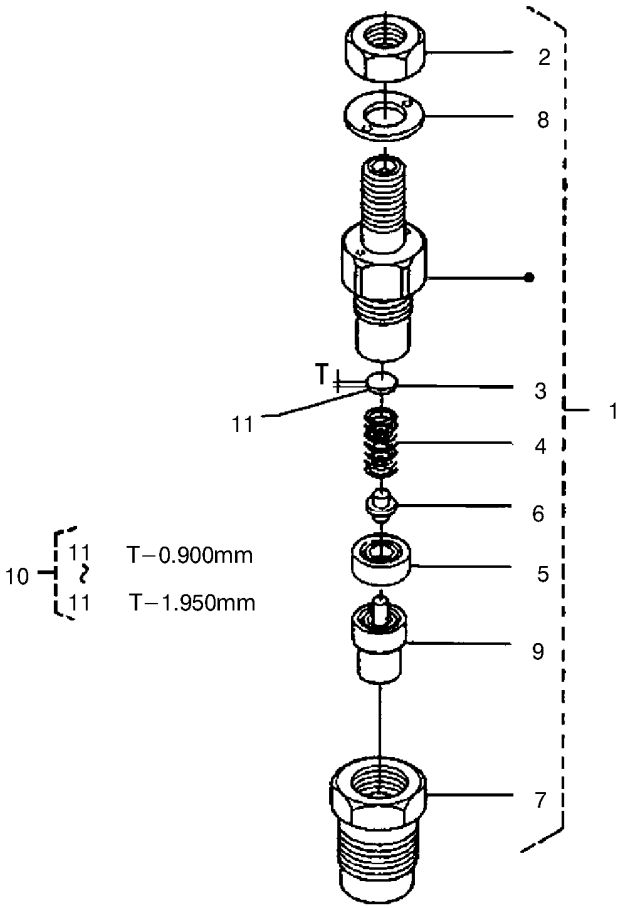
Ref	Part No.	Qty.	Description
1	100-1959	1	Assy Pipe, Over Flow (S/N < 497380)
1	100-1960	1	Over Flow Pipe ASM
2	98-9420	1	Over Flow Pipe ASM
3	98-7671	2	Clip-Pipe
4	98-9431	1	Screw-Bleeder
5	98-7654	1	Gasket
6	100-1758	3	Nozzle Holder ASM
6	100-1760	3	Nozzle Holder ASM
7	98-7676	3	Gasket
8	98-7677	3	Seal
9	100-2010	1	Pipe, Injection (S/N < 512877)
9	100-2011	1	Pipe-Injection
10	100-2012	1	Pipe, Injection (S/N < 512877)
10	100-2013	1	Pipe-Injection
11	100-2035	1	Pipe, Injection (S/N < 512877)
11	100-2036	1	Pipe-Injection
12	98-7682	2	Clamp-Pipe
13	98-7683	2	Clamp-Pipe
14	98-7684	2	Screw (W/Washer)
15	100-1854	3	Plug-Glow
16	100-2037	1	Cord-Plug, Glow
17	100-1982	1	Nozzle Holder Kit



Nozzle Holder (Component Part) Assembly

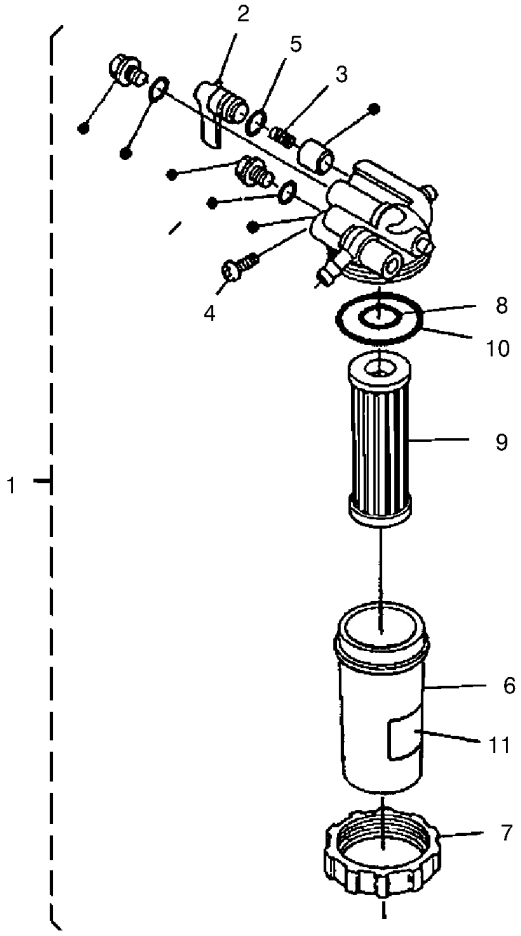
Ref	Part No.	Qty.	Description
1	100-1758	3	Nozzle Holder ASM
1	100-1760	3	Nozzle Holder ASM
2	98-7613	3	Nut
3	98-7642	3	Washer-Adjusting
4	98-7647	3	Spring-Nozzle
5	98-7665	3	Spacer-Distance
6	98-7666	3	Rod-Push
7	100-2008	3	Nut, Nozzle
8	98-7668	3	Washer
9	100-2009	3	Piece-Nozzle
10	98-9448	1	Adjusting Washer ASM
11	98-7642	1	Washer-Adjusting
11	98-7841	1	Washer-Adjusting
11	98-7842	1	Washer-Adjusting
11	98-7843	1	Washer-Adjusting
11	98-7844	1	Washer-Adjusting
11	98-7845	1	Washer-Adjusting
11	98-7846	1	Washer-Adjusting
11	98-7847	1	Washer-Adjusting
11	98-7848	1	Washer-Adjusting
11	98-7849	1	Washer-Adjusting
11	98-7850	1	Washer-Adjusting
11	98-7851	1	Washer-Adjusting
11	98-7852	1	Washer-Adjusting

Ref	Part No.	Qty.	Description
11	98-7853	1	Washer-Adjusting
11	98-7854	1	Washer-Adjusting
11	98-7855	1	Washer-Adjusting
11	98-7856	1	Washer-Adjusting
11	98-7857	1	Washer-Adjusting
11	98-7858	1	Washer-Adjusting
11	98-7859	1	Washer-Adjusting
11	98-7860	1	Washer-Adjusting
11	98-7861	1	Washer-Adjusting
11	98-7862	1	Washer-Adjusting
11	98-7863	1	Washer-Adjusting
11	98-7864	1	Washer-Adjusting
11	98-7865	1	Washer-Adjusting
11	98-7866	1	Washer-Adjusting
11	98-7867	1	Washer-Adjusting
11	98-7868	1	Washer-Adjusting
11	98-7869	1	Washer-Adjusting
11	98-7870	1	Washer-Adjusting
11	98-7871	1	Washer-Adjusting
11	98-7872	1	Washer-Adjusting
11	98-7873	1	Washer-Adjusting
11	98-7874	1	Washer-Adjusting
11	98-7875	1	Washer-Adjusting
11	98-7876	1	Washer-Adjusting



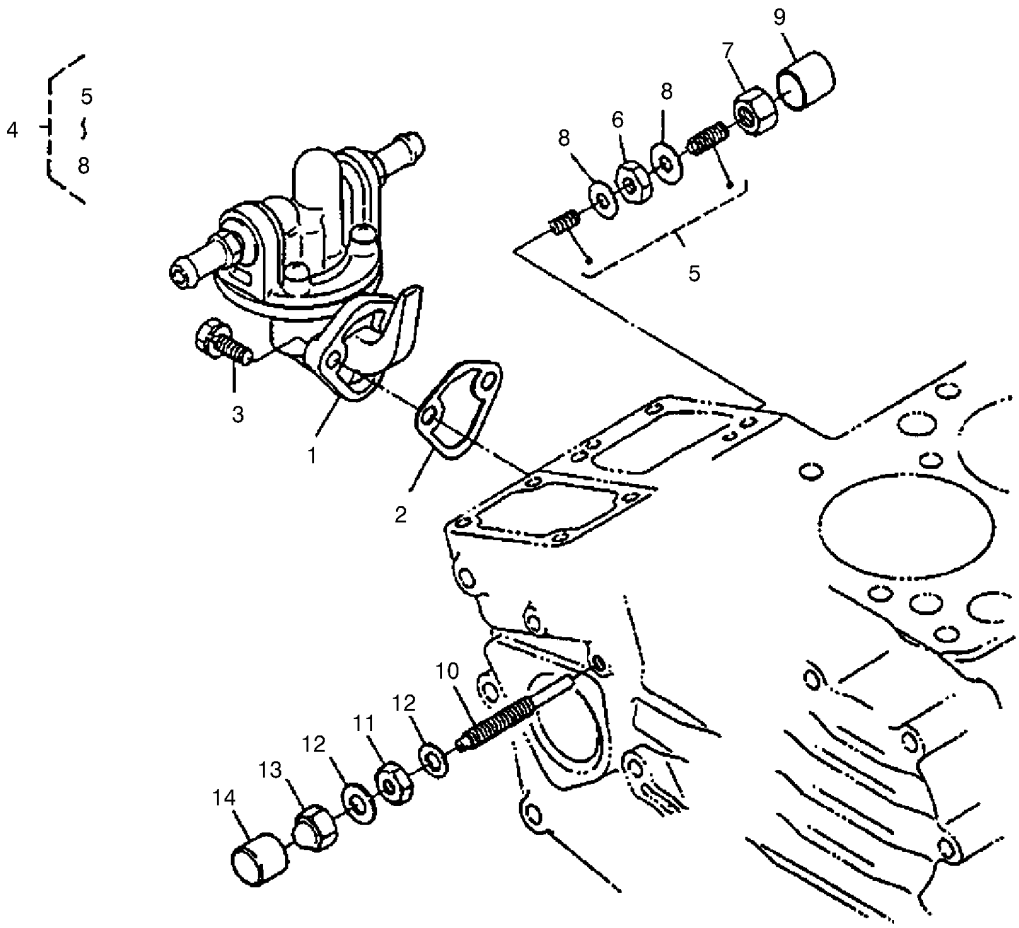
Nozzle Holder (Component Part) Assembly (continued)

Ref	Part No.	Qty.	Description
11	98-7877	1	Washer-Adjusting
11	98-7878	1	Washer-Adjusting
11	98-7879	1	Washer-Adjusting
11	98-7880	1	Washer-Adjusting
11	98-7881	1	Washer-Adjusting
11	98-7882	1	Washer-Adjusting



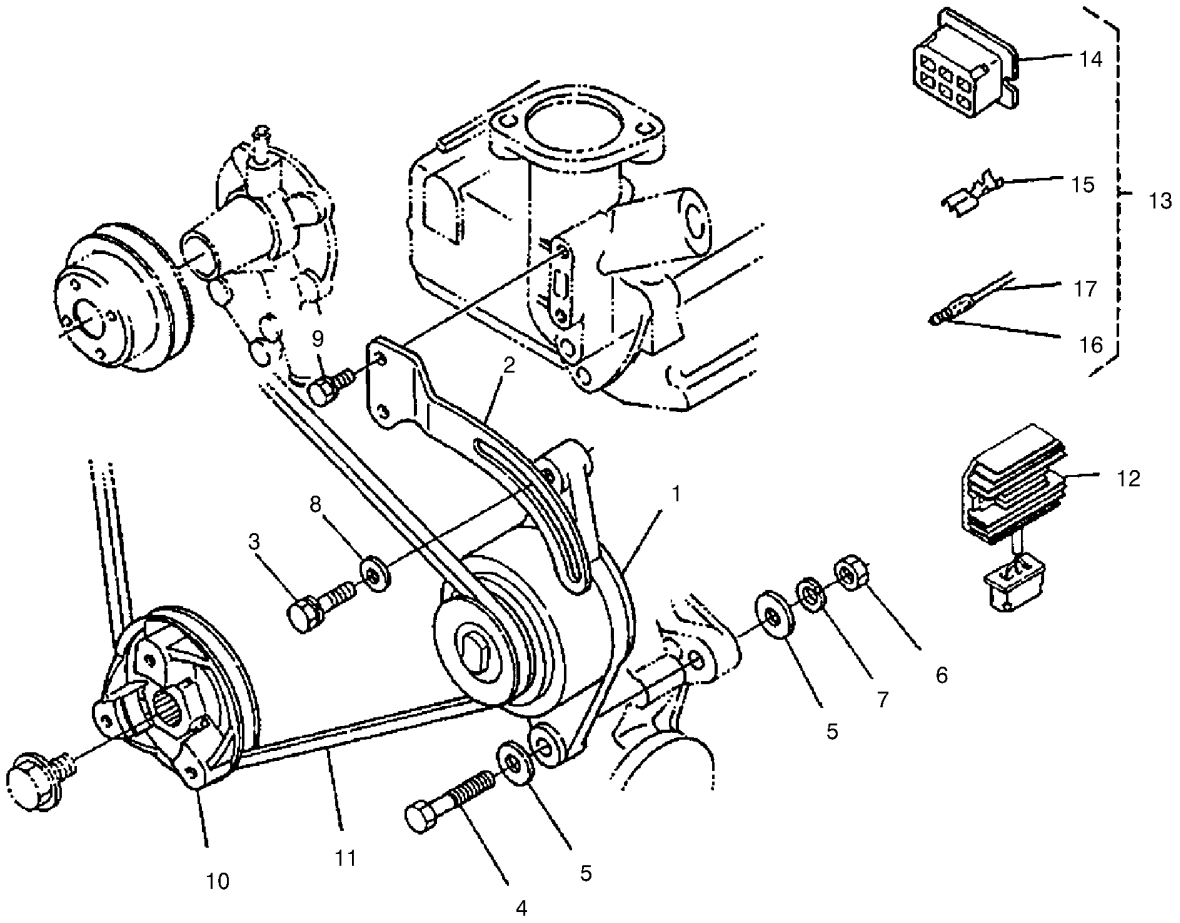
Fuel Filter Assembly

Ref	Part No.	Qty.	Description
1	100-1855	1	Fuel Filter ASM
2	100-1814	1	Lever, Cock
3	100-1817	1	Spring, Valve
4	100-1818	1	Screw
5	100-1819	1	O-Ring, Lever
6	100-1856	1	Cup, Filter
7	100-1815	1	Ring, Retaining
8	100-1816	1	O-Ring, Filter
9	100-1832	1	Assy Element
10	98-9371	1	O-Ring
11	100-1857	1	Label, Fuel Filter



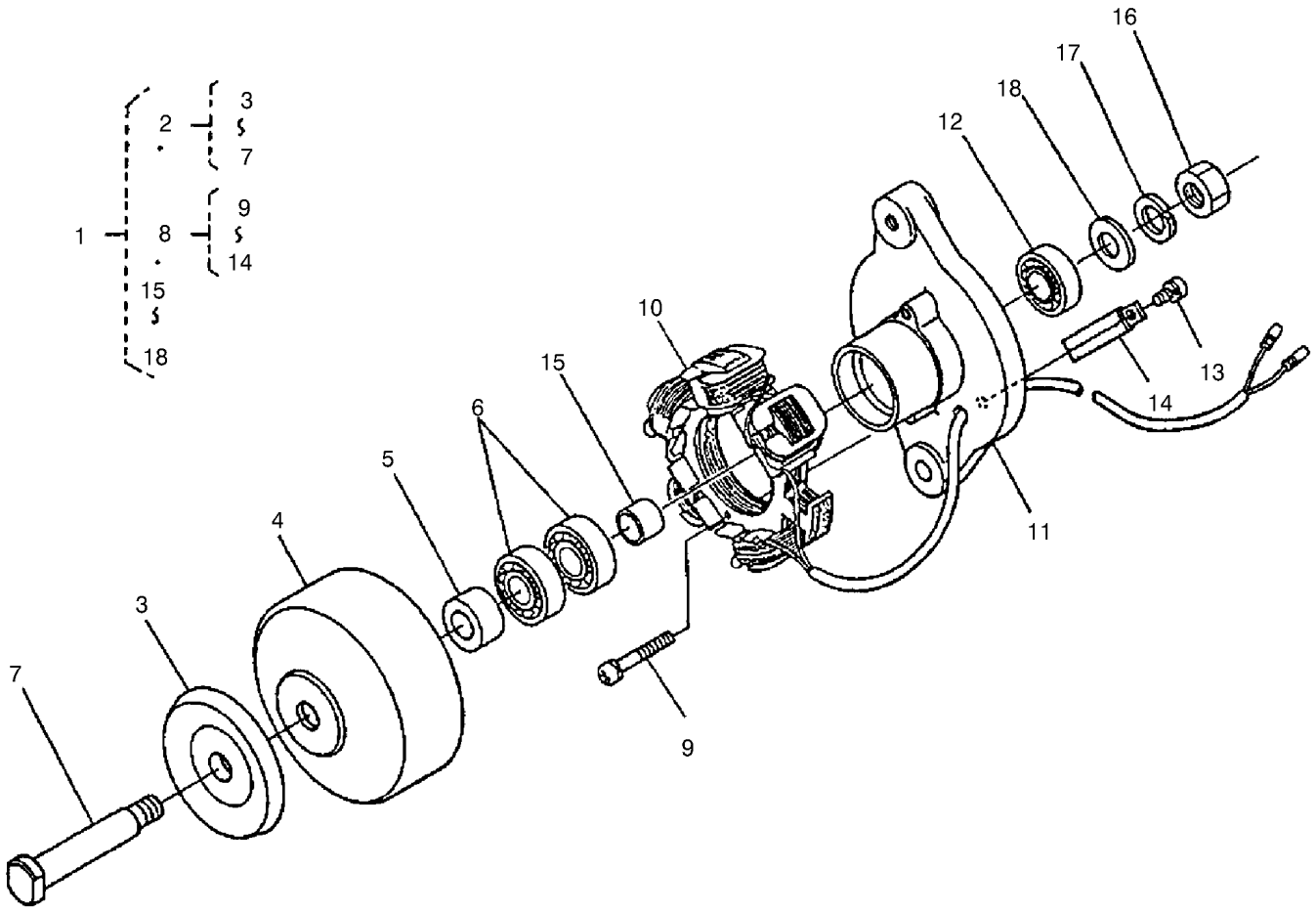
Fuel Pump Assembly

Ref	Part No.	Qty.	Description
1	100-1897	1	Assy Pump, Fuel (Thru Aug. 1994)
1	100-2052	1	Assy Pump, Fuel (From Sept. 1994)
2	100-1961	1	Gasket-Pump, Fuel
2	98-9636	1	Gasket-Pump, Fuel
3	98-7692	2	Bolt
4	100-1898	1	Idle Apparatus ASM
5	100-1899	1	Adjusting Bolt ASM
6	100-1846	1	Nut
7	100-1901	1	Nut-Cap
8	98-7428	2	Gasket
9	100-1902	1	Cap
10	100-1900	1	Bolt-Adjusting
11	98-9439	1	Nut
12	98-7654	2	Gasket
13	98-9441	1	Nut-Cap
14	98-9558	1	Cap



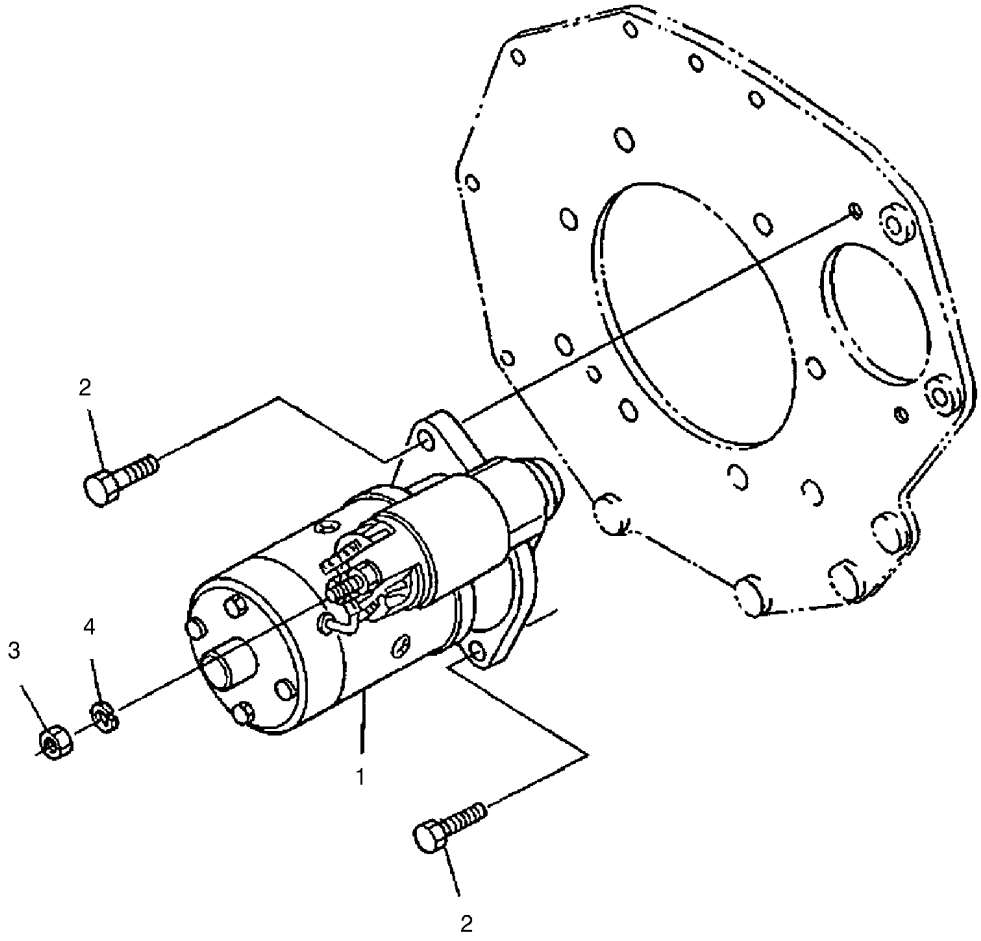
Dynamo And Pulley Assembly

Ref	Part No.	Qty.	Description
1	100-1755	1	Assy Dynamo
2	100-1964	1	Stay, Dynamo
3	98-7438	1	Bolt
4	100-1771	1	Bolt
5	98-7660	2	Washer-Plain
6	98-7739	1	Nut
7	98-7535	1	Washer-Spring
8	100-1782	1	Washer-Plain
9	98-7692	2	Bolt
10	100-2039	1	Pulley-Drive, Fan
11	100-1979	1	V-Belt
12	100-2057	1	Regulator ASM
13	100-2058	1	Coupler ASM
14	100-2056	1	Connector
15	98-9699	6	Terminal
16	98-9701	2	Terminal
17	98-9702	2	Sleeve



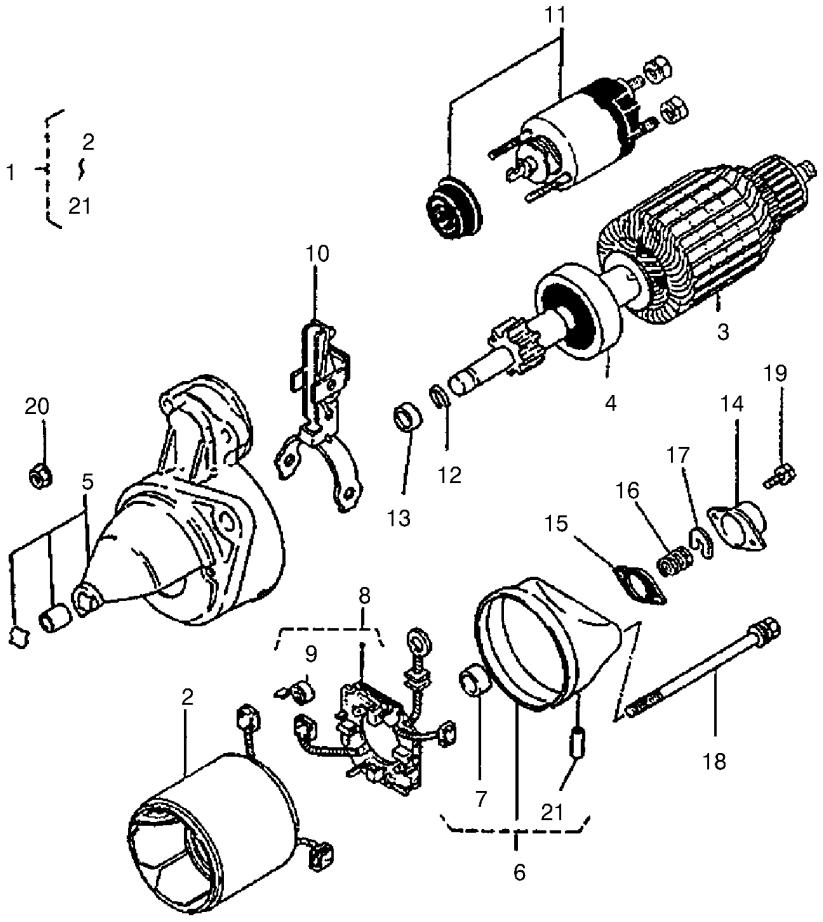
Dynamo (Component Part) Assembly

Ref	Part No.	Qty.	Description
1	100-1755	1	Assy Dynamo
2	100-1862	1	Rotor ASM
3	100-1859	1	Pulley
4	100-1860	1	Rotor
5	100-1863	1	Collar
6	100-1756	2	Bearing-Ball
7	100-1867	1	Shaft-Fan
8	100-1866	1	Stator ASM
9	100-1848	2	Screw-Head, Round
10	100-1865	1	Stator
11	100-1861	1	Plate
12	100-1756	1	Bearing-Ball
13	100-1868	1	Screw-Head, Round
14	100-1864	1	Clamp-Cord
15	100-1844	1	Collar
16	100-1847	1	Nut
17	100-1850	1	Washer-Spring
18	100-1849	1	Washer-Plain



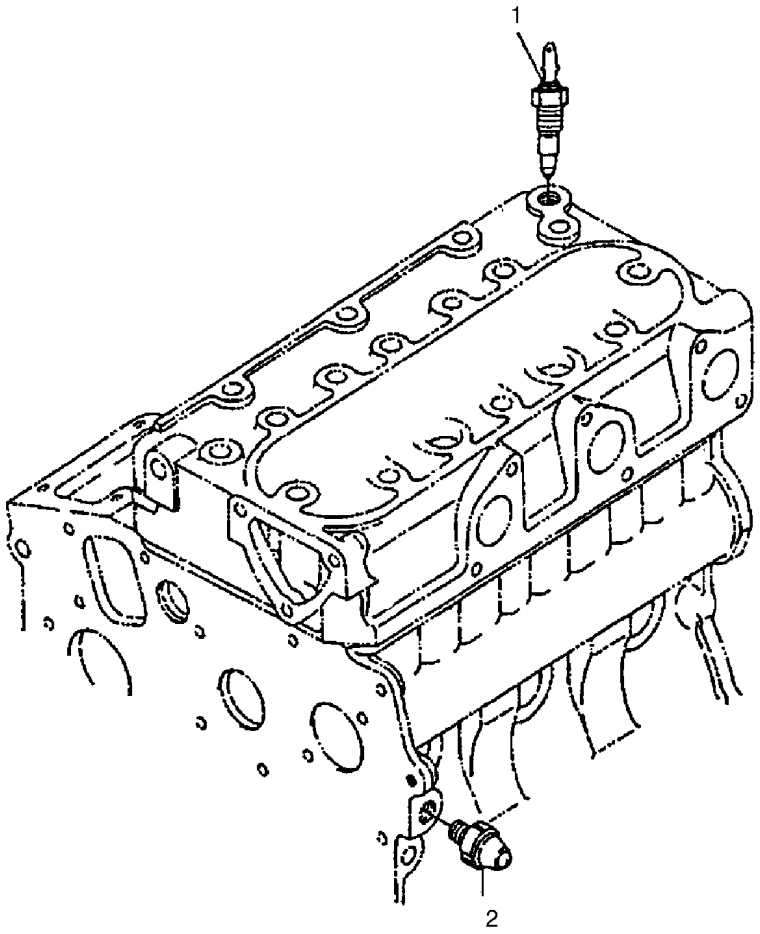
Starter Assembly

Ref	Part No.	Qty.	Description
1	100-1754	1	Assy Starter
2	100-1770	2	Bolt
3	98-7739	1	Nut
4	98-7535	1	Washer-Spring



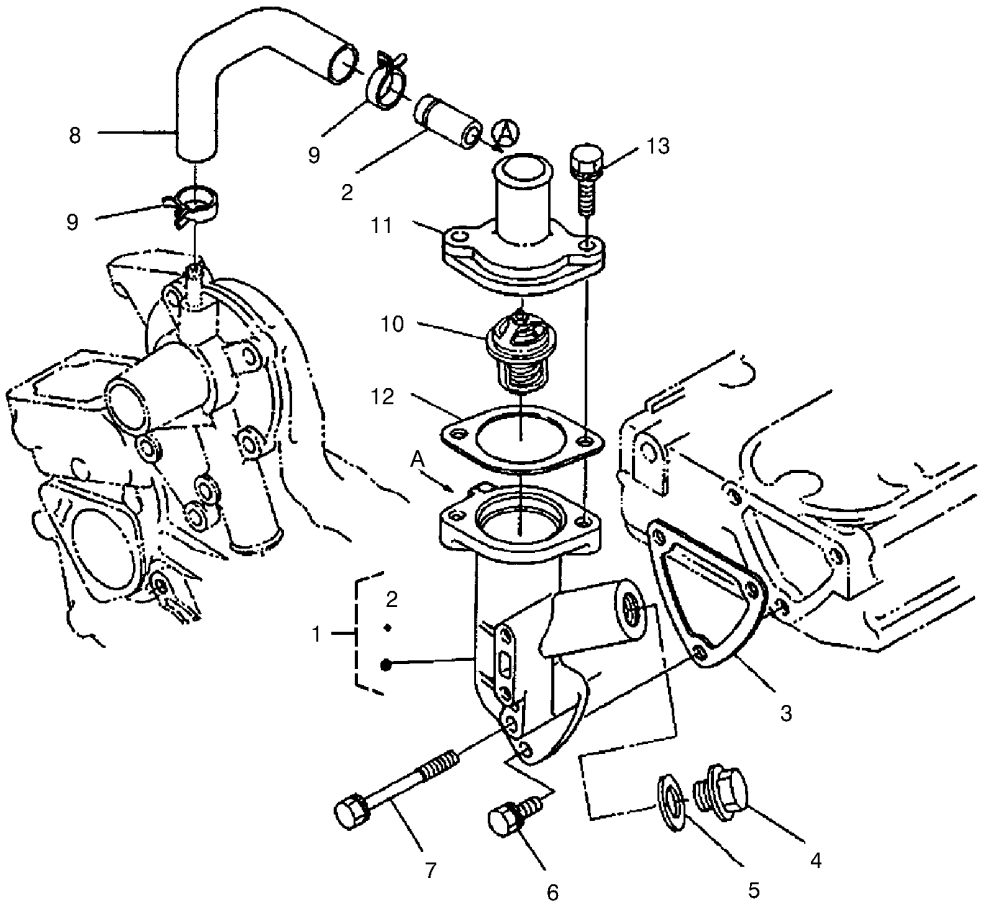
Starter (Component Part) Assembly

Ref	Part No.	Qty.	Description
1	100-1754	1	Assy Starter
2	100-1802	1	Yoke
3	100-1801	1	Armature
4	100-1799	1	Clutch, Over Running
5	100-1834	1	Assy Housing
6	100-1805	1	Assy Frame, End
7	100-1806	1	Bush
8	100-1808	1	Assy Holder, Brush
9	100-1809	4	Spring, Brush
10	100-1800	1	Lever, Drive
11	100-1833	1	Switch, Magnetic
12	100-1831	1	Pin, Snap
13	100-1853	1	Nut, Pinion Stop
14	100-1810	1	Cap, End Frame
15	100-1811	1	Gasket
16	100-1804	1	Spring, Brake
17	100-1803	1	Shoe, Brake
18	100-1807	2	Bolt, Through
19	100-1780	2	Screw, With Washer
20	100-1813	2	Nut
21	100-1812	1	Pipe, Breather



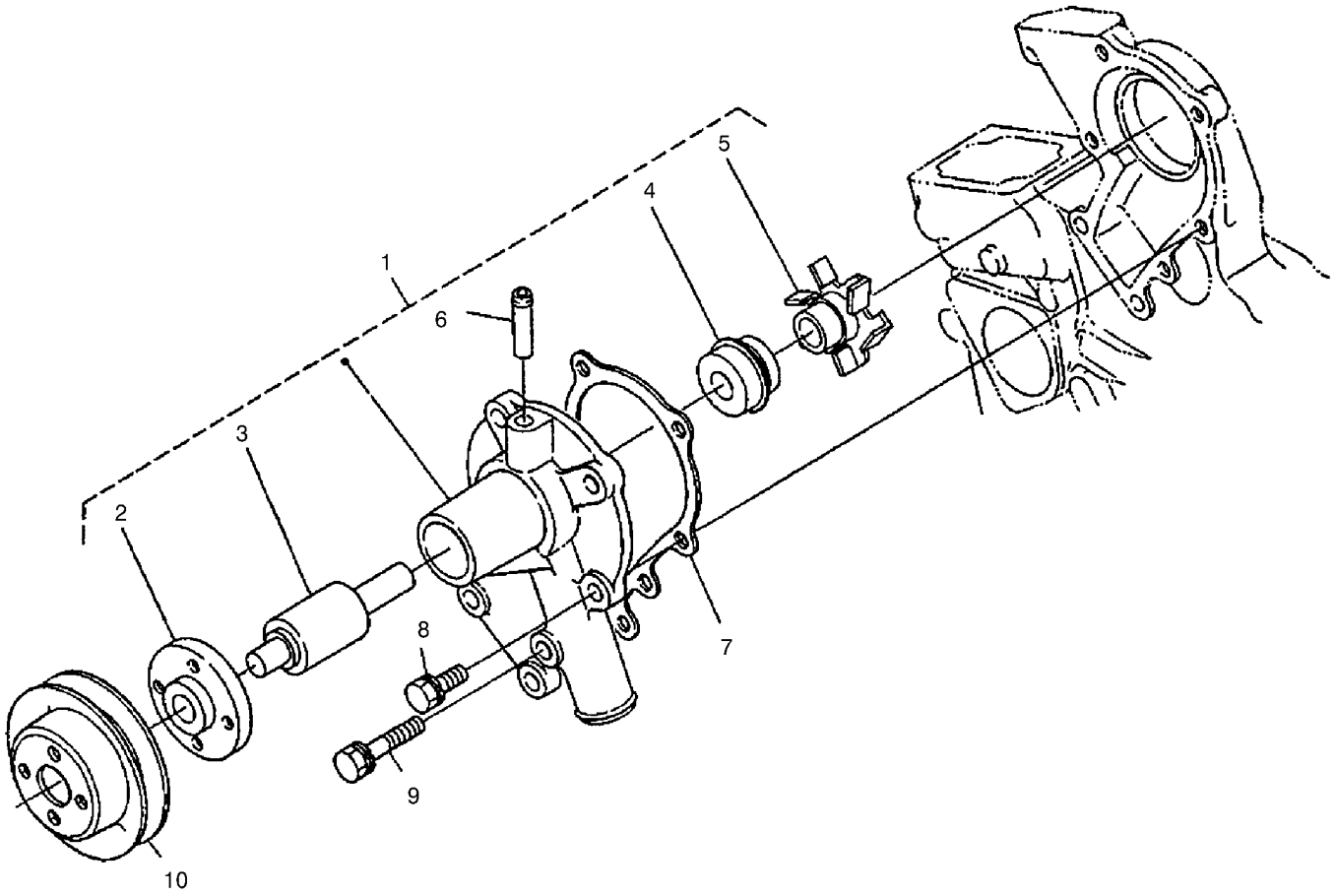
Oil Switch And Thermoswitch Assembly

Ref	Part No.	Qty.	Description
1	100-1983	1	Thermo-Switch
2	98-7764	1	Switch-Oil



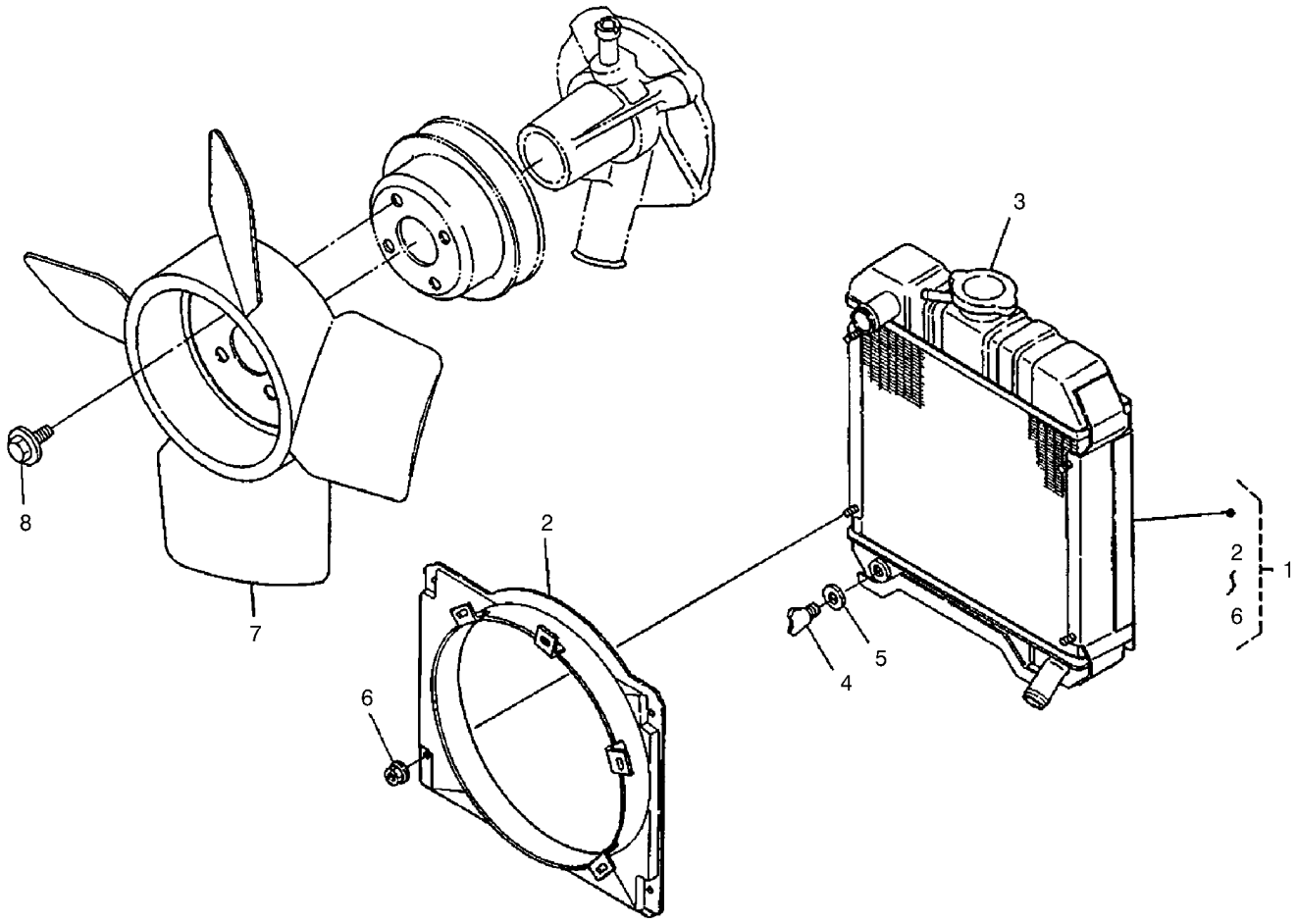
Water Flange And Thermostat Assembly

Ref	Part No.	Qty.	Description
1	100-2049	1	Comp. Flange, Water
2	98-9580	1	Pipe-Return, Water
3	100-1919	1	Gasket-Flange, Water
3	100-1963	1	Gasket, Water Flange (From Sept. 1994)
4	100-1789	1	Plug
5	99-3583	1	Packing
6	98-7692	2	Bolt
7	100-1977	1	Bolt
8	100-2017	1	Pipe-Return, Water
9	98-9579	2	Band-Pipe
10	100-2053	1	Thermostat ASM
11	100-1920	1	Cover, Thermostat
12	100-1869	1	Gasket, Thermostat (Thru Aug. 1994)
12	98-9639	1	Gasket Thermostat
13	100-1750	2	Bolt



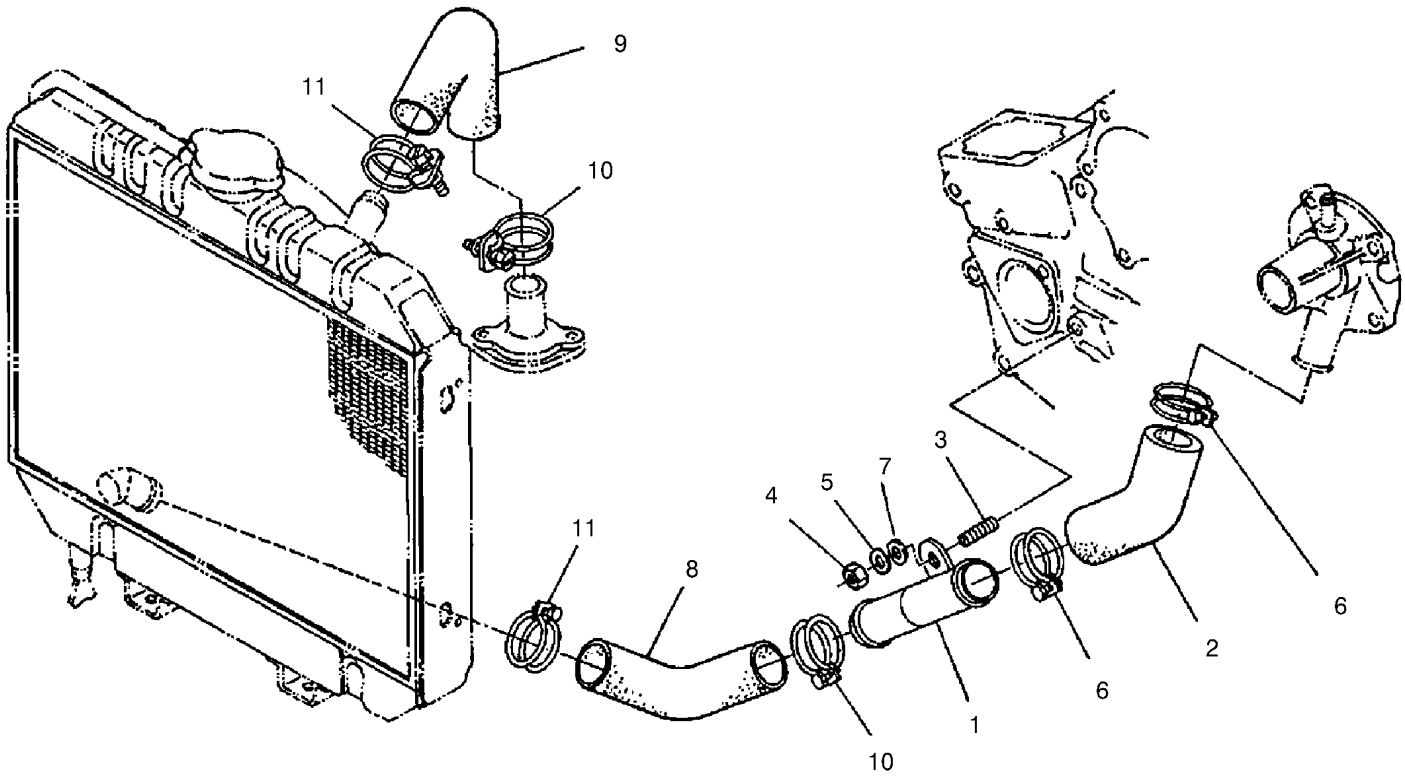
Water Pump Assembly

Ref	Part No.	Qty.	Description
1	100-2065	1	Water Pump ASM
2	100-1933	1	Flange-Pump, Water
3	100-1934	1	Bearing-Ball
4	99-3518	1	Water Pump Seal ASM
5	100-2067	1	Impeller-Pump, Water
6	100-1932	1	Pipe-Return, Water
7	100-1976	1	Gasket-Pump, Water
7	100-2066	1	Gasket-Pump, Water
8	100-1750	4	Bolt
9	100-1764	1	Bolt
10	100-1921	1	Pulley-Fan



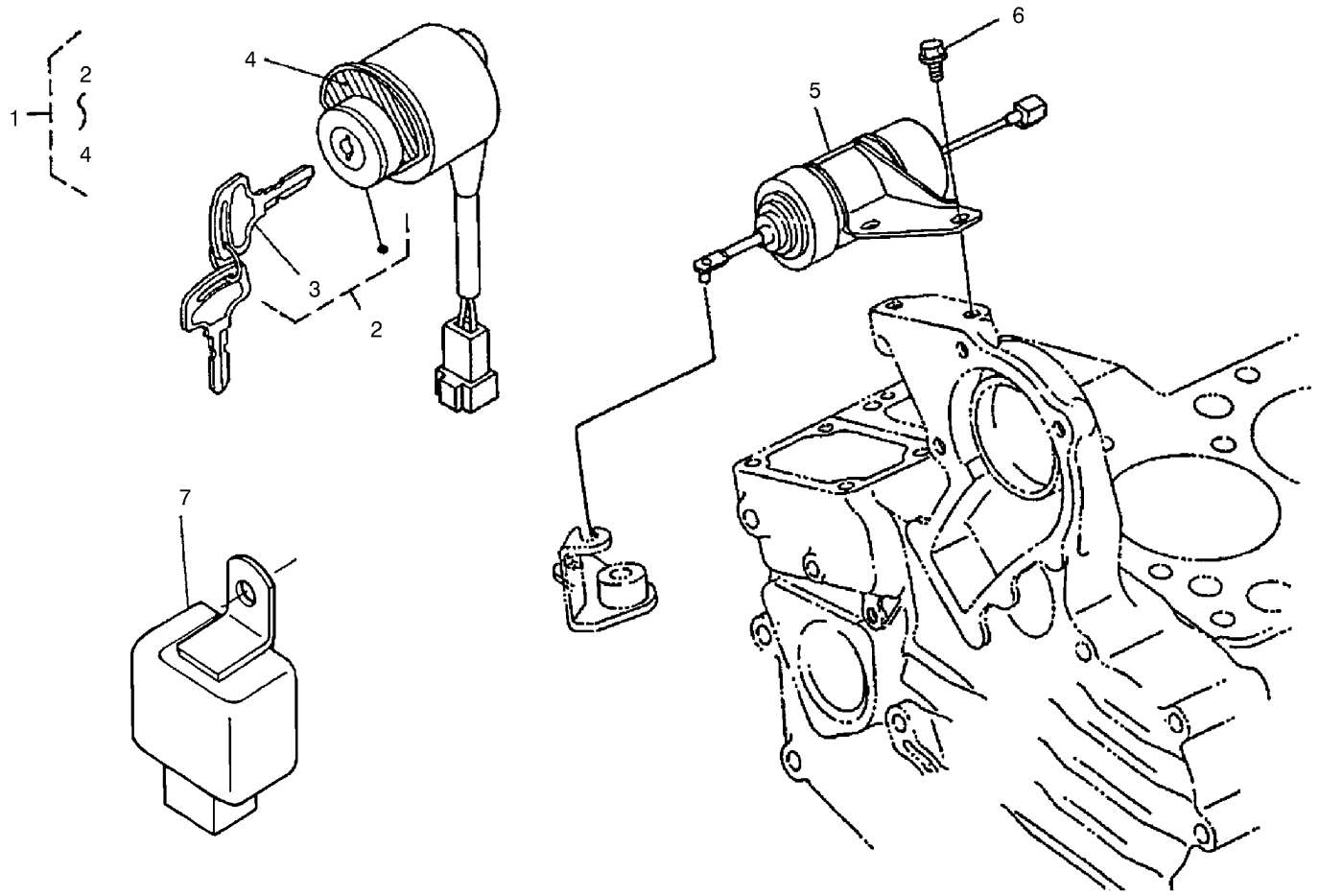
Radiator Assembly

Ref	Part No.	Qty.	Description
1	100-2023	1	Assy Radiator
2	100-2024	1	Shroud, Fan
3	100-2038	1	Assy Cap
4	100-2016	1	Cock, Drain
5	100-2021	1	Gasket
6	100-1777	4	Nut
7	100-1980	1	Pusher Fan
8	100-1773	4	Bolt-Flange



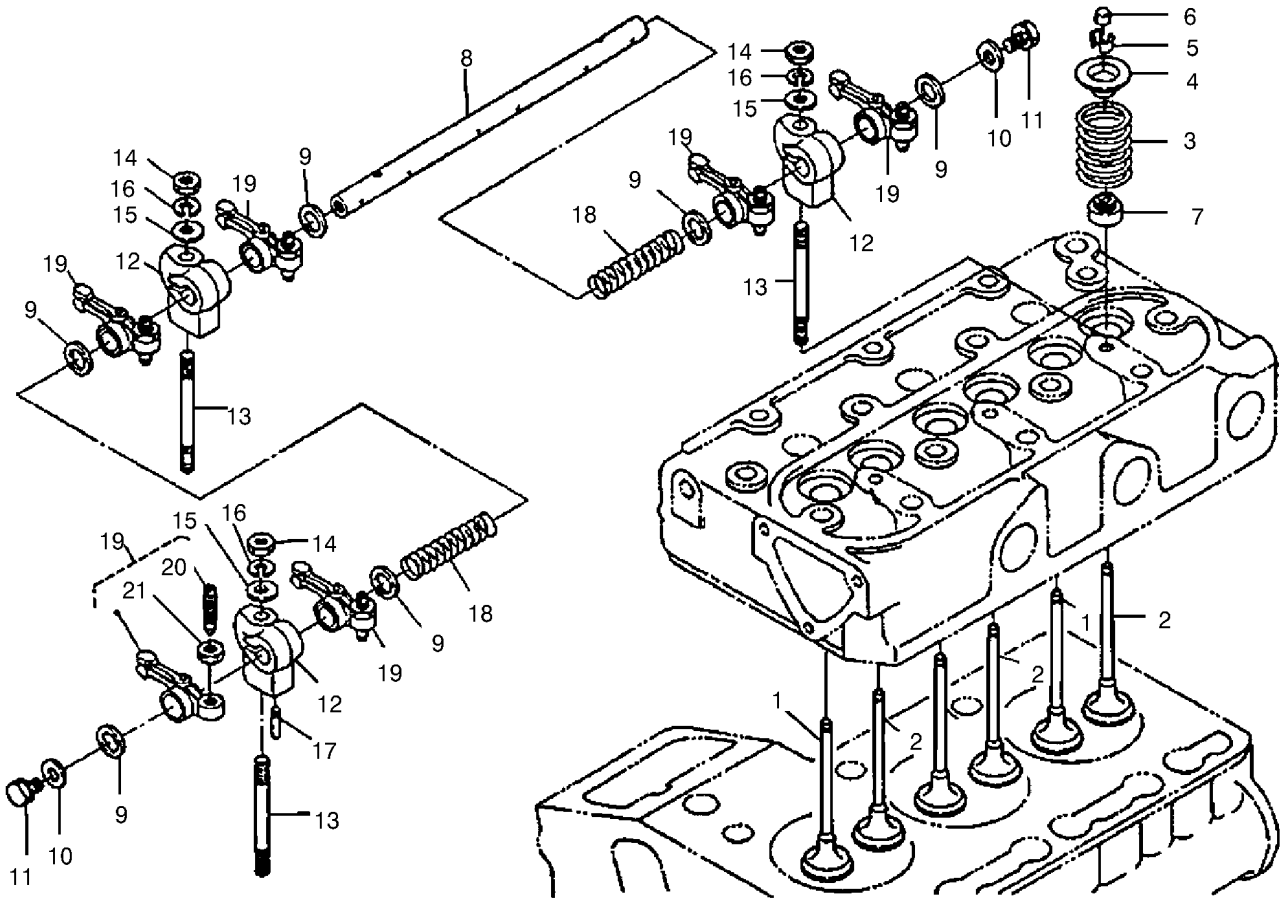
Water Pipe Assembly

Ref	Part No.	Qty.	Description
1	100-1918	1	Pipe-Water
2	100-1975	1	Pipe-Water
3	100-1924	1	Stud
4	98-7572	1	Nut
5	98-9367	1	Washer-Spring
6	100-1753	2	Clamp-Hose
7	98-7648	1	Washer-Plain
8	100-2025	1	Pipe, Water
9	100-2026	1	Pipe, Water
10	100-1753	2	Clamp-Hose
11	100-1796	2	Clamp, Hose



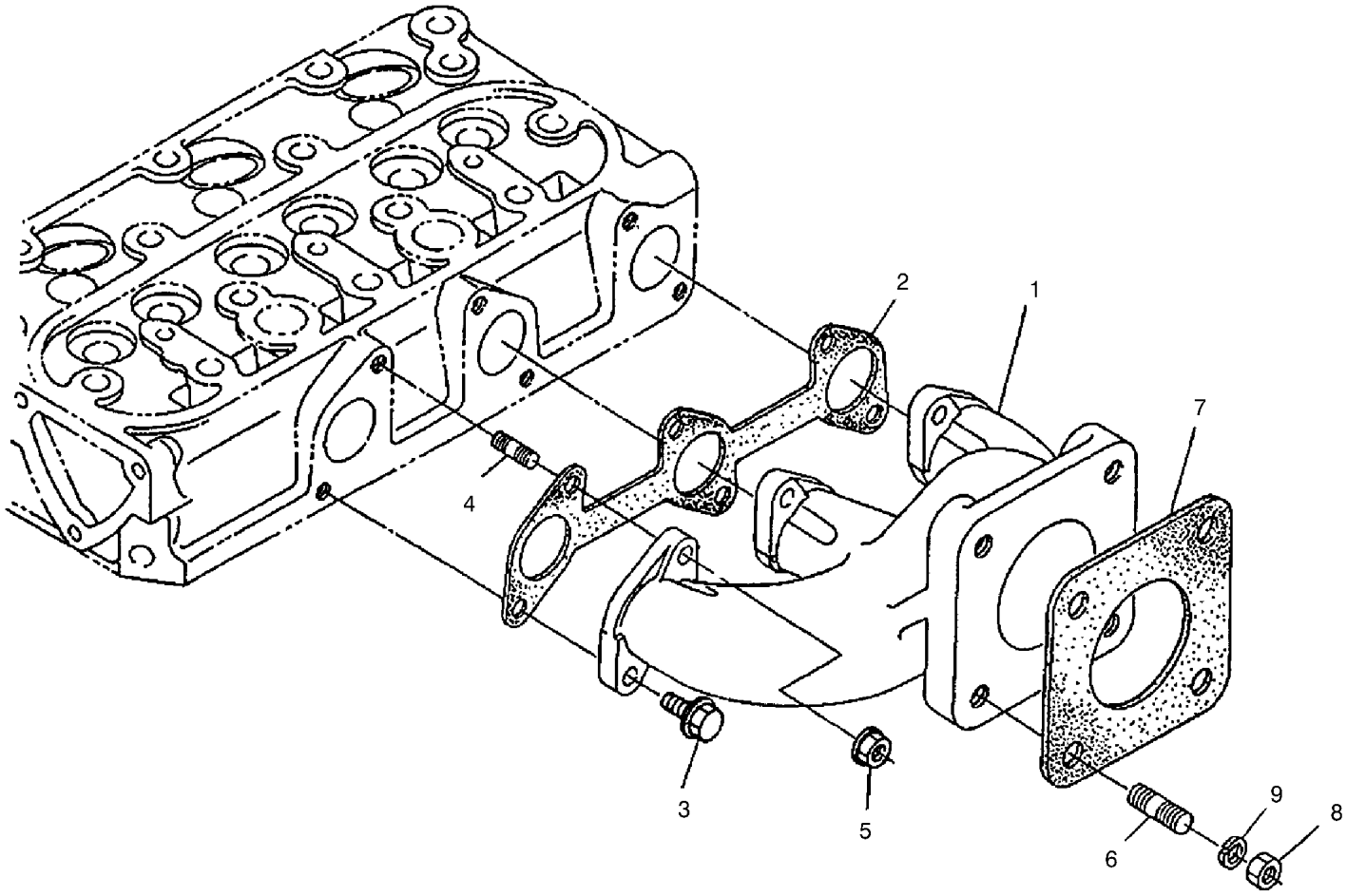
Stop Solenoid Assembly

Ref	Part No.	Qty.	Description
1	100-1985	1	Assy Switch, Starter
2	100-2070	1	Assy Switch, Starter
3	100-2069	2	Key, Starter
4	100-1798	1	Label, Starter Switch
5	100-2015	1	Solenoid, Stop
6	100-1774	2	Bolt-Flange
7	100-2068	1	Timer (S/N < 534271)
7	100-2074	1	Timer (S/N > 534272)



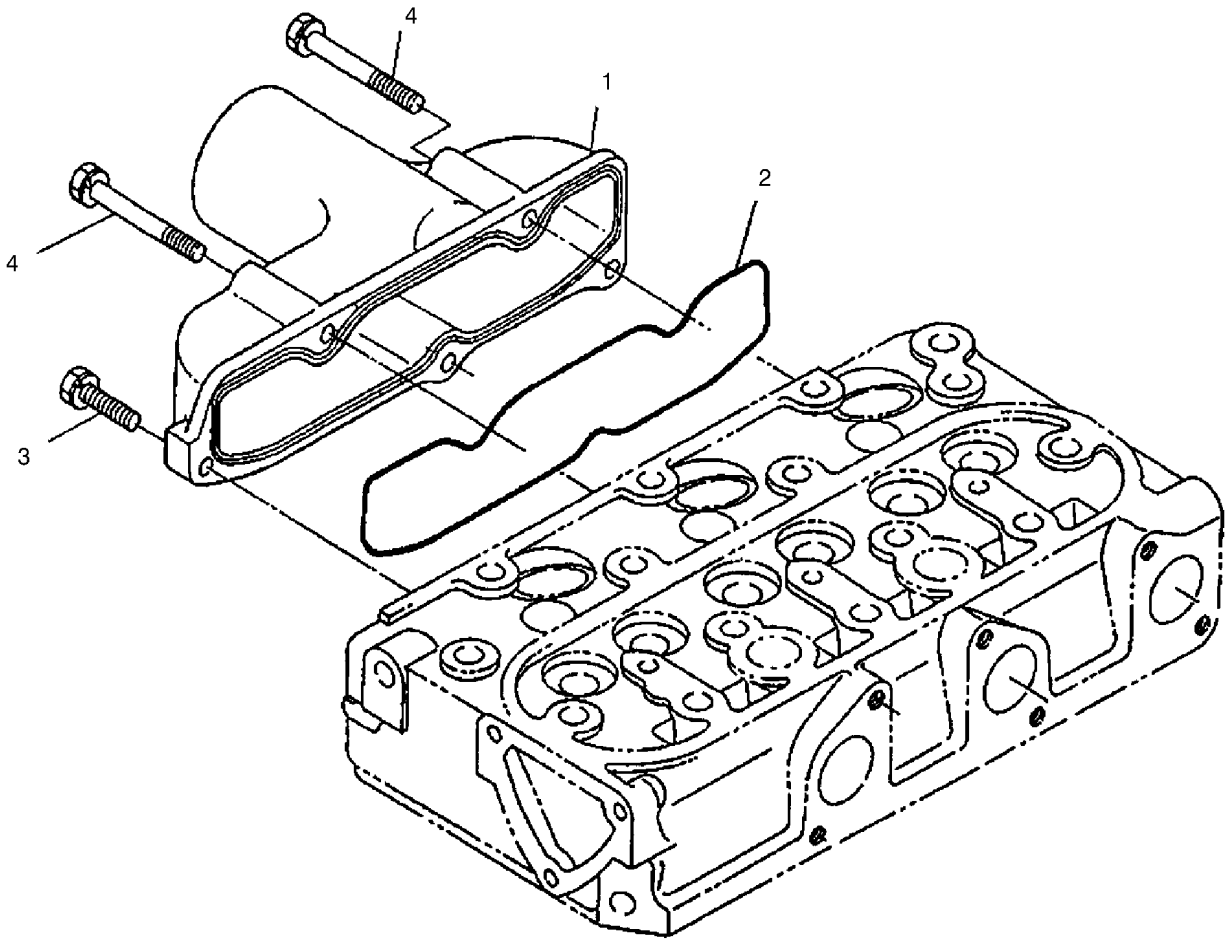
Valve And Rocker Arm Assembly

Ref	Part No.	Qty.	Description
1	100-1821	3	Valve-Inlet
2	100-1822	3	Valve-Exhaust
3	100-1823	6	Spring-Valve
4	100-1825	6	Retainer-Spring, Valve
5	100-1826	6	Collet-Spring, Valve
6	100-1824	6	Cap-Valve
7	100-1797	6	Seal-Stem, Valve
8	100-1940	1	Shaft, Rocker Arm
9	100-2044	6	Washer
10	100-1927	2	Washer-Plain
11	100-1762	2	Bolt
12	100-1886	3	Bracket-Arm, Rocker
13	100-1829	3	Stud
14	98-7572	3	Nut
15	98-7648	3	Washer-Plain
16	98-9367	3	Washer-Spring
17	100-1830	1	Screw, Set
18	100-1828	2	Spring-Arm, Rocker
19	100-1884	6	Rocker Arm ASM
20	100-1885	6	Screw-Adjusting
21	100-1827	6	Nut



Exhaust Manifold Assembly

Ref	Part No.	Qty.	Description
1	100-1938	1	Manifold, Exhaust
2	100-1939	1	Gasket (Thru Aug. 1994)
2	100-1957	1	Gasket
3	100-1775	3	Bolt
4	100-2018	3	Stud
5	100-1778	3	Nut
6	98-7769	4	Stud
7	100-1984	1	Gasket-Muffler
8	98-7739	4	Nut
9	98-7535	4	Washer-Spring



Inlet Manifold Assembly

Ref	Part No.	Qty.	Description
1	100-1936	1	Manifold, Inlet
2	100-1937	1	Gasket-In-Manifold
3	98-7605	2	Bolt
4	100-1765	3	Bolt


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