



Groundsmaster® 228-D

Model No. 30241 - 240000001 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.

Part Description Abbreviations

Part descriptions in this catalog may include the following abbreviations.

AR.	as required	HYD.	hydraulic
ASM.	assembly	INC.	incorporated
CARR.	carriage	LH.	left hand
DEG.	degrees	NI.	nylon insert
FH.	flat head	PPH.	phillips pan head
GA.	gauge	PTH.	phillips truss head
HF.	hex flange	PTO.	power take off
HH.	hex head	RH.	right hand
HHF.	hex head flange	SFH.	slotted fillister head
HHFTF.	hex head flange thread forming	SHH.	slotted hex head
HJ.	hex jam	SHWH.	slotted hex washer head
HLH.	hex lag head	SPH.	slotted pan head
HOC.	height-of-cut	SQH.	square head
HS.	hex	SRH.	slotted round head
HSBH.	hex socket button head	STD.	standard
HSFH.	hex socket flat head	TAP.	self tapping
HS.	hex socket head	TTH.	torx truss head
HWH.	hex washer head	WH.	wing head
HWHTF.	hex washer head thread forming		

Footnotes

- ❶

Not illustrated
- ❷

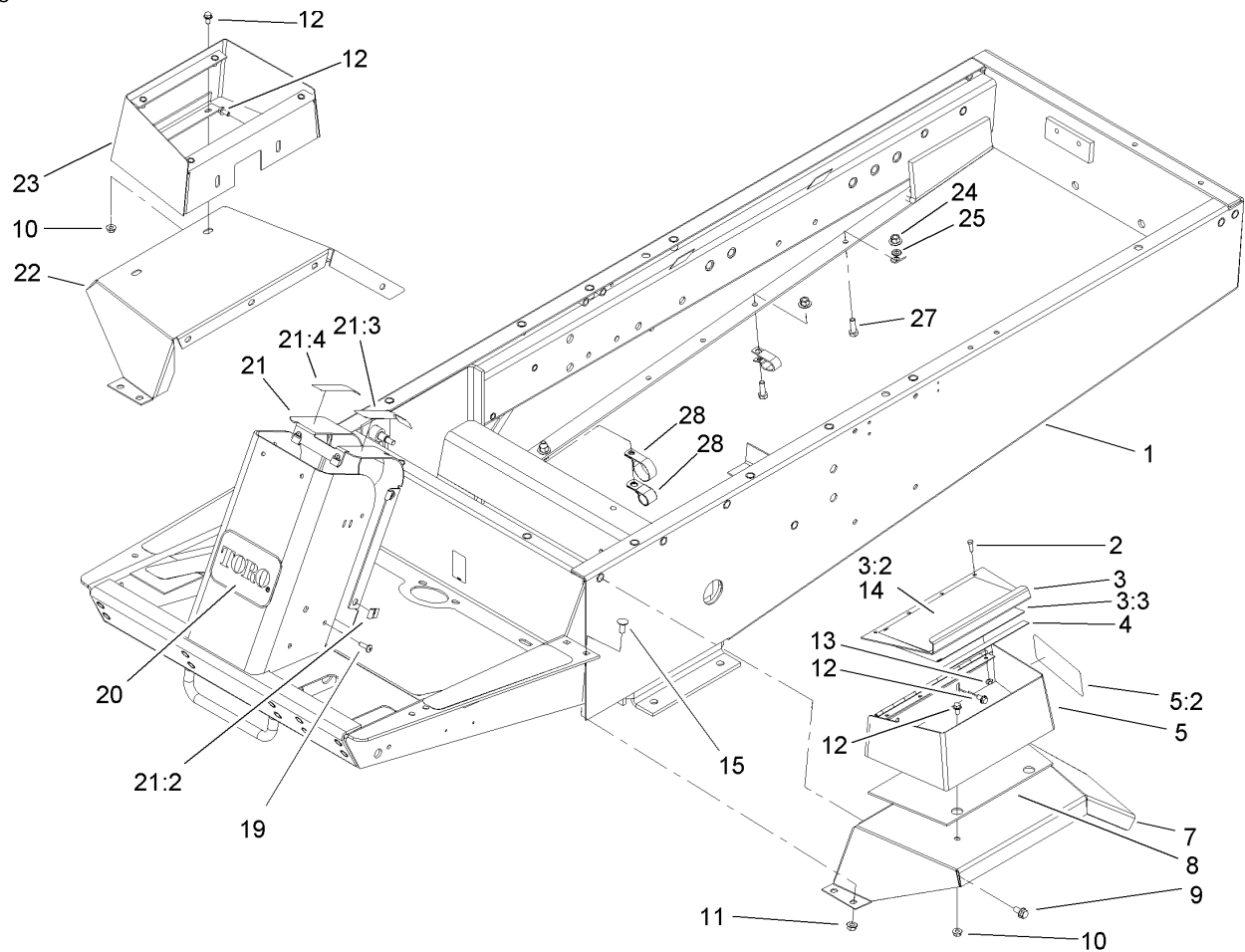
Not serviced separately

PROTOTYPE

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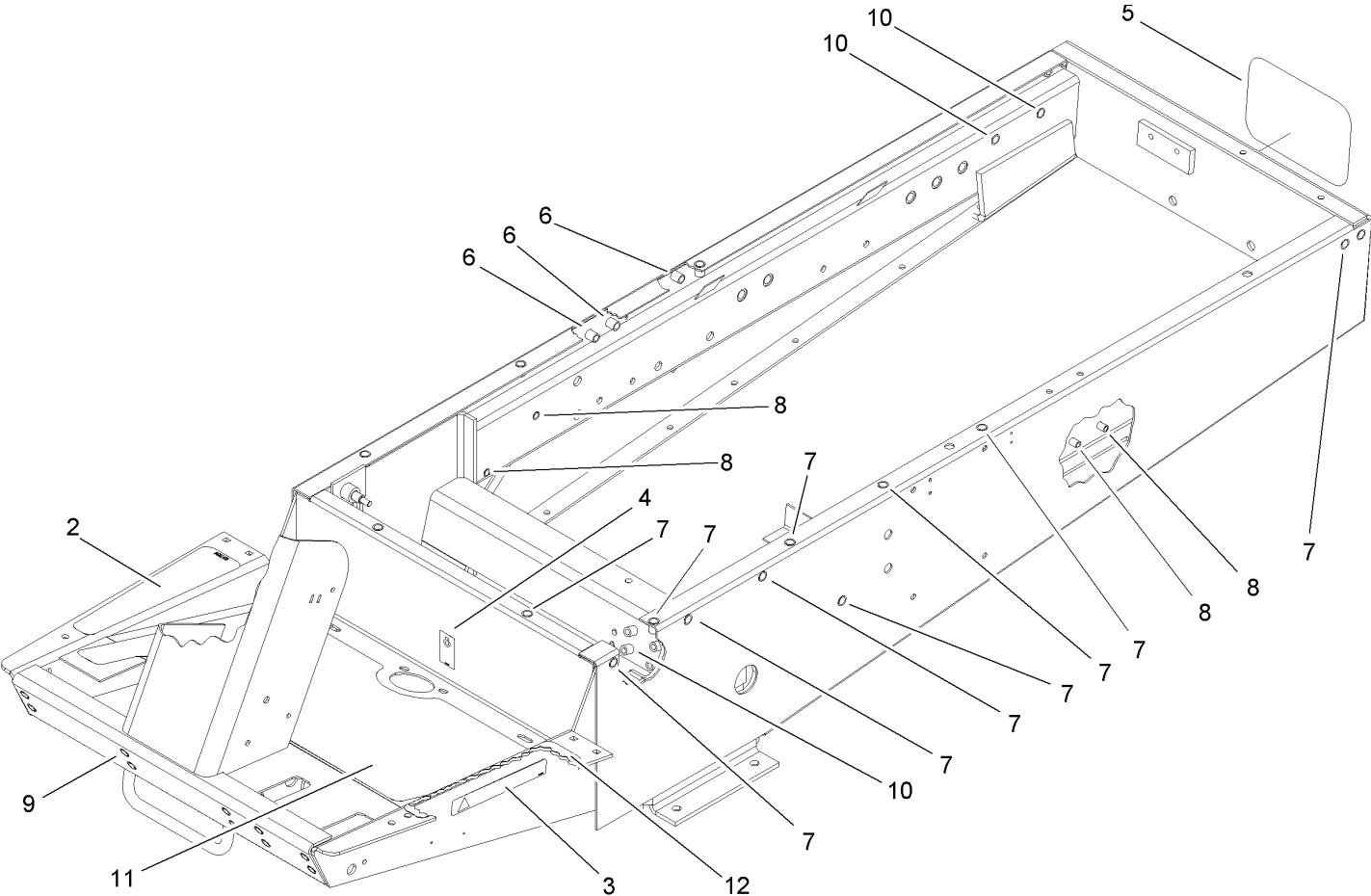
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PROTOTYPE



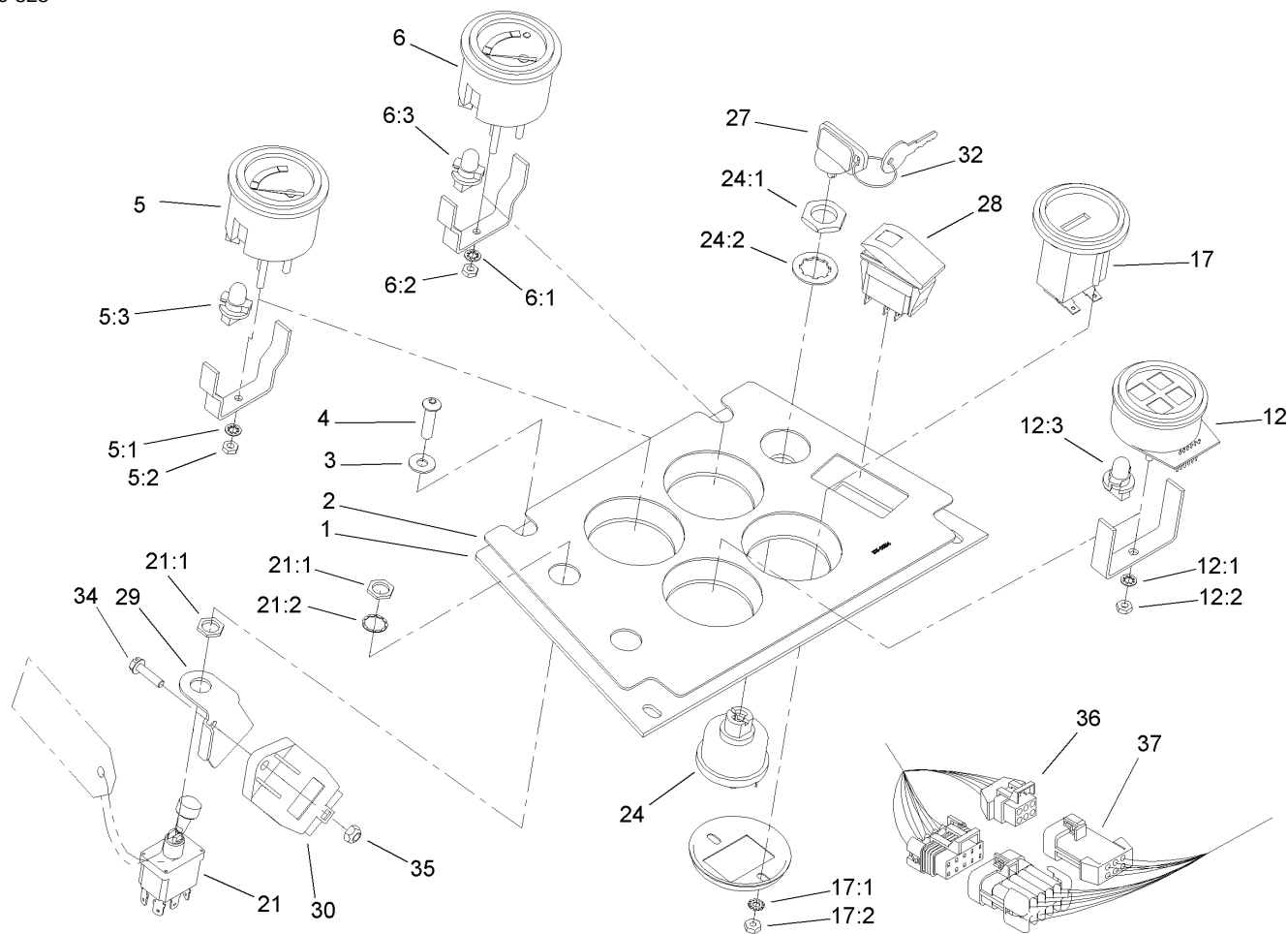
Frame and Fender Assembly

Ref	Part No.	Qty.	Description	Ref	Part No.	Qty.	Description
1	107-2913	1	Frame ASM	23	63-8050	1	Box-Control
2	3290-359	4	Screw-HWH	24	32128-44	1	Nut
3	106-8067	1	Tool Box Cover ASM	25	3255-8	1	Washer-Lock
3:2	92-5774	1	Decal-Danger	27	322-5	2	Screw-HH
3:3	106-4389	1	Decal-Service	28	2412-4	1	Clamp
4	66-3050	1	Latch-Box, Tool				
5	92-6501	1	Tool Box ASM				
5:2	93-7822	1	Decal-Refueling				
7	63-7310-01	1	Fender-LH				
8	76-4790	1	Pad-Rubber				
9	3234-14	8	Screw-HHF				
10	32128-33	4	Nut-HF				
11	32128-20	4	Nut-HF				
12	3234-13	8	Screw-HHF				
13	3296-12	4	Nut-Lock				
14	107-2925	1	Decal-Danger				
15	3230-23	4	Screw-CARR				
19	3250-32	6	Screw-PPH				
20	104-3989	1	Decal				
21	105-7180	1	Tower Panel ASM				
21:2	105-7170	6	Nut-Retainer				
21:3	105-7179	1	Decal-Brake, Parking				
21:4	82-8940	1	Decal-Steering, Tilt				
22	63-7300-01	1	Fender-RH				



Frame Assembly No. 107-2913

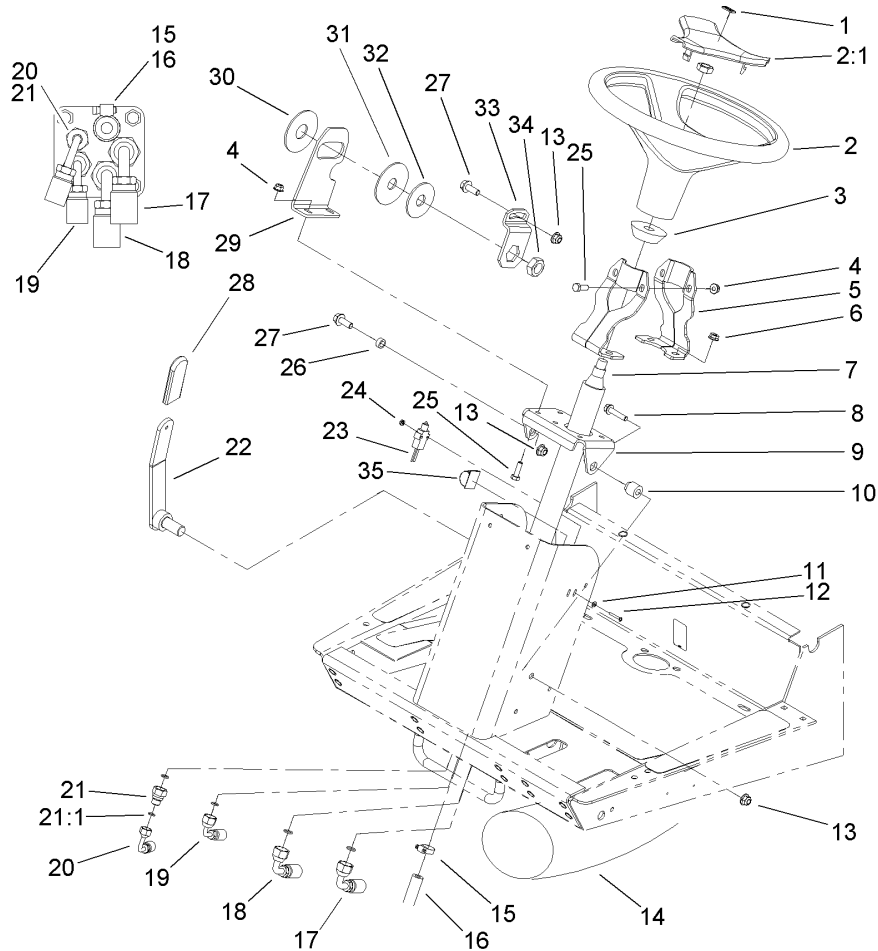
Ref	Part No.	Qty.	Description				
2	93-7834	1	Decal-Footrest, RH				
3	93-7830	2	Decal-Torque				
4	93-6686	1	Decal-Oil, HYD				
5	62-7400	1	Decal				
6	32148-9	3	Insert-Nut				
7	32148-7	22	Insert-Nut				
8	32148-11	4	Insert-Threaded				
9	32148-10	10	Insert-Threaded				
10	32148-8	6	Insert-Threaded				
11	105-7160	1	Pad-Floor				
12	66-3200	1	Tread-Footrest, LH				



Control Panel Assembly

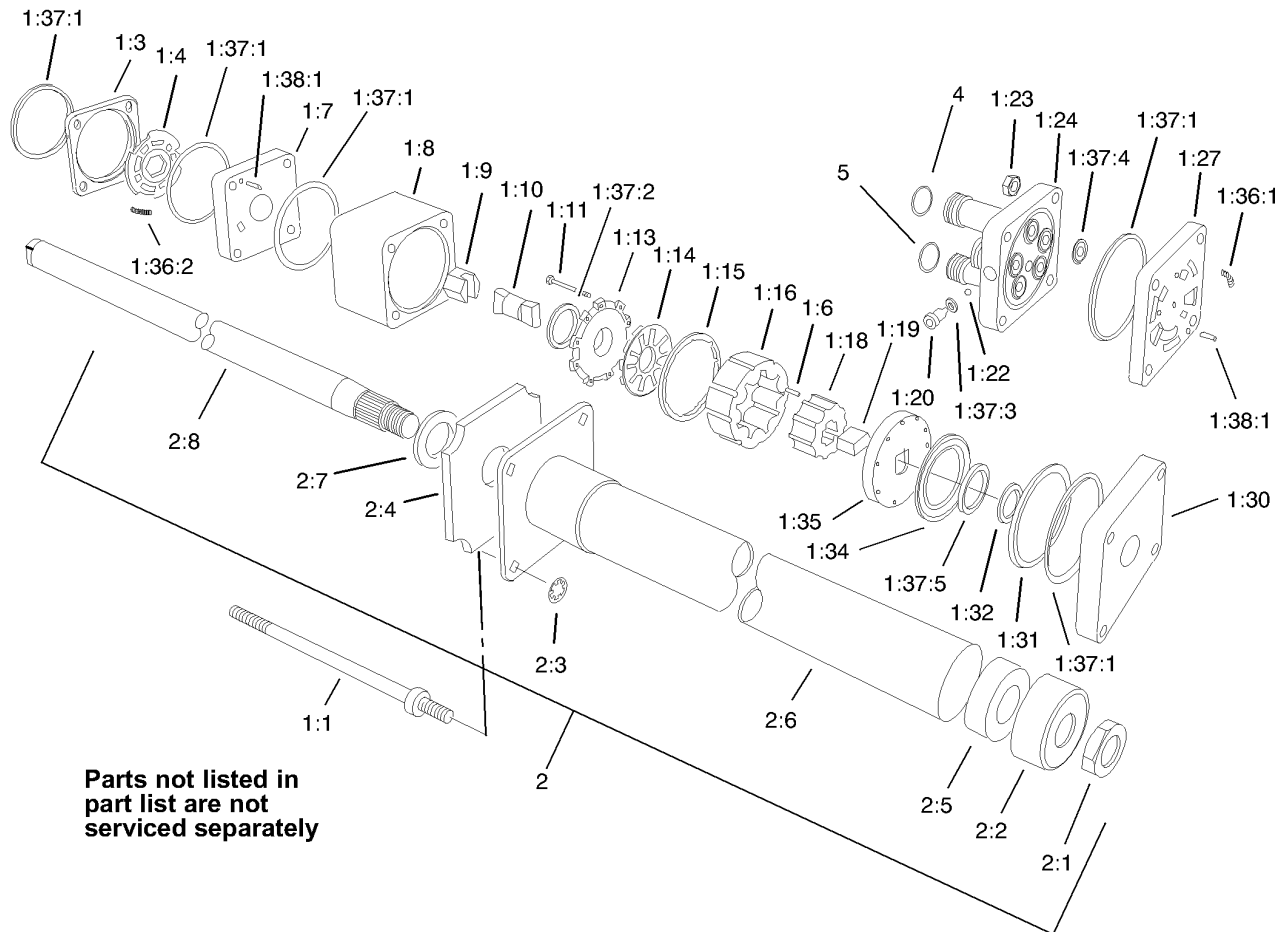
Ref	Part No.	Qty.	Description
1	104-3436-03	1	Plate-Control
2	105-0054	1	Decal-Panel, Control
3	3256-1	4	Washer-Flat
4	3274-65	4	Screw-HSBH
5	98-9308	1	Gauge-Temperature
5:1	3254-1	3	Washer-Lock, Int
5:2	3217-27	3	Nut-Hex
5:3	105-9265	1	Bulb And Lamp ASM
6	98-9339	1	Gauge-Fuel
6:1	3254-1	3	Washer-Lock, Int
6:2	3217-27	3	Nut-Hex
6:3	105-9265	1	Bulb And Lamp ASM
12	98-9306	1	Light-Warning
12:1	3254-1	1	Washer-Lock, Int
12:2	3217-27	1	Nut-Hex
12:3	105-9264	4	Bulb And Lamp ASM
17	66-2950	1	Gauge-Hourmeter
17:1	3255-20	2	Washer-Lock
17:2	3217-25	2	Nut-Hex
21	85-4980	1	Switch-PTO
21:1	3218-19	2	Nut-HJ
21:2	3254-20	1	Washer-Lock, Int.
24	104-2541	1	Switch-Key
24:1	218-461	1	Nut-HH

Ref	Part No.	Qty.	Description
24:2	3254-5	1	Washer-Tooth
27	63-8360	1	Key-Ignition
28	100-8072	1	Switch
29	105-0029	1	Bracket-Controller
30	98-7611	1	Controller-Glow
32	98-9321	1	Ring-Key
34	32105-13	1	Screw-SHH
35	3296-12	1	Nut-Lock
36	105-0024	1	Harness-Wire, Gauges
37	106-4194	1	Wire Harness-Main



Power Steering and Brake Pedal Assembly

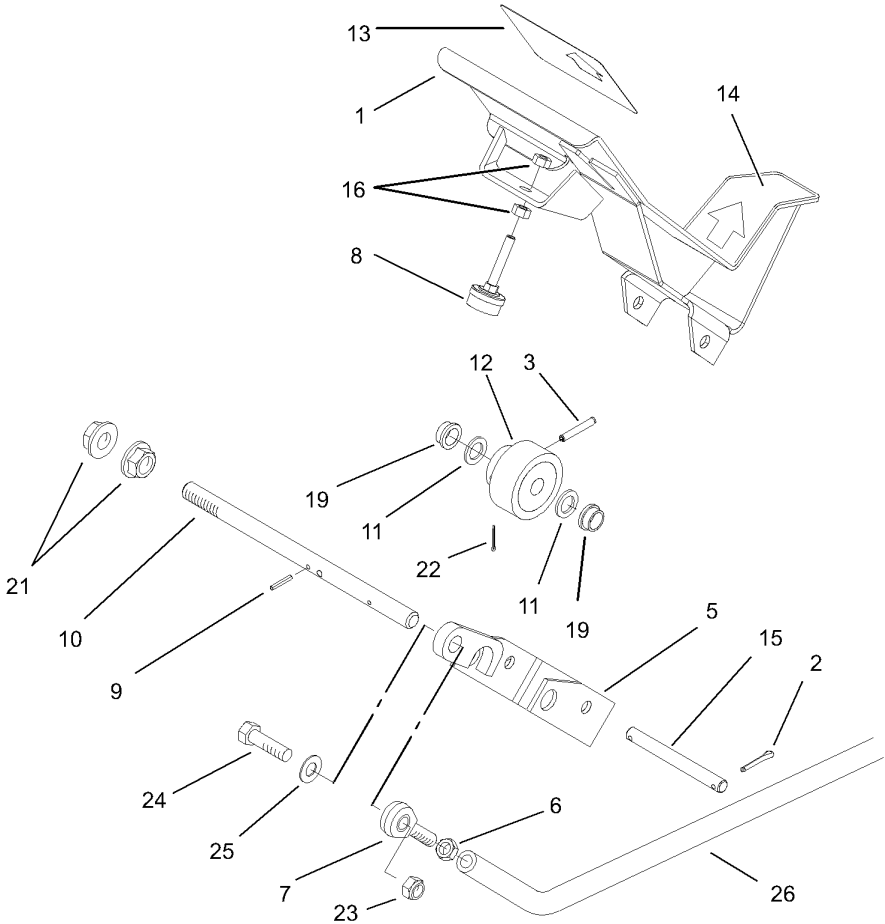
Ref	Part No.	Qty.	Description	Ref	Part No.	Qty.	Description
1	98-1459	1	Decal	23	99-3410	1	Switch
2	98-1471	1	Wheel-Steering	24	32149-6	2	Nut-Keps
2:1	98-1468	1	Cover-Wheel, Steering	25	322-5	4	Screw-HH
3	93-5429	1	Collar-Foam	26	80-2960	1	Spacer-Tower
4	104-8300	4	Nut-Flange, NI	27	3234-42	2	Screw-HHF
5	105-7191-03	2	Support-Column	28	21-1880	1	Grip-Handle
6	32128-16	4	Nut-HHF	29	105-7181-03	1	Plate-Pivot
7	92-7308	1	Power Steering Unit ASM	30	31-0390	1	Disc-Friction
8	3234-18	1	Screw-HHF	31	82-9010	1	Disc-Friction
9	105-7155-03	1	Bracket-Pivot	32	80-2930	1	Washer-Flat
10	105-7166	1	Spacer	33	80-2880	1	Bracket-Tilt
11	3256-53	2	Washer-Flat	34	3218-7	1	Nut-Jam
12	3250-35	2	Screw-PPH	35	105-7188	2	Clamp-Adhesive Backed
13	104-8301	3	Nut-Flange, NI				
14	44-8530	1	Protector-Sleeve				
15	2412-36	1	Clamp-Hose				
16	66-8140	1	Hose-Hydraulic				
17	105-7173	1	HYD Hose ASM				
18	105-7174	1	HYD Hose ASM				
19	105-7176	1	HYD Hose ASM				
20	105-7175	1	HYD Hose ASM				
21	340-145	1	Fitting-Reducer				
21:1	237-21	1	O-Ring				
22	93-1353-03	1	Lever-Steering, Tilt				



Power Steering Unit Assembly No. 92-7308

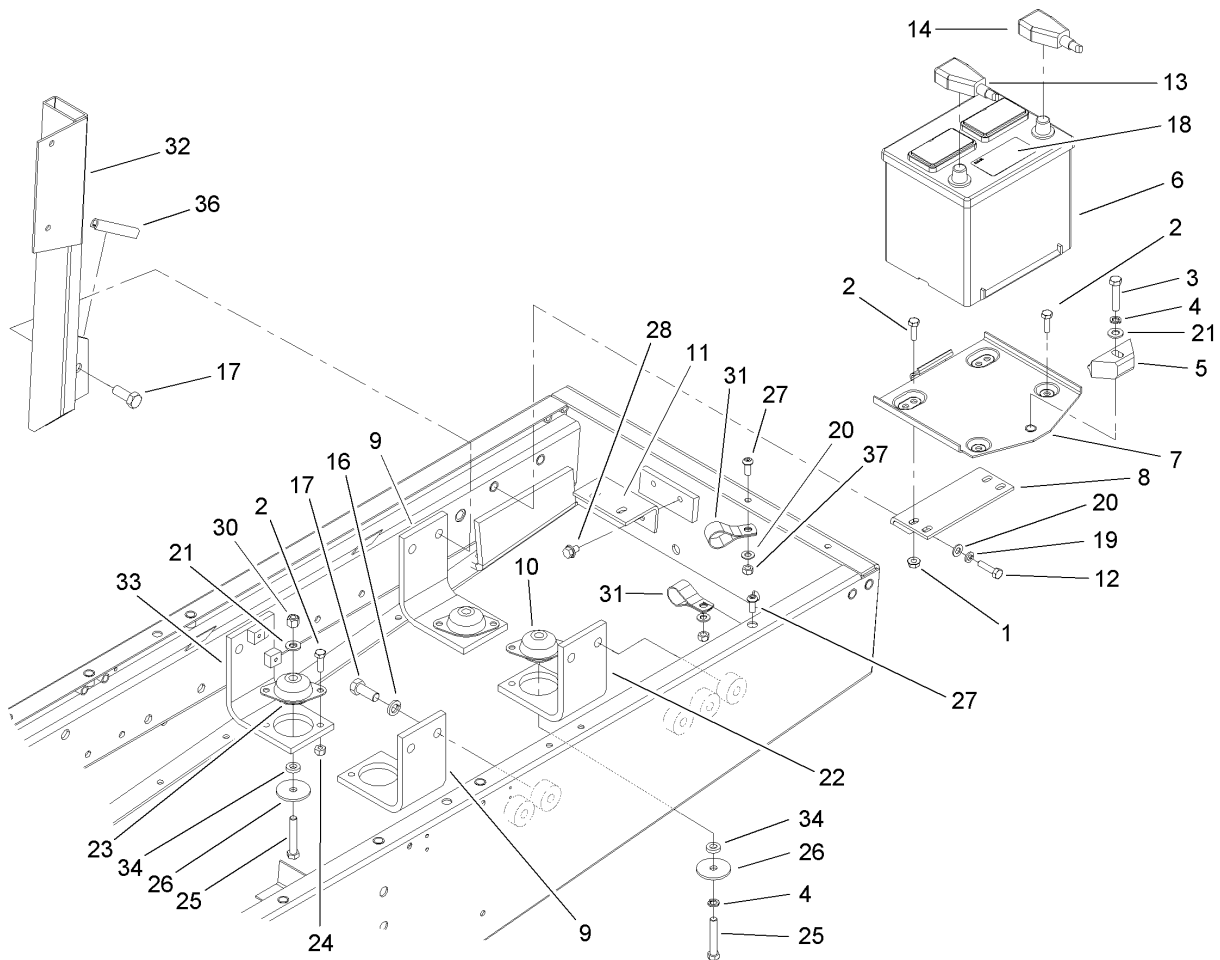
Ref	Part No.	Qty.	Description
1:1	92-7310	4	Bolt-Special
2:1:3		1	Ring-Valve
2:1:4		1	Plate-Valve
2:1:6		9	Pin-Alignment
2:1:7		1	Manifold-Isolation
2:1:8		1	Ring-Metering
2:1:9		1	Hex Drive ASM
2:1:10		1	Link-Drive
2:1:11		11	Screw-HSH
2:1:13		1	Cover-Commutator
2:1:14		1	Commutator
2:1:15		1	Ring-Commutator
2:1:16		1	Stator
2:1:18		1	Rotor
2:1:19		1	Spacer-Link, Drive
2:1:20		1	Plug
2:1:22		1	Ball
2:1:23		4	Nut-Hex
2:1:24		1	Cover-Port
2:1:27		1	Manifold-Port
2:1:30		1	Plate-Cover, Upper
2:1:31		1	Spacer-Bearing, Thrust
2:1:32		1	Spacer-Seal
2:1:34		1	Bearing-Thrust
2:1:35		1	Plate-Drive

Ref	Part No.	Qty.	Description
1:1:36	66-9970	1	Spring Kit
2:1:36:1		3	Spring
2:1:36:2		3	Spring
1:1:37	66-9980	1	Seal Kit
2:1:37:1		5	Ring-Seal
2:1:37:2		1	Seal-Commutator
2:1:37:3		1	O-Ring
2:1:37:4		5	O-Ring
2:1:37:5		1	Seal-Face
1:1:38	66-9990	1	Needle Roller Kit
2:1:38:1		9	Pin-Alignment
2	92-7314	1	Column ASM
2:1	3220-6	1	Nut-Jam
2:2	92-7315	1	Seal-Upper
2:3	92-7316	4	Nut-Push On
2:4	92-7317	1	Seal-Foam, Upper Cover
2:5		1	Bearing
2:6		1	Cover-Upper
2:7		1	Washer-Retaining
2:8		1	Shaft-Input
4	237-30	2	O-Ring
5	237-22	2	O-Ring



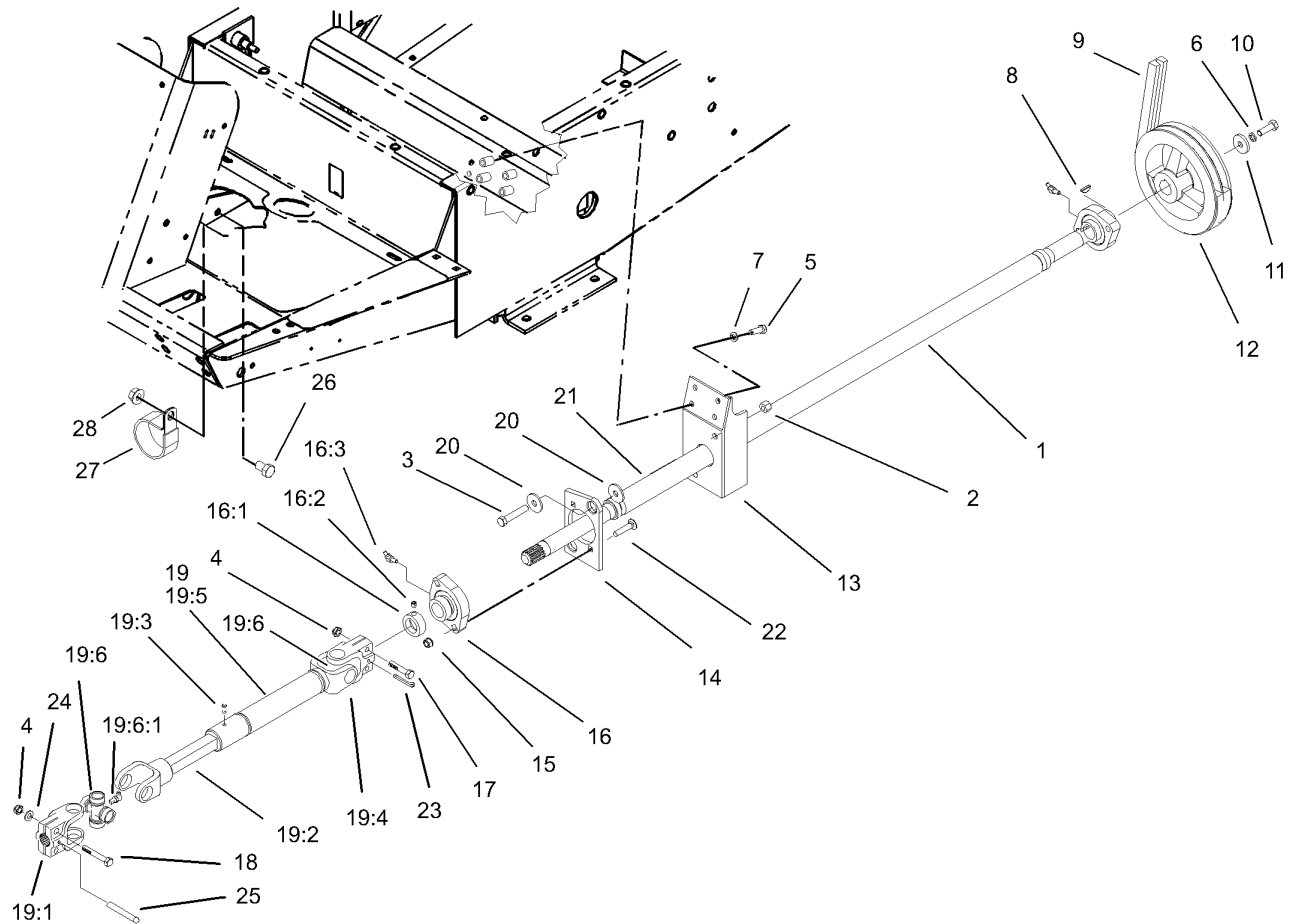
Traction Pedal Assembly

Ref	Part No.	Qty.	Description				
1	105-7150-03	1	Pedal ASM				
2	3272-10	2	Pin-Cotter				
3	32121-6	1	Pin-Roll				
5	92-8854-03	1	Bracket-Pivot				
6	3220-3	1	Nut-Jam				
7	2411-36	1	Bearing-End, Rod				
8	32141-36	1	Screw-Adjustment, Level				
9	32121-50	1	Pin-Spring				
10	92-5534	1	Shaft-Pedal, Traction				
11	5-7570	2	Washer-Flat				
12	28-5220	1	Friction Wheel ASM				
13	94-3307	1	Pad-Pedal, Traction				
14	94-3308	1	Pad-Pedal, Traction				
15	92-5537	1	Pin-Pedal, Traction				
16	3217-6	2	Nut-Hex				
19	256-156	2	Bushing-Flange				
21	32128-56	2	Nut-HF				
22	3272-6	1	Pin-Cotter				
23	3296-39	1	Nut-Lock, NI				
24	323-29	1	Screw-HH				
25	3256-24	1	Washer-Flat				
26	63-6410-03	1	Tube-Pump, Control				



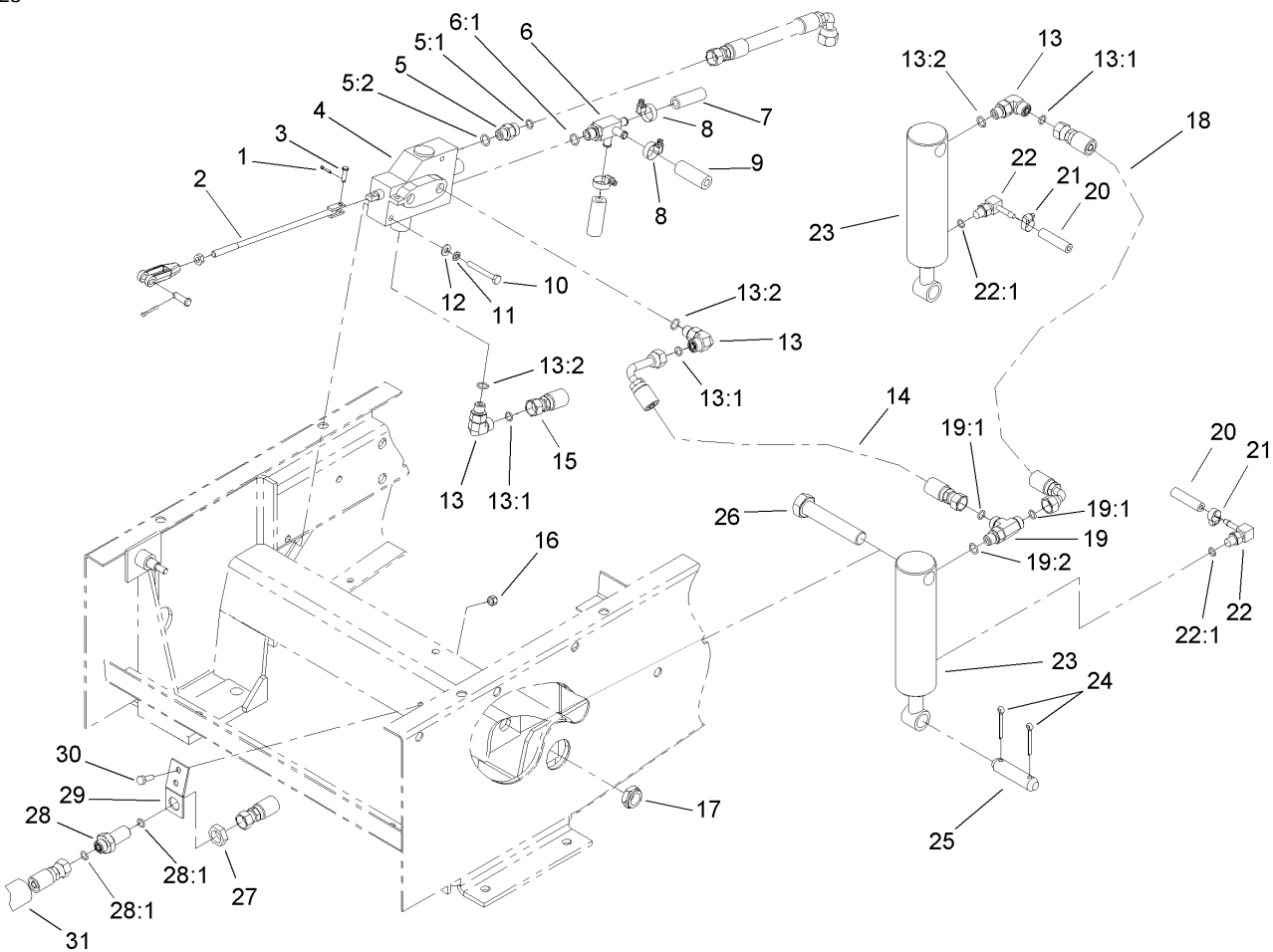
Battery and Engine Mount Assembly

Ref	Part No.	Qty.	Description	Ref	Part No.	Qty.	Description
1	32128-20	3	Nut-HF	26	63-7400	4	Washer-Rebound
2	322-5	11	Screw-HH	27	3274-96	3	Screw
3	323-9	1	Screw-HH	28	3234-30	2	Screw-HHF
4	3253-21	2	Washer-Lock	30	3296-39	3	Nut-Lock, NI
5	66-2490	1	Retainer-Battery	31	98-3883	3	Clamp-Wire
6	106-5187	1	Battery	32	105-2513-03	1	Air Cleaner Mount ASM
7	94-7343	1	Battery Base ASM	33	105-7848-03	1	Bracket-Mount, Engine
8	95-1592-03	1	Bracket-Base, Battery	34	80-7730	4	Spacer
9	95-6270-03	2	Bracket-Mount, Engine	36	43-4300	1	Trim-Frame, Rear
10	63-7141	1	Mount-Shock, Engine	37	33024-00	3	Nut-Lock
11	95-1599-03	1	Bracket-Base, Battery				
12	322-6	2	Screw-HH				
13	104-0086	1	Cable-Battery, Positive				
14	105-0040	1	Cable-Battery, Negative				
16	3253-7	8	Washer-Lock				
17	3213-2	8	Screw-HH				
18	93-7276	1	Decal-Danger				
19	3253-4	2	Washer-Lock				
20	3256-23	5	Washer-Flat				
21	3256-24	4	Washer-Flat				
22	95-6271-03	1	Bracket-Mount, Engine				
23	63-7142	3	Mount-Shock, Engine				
24	3296-29	8	Nut-Lock, NI				
25	323-11	4	Screw-HH				



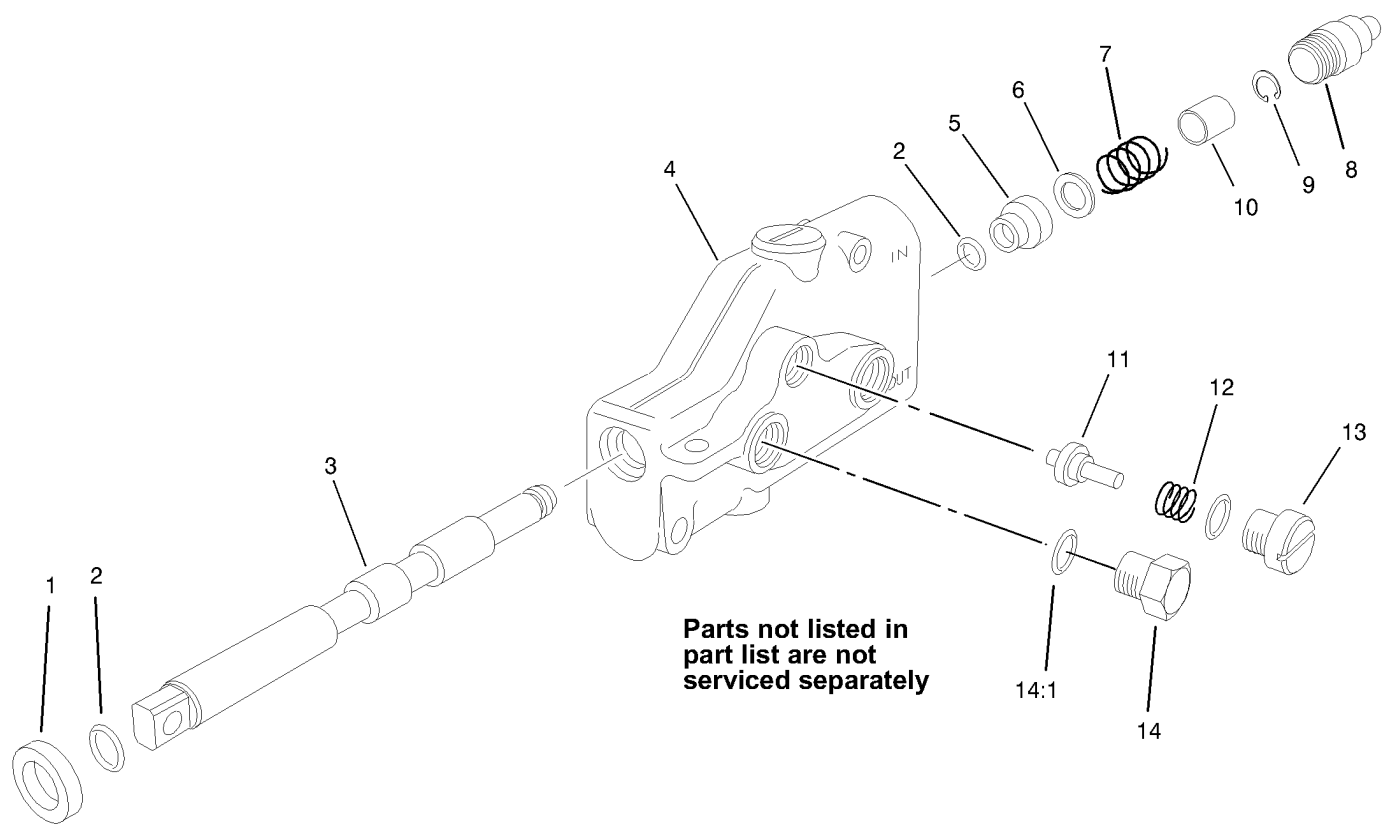
PTO Shaft and Assembly

Ref	Part No.	Qty.	Description	Ref	Part No.	Qty.	Description
1	92-8855-03	1	Shaft-PTO	19:3	302-58	1	Fitting-Grease
2	3296-39	2	Nut-Lock, NI	19:4	54-9090	1	Yoke-End
3	323-10	2	Screw-HH	19:5	54-9170-01	1	Tube-Yoke, Slip
4	3296-29	5	Nut-Lock, NI	19:6	54-9180	2	U-Joint Kit
5	322-5	4	Screw-HH	19:6:1	62-3820	1	Fitting-Grease
6	3253-21	1	Washer-Lock	20	63-8410	4	Washer
7	3253-4	4	Washer-Lock	21	63-9750	2	Mount
8	3257-5	1	Key-Woodruff	22	3230-4	2	Screw-CARR
9	63-6240	1	V-Belt, PTO	23	3272-15	1	Pin-Cotter
10	323-18	1	Screw-HH	24	3256-23	1	Washer-Flat
11	29-4730	1	Washer-Flat	25	32121-34	1	Pin-Roll
12	43-5320-03	1	Pulley-PTO	26	46-3380	1	Bolt-Shoulder
13	92-8751-03	1	Bracket-Bearing, PTO	27	2412-102	1	R-Clamp
14	84-7580	1	Plate-Support, Bushing	28	3296-39	1	Nut-Lock, NI
15	32149-1	2	Nut				
16	92-8799	1	Bearing-Flange				
16:1	251-77	1	Lockcollar-Bearing				
16:2	3246-1	1	Screw-Set				
16:3	302-40	1	Fitting-Grease				
17	322-9	4	Screw-HH				
18	322-14	1	Screw-HH				
19	54-7950	1	PTO Drive Shaft ASM				
19:1	54-9040	1	Yoke-End				
19:2	54-9050	1	Shaft-Slip Yoke				



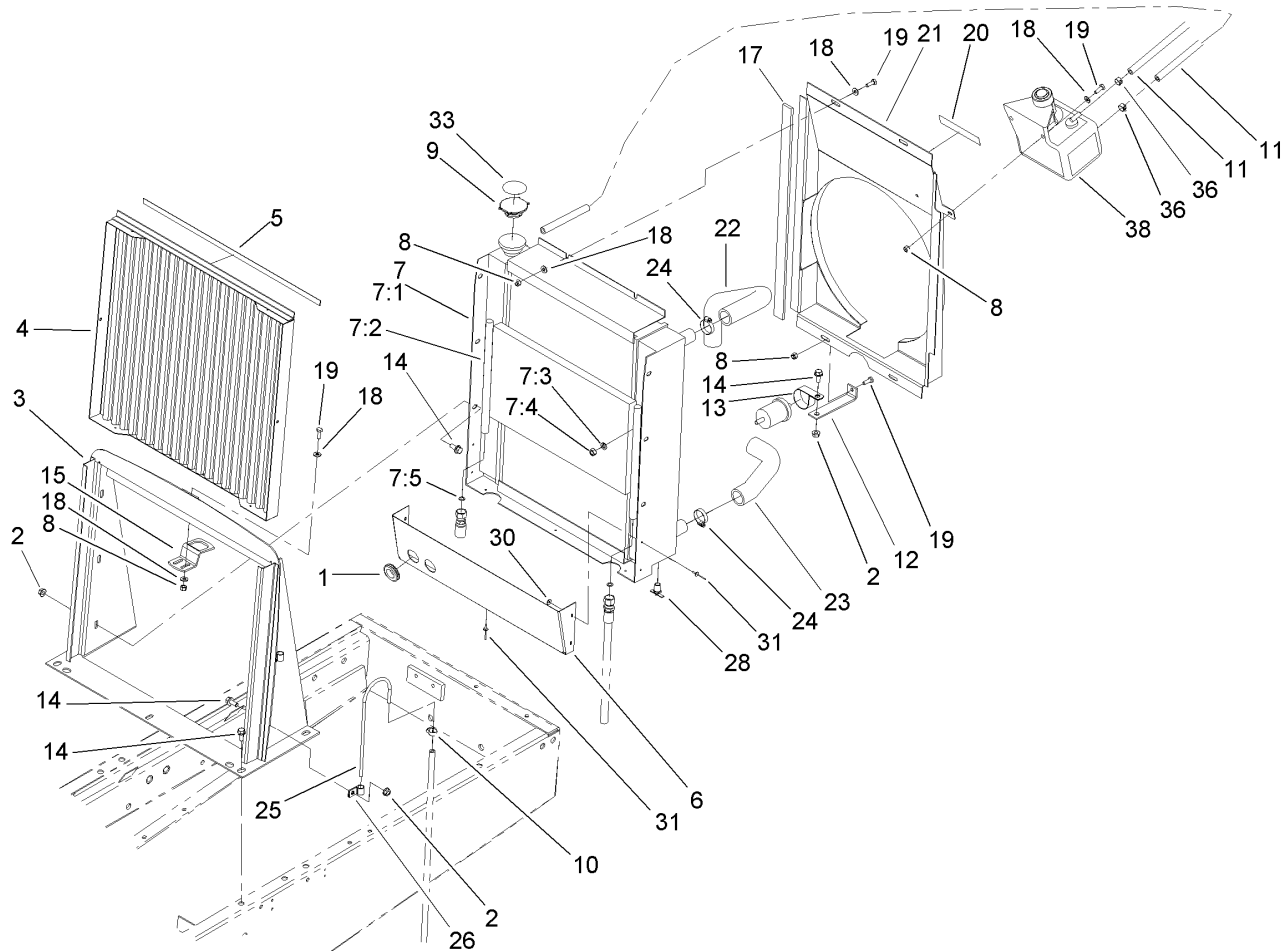
Hydraulic Cylinder and Lift Valve Assembly

Ref	Part No.	Qty.	Description	Ref	Part No.	Qty.	Description
1	3272-5	1	Pin-Cotter	19:1	237-22	2	O-Ring
2	76-4830-03	1	Valve Rod ASM	19:2	237-42	1	O-Ring
3	283-16	1	Pin-Clevis	20	92-5082	2	Hose-Hydraulic
4	63-7960	1	Valve-Lift	21	2412-108	2	Clamp-Worm
5	340-2	1	Fitting-Hyd, Straight	22	304-99	2	Stem-Hose
5:1	237-22	1	O-Ring	22:1	237-78	1	O-Ring
5:2	237-42	1	O-Ring	23	63-6630	2	Cylinder-Hydraulic
6	66-3130	1	Fitting-Special	24	3272-23	4	Pin-Cotter
6:1	237-42	1	O-Ring	25	27-4240	2	Pin-Cylinder
7	100-5641	1	Hose ASM	26	3216-3	2	Screw-HH
8	2412-36	3	Clamp-Hose	27	340-70	1	Nut-Lock
9	66-8150	1	Hose-Hydraulic	28	340-71	1	Fitting-Straight, Bulkhead
10	321-11	2	Screw-HH	28:1	237-22	2	O-Ring
11	3253-3	2	Washer-Lock	29	63-7410	1	Bracket-Bulkhead
12	3256-22	2	Washer-Flat	30	321-4	2	Screw-HH
13	340-77	3	Fitting-Hyd, 90 DEG	31	56-7984	1	Protective Sleeve
13:1	237-22	1	O-Ring				
13:2	237-42	1	O-Ring				
14	66-8640	1	Hydraulic Hose ASM				
15	105-0018	1	Hydraulic Hose ASM				
16	3296-42	2	Nut-Lock, NI				
17	3296-15	2	Nut-Lock, NI				
18	66-8190	1	Hydraulic Hose ASM				
19	340-86	1	Fitting-Hyd, Tee				



Lift Valve Assembly No. 63-7960

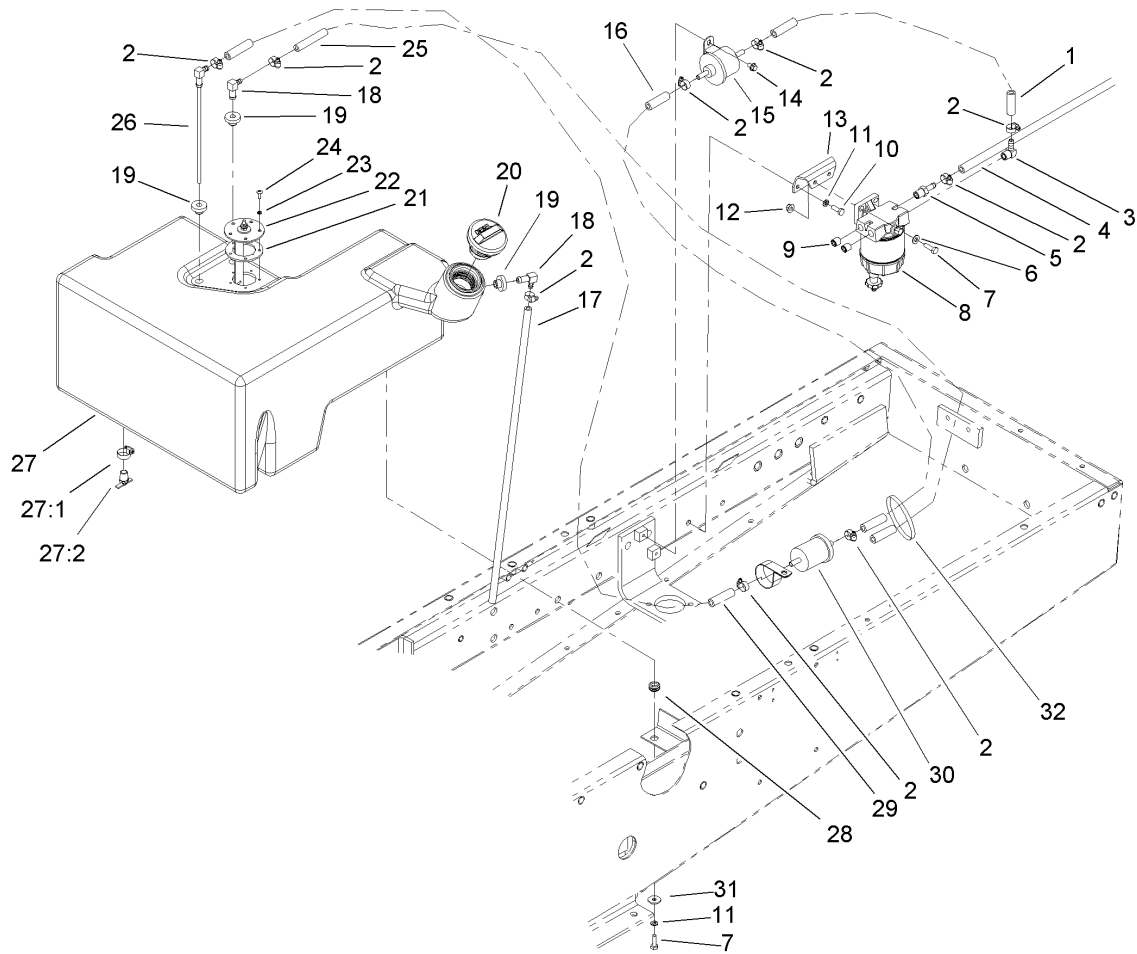
Ref	Part No.	Qty.	Description				
1	58-6320	1	Wiper				
2	58-6450	2	O-Ring				
3		1	Spool				
4		1	Body				
5	58-6400	1	Bushing				
6	65-2770	1	Washer				
7	65-2950	1	Spring				
8	58-6420	1	Cap				
9	58-6460	1	Ring-Retaining				
10	65-2740	1	Spacer				
11	65-2750	1	Plunger				
12	65-2760	1	Spring				
13	65-2930	1	Plug ASM				
14	353-508	1	Plug				
14:1	237-42	1	O-Ring				



Radiator Assembly

Ref	Part No.	Qty.	Description
1	240-4	2	Grommet-Rubber
2	32128-20	7	Nut-HF
3	104-3489-03	1	Radiator Support ASM
4	104-1727-03	1	Screen ASM
5	63-7710	1	Strip-Magnetic
6	105-0041-03	1	Shield-Radiator, Bottom
7		1	Radiator/oil Cooler ASM
7:1	105-4289	1	Radiator
7:2	105-4290	1	Cooler-Oil
7:3	3253-4	4	Washer-Lock
7:4	3217-6	4	Nut-Hex
7:5	237-22	2	O-Ring
8	3296-42	8	Nut-Lock, NI
9	66-3240	1	Cap-Radiator
10	2412-108	1	Clamp-Worm
11	93-5484	2	Hose-Fuel
12	105-7847-03	1	Bracket-Filter
13	2412-147	1	Clamp
14	3234-5	9	Screw
15	98-9316	1	Latch-Hood
17	106-4356	2	Strip-Foam
18	3256-22	13	Washer-Flat
19	321-4	8	Screw-HH
20	93-7272	1	Decal-Warning

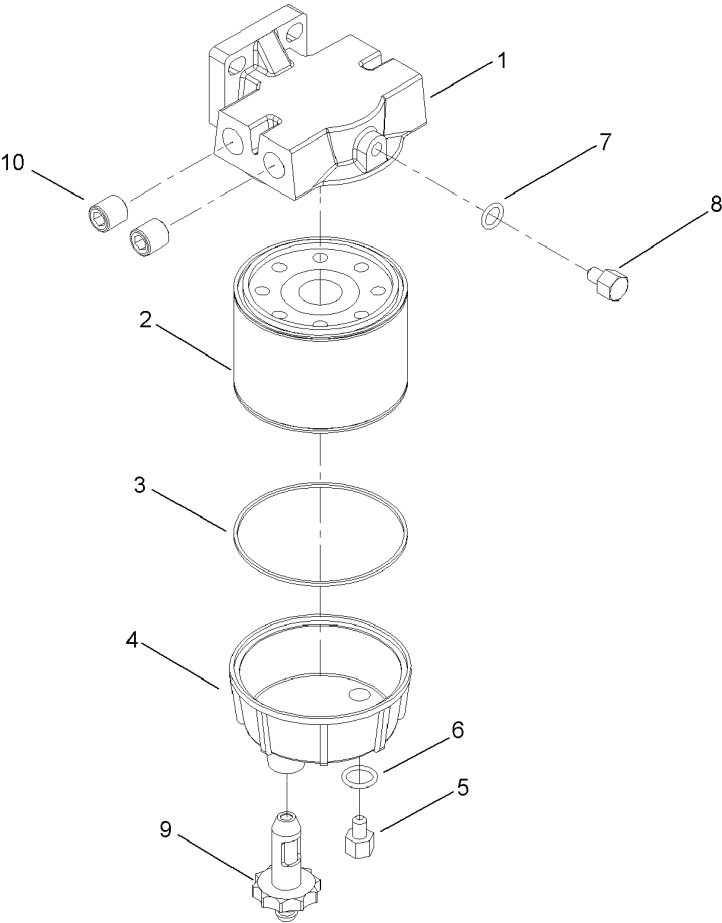
Ref	Part No.	Qty.	Description
21	105-4261-03	1	Fan Shroud ASM
22	104-3443	1	Hose-Radiator, Upper
23	104-3442	1	Hose-Radiator, Lower
24	2412-34	4	Clamp-Hose
25	66-3180	1	Tube-Vent
26	2412-103	2	Clamp
28	304-46	1	Draincock
30	3269-10	2	Washer-Back
31	3269-13	5	Rivet-Pop
33	106-5976	1	Decal-Warning
36	92-2379	2	Clamp-Hose
38	93-5642	1	Reservoir-Coolant



Fuel Tank Assembly

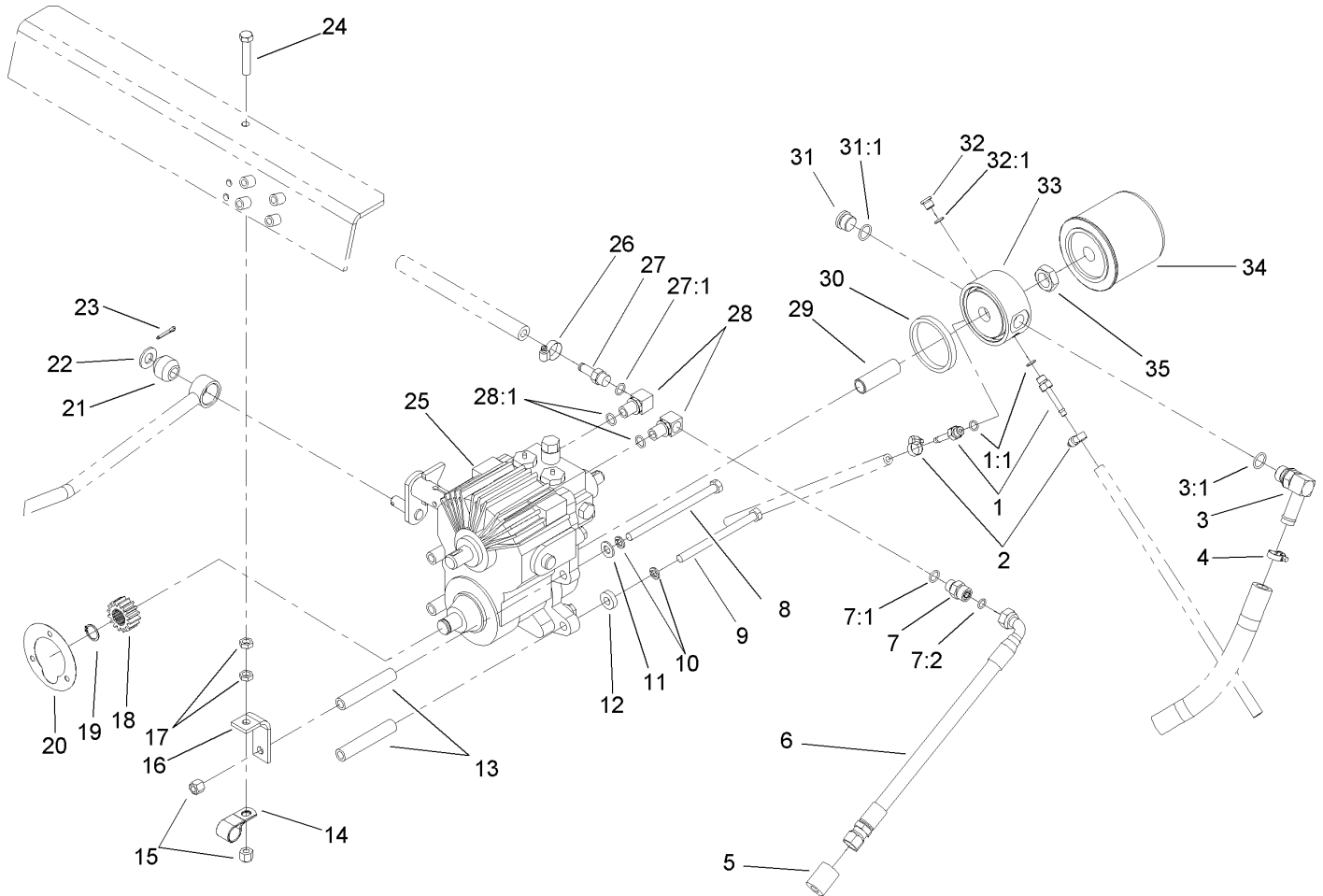
Ref	Part No.	Qty.	Description
1	27-5360	1	Hose-Fuel
2	2412-108	11	Clamp-Worm
3	353-781	1	Fitting-Elbow
4	63-7627	1	Hose-Fuel
5	353-783	1	Fitting
6	3256-22	2	Washer-Flat
7	321-5	5	Screw-HH
8	98-9305	1	Water/fuel Filter ASM
9	285-22	2	Plug-Pipe
10	321-4	2	Screw-HH
11	3253-3	5	Washer-Lock
12	32128-33	2	Nut-HF
13	104-3409-03	1	Bracket-Filter
14	3234-26	2	Screw
15	104-5215	1	Pump-Fuel, Electric
16	63-7622	1	Hose-Fuel
17	94-4522	1	Hose-Fuel
18	94-6765	2	Fitting-90 Deg, Barbed
19	46-6560	3	Bushing
20	93-3102	1	Cap-Fuel
21	62-7650	1	Gasket
22	63-7640	1	Sender-Fuel
23	3253-15	5	Washer-Lock
24	32122-24	5	Screw-Pth

Ref	Part No.	Qty.	Description
25	105-0020	1	Hose-Fuel
26	66-8120	1	Pipe-Stand
27	98-5001	1	Tank-Fuel
27:1	2412-36	1	Clamp-Hose
27:2	304-46	1	Draincock
28	237-136	3	Grommet
29	63-7630	1	Hose-Fuel
30	98-7612	1	Filter-Fuel
31	3256-67	3	Washer-Flat
32	3290-378	1	Tie-Cable



Water/Fuel Filter Assembly No. 98-9305

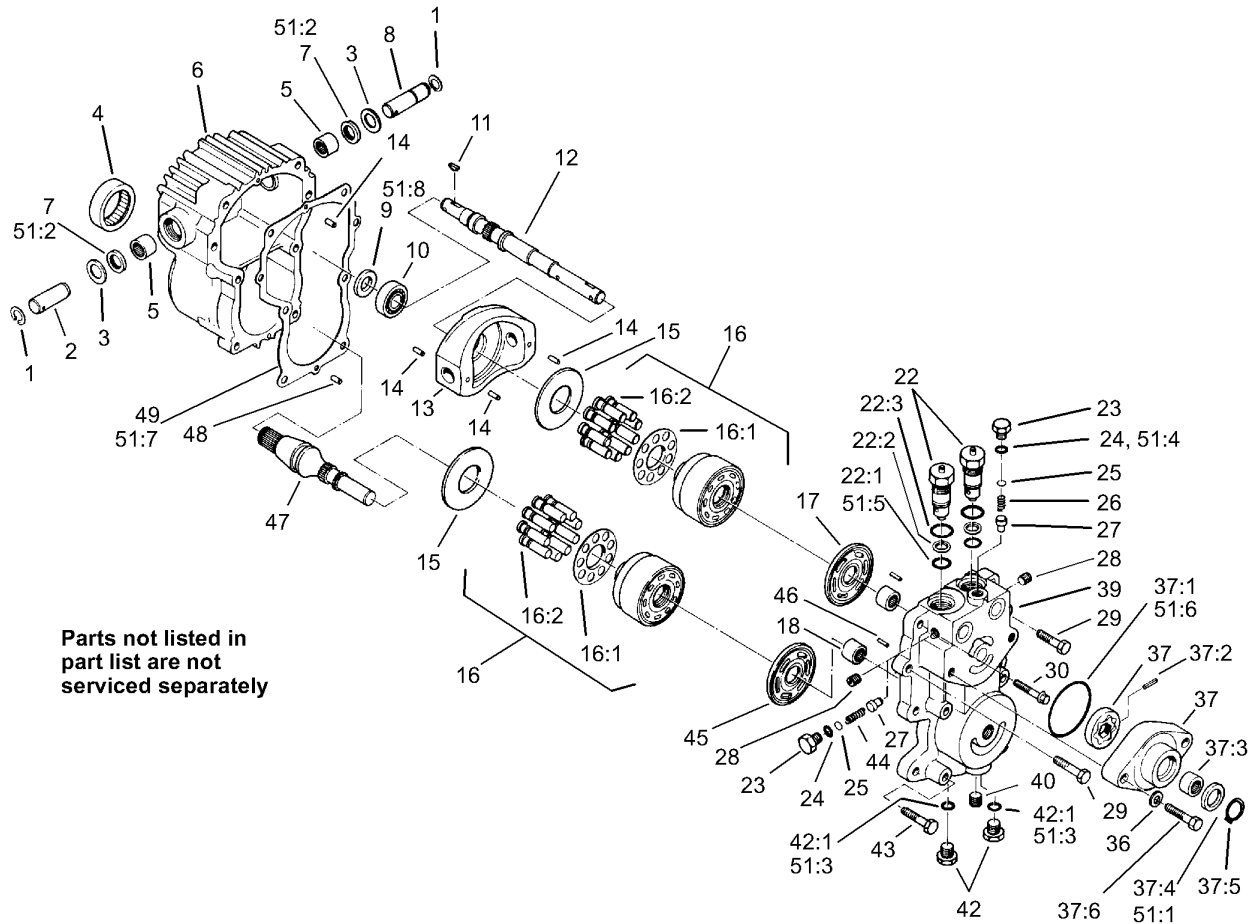
Ref	Part No.	Qty.	Description				
1	98-9772	1	Head-Filter	PROTOTYPE			
2	98-9764	1	Element				
3	98-9774	1	O-Ring-Base, Filter				
4	98-9775	1	Base-Filter				
5	98-9773	1	Plug-Base, Filter				
6	237-42	1	O-Ring				
7	237-78	1	O-Ring				
8	98-9776	1	Plug-Head, Filter				
9	98-9777	1	Drain Valve ASM				
10	285-22	2	Plug-Pipe				



Transmission and Drive Coupling Assembly

Ref	Part No.	Qty.	Description
1	92-5512	2	Fitting-Hose, Barbed
1:1	237-78	1	O-Ring
2	2412-108	2	Clamp-Worm
3	92-5086	1	Fitting-Elbow-90
3:1	237-79	1	O-Ring
4	2412-34	1	Clamp-Hose
5	38-3400	1	Guard-Rubber
6	66-8490	1	HYD Hose ASM
7	82-8530	1	Fitting-Straight
7:1	237-42	1	O-Ring
7:2	237-22	1	O-Ring
8	27-9620	1	Screw-HH
9	323-39	3	Screw-HH
10	3253-21	4	Washer-Lock
11	3256-24	1	Washer-Flat
12	5-0652	1	Spacer
13	27-3680	4	Spacer-Mounting
14	2412-4	1	Clamp
15	3296-39	2	Nut-Lock, NI
16	63-7170	1	Anchor-Transmission
17	3218-3	2	Nut-Jam
18	86-7220	1	Gear-Pinion
19	32120-72	1	Ring-Snap
20	27-3690	1	Gasket-Transmission

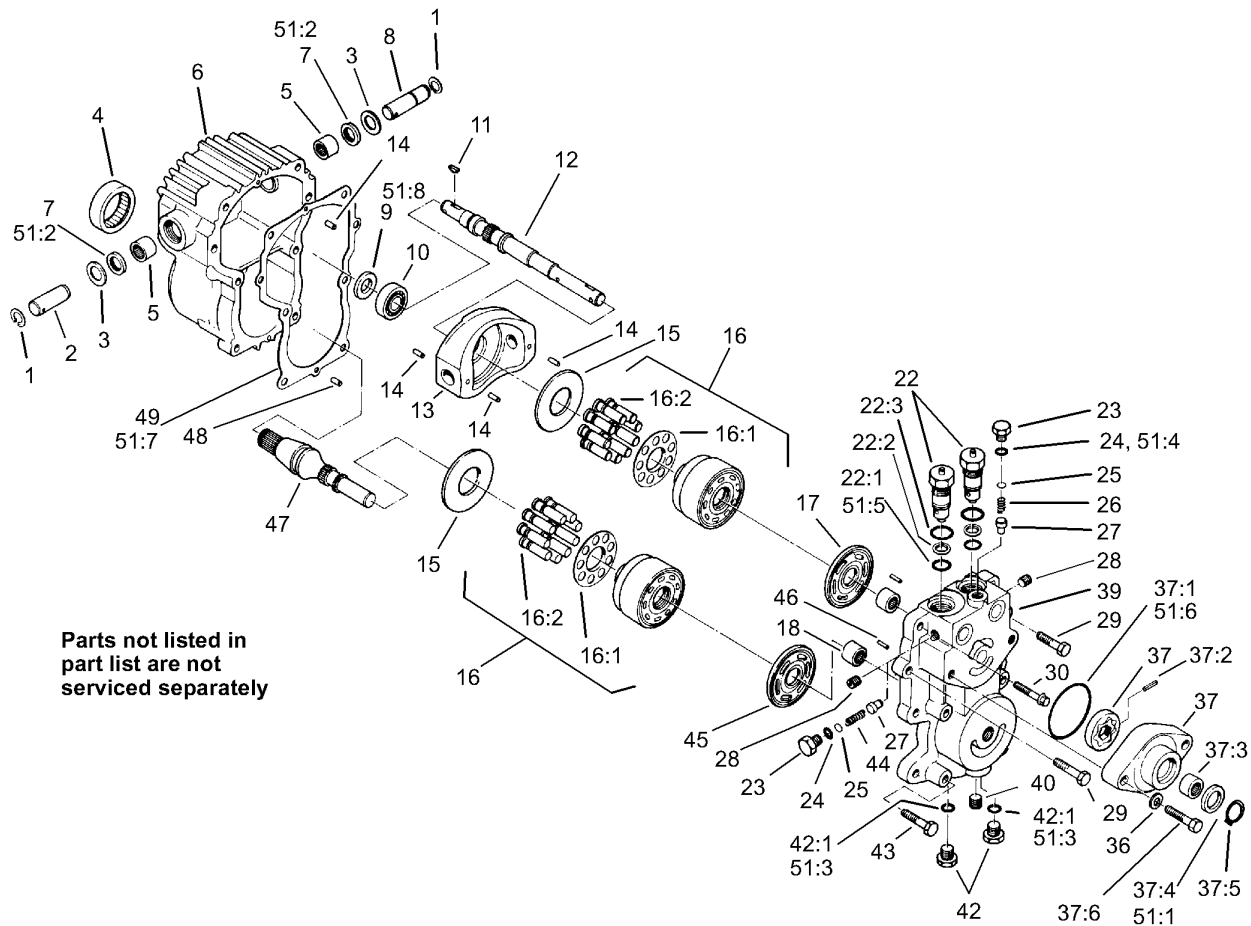
Ref	Part No.	Qty.	Description
21	23-2270	1	Bushing-Rubber
22	3256-26	1	Washer-Flat
23	3272-10	1	Pin-Cotter
24	911424	1	Screw-HH
25	92-5513	1	Transmission
26	2412-36	1	Clamp-Hose
27	353-979	1	Fitting-Barbed, Straight
27:1	237-42	1	O-Ring
28	66-3110	2	Fitting-Hyd, 90 DEG
28:1	237-42	1	O-Ring
29	92-5085	1	Union-Filter
30	92-5087	1	Seal-Filter Adaptor
31	353-988	1	Plug-Hex, Hollow
31:1	237-79	1	O-Ring
32	353-990	1	Plug
32:1	237-78	1	O-Ring
33	92-5076	1	Adapter-Filter
34	23-2300	1	Filter-Oil, Transmission
35	3220-7	1	Nut-Jam



Transmission Assembly No. 92-5513

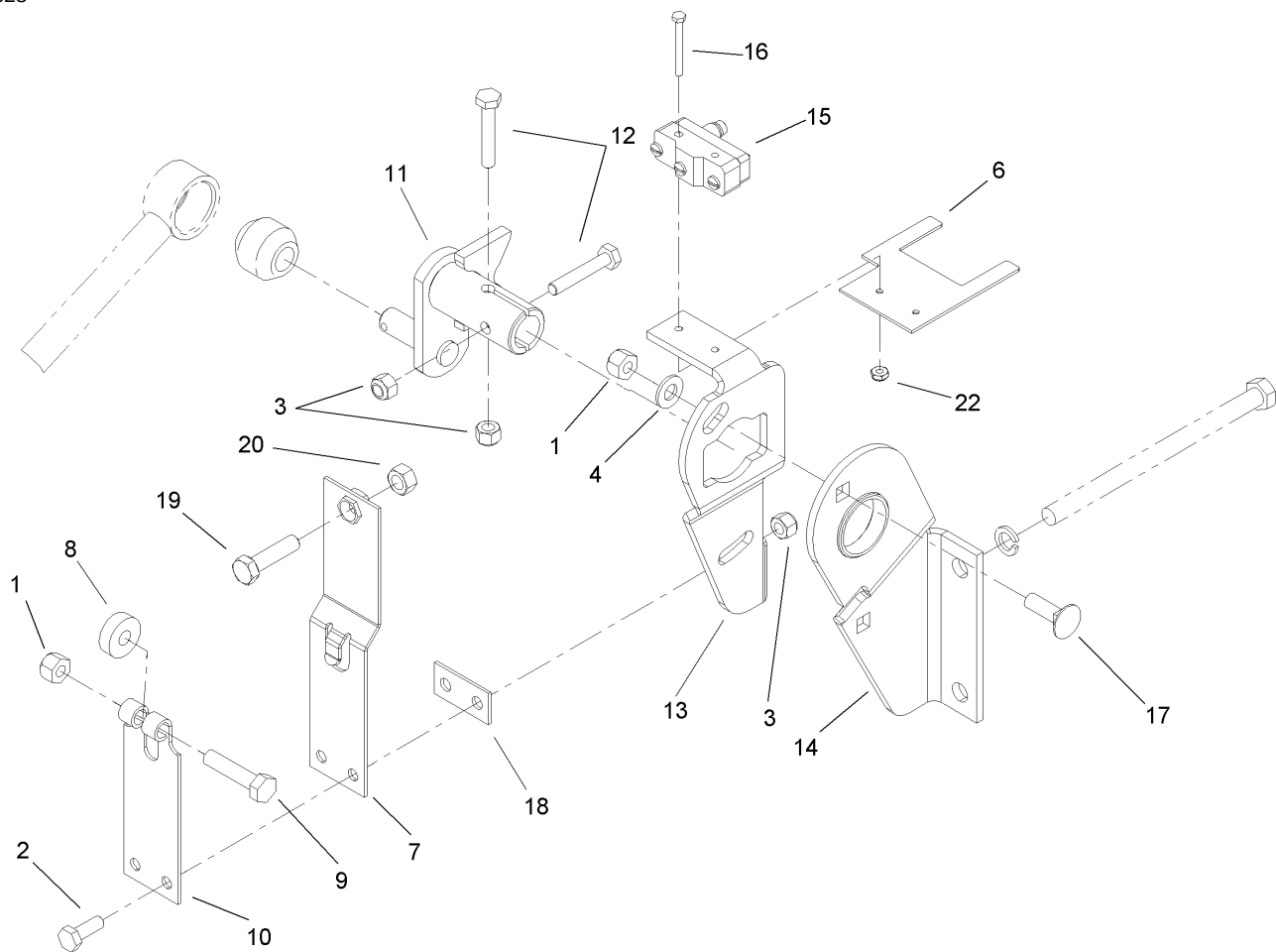
Ref	Part No.	Qty.	Description
1	32151-46	2	Ring-Retaining
2	25-2500	1	Shaft-Trunnion
3	25-2510	2	Washer-Flat
4	28-3300	1	Bearing-Roller
5	252-82	2	Bearing-Needle
6	92-5709	1	Housing-Transmission
7	25-3210	2	Seal-Lip
8	28-3670	1	Shaft-Trunnion
9	93-4133	1	Seal-Lip
10	28-3650	1	Bearing-Ball
11	3257-5	2	Key-Woodruff
12	28-3640	1	Shaft-Pump
13	49-7820	1	Swashplate-Variable
14	32121-91	3	Pin-Spring
15	25-2380	2	Plate-Thrust
16	48-1800	2	Cylinder Block Kit
16:1		1	Retainer-Slipper
16:2		9	Piston ASM
17	46-7320	1	Plate-Valve, Pump
18	25-3300	2	Bearing-Needle
22	49-7830	2	Check Valve Kit
22:1	28-3590	2	O-Ring
22:2	28-3580	2	Ring-Back Up
22:3	28-3570	2	O-Ring

Ref	Part No.	Qty.	Description
23	25-2460	2	Plug-HH
24	28-3400	2	O-Ring
25	25-2470	1	Pack-Shim
26	46-7310	1	Spring
27	83-7260	2	Cone-Relief, Charge
28	285-17	4	Plug-Pipe
29	323-8	2	Screw-HH
30	28-3530	2	Capscrew
36	28-3450	2	Washer
37	38-2670	1	Charge Pump Kit
37:1	28-3520	1	O-Ring
37:2	38-2680	1	Pin
37:3	28-3480	1	Bearing
37:4	94-2975	1	Seal-Shaft
37:5	94-2976	1	Ring-Retaining
37:6	324-23	2	Screw-HH
39	92-5716	1	Section-Center
40	92-5717	1	Plug-Pipe
42	28-3440	2	Plug-Threaded
42:1	75-0240	1	O-Ring
43	323-10	4	Screw-HH
44	25-2480	1	Spring-Valve
45	28-3380	1	Plate-Valve, Motor
46	25-2430	2	Pin-Dowel



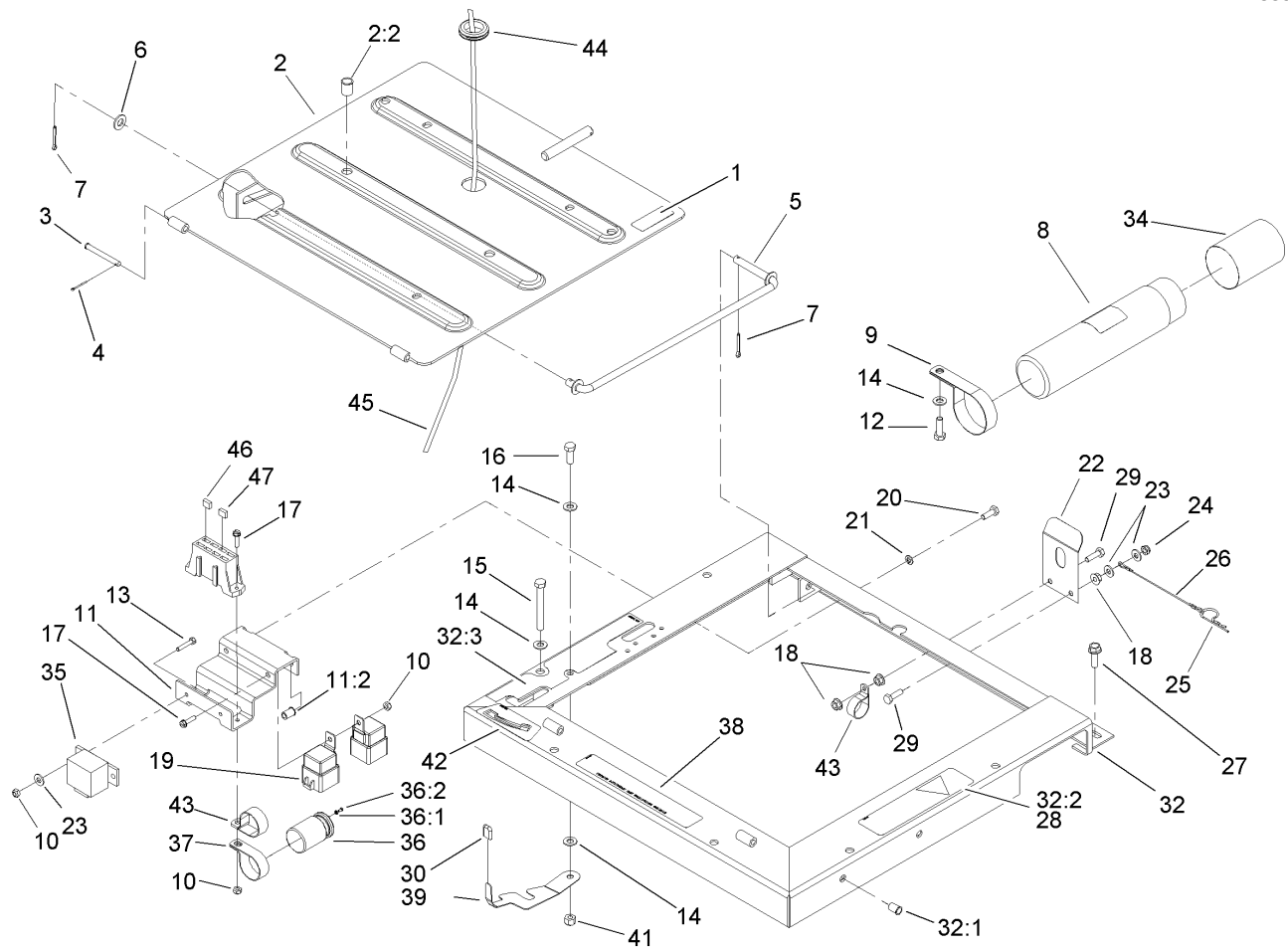
Transmission Assembly No. 92-5513 (continued)

Ref	Part No.	Qty.	Description				
47	49-8200	1	Shaft-Motor				
48	353-599	2	Pin-Dowel				
49	28-3340	1	Gasket				
❶51	106-4384	1	Seal Kit (15 Series)				
51:1	94-2975	2	Seal-Shaft				
51:2	25-3210	2	Seal-Lip				
51:3	75-0240	2	O-Ring				
51:4	28-3400	2	O-Ring				
51:5	28-3590	2	O-Ring				
51:6	28-3520	1	O-Ring				
51:7	28-3340	1	Gasket				
51:8	93-4133	1	Seal-Lip				



Transmission Interlock Assembly

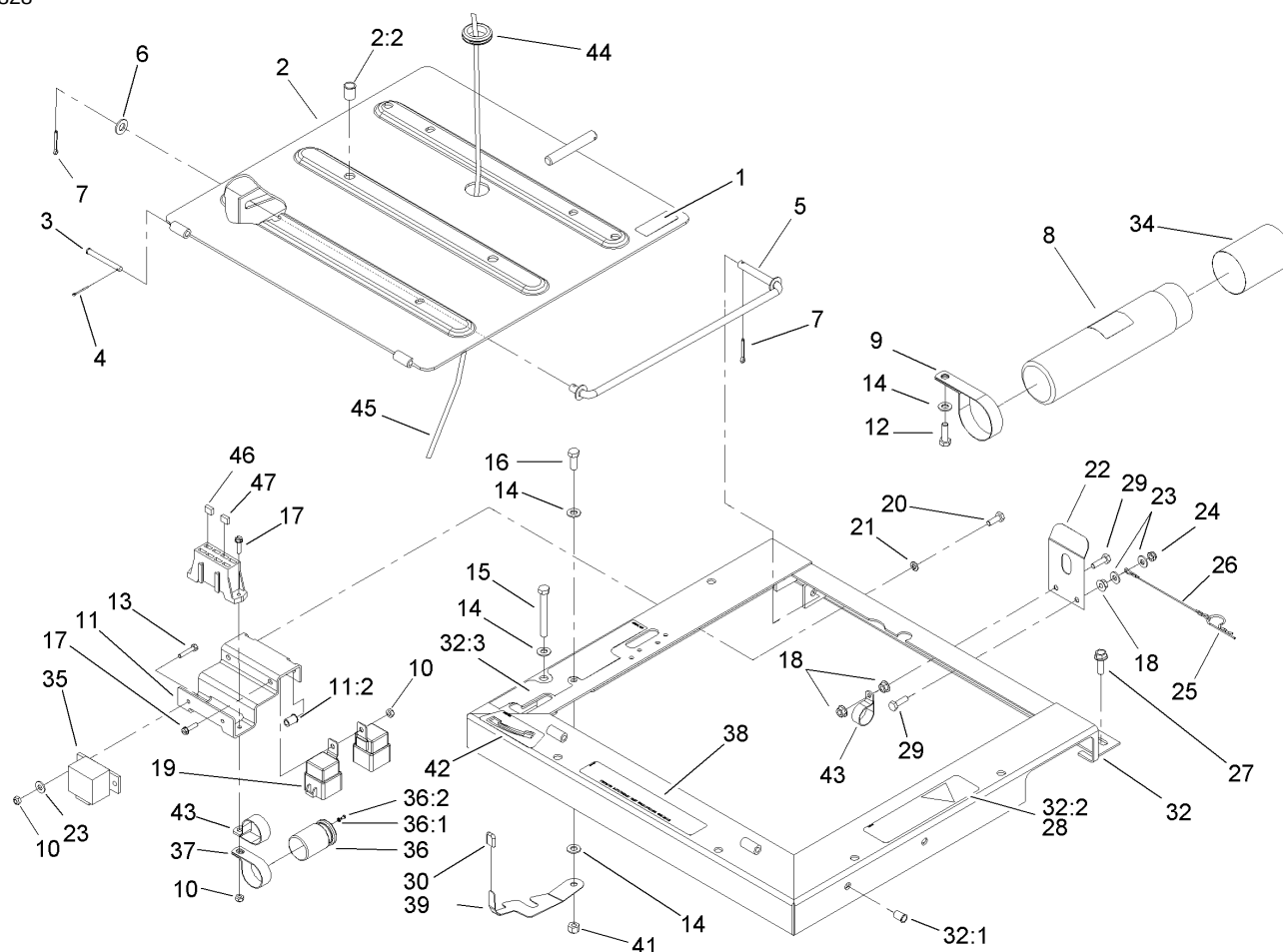
Ref	Part No.	Qty.	Description				
1	3296-29	3	Nut-Lock, NI	PROTOTYPE			
2	321-4	2	Screw-HH				
3	3296-42	4	Nut-Lock, NI				
4	3256-23	2	Washer-Flat				
6	46-8810	1	Stop-Leaf Spring				
7	29-6170	1	Extended Leaf Spring ASM				
8	251-259	1	Bearing-Ball				
9	322-17	1	Screw-HH				
10	29-6150	1	Spring-Leaf				
11	29-9790-03	1	Pump Lever ASM				
12	321-9	2	Screw-HH				
13	52-9070	1	Plate-Pump				
14	52-8890-03	1	Mounting Bracket ASM				
15	29-6163	1	Switch-Micro				
16	32105-21	2	Screw-HH				
17	3230-2	2	Bolt-CARR				
18	51-3150	1	Shim-Spring Arm				
19	3210-7	1	Screw-HH				
20	3219-2	1	Nut-Hex				
22	3296-9	2	Nut-Lock, NI				



Seat Frame Assembly

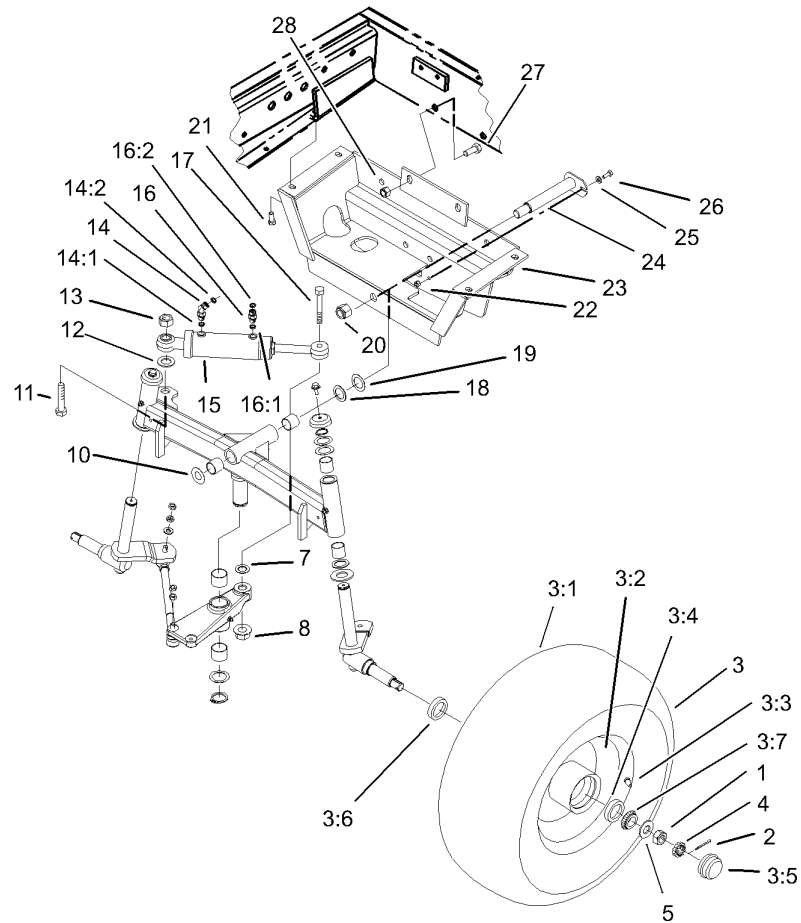
Ref	Part No.	Qty.	Description
1	93-6680	1	Decal-Diesel
2	92-5759	1	Plate-Seat
2:2	32148-9	2	Insert-Nut
3	283-49	2	Pin-Clevis
4	3272-4	2	Pin-Cotter
5	66-2800-03	1	Rod-Support
6	3256-24	1	Washer-Flat
7	3272-11	2	Pin-Cotter
8	104-7050	1	Housing-Manual
9	2412-133	2	R-Clamp
10	3296-12	6	Nut-Lock
11	105-0036	1	Fuse Block Bracket ASM
11:2	32148-6	2	Insert-Nut
12	322-5	2	Screw-HH
13	32105-12	2	Screw
14	3256-23	10	Washer-Flat
15	322-13	6	Screw-HH
16	322-4	1	Screw-HH
17	32105-13	4	Screw-SHH
18	32128-33	3	Nut-HF
19	70-1480	4	Relay
20	321-4	2	Screw-HH
21	3253-3	2	Washer-Lock
22	66-2630	1	Latch-Seat

Ref	Part No.	Qty.	Description
23	3256-22	3	Washer-Flat
24	3296-56	1	Nut-Lock, NI
25	3290-255	1	Pin-Cotter, Hair
26	28-8070	1	Lanyard
27	3234-17	2	Screw-HHF
28	93-7841	1	Decal-Warning, Intl
28	67-1710	1	Decal-Warning
29	321-5	2	Screw-HH
30	100-6576	1	Grip-Handle
32	92-8877	1	Seat Frame ASM
32:1	32148-6	4	Insert-Nut
32:2	67-1710	1	Decal-Warning
32:3	93-7833	1	Decal-Throttle And Lift Control
34	104-7048	1	Cap-Housing
35	66-8800	1	Relay
36	37-2690	1	Capacitor
36:1	3252-18	2	Screw
36:2	3254-1	2	Washer-Lock, Int
37	2412-74	1	R-Clamp
38	105-2511	1	Decal-Instructions, Starting (Int'l)
38	105-2509	1	Decal-Instructions, Starting
39	100-6551	1	Latch-Spring
41	3296-29	1	Nut-Lock, NI
42	100-6577	1	Decal-Lock, Lift



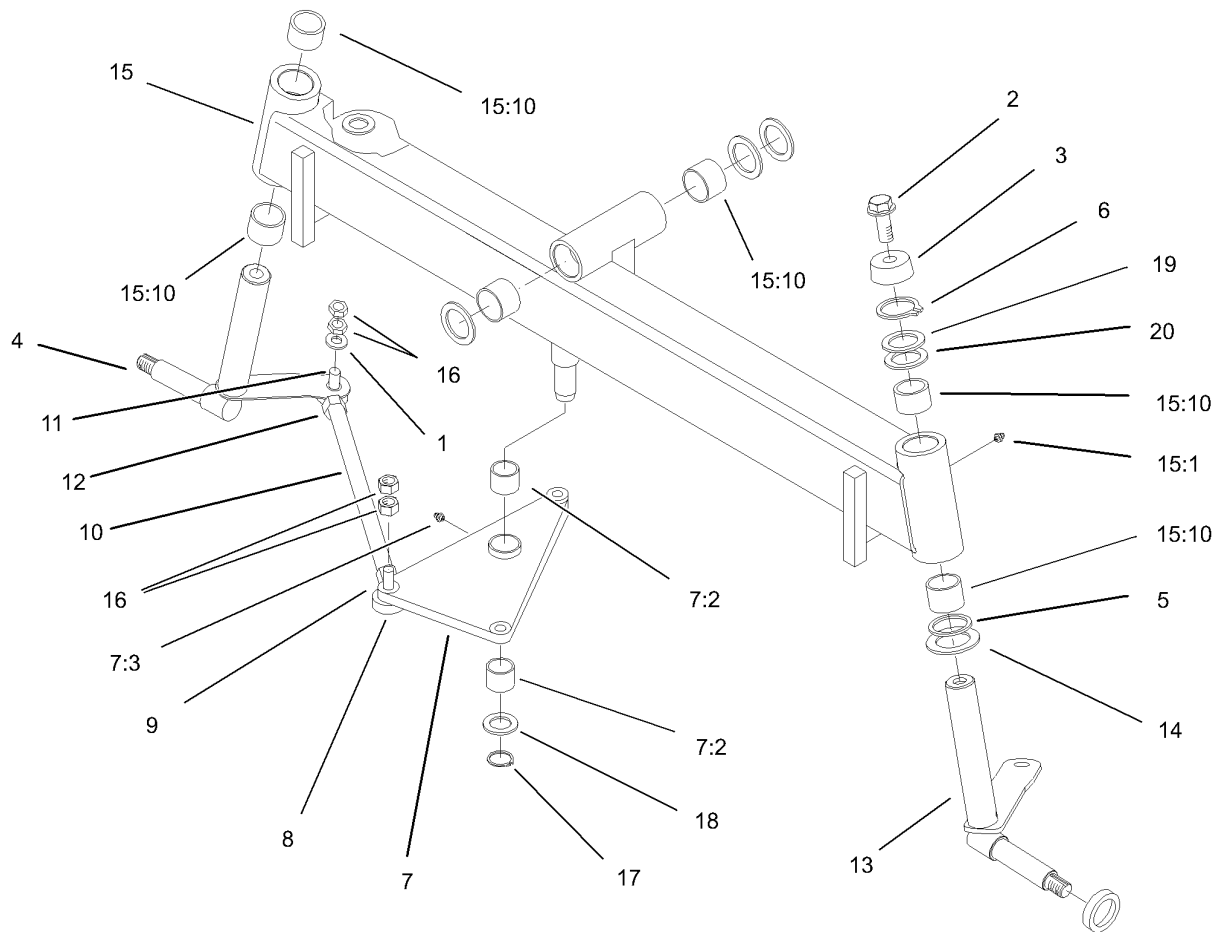
Seat Frame Assembly (continued)

Ref	Part No.	Qty.	Description				
43	2412-106	2	Clamp-R				
44	240-5	1	Grommet				
45	105-0025	1	Harness-Wire, Seat				
46	218-581	2	Fuse-15 Amp, 32 Volt				
47	218-574	2	Fuse 7.5 Amp (Blade Style)				



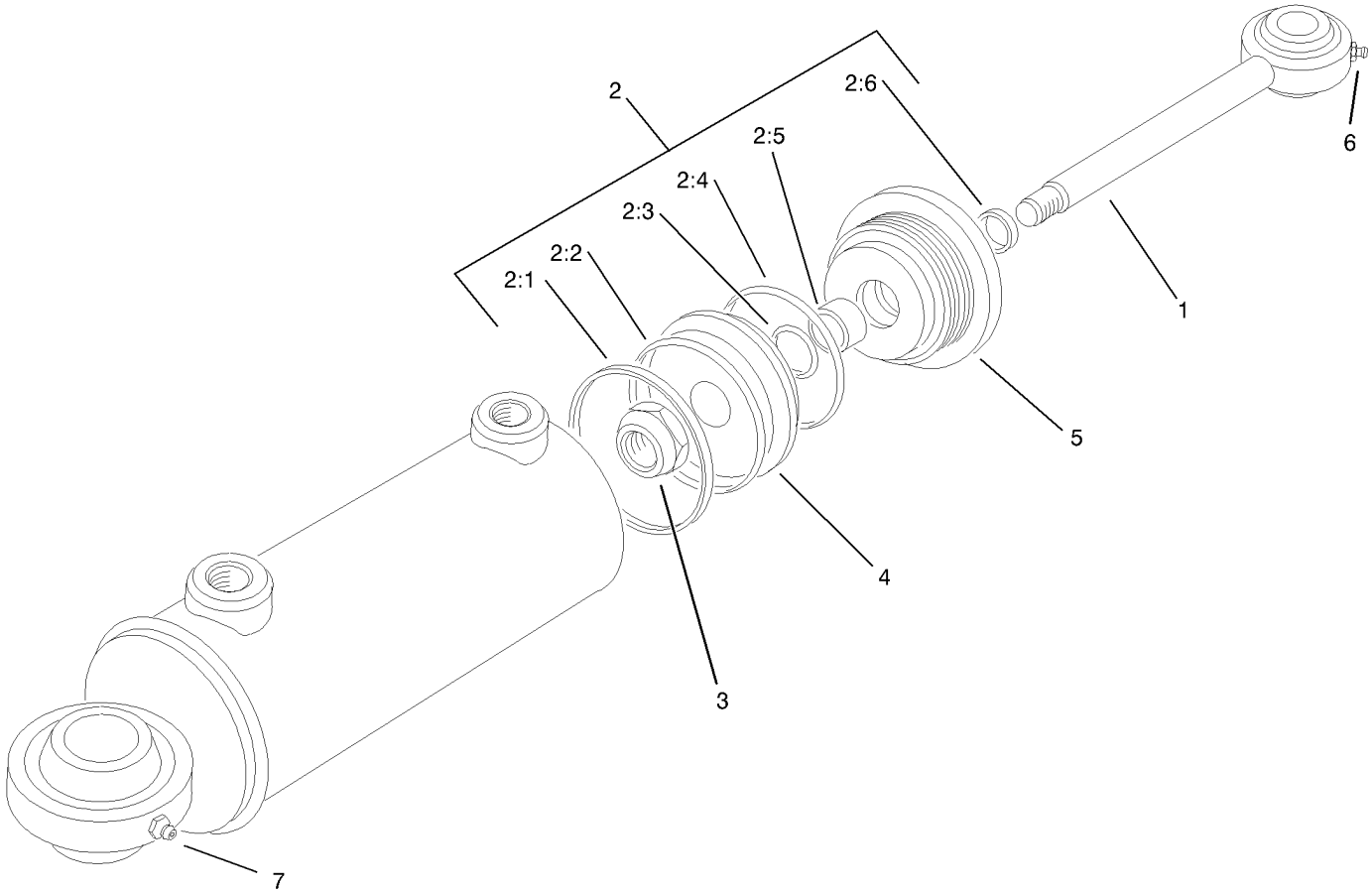
2 WD Rear Axle Assembly

Ref	Part No.	Qty.	Description	Ref	Part No.	Qty.	Description
1	3220-7	2	Nut-Jam	16:2	237-21	1	O-Ring
2	3272-13	2	Pin-Cotter	17	328-25	1	Screw-HH
3		2	Tire And Wheel ASM	18	10-8110	1	Washer-Thrust
3:1	231-105	1	Tire-Rib	19	56-2460	2	Washer-Flat
3:2	217-118	1	Wheel-8"	20	3296-51	1	Nut-Lock, NI
3:3	232-35	1	Valve Stem And Cap ASM	21	3234-25	4	Bolt-HF
3:4	254-72	2	Bearing-Cup, Tapered	22	3296-42	1	Nut-Lock, NI
3:5	241-119	1	Cap-Dust	23	63-6430-03	1	Frame-Rear
3:6	253-129	1	Seal	24	63-6770-03	1	Pin-Masked
3:7	254-94	2	Bearing-Cone, Taper	25	3256-22	1	Washer-Flat
4	93-0307	2	Nut-Lock, Retainer	26	321-4	1	Screw-HH
5	93-0309	2	Washer-Tab	27	325-5	2	Screw-HH
7	67-9410	1	Washer	28	3296-25	2	Nut-Lock, NI
8	32128-45	1	Locknut-Flange				
10	71-4540	1	Washer-Thrust				
11	67-7300	1	Screw-HH				
12	67-7250	1	Spacer-Ring				
13	32153-6	1	Locknut				
14	340-103	1	Fitting-Hyd, 45 DEG				
14:1	237-78	1	O-Ring				
14:2	237-21	1	O-Ring				
15	76-2070	1	Cylinder-Steering				
16	340-92	1	Fitting-Hyd, Straight				
16:1	237-78	1	O-Ring				



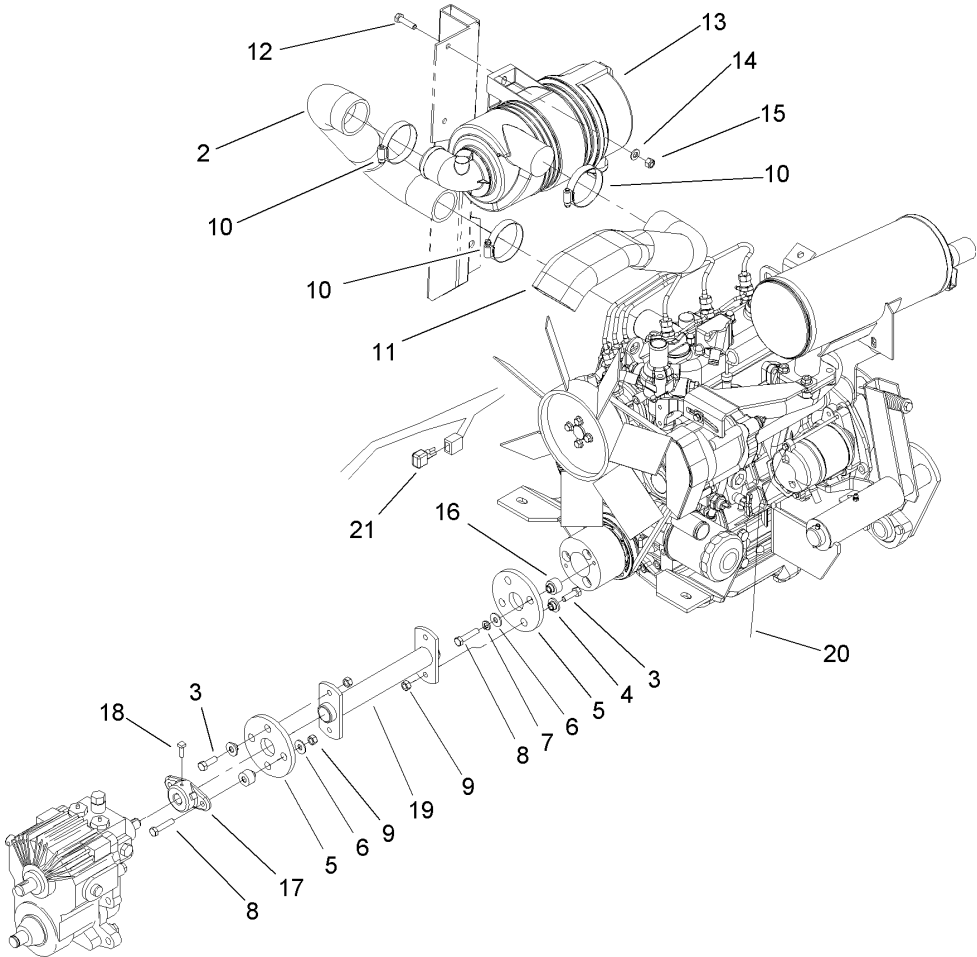
Axle Assembly

Ref	Part No.	Qty.	Description				
1	3256-24	2	Washer-Flat	PROTOTYPE			
2	3234-13	2	Screw-HHF				
3	66-2990	2	Cap-Spindle				
4	93-3196	1	RH Spindle ASM				
5	10-8110	4	Washer-Thrust				
6	32151-36	2	Ring-Retaining				
7	100-6598	1	Steering Pivot ASM				
7:2	76-2970	2	Bushing-Straight				
7:3	302-5	1	Fitting-Grease				
8	21-0151	2	LH Ball Joint ASM				
9	3220-12	2	Nut-Hj, LH Thread				
10	63-6880	2	Tie Rod-Steering				
11	21-0141	2	RH Ball Joint ASM				
12	3220-5	2	Nut-Jam				
13	93-3195	1	LH Spindle ASM				
14	256-121	2	Washer-Thrust				
15	76-3000	1	Axle-Rear				
15:1	302-5	3	Fitting-Grease				
15:10	67-1750	6	Bushing				
16	3220-3	8	Nut-Jam				
17	32151-77	1	Ring-Retaining, Ext				
18	76-2980	1	Washer-Thrust				
19	56-2460	2	Washer-Flat				
20	5-1226	2	Washer				



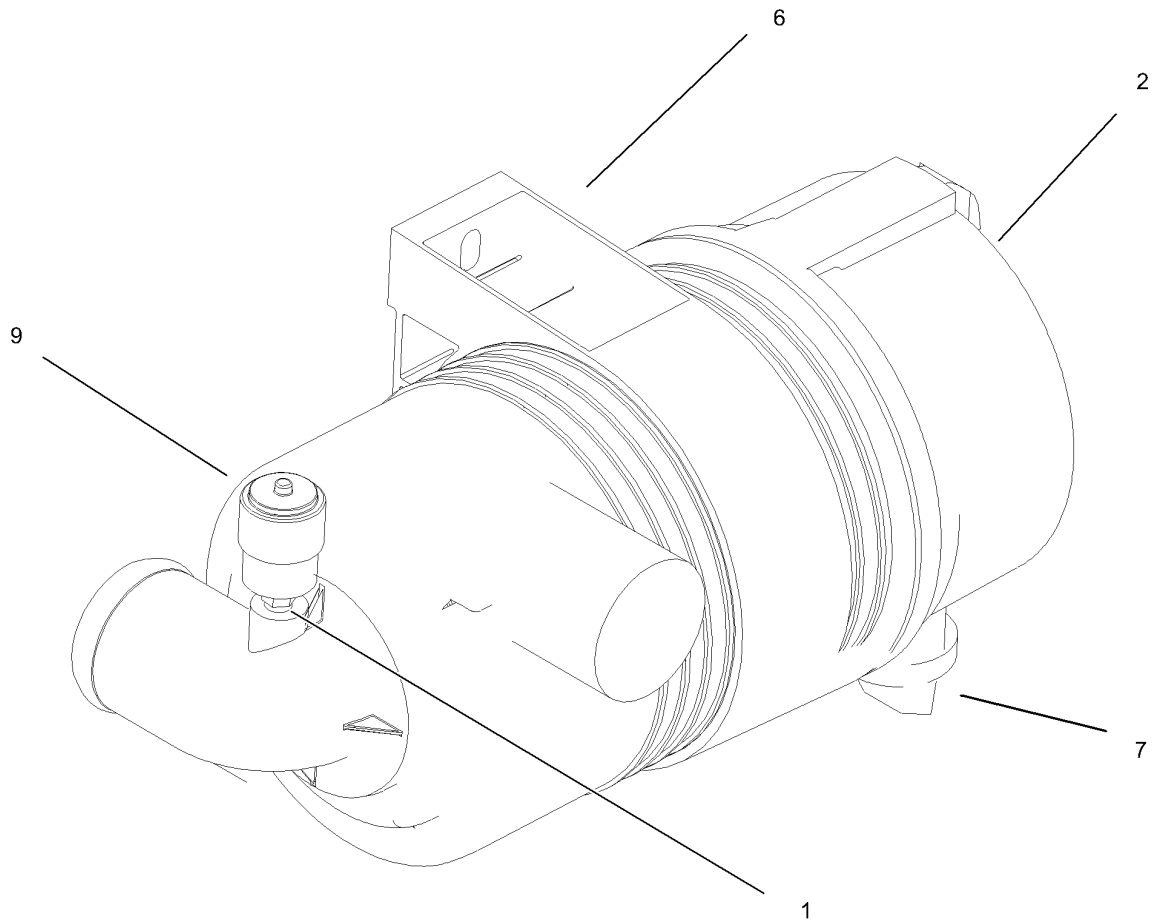
Steering Cylinder Assembly No. 76-2070

Ref	Part No.	Qty.	Description				
1	76-2090	1	Rod-Piston	PROTOTYPE			
2		1	Seal Kit				
2:1		1	Seal				
2:2		1	O-Ring				
2:3		1	O-Ring				
2:4		1	O-Ring				
2:5		1	U-Cup				
2:6		1	Wiper				
3	302-40	1	Nut-Lock				
4		1	Piston				
5		1	Gland				
6	302-5	1	Fitting-Grease				
7		1	Fitting-Grease				



Engine Installation and Drive Coupling Assembly

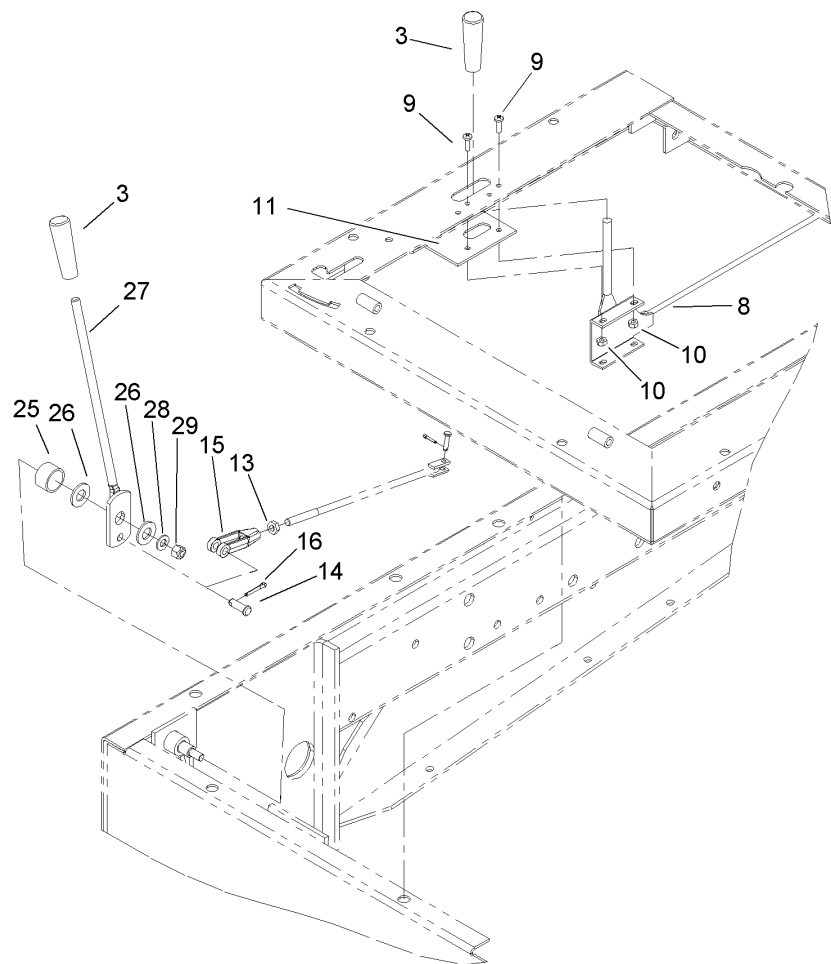
Ref	Part No.	Qty.	Description				
2	104-3446	1	Hose-Outlet, Air	PROTOTYPE			
3	3210-5	4	Screw-HH				
4	27-6600	4	Spacer-Coupling				
5	44-2230	2	Coupling-Rubber				
6	3256-71	4	Washer-Flat				
7	42-9850	2	Washer-Lock, Spring				
8	3210-8	4	Screw-HH				
9	32152-5	6	Nut-Conelock				
10	2412-42	3	Clamp-Hose				
11	104-3444	1	Hose-Inlet, Air				
12	322-6	2	Screw-HH				
13	104-3427	1	Air Cleaner ASM				
14	3256-23	2	Washer-Flat				
15	3296-29	2	Nut-Lock, NI				
16	27-6590	4	Spacer-Coupling, Rubber				
17	27-4370	1	Hub-Pump				
18	3241-6	2	Screw-SQH				
19	104-3401-03	1	Drive Shaft ASM				
20	99-3441	1	Harness-Wire, Fusible Link				
21	100-4918	3	Diode				



Air Cleaner Assembly No. 104-3427

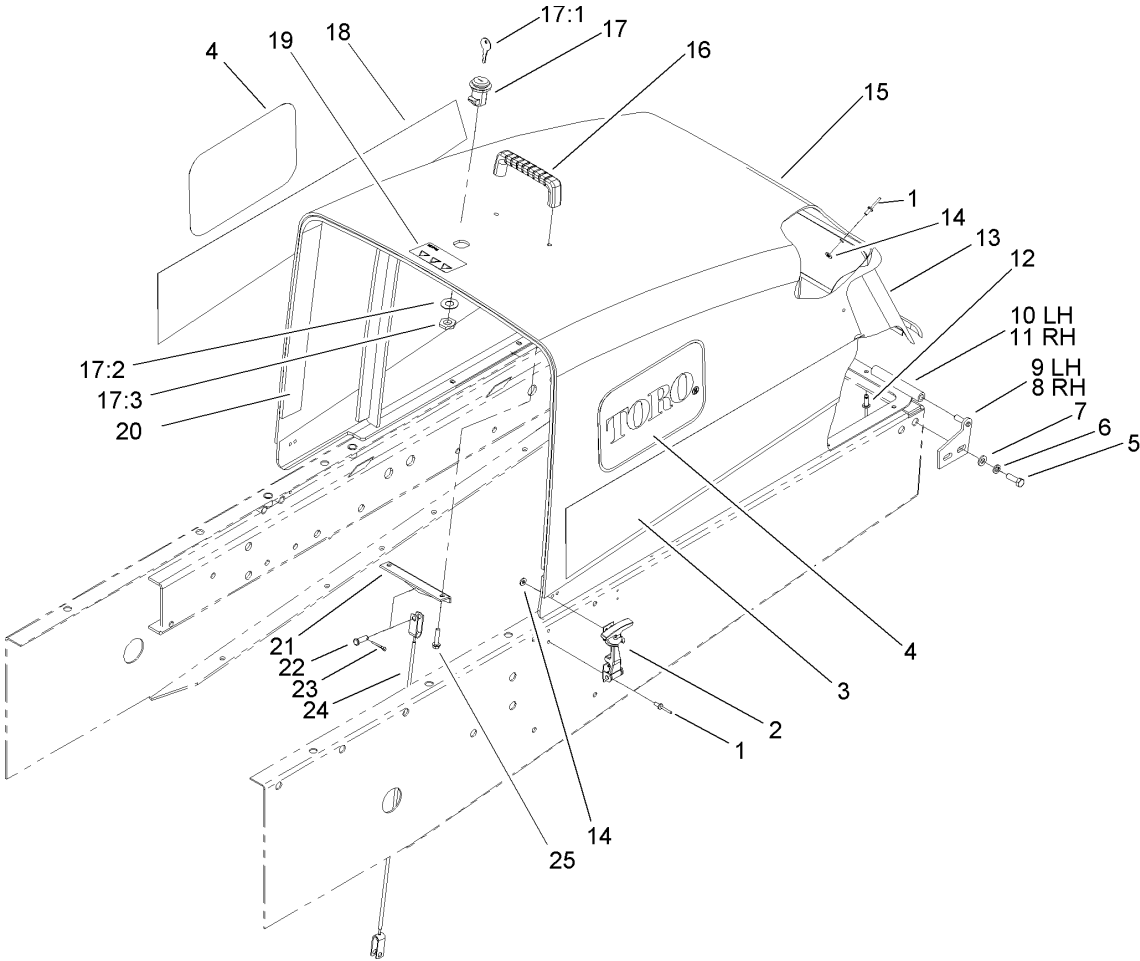
Ref	Part No.	Qty.	Description				
1	105-4292	1	Nipple-Pipe				
2	104-0497	1	Cover ASM				
6	98-4525	1	Bracket-Cleaner, Air				
7	104-0498	1	Valve-Vacuator				
8	98-9763	1	Element ASM				
9	93-9164	1	Indicator-Mini				

PROTOTYPE



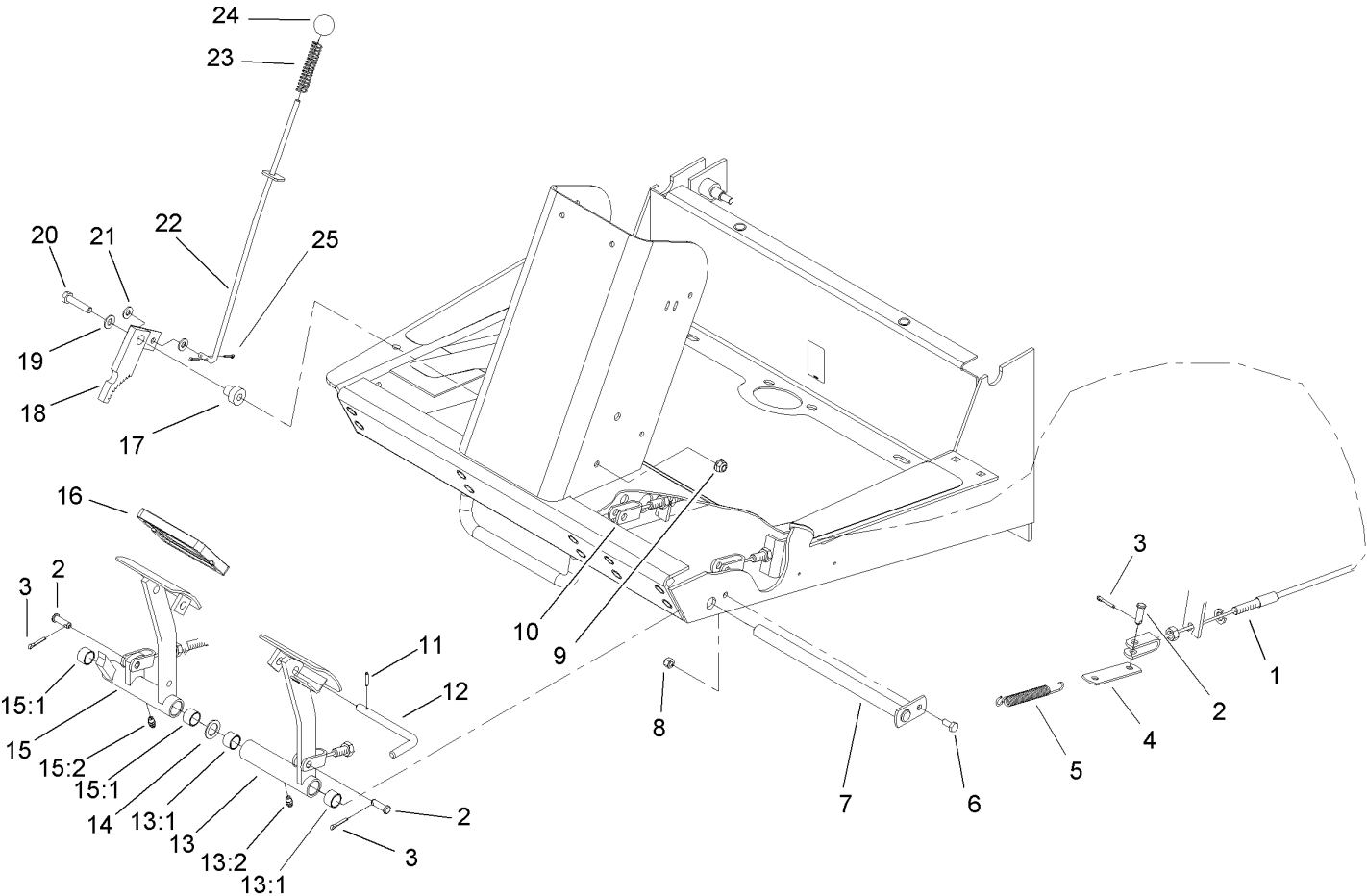
Throttle and Lift Lever Assembly

Ref	Part No.	Qty.	Description				
3	233-39	2	Knob-Control				
8	107-2906	1	Cable-Throttle				
9	3290-500	2	Screw-PPH				
10	3296-2	2	Nut-Lock				
11	107-9058-03	1	Plate-Throttle Lever				
13	3220-2	1	Nut				
14	283-58	1	Pin-Clevis				
15	282-27	1	Clevis-Adj				
16	3272-10	1	Pin-Cotter				
25	70-7530	1	Spring-Compression				
26	3256-26	2	Washer-Flat				
27	66-2720-03	1	Valve Lever ASM				
28	3256-23	1	Washer-Flat				
29	3296-29	1	Nut-Lock, NI				



Hood Assembly

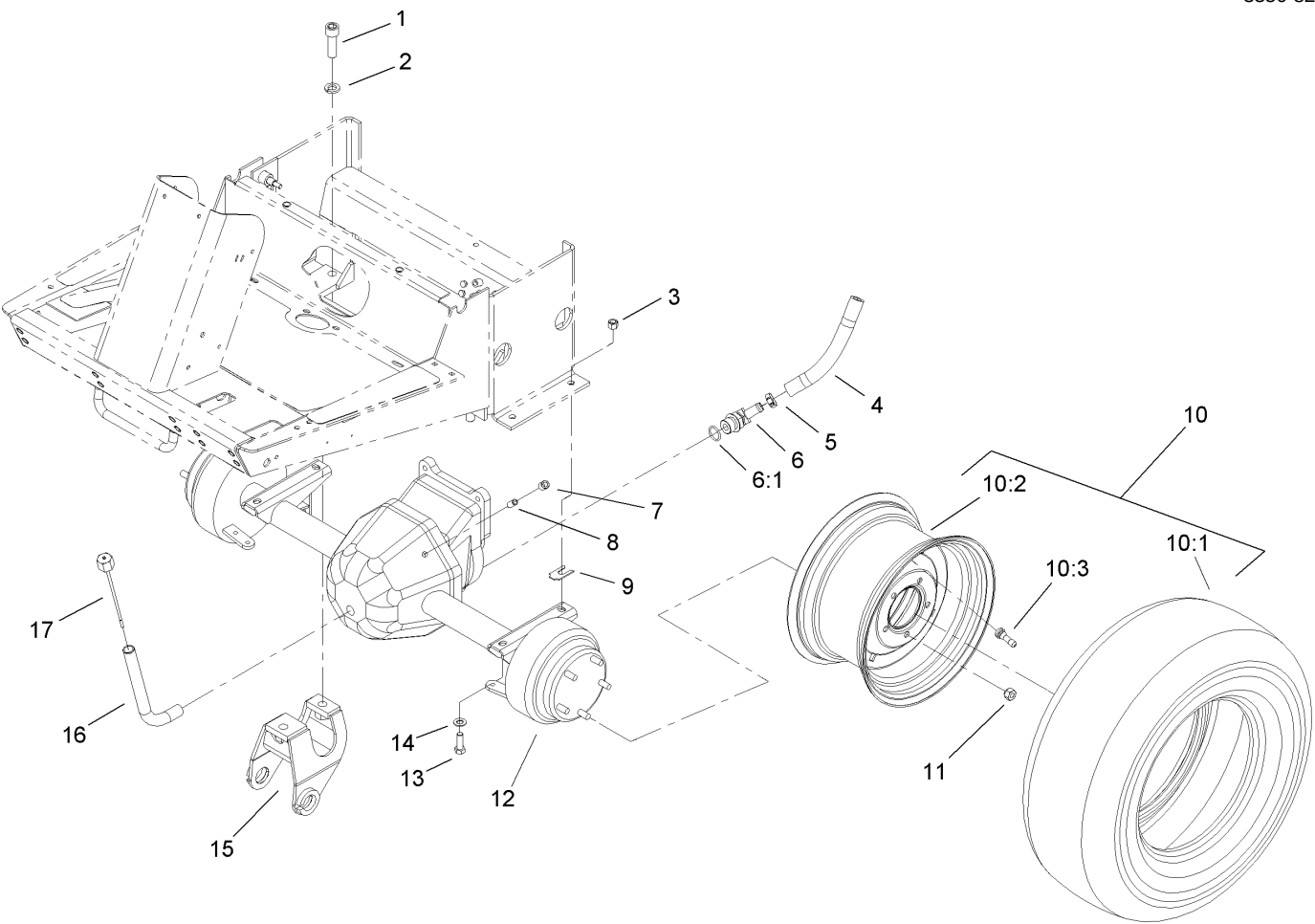
Ref	Part No.	Qty.	Description	Ref	Part No.	Qty.	Description
1	3269-4	18	Rivet-Pop	22	283-58	2	Pin-Clevis
2	95-6339	2	Latch	23	3272-10	2	Pin-Cotter
3	106-4393	1	Decal-LH	24	105-3650	1	Cable-Hood
4	66-6140	2	Decal	25	46-8092	2	Screw-Plastite
5	322-5	4	Screw-HH				
6	3253-4	4	Washer-Lock				
7	3256-23	4	Washer-Flat				
8	105-0003-01	1	RH Hinge Pin ASM				
9	105-0004-01	1	LH Hinge Pin ASM				
10	105-4278-03	1	LH Hood Hinge ASM				
11	105-4277-03	1	RH Hood Hinge ASM				
12	3290-412	12	Rivet				
13	105-0006-03	1	Screen-Hood				
14	3256-14	14	Washer-Flat				
15	104-3485	1	Hood				
16	65-5100	1	Handle-Door				
17	98-9315	1	Latch-Locking				
17:1	99-8350	2	Key-Latch, Locking				
17:2		1	Washer-Switch				
17:3		1	Nut-Switch				
18	106-4392	1	Decal-RH				
19	106-6754	1	Decal-Danger				
20	105-3651	1	Strip-Foam				
21	105-0088-03	1	Bracket-Cable, Hood				



Brake Pedal Assembly

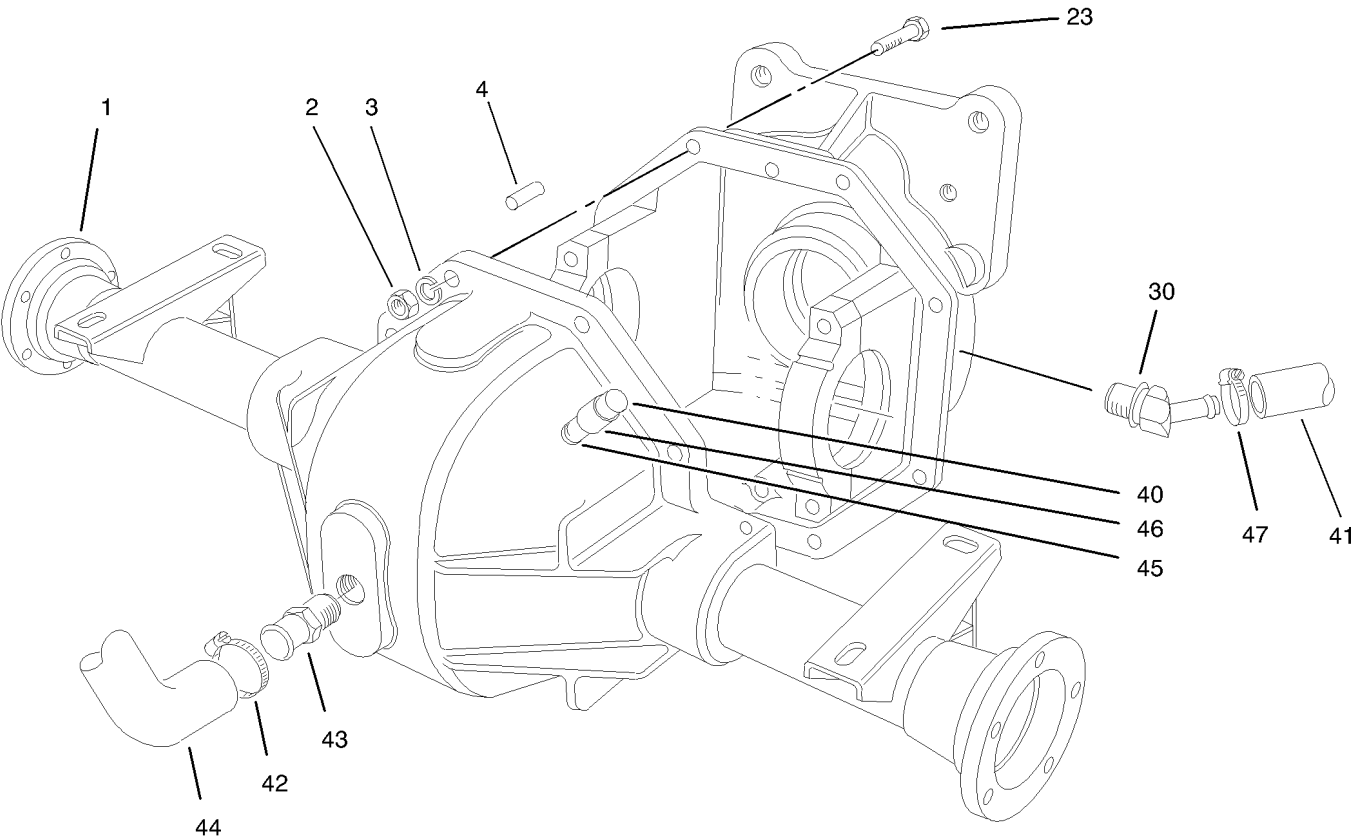
Ref	Part No.	Qty.	Description
1	63-7731	1	Cable-Brake
2	283-58	4	Pin-Clevis
3	3272-10	4	Pin-Cotter
4	63-6750	2	Link-Cable, Brake
5	3-7243	2	Spring-Extension
6	321-3	1	Screw-HH
7	63-6210-03	1	Pin-Brake
8	3296-42	1	Nut-Lock, NI
9	104-8300	1	Nut-Flange, NI
10	63-7730	1	Cable-Brake
11	32121-50	1	Pin-Spring
12	63-7880	1	Pin-Latch, Brake
13	63-6180	1	Pedal-Brake, LH
13:1	256-42	2	Bushing
13:2	302-5	1	Fitting-Grease
14	3256-69	2	Washer-Flat
15	63-6190	1	Pedal-Brake, RH
15:1	256-42	2	Bushing
15:2	302-5	1	Fitting-Grease
16	93-8742	2	Footpad-Brake
17	105-7156	1	Spacer
18	63-7900-03	1	Rack ASM
19	3256-23	1	Washer-Flat
20	322-7	1	Screw-HH

Ref	Part No.	Qty.	Description
21	3256-22	2	Washer-Flat
22	105-7168	1	Rod ASM
23	71-8310	1	Spring-Compression
24	233-17	1	Knob
25	3272-5	2	Pin-Cotter



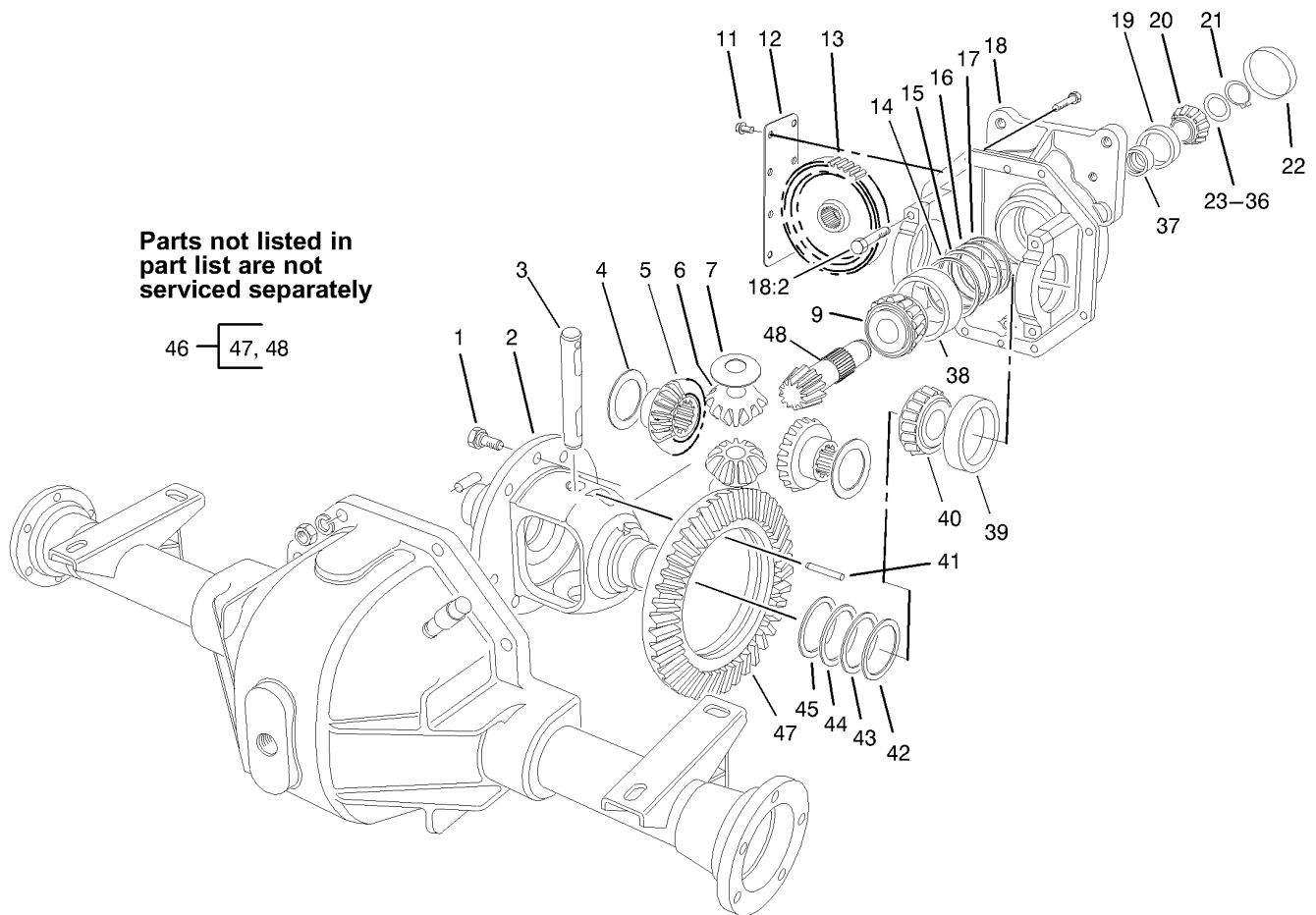
Front Axle Assembly

Ref	Part No.	Qty.	Description				
1	3273-38	4	Screw-HSH	PROTOTYPE			
2	3253-8	4	Washer-Lock				
3	3296-48	4	Nut-Lock, NI				
4	92-5083	1	Hose-Hydraulic				
5	2412-34	1	Clamp-Hose				
6	92-5088	1	Fitting-Elbow-45				
6:1	237-81	1	O-Ring				
7	2810-1	1	Coupling-Pipe				
8	289-6	1	Nipple-Pipe				
9	42-6080	1	Shim-Axle				
10		2	Wheel And Tire ASM				
10:1	95-3348	1	Tire				
10:2	217-117	1	Wheel				
10:3	232-27	1	Stem-Valve				
11	23-7270	10	Nut-Wheel				
12	86-9640-03	1	Front Axle ASM				
13	324-5	4	Screw-HH				
14	3256-25	4	Washer-Flat				
15	98-2328-03	2	Bracket-Carrier				
16	105-7169	1	Tube-Oil Fill				
17	105-7172	1	Dipstick ASM				



Differential Assembly

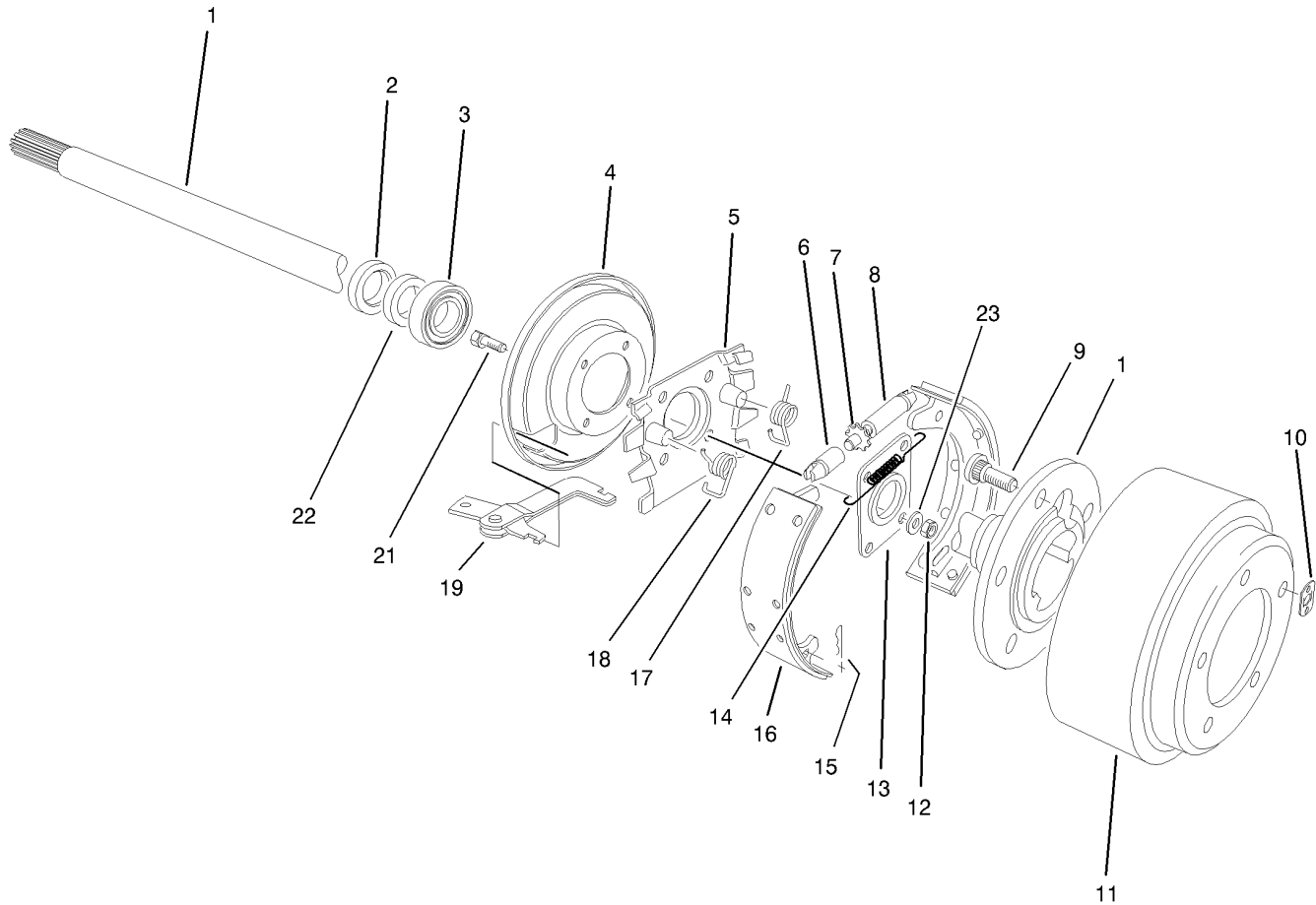
Ref	Part No.	Qty.	Description				
1	63-8090-03	1	Lower Housing ASM				
2	3219-2	8	Nut-Hex				
3	3255-8	8	Washer-Lock				
4	21-8270	2	Pin-Dowel				
23	3210-7	8	Screw-HH				
30	92-5088	1	Fitting-Elbow-45				
40	72-9420	1	Vent				
41	92-5083	1	Hose-Hydraulic				
42	2412-34	2	Clamp-Hose				
43	354-71	1	Fitting-Hyd, Barbed				
44	77-0550	1	Hose-Fill, Differential				
45	289-6	1	Nipple-Pipe				
46	2810-1	1	Coupling-Pipe				
47	2412-119	1	Clamp-Worm				



Differential Carrier Assembly No. 92-4909

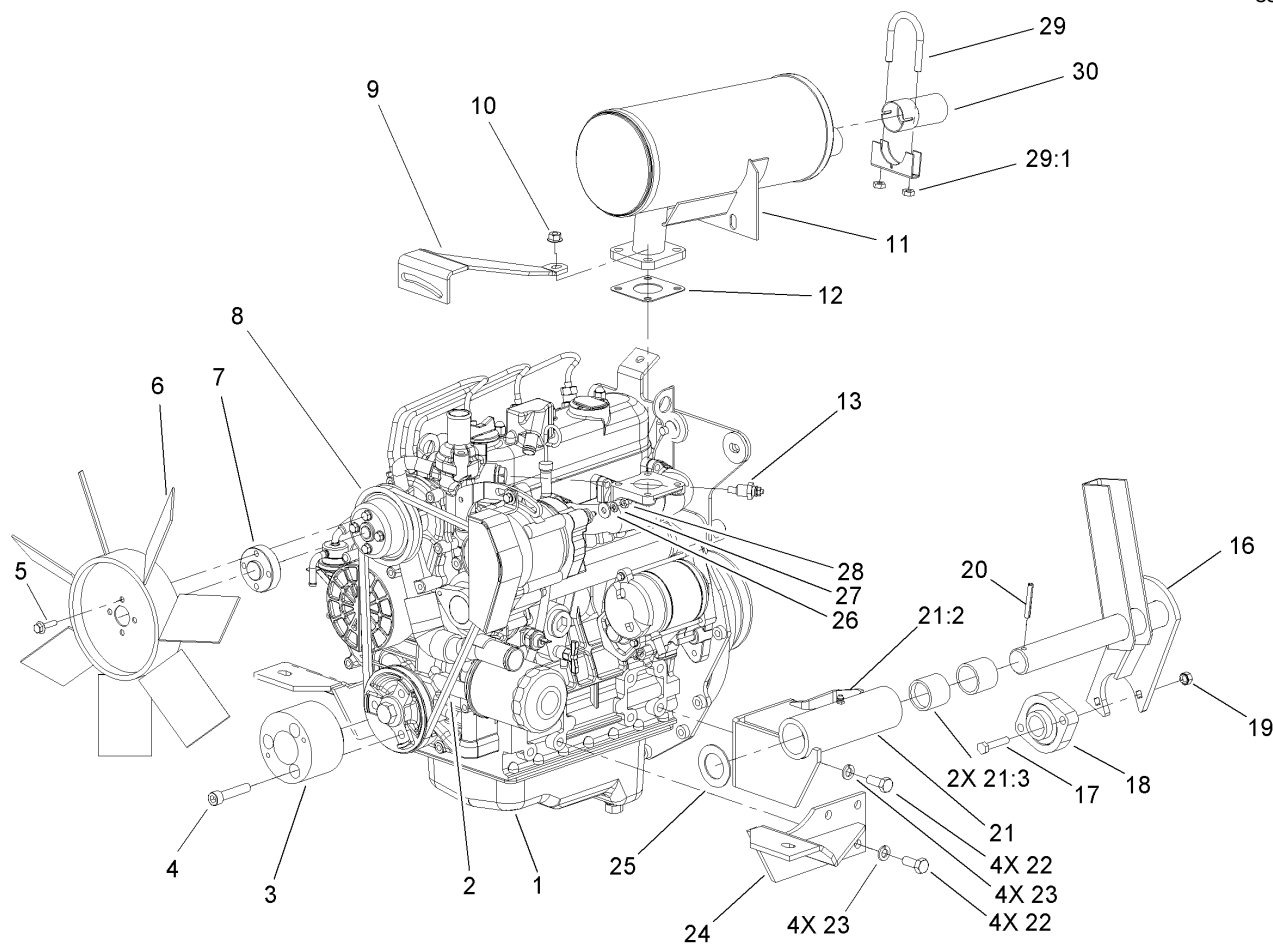
Ref	Part No.	Qty.	Description
1	21-7770	5	Screw-Gear, Drive
2	21-7670	1	Case-Differential
3	21-7700	1	Shaft-Mate, Pinion
4	21-7720	2	Washer-Thrust
5	24-8790	2	Gear-Differential
6	21-7690	2	Pinion-Differential
7	21-7730	2	Washer-Thrust, Pinion
9	43-6760	1	Bearing-Roller, Cone Taper
11	12-5450	8	Screw
12	21-7830	1	Cover-Gear
13	86-7230	1	Gear-Input, Transmission
14	43-6710	1	Shim
15	43-6711	1	Shim
16	43-6712	1	Shim
17	43-6713	1	Shim
18	86-7930	1	Upper Housing ASM
18:2	92-1773	4	Screw-HHF
19	254-90	1	Bearing-Cup
20	254-91	1	Cone-Bearing
21	43-6550	1	Ring-Snap
22	21-7850	1	Cup Plug
23	46-2210	1	Shim-Front Bearing
24	46-2211	1	Shim-Front Bearing, .033
25	46-2212	1	Shim-Front Bearing, .035

Ref	Part No.	Qty.	Description
26	46-2213	1	Shim-Front Bearing, .037
27	46-2214	1	Shim-Front Bearing, .039
28	46-2215	1	Shim-Front Bearing, .041
29	46-2216	1	Shim-Front Bearing, .043
30	46-2220	1	Shim-Front Bearing, .045
31	46-2221	1	Shim-Front Bearing, .047
32	46-2222	1	Shim-Front Bearing, .049
33	46-2223	1	Shim-Front Bearing, .051
34	46-2224	1	Shim-Front Bearing, .053
35	46-2225	1	Shim-Front Bearing, .055
36	46-2226	1	Shim-Front Bearing, .057
37	21-8020	1	Spacer-Bearing
38	43-6750	1	Bearing-Taper, Cup
39	254-66	2	Cup-Bearing, Roller
40	254-65	2	Cone-Bearing, Roller
41	32121-15	1	Pin-Roll
42	21-8090	1	Shim-Bearing, Diff. (.003)
43	21-8100	1	Shim-Bearing, Diff. (.005)
44	21-8110	1	Shim-Bearing, Diff. (.010)
45	21-8120	1	Shim-Bearing, Diff. (.030)
46	92-4848	1	Gear And Pinion ASM
47		1	Gear-Ring
48		1	Pinion



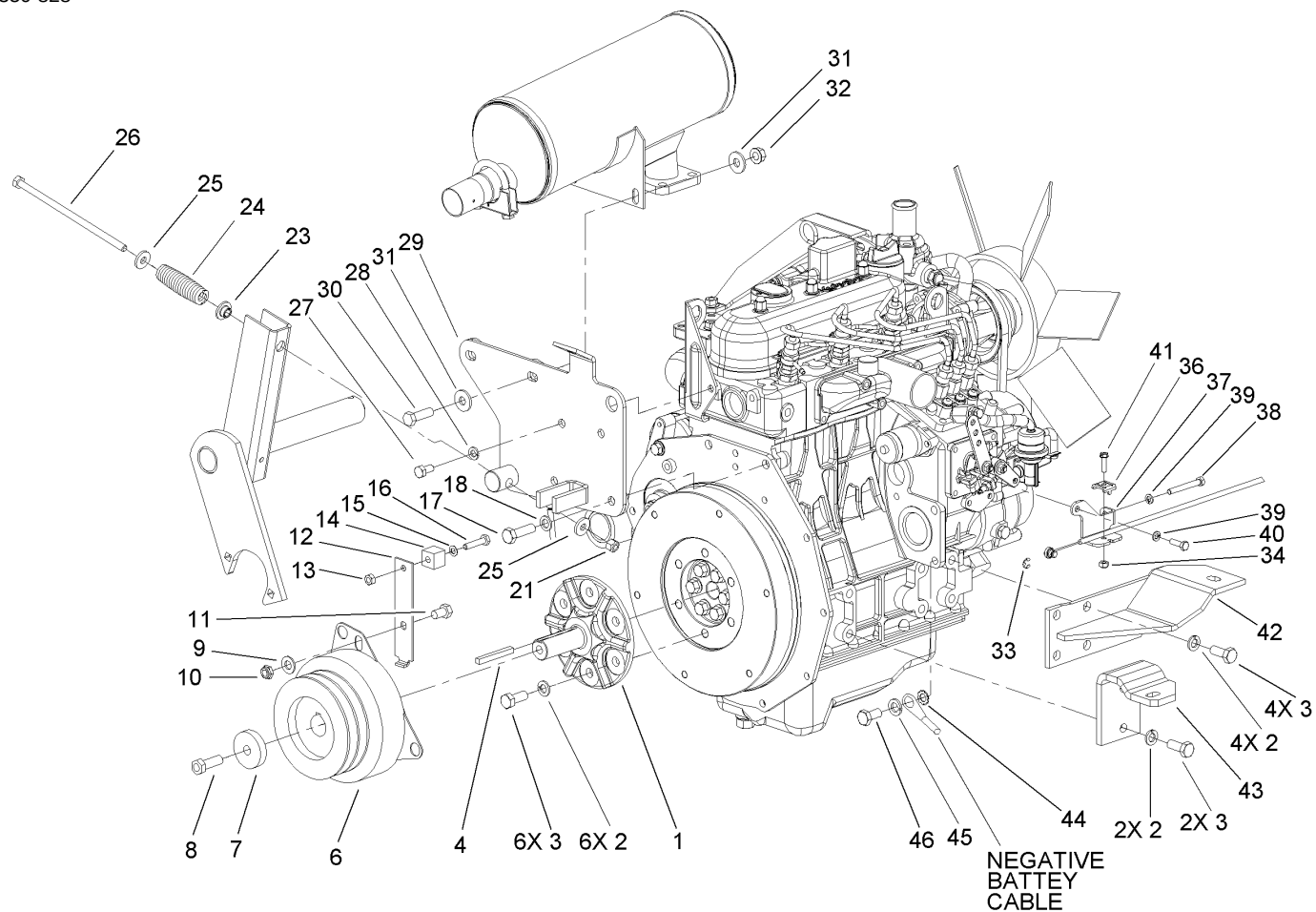
Brake Assembly

Ref	Part No.	Qty.	Description				
❶ 1	27-6851	1	Shaft-Flanged Axle, RH				
1	27-6861	1	Shaft-Flanged Axle, LH				
2	92-1774	2	Seal-Oil				
3	21-8180	2	Bearing ASM				
4	21-9450	2	Shield-Dust				
5	43-6810	2	Spider-Torque				
6	21-9390	2	Socket-Screw, Adjusting				
7	21-9370	2	Screw-Adjusting				
8	21-9380	2	Nut-Pivot				
9	242-34	10	Stud-Drive				
10	21-8360	2	Locknut				
11	28-0680	2	Drum-Brake				
12	94-6935	8	Locknut				
13	28-0670	2	Seal-Grease				
14	21-9440	2	Spring-Screw, Adjusting				
15	21-9460	4	Retainer-Lever, Brake				
16	84-8600	1	Set-Shoes, Lined				
17	21-9430	2	Spring-Return, RH				
18	21-9420	2	Spring-Return, LH				
19	24-9180	2	Strut And Lever ASM				
21	94-6934	8	Screw-Hh, Brake				
22	24-8840	2	Ring-Retaining, Wheel Bearing				
23	94-6936	8	Washer-Hardened				
❶ 24	92-8775	1	Liquid Gasket Kit				



Engine Mounting and Component Assembly

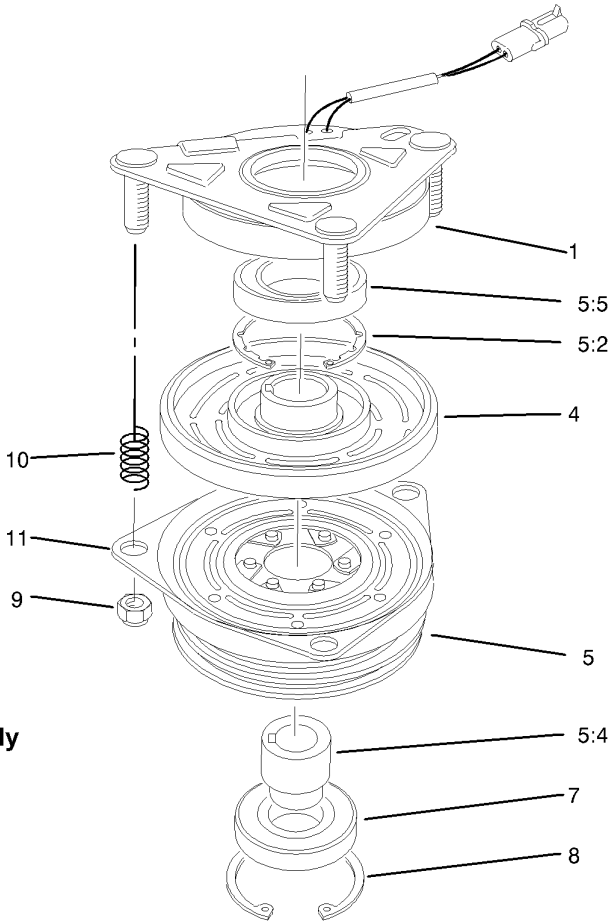
Ref	Part No.	Qty.	Description	Ref	Part No.	Qty.	Description
1	106-4385	1	Engine ASM-Kubota	22	43-0090	8	Screw-HH
2	104-3494	1	Belt-V	23	42-9600	8	Lockwasher-Spring
3	104-1723	1	Adapter-Front Drive	24	104-1702-03	1	Engine Mount ASM
4	3274-106	3	Screw-HSH	25	3-4324	1	Washer-Flat
5	33103-025	4	Screw-HHF	26	3256-78	1	Washer-Flat
6	104-4246	1	Fan-Engine	27	43-5930	1	Washer-Spring
7	105-0000	1	Spacer-Fan	28	48-7890	1	Nut
8	104-3497	1	Pulley-Fan	29	2112-9	1	Clamp
9	105-2556-03	1	Brace-Alternator, Upper	29:1	32128-20	2	Nut-HF
10	33004-00	4	Nut-HF	30	105-4269	1	Extension-Tailpipe
11	106-8069	1	Muffler-Exhaust				
12	98-9611	1	Gasket				
13	98-9346	1	Sender-Temperature				
16	106-4381-03	1	PTO Tension Shaft ASM				
17	322-7	2	Screw-HH				
18	92-8799	1	Bearing-Flange				
18:1	251-77	1	Lockcollar-Bearing				
18:2	3246-1	1	Screw-Set				
18:3	302-40	1	Fitting-Grease				
19	32149-1	2	Nut				
20	32121-32	1	Pin-Roll				
21	104-3417	1	Lr Engine Mount ASM				
21:2	302-5	1	Fitting-Grease				
21:3	256-299	2	Bushing-Straight				



Engine and Clutch Hub Assembly

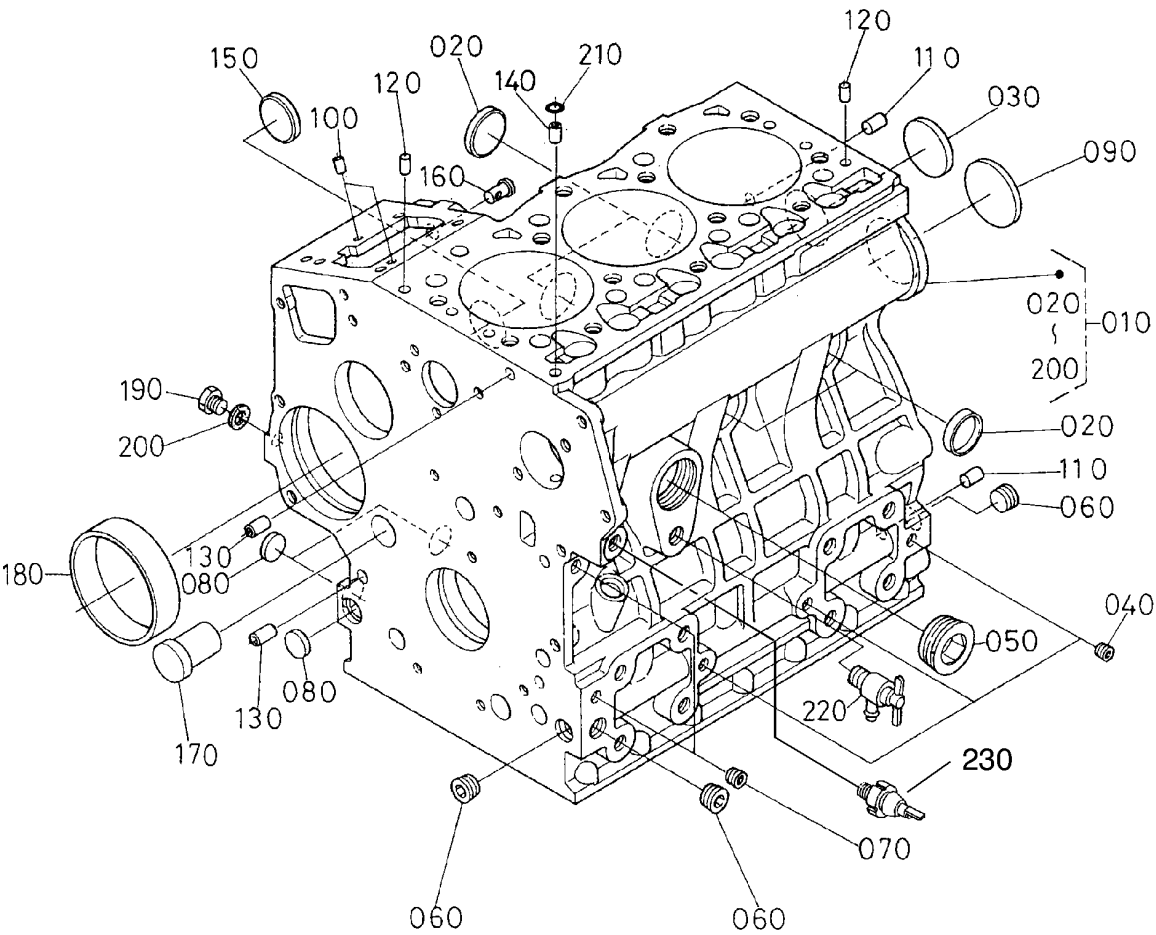
Ref	Part No.	Qty.	Description	Ref	Part No.	Qty.	Description
1	104-1715	1	Hub-Clutch	29	106-4379-03	1	Muffler Mount ASM
2	42-9600	12	Lockwasher-Spring	30	323-44	2	Screw-HH
3	43-0090	12	Screw-HH	31	80-6990	4	Washer-Hardened
4	18-6430	1	Key-Square	32	32128-21	2	Nut-HF
6	100-6565	1	Electric Clutch/brake ASM	33	701197	1	E-Ring
7	105-3698	1	Spacer	34	3296-2	1	Nut-Lock
8	3212-5	1	Screw-HH	36	81-1690	1	Clamp-Cable
9	3256-24	1	Washer-Flat	37	106-8097-03	1	Bracket-Throttle
10	3296-59	1	Nut-Lock, NI	38	33113-050	1	Screw-HH
11	323-34	1	Screw-HH	39	48-8020	2	Washer-Spring
12	94-7438	1	Lever-Clutch Anchor	40	48-7630	1	Screw
13	32153-4	1	Locknut	41	32105-13	1	Screw-SHH
14	95-6328	1	Bumper-Electric Clutch	42	104-1710-03	1	Engine Mount ASM
15	3256-60	1	Washer-Flat	43	104-1713-03	1	Mount-Engine
16	321-8	1	Screw-HH	44	3255-9	1	Washer-Lock, Ext
17	56-2140	2	Bolt	45	3253-6	1	Washer-Lock
18	48-9590	2	Washer-Lock	46	63-7790	1	Screw-Cap
21	3296-29	1	Nut-Lock, NI				
23	27-6600	1	Spacer-Coupling				
24	21-0400-01	1	Spring-Compression				
25	4-2390	2	Washer-Flat				
26	94-7431	1	Bolt-HH				
27	33114-016	2	Screw-HH				
28	3253-4	2	Washer-Lock				

Parts not listed in
part list are not
serviced separately



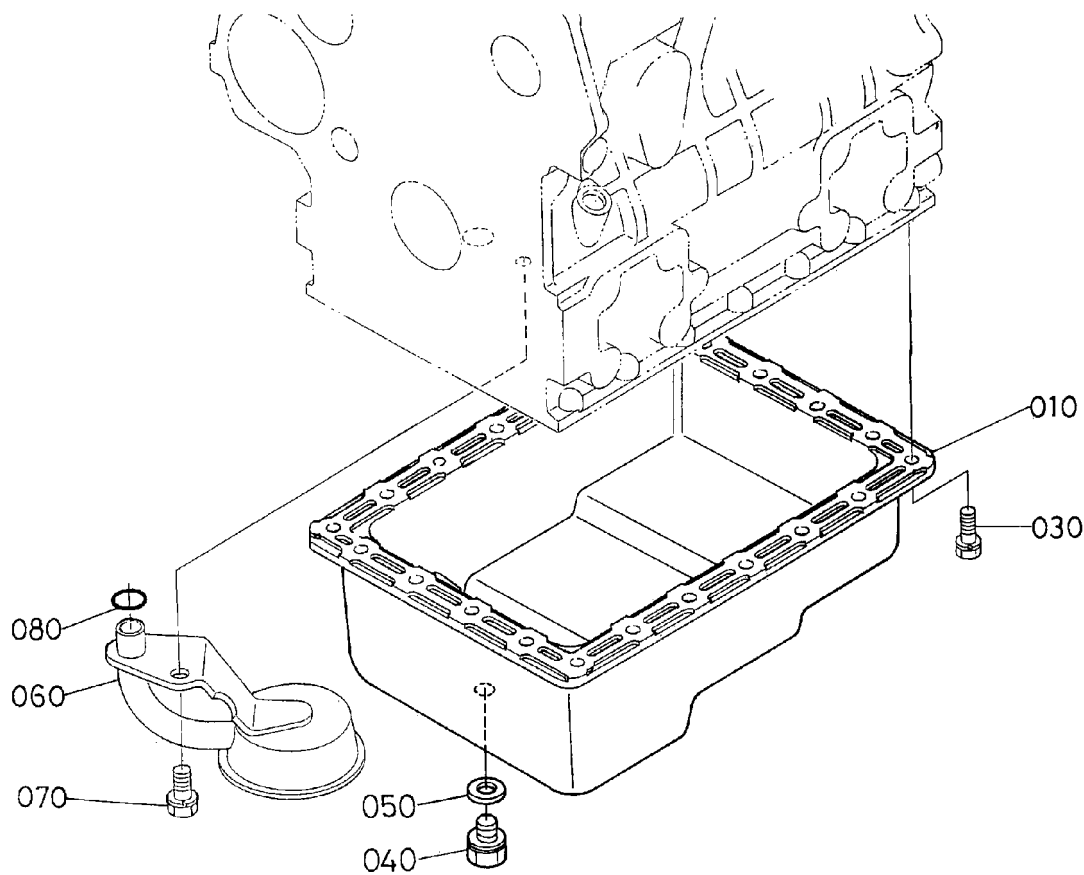
Electric Clutch / Brake Assembly No. 100-6565

Ref	Part No.	Qty.	Description				
1	100-6563	1	Field And Rotor				
122		1	Bearing-Field				
123		1	Ring-Retaining				
124		1	Field Coil ASM				
5	67-7070	1	Armature And Pulley ASM				
5:2	67-7060	1	Ring-Retaining				
5:4	67-7080	1	Sleeve-Bearing, Armature				
5:5	67-7090	1	Bearing-Armature				
126		1	Collar-Bearing				
7	67-7090	1	Bearing-Armature				
8	67-7060	1	Ring-Retaining				
9	3296-6	3	Nut-Lock, NI				
10	44-8320	3	Spring				
11	67-7100	1	Plate-Brake				



Crankcase Assembly

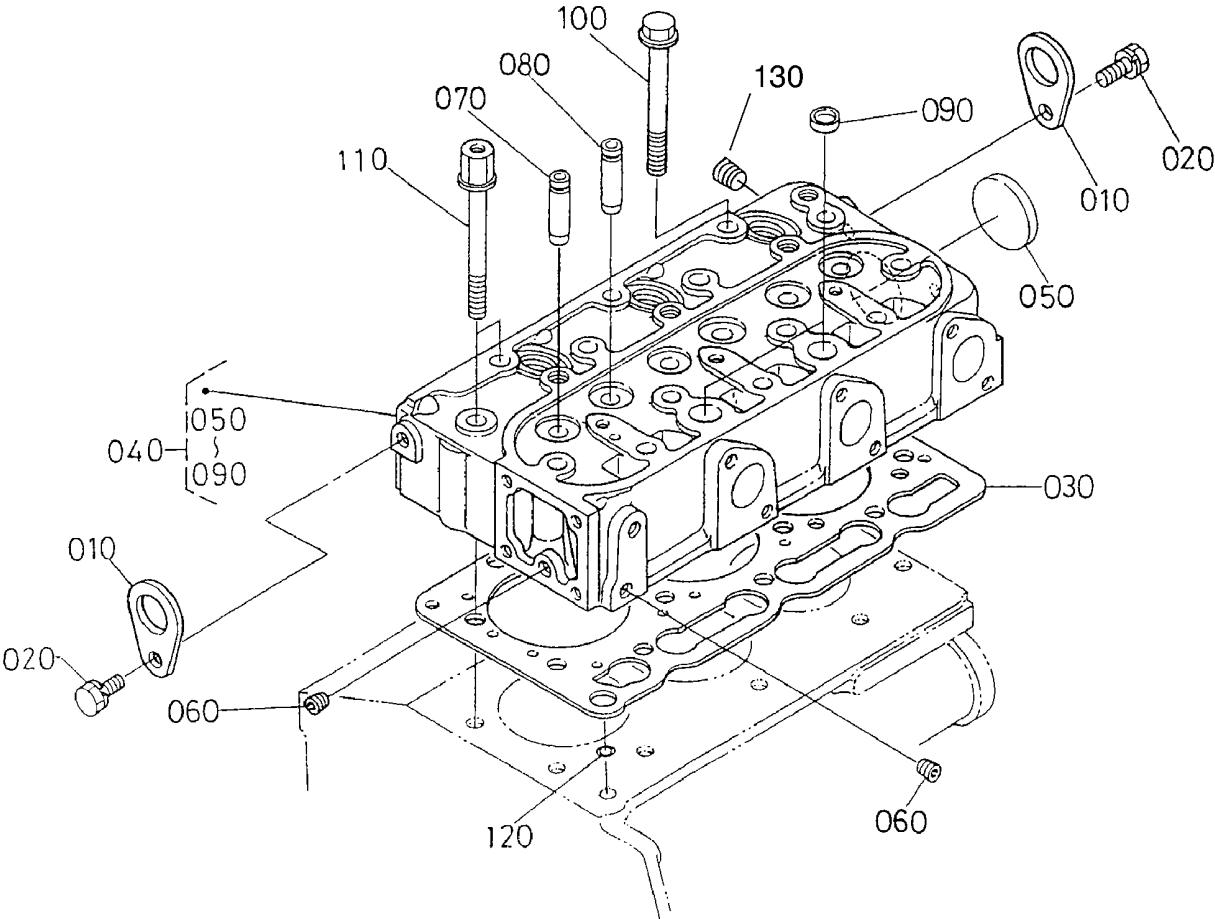
Ref	Part No.	Qty.	Description				
010	105-3778	1	Crankcase ASM				
020	98-9398	4	Cap-Sealing				
030	98-7539	1	Cap-Sealing				
040	98-7540	3	Cap-Sealing				
050	105-3779	1	Plug				
060	98-9597	3	Plug				
070	98-7487	2	Plug				
080	98-7489	3	Plug				
090	98-9668	1	Plug				
100	105-3793	2	Pin-Straight				
110	105-3794	2	Pin-Straight				
120	105-3795	2	Pin-Straight				
130	98-9387	2	Pin-Pipe				
140	98-9539	1	Pin-Pipe				
150	98-9599	1	Plug				
160	98-9630	1	Pin-Spring, Start				
170	98-9675	1	Plug				
180	98-9656	1	Bushing-Governor, Gear				
190	98-7507	1	Plug				
200	98-7428	1	Gasket				
210	98-7509	1	O-Ring				
220	98-9436	1	Drain Cock ASM				
230	98-9416	1	Switch-Oil				



Oil Pan Assembly

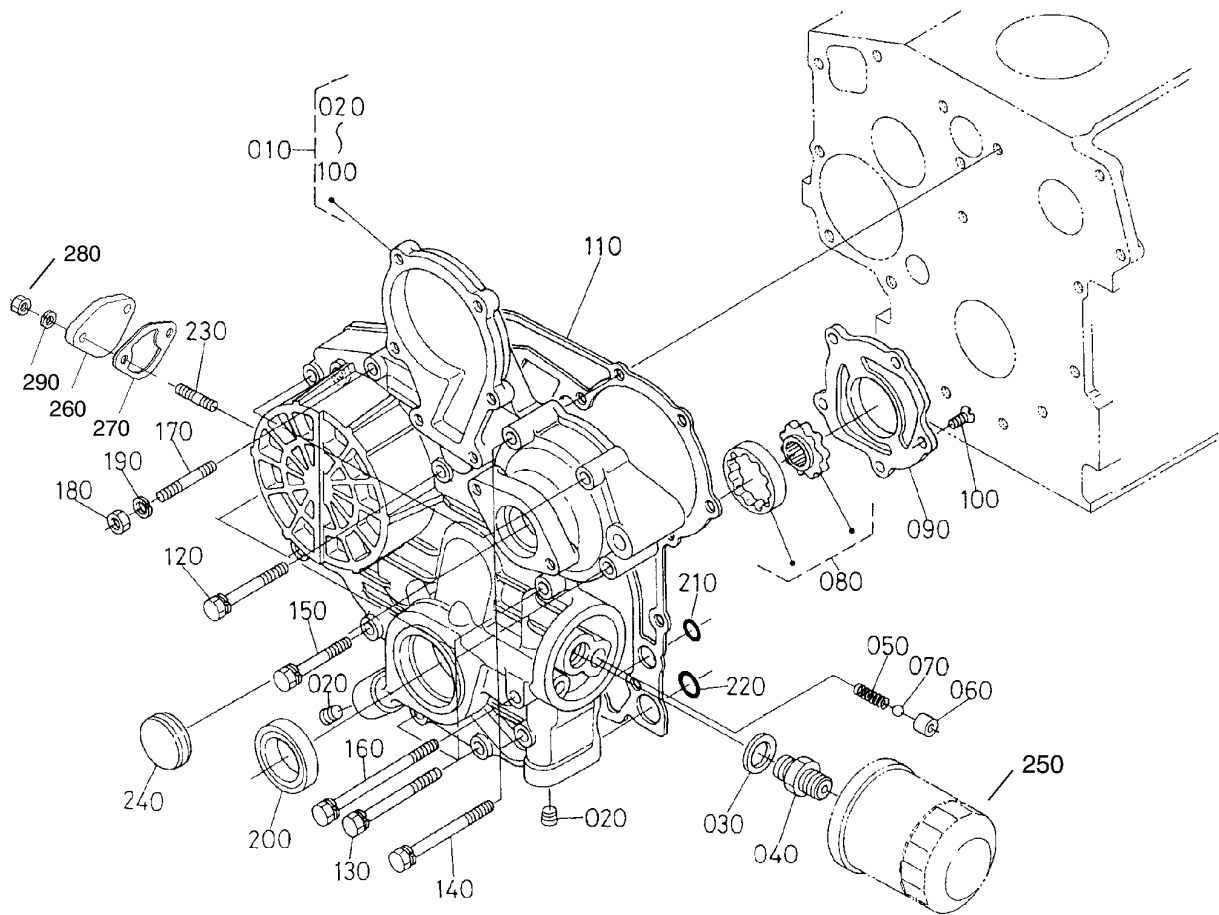
Ref	Part No.	Qty.	Description				
010	104-3495	1	Pan-Oil				
030	98-9350	2	Bolt				
040	98-9386	1	Plug				
050	98-7524	1	Gasket				
060	104-3496	1	Filter-Oil Pickup				
070	98-9358	1	Bolt				
080	105-3776	1	O-Ring				

PROTOTYPE



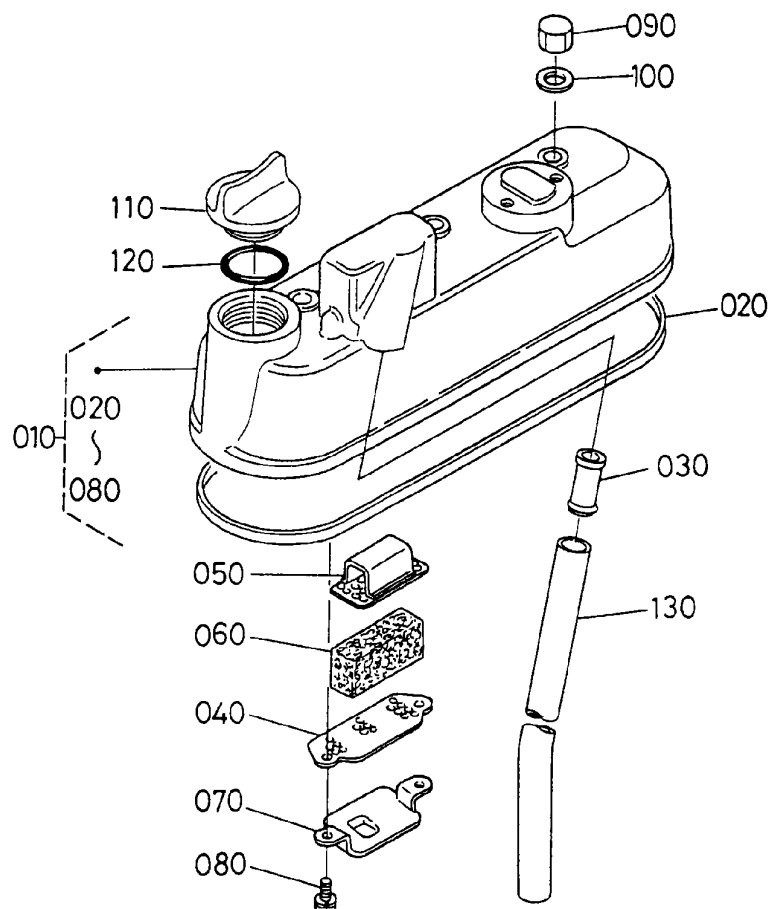
Cylinder Head Assembly

Ref	Part No.	Qty.	Description				
010	98-7531	2	Hook-Engine				
020	100-9195	2	Bolt				
030	105-3780	1	Gasket-Head, Cylinder				
040	98-9460	1	Cylinder Head ASM				
050	98-9395	1	Cap-Sealing				
060	98-7540	2	Cap-Sealing				
070	98-9499	3	Guide-Valve, Inlet				
080	98-9500	3	Guide-Valve, Exhaust				
090	98-9389	2	Cap-Sealing				
100	98-9479	1	Bolt-Head, Cylinder				
110	98-9647	2	Bolt-Head, Cylinder				
120	98-7509	1	O-Ring				
130	98-9444	1	Plug				



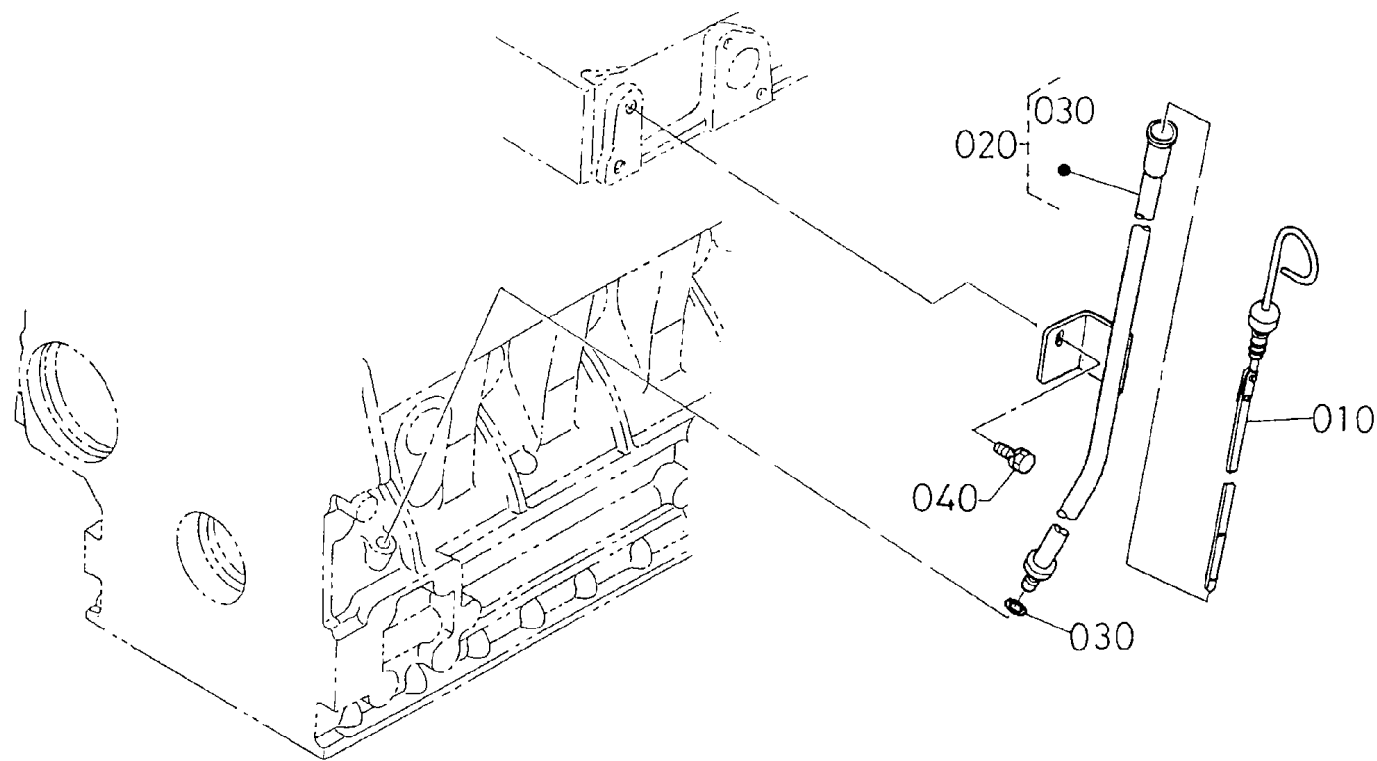
Gear Case, Oil Filter and Cover Assembly

Ref	Part No.	Qty.	Description	Ref	Part No.	Qty.	Description
010	98-9481	1	Gear Case ASM	250	99-8384	1	Filter-Oil
020	98-9598	1	Plug	260	99-3514	1	Cover
030	98-7562	1	Washer-Plain	270	98-9636	1	Gasket-Pump, Fuel
040	98-9388	1	Joint-Pipe	280	98-7572	2	Nut
050	98-9544	1	Spring	290	98-7699	2	Washer-Spring
060	98-9543	1	Seat-Valve				
070	98-9380	1	Ball				
080	98-9540	1	Oil Pump Rotor ASM				
090	98-9541	1	Cover-Pump, Oil				
100	98-9592	5	Screw				
110	98-9633	1	Gasket-Case, Gear				
120	98-7496	3	Bolt				
130	105-3797	6	Bolt				
140	98-9356	2	Bolt				
150	98-9437	1	Bolt				
160	98-9586	1	Bolt				
170	105-3709	1	Stud				
180	98-7572	1	Nut				
190	98-7699	1	Washer-Spring				
200	98-9482	1	Seal-Oil				
210	105-3781	2	O-Ring				
220	105-3777	2	O-Ring				
230	105-3710	2	Stud				
240	98-9641	1	Cover				



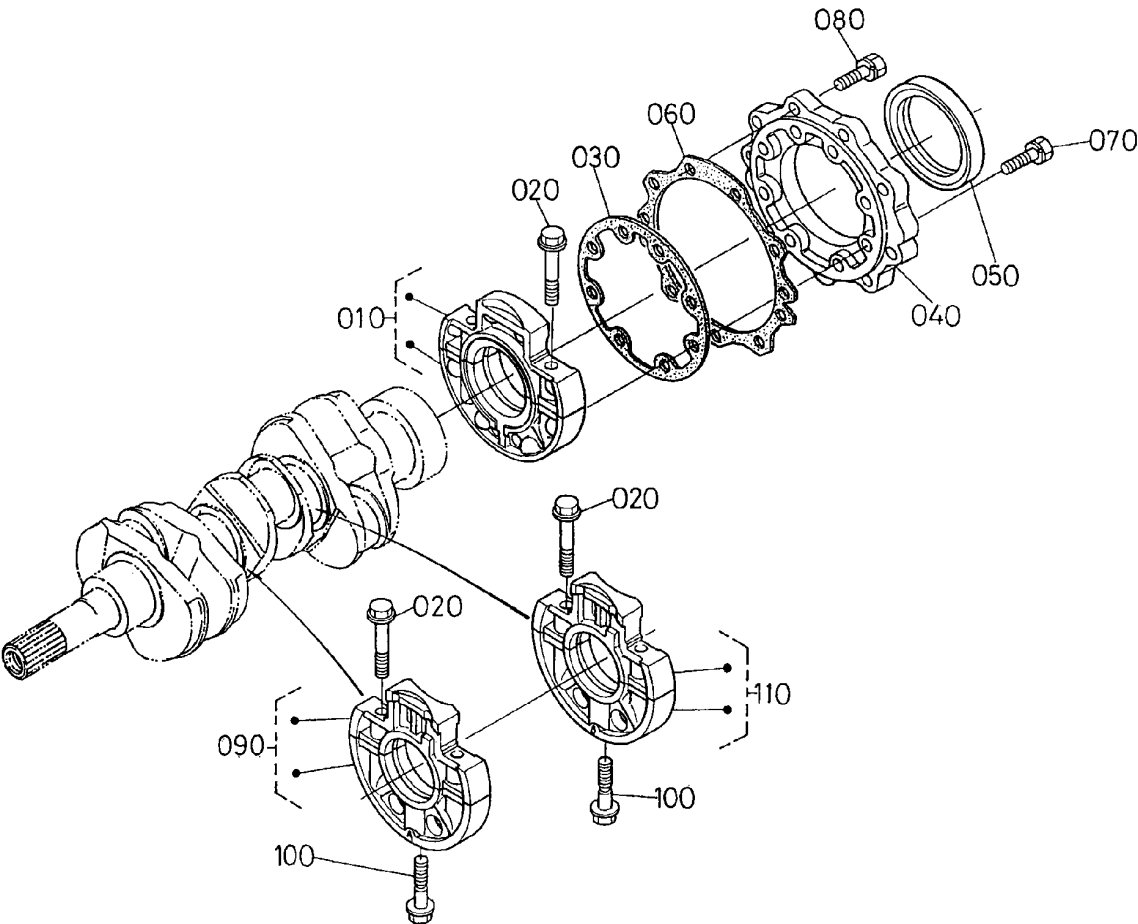
Head Cover Assembly

Ref	Part No.	Qty.	Description				
010	98-9614	1	Cylinder Head Cover ASM				
020	98-9615	1	Gasket-Cover, Head				
030	98-9492	1	Joint-Pipe, Breather				
040	98-9488	1	Plate-Element, Breather				
050	98-9489	1	Plate-Element, Breather				
060	98-9493	1	Element-Breather				
070	98-9490	1	Shield-Oil, Breather				
080	105-3782	2	Screw W/washer				
090	98-9455	3	Nut-Cap				
100	98-9454	3	Gasket				
110	98-9449	1	Plug-Filler, Oil				
120	99-3446	1	O-Ring				
130	98-9491	1	Pipe-Breather				



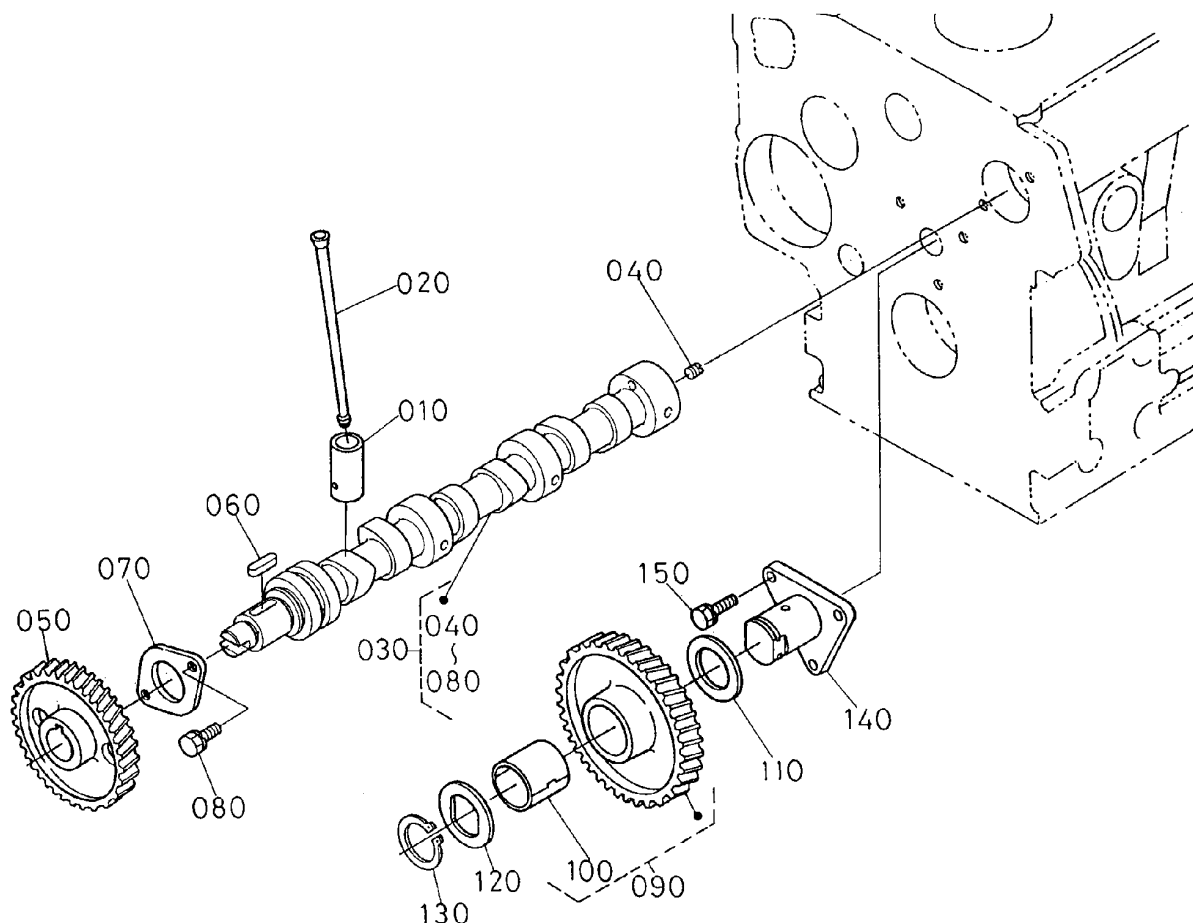
Dipstick and Guide Assembly

Ref	Part No.	Qty.	Description				
010	98-9670	1	Gauge-Oil				
020	98-9672	1	Oil Gauge Guide ASM				
030	98-9374	1	O-Ring				
040	98-7453	1	Bolt				
PROTOTYPE							



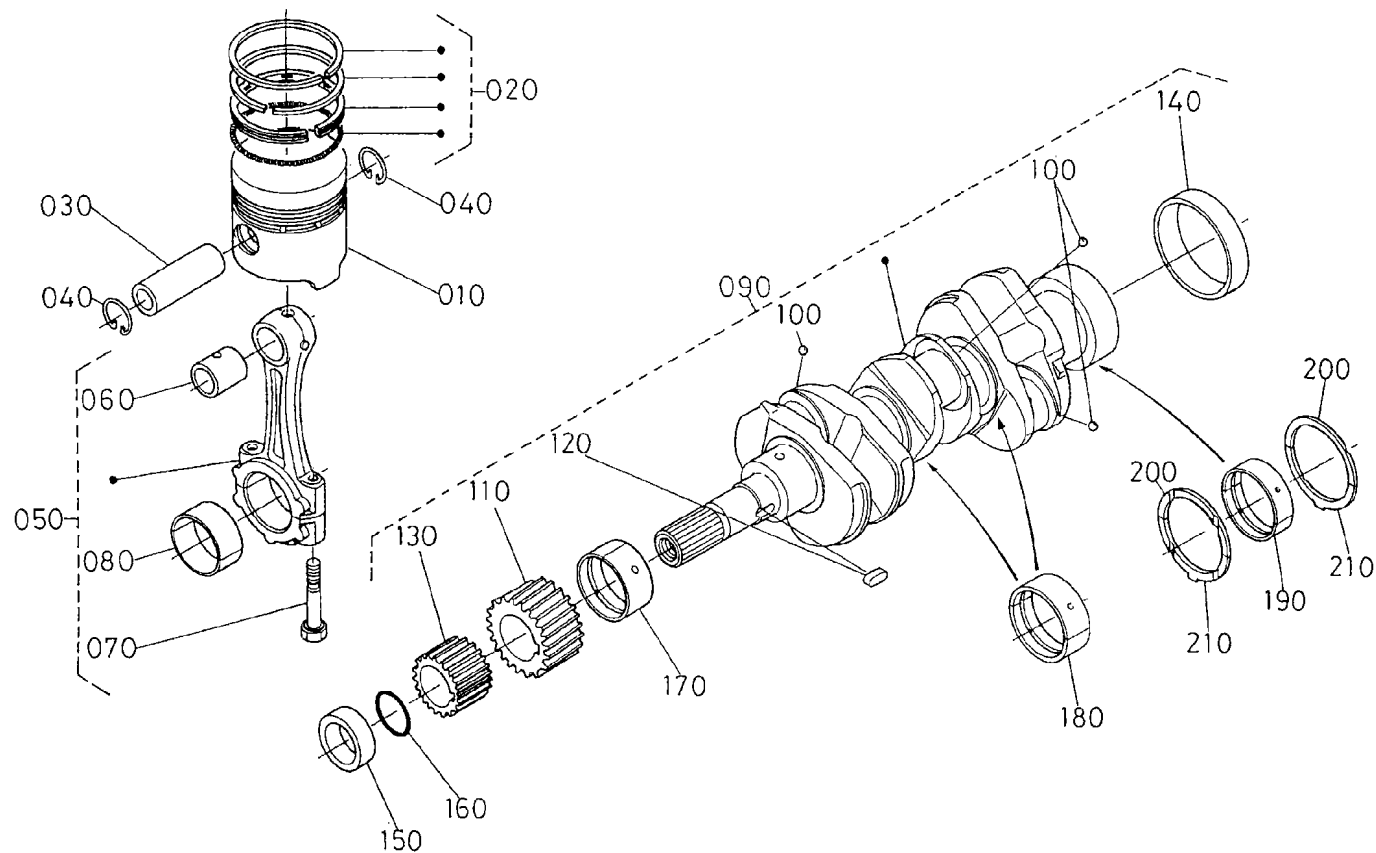
Main Bearing Case Assembly

Ref	Part No.	Qty.	Description				
010	98-9480	1	Main Bearing Case ASM				
020	98-9484	6	Bolt-Case, Bearing				
030	98-9634	1	Gasket-Case, Bearing				
040	98-9487	1	Cover-Case, Bearing				
050	98-9483	1	Seal-Oil				
060	98-9635	1	Gasket-Cover, Bearing Case				
070	98-9352	8	Bolt				
080	98-7568	9	Bolt				
090	98-9606	1	Main Bearing Case ASM				
100	98-9485	2	Bolt-Case, Bearing				
110	98-9607	1	Main Bearing Case ASM				



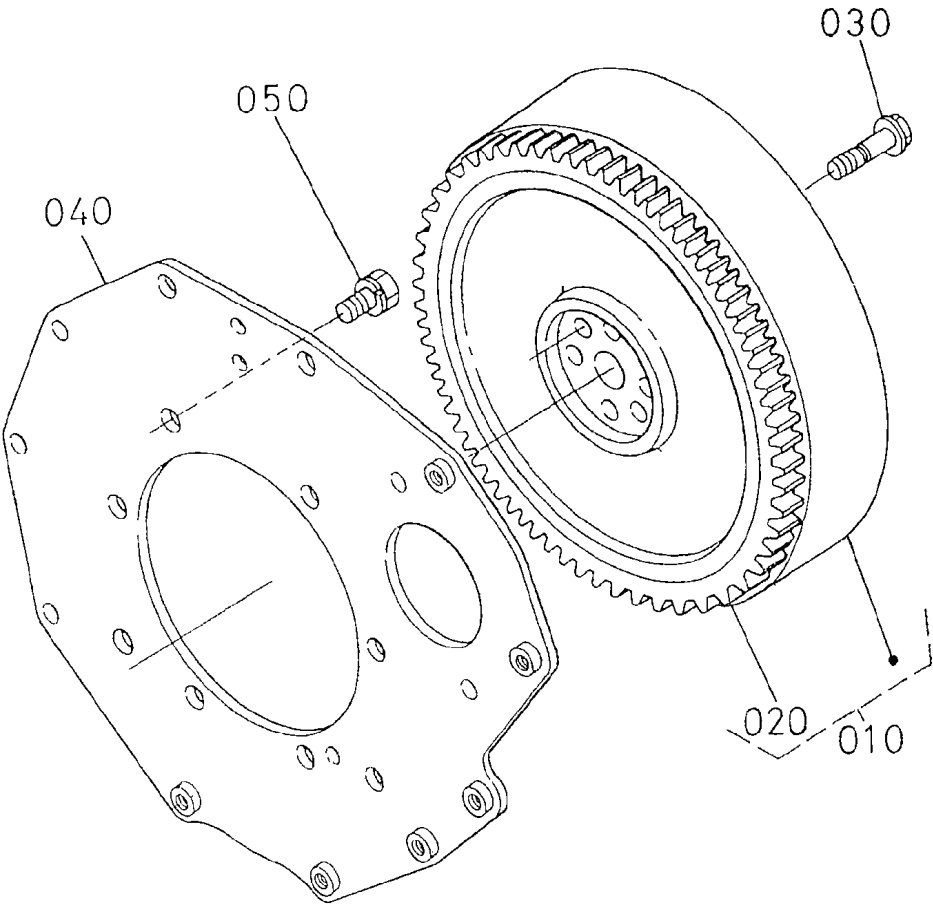
Camshaft and Idler Gear Shaft Assembly

Ref	Part No.	Qty.	Description				
010	98-9616	6	Tappet				
020	98-9509	6	Rod-Push				
030	98-9617	1	Camshaft ASM				
040	98-7449	1	Screw-Set				
050	98-9512	1	Gear-Cam				
060	98-9378	1	Key-Feather				
070	98-9510	1	Stopper-Camshaft				
080	98-9351	2	Bolt				
090	98-9649	1	Idle Gear ASM				
100	98-9650	1	Bushing-Gear, Idle				
110	98-9535	1	Collar-Gear, Idle				
120	98-9536	1	Collar-Gear, Idle				
130	98-9534	1	Clip-Circular, Idle Gear				
140	98-9533	1	Shaft-Gear, Idle				
150	98-7692	3	Bolt				



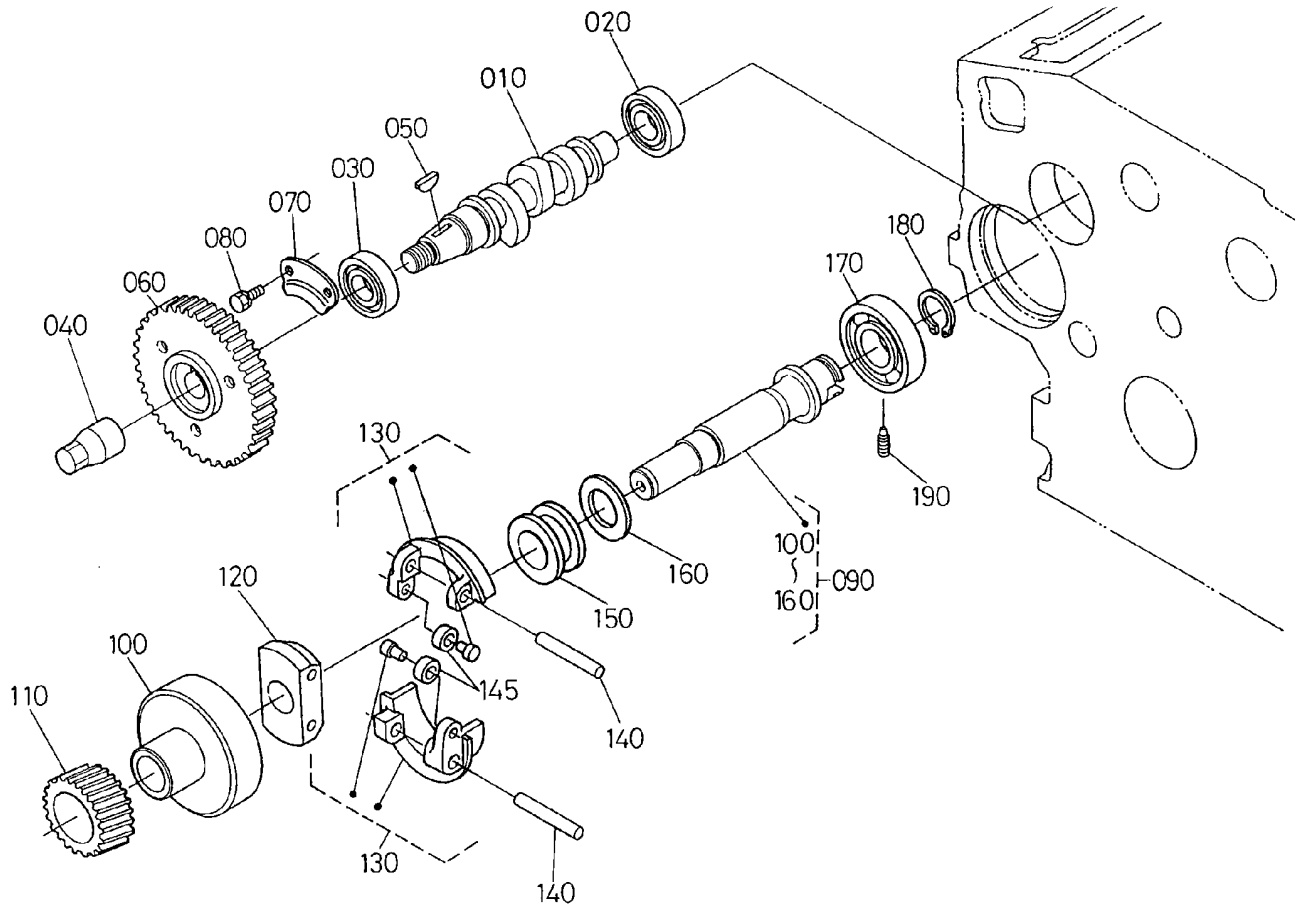
Piston and Crankshaft Assembly

Ref	Part No.	Qty.	Description	Ref	Part No.	Qty.	Description
010	98-9469	3	Piston (Std)	180	98-9530	2	Bearing-Main (0.2mm)
010	98-9470	3	Piston (0.5mm)	180	98-9524	2	Metal-Crankshaft (Std Set)
020	98-9618	3	Piston Ring ASM (Std)	190	98-9527	1	Bearing-Main (0.4mm)
020	98-9619	3	Piston Ring ASM (0.5mm)	190	98-9526	1	Bearing-Main (0.2mm)
030	98-9513	3	Pin-Piston	190	98-9525	1	Metal Crankshaft(Std Set)
040	98-9514	6	Clip-Circular, Piston Pin	200	98-9415	2	Bearing-Thrust (0.4mm)
050	98-9516	3	Connecting Rod ASM	200	98-9414	2	Bearing-Thrust (0.2mm)
060	98-9515	3	Bushing-Pin, Piston	200	98-9413	2	Bearing-Thrust (Std)
070	98-9517	6	Bolt-Rod, Connecting	210	98-9690	2	Bearing-Thrust (0.4mm)
080	98-9518	3	Metal-Crankpin (Std)	210	98-9689	2	Bearing-Thrust (0.2mm)
080	98-9519	3	Bearing-Rod (0.2mm)	210	98-9688	2	Bearing-Thrust (Std)
080	98-9520	3	Bearing-Rod (0.4mm)				
090	98-9642	1	Crankshaft ASM				
100	98-7473	3	Ball				
110	98-9532	1	Gear-Crankshaft				
120	98-9666	1	Key				
130	98-9542	1	Gear-Drive, Oil Pump				
140	98-9522	1	Sleeve-Crankshaft				
150	98-9521	1	Collar-Crankshaft				
160	105-3783	1	O-Ring				
170	98-9529	1	Bearing-Main (0.4mm)				
170	98-9528	1	Bearing-Main (0.2mm)				
170	98-9523	1	Metal Crankshaft (Std)				
180	98-9531	2	Bearing-Main (0.4mm)				



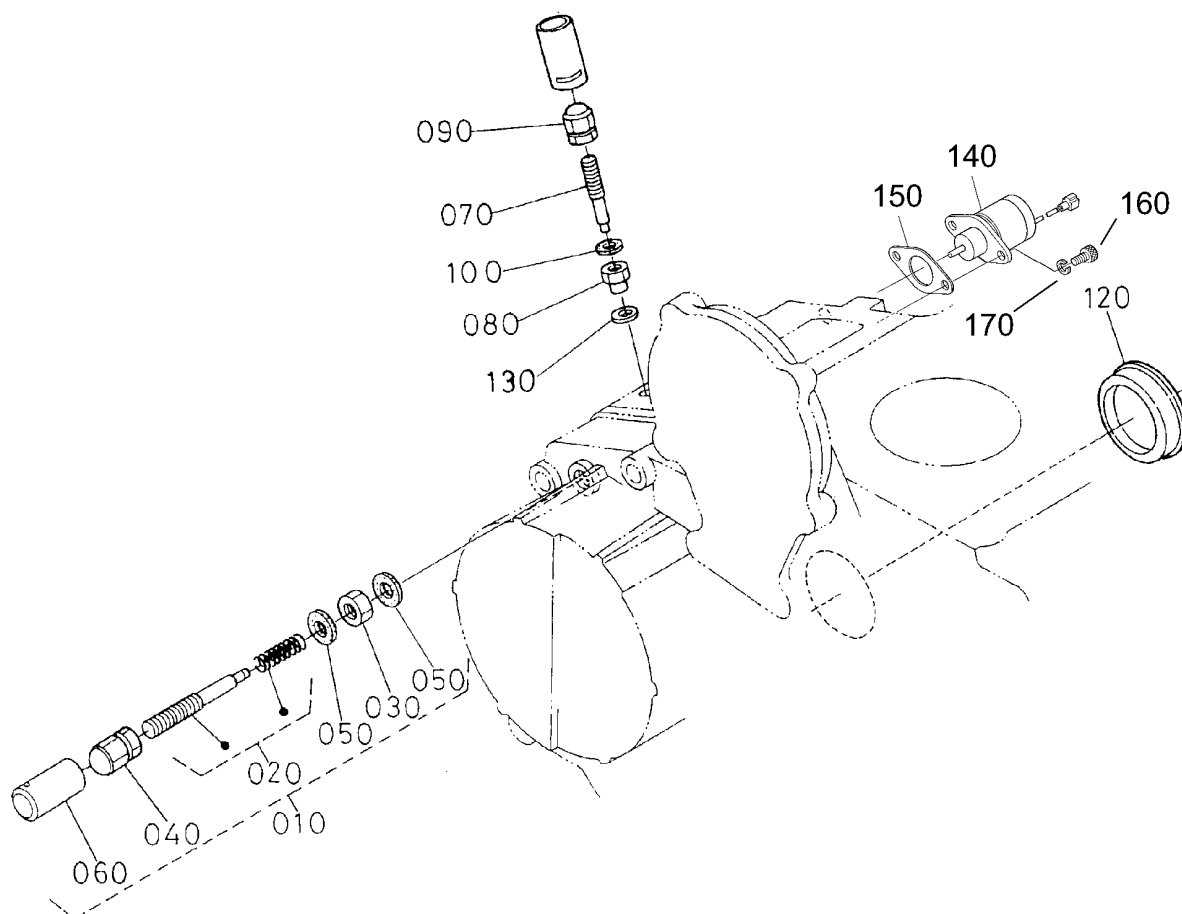
Flywheel Assembly

Ref	Part No.	Qty.	Description				
010	105-3784	1	Flywheel ASM				
020	105-3722	1	Gear-Ring				
030	98-9537	6	Bolt-Flywheel				
040	98-9486	1	Plate-End, Rear				
050	98-9392	8	Bolt				
PROTOTYPE							



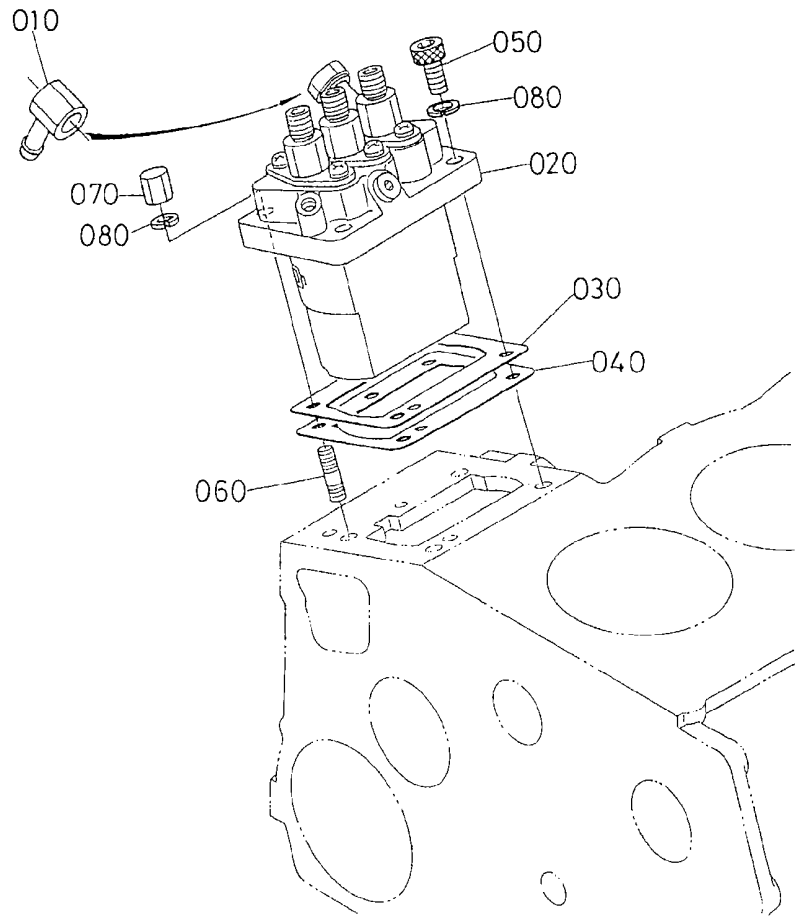
Fuel, Camshaft and Governor Shaft Assembly

Ref	Part No.	Qty.	Description				
010	98-9459	1	Camshaft-Fuel	PROTOTYPE			
020	98-9382	1	Bearing-Ball				
030	98-9383	1	Bearing-Ball				
040	98-9590	1	Nut-Cap				
050	98-9595	1	Key-Woodruff				
060	98-9669	1	Gear-Pump, Injection				
070	98-9511	1	Stopper-Fuel, Camshaft				
080	98-9350	2	Bolt				
090	98-9644	1	Governor Shaft ASM				
100	98-9562	1	Holder-Gear, Governor				
110	98-9673	1	Gear-Governor				
120	98-9561	1	Holder-Weight, Governor				
130	98-9559	2	Governor Weight ASM				
140	98-9560	2	Shaft-Weight, Governor				
145	98-9692	2	Roller				
150	98-9563	1	Sleeve-Governor				
160	98-9564	1	Washer-Thrust				
170	98-9381	1	Bearing-Ball				
180	98-9657	1	Clip-Circular, Governor Shaft				
190	98-9565	1	Screw-Set				



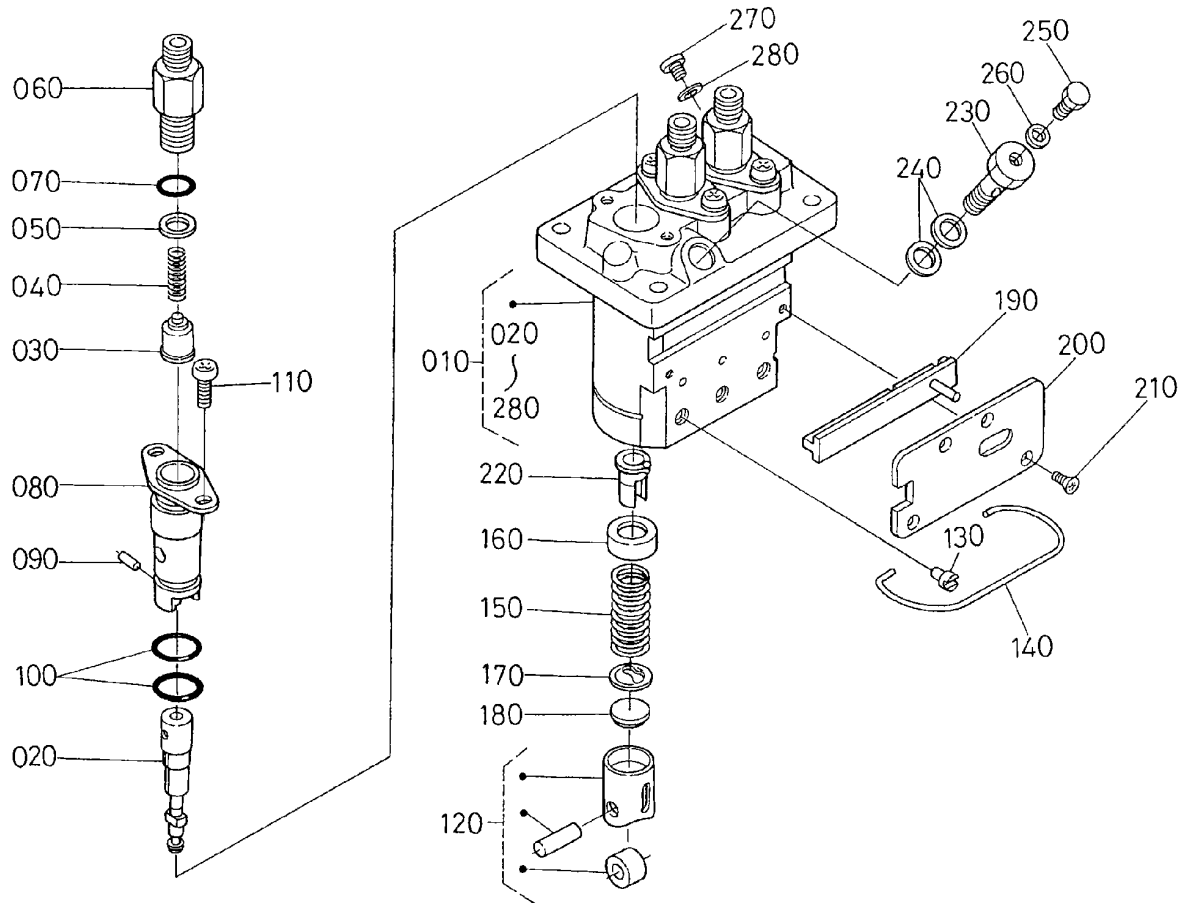
Idle Apparatus and Stop Solenoid Assembly

Ref	Part No.	Qty.	Description				
010	98-9678	1	Idle Apparatus ASM				
020	98-9679	1	Adjusting Bolt ASM				
030	98-9439	1	Nut				
040	105-3785	1	Plug				
050	98-7654	2	Gasket				
060	98-7656	1	Cap				
070	98-9557	1	Bolt-Adjusting				
080	99-3512	1	Nut				
090	105-3785	1	Plug				
100	98-7654	1	Gasket				
120	98-9640	1	Cover-Pump				
130	99-8389	1	Gasket				
140	104-5155	1	Solenoid-Stop				
150	98-9683	1	Gasket-Cover, Solenoid				
160	105-3799	2	Bolt-HSH				
170	98-7699	2	Washer-Spring				



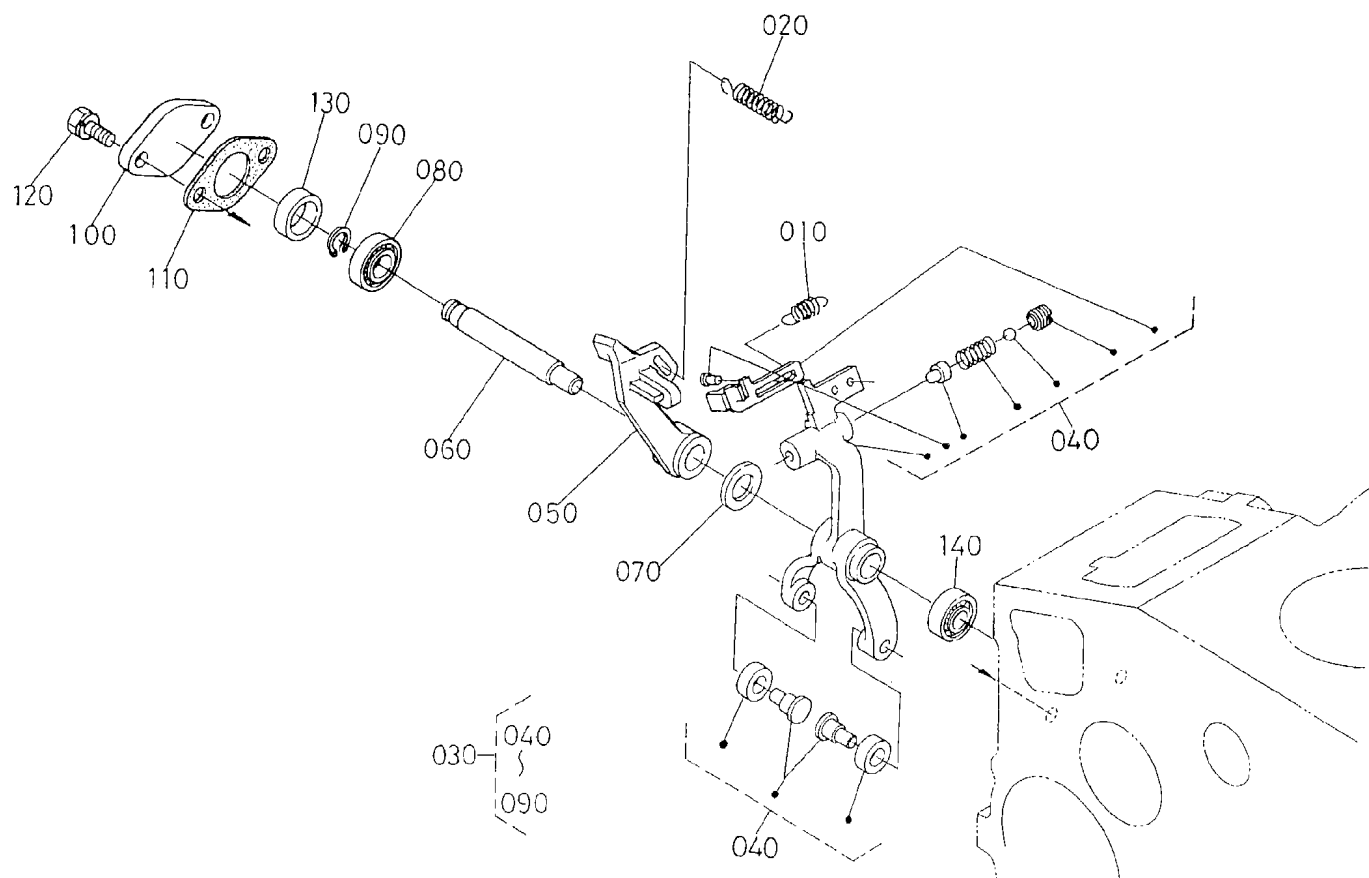
Injection Pump Assembly

Ref	Part No.	Qty.	Description				
010	98-9596	1	Joint-Eye				
020	98-9643	1	Injection Pump ASM				
030	98-9456	1	Shim (0.2mm)				
030	98-9457	1	Shim-Injection (0.25mm)				
040	98-9458	1	Shim-Injection (0.30mm)				
050	98-9361	2	Bolt-HSH				
060	98-9438	2	Stud				
070	98-9440	2	Nut-Cap				
080	98-7699	4	Washer-Spring				



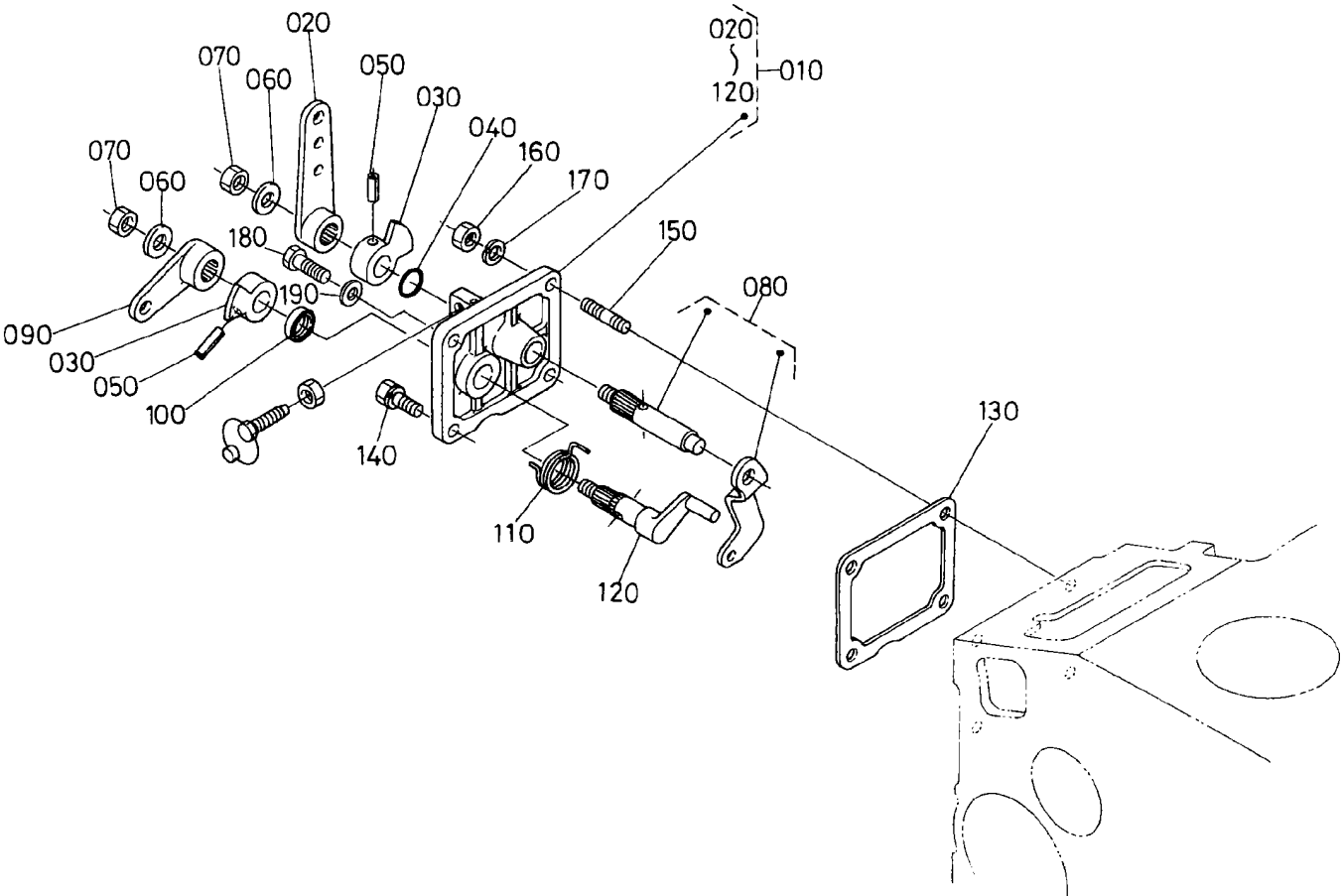
Injection Pump Assembly No. 98-9643

Ref	Part No.	Qty.	Description	Ref	Part No.	Qty.	Description
010	98-9643	1	Injection Pump ASM	250	98-9430	1	Screw
020	98-9462	3	Element-Pump	260	98-9446	1	Gasket
030	98-9421	3	Valve-Delivery	270	98-9466	1	Plug
040	98-9424	3	Spring-Valve, Delivery	280	98-9451	1	Gasket
050	98-9425	3	Gasket-Valve, Delivery				
060	98-9652	3	Holder-Valve, Delivery				
070	98-9447	3	O-Ring				
080	98-9434	3	Flange-Sleeve				
090	98-9443	3	Pin-Joint				
100	98-9423	6	O-Ring				
110	105-2892	6	Screw				
120	98-9422	3	Tappet ASM				
130	98-9426	3	Pin-Guide, Tappet				
140	98-9450	1	Pin-Clamp				
150	98-9428	3	Spring-Plunger				
160	98-9427	3	Seat-Spring, Upper				
170	98-9429	3	Seat-Spring, Lower				
180	98-9433	3	Shim				
190	98-9463	1	Control-Rack				
200	98-9465	1	Plate				
210	98-9442	4	Screw				
220	98-9432	3	Sleeve-Control				
230	98-9464	1	Bolt-Joint				
240	98-9445	2	Gasket				



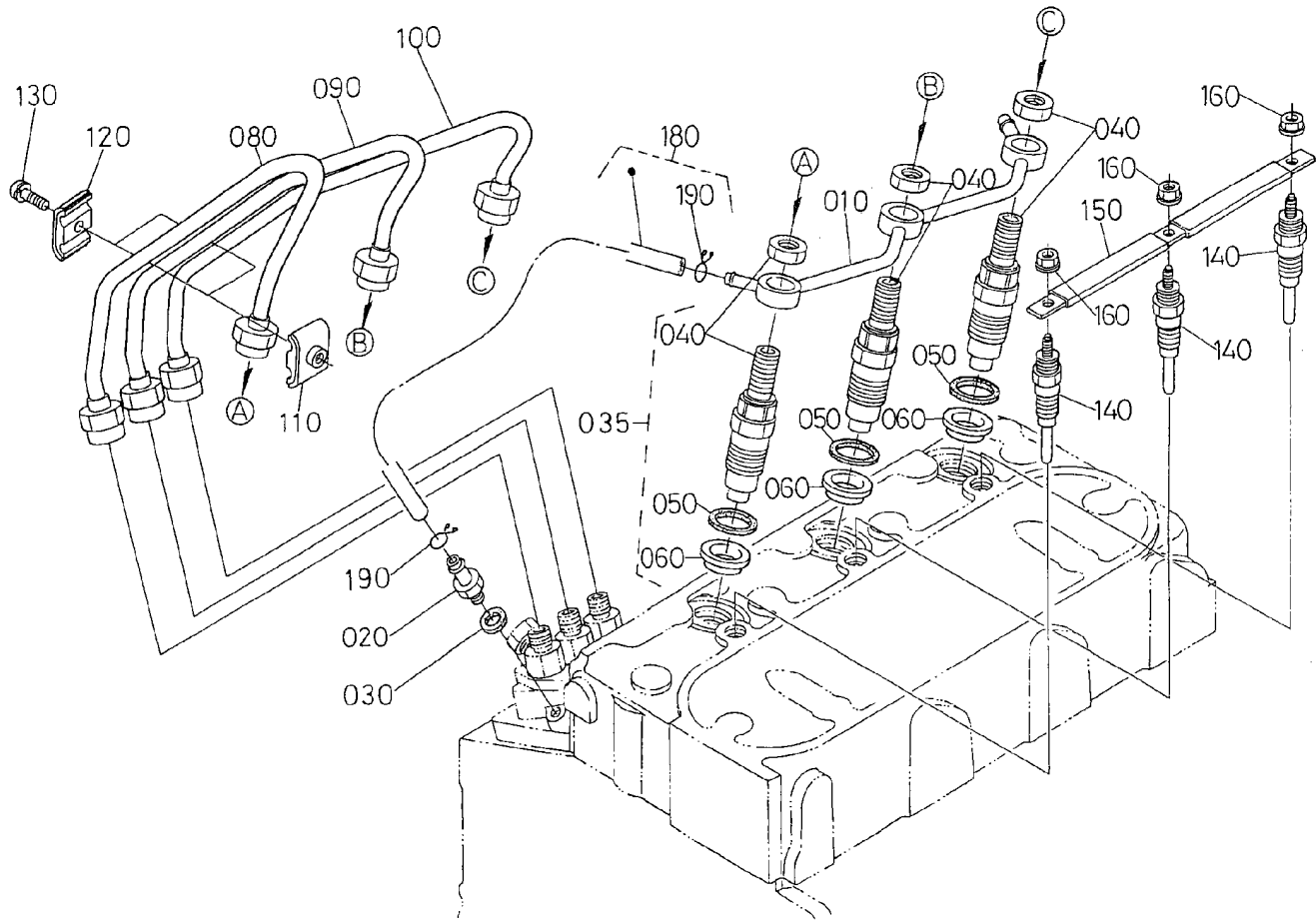
Governor Assembly

Ref	Part No.	Qty.	Description				
010	105-3786	1	Spring-Start				
020	98-9681	1	Spring-Governor				
030	105-3787	1	Fork Lever ASM				
040	99-8380	1	Fork Lever ASM				
050	105-3743	1	Lever-Fork				
060	98-9566	1	Shaft-Lever, Fork				
070	98-9593	1	Washer-Plain				
080	98-9570	1	Bearing-Miniaturize				
090	98-9369	1	Clip-Circular, External				
100	98-9569	1	Cover-Shaft, Fork Lever				
110	98-9682	1	Gasket				
120	98-9351	2	Bolt				
130	98-9567	1	Collar				
140	98-9571	1	Bearing-Miniaturize				



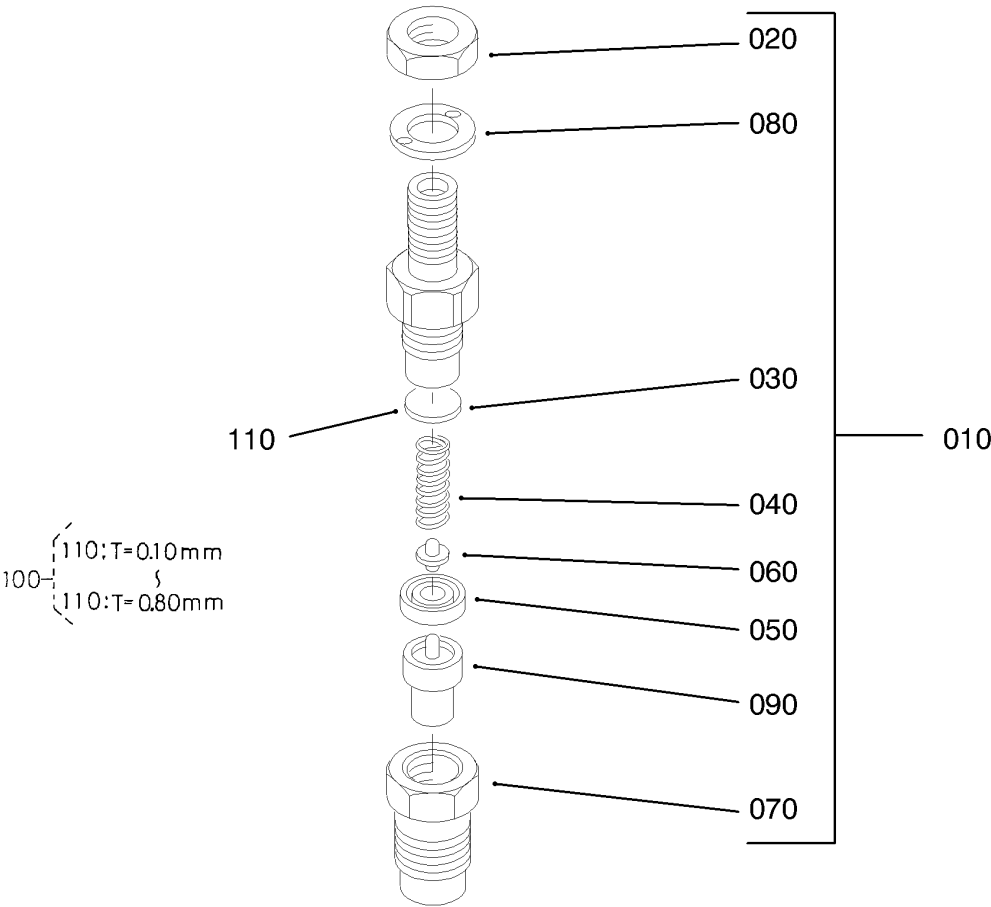
Speed Control Plate Assembly

Ref	Part No.	Qty.	Description				
010	98-9661	1	Control Plate ASM				
020	98-9662	1	Lever-Control, Speed				
030	98-9572	2	Lever-Control, Speed				
040	105-3788	1	O-Ring				
050	98-7602	2	Pin-Spring				
060	98-9594	2	Washer-Plain				
070	98-9589	2	Nut				
080	98-9658	1	Governor Lever ASM				
090	98-9663	1	Lever-Stop, Engine				
100	98-7601	1	Seal-Oil				
110	98-9472	1	Spring-Return				
120	98-9664	1	Shaft-Lever, Stop				
130	98-9637	1	Gasket				
140	98-7692	1	Bolt				
150	105-3710	2	Stud				
160	98-7572	2	Nut				
170	98-7699	2	Washer-Spring				
180	99-8348	1	Bolt				
190	98-7654	1	Gasket				



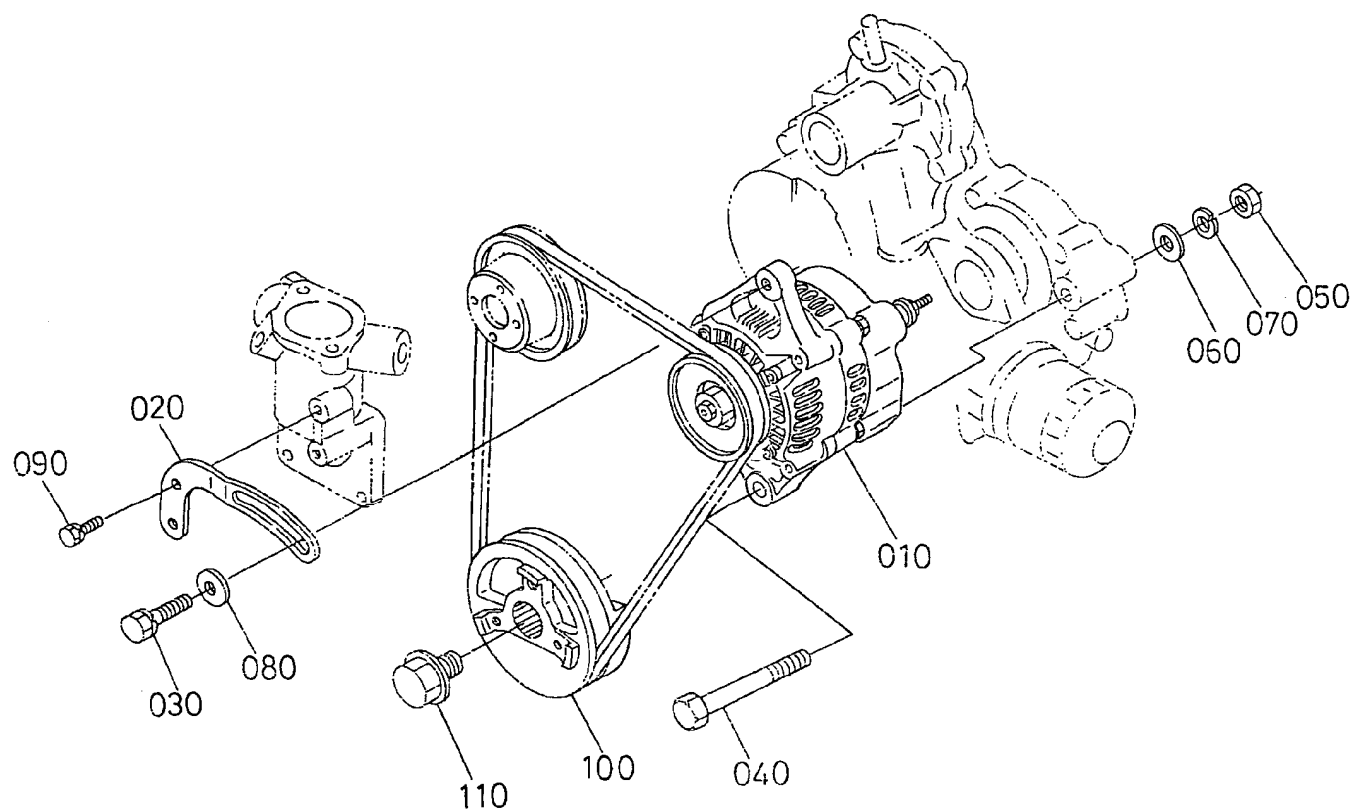
Nozzle Holder Glow Plug Assembly

Ref	Part No.	Qty.	Description				
010	98-9620	1	Over Flow Pipe ASM				
020	98-9431	1	Screw-Bleeder				
030	98-7654	1	Gasket				
035	105-3740	3	Kit-Holder, Nozzle				
040	98-9468	3	Nozzle Holder ASM				
050	98-7676	3	Gasket				
060	98-7677	3	Seal				
080	98-9653	1	Pipe-Injection				
090	98-9654	1	Pipe-Injection				
100	98-9655	1	Pipe-Injection				
110	98-7682	2	Clamp-Pipe				
120	98-7683	2	Clamp-Pipe				
130	98-7684	2	Screw W/washer				
140	98-9695	3	Plug-Glow				
150	98-9631	3	Cord-Plug, Glow				
160	99-8377	3	Nut-Flange				
180	98-9420	1	Over Flow Pipe ASM				
190	98-7671	2	Clip-Pipe				



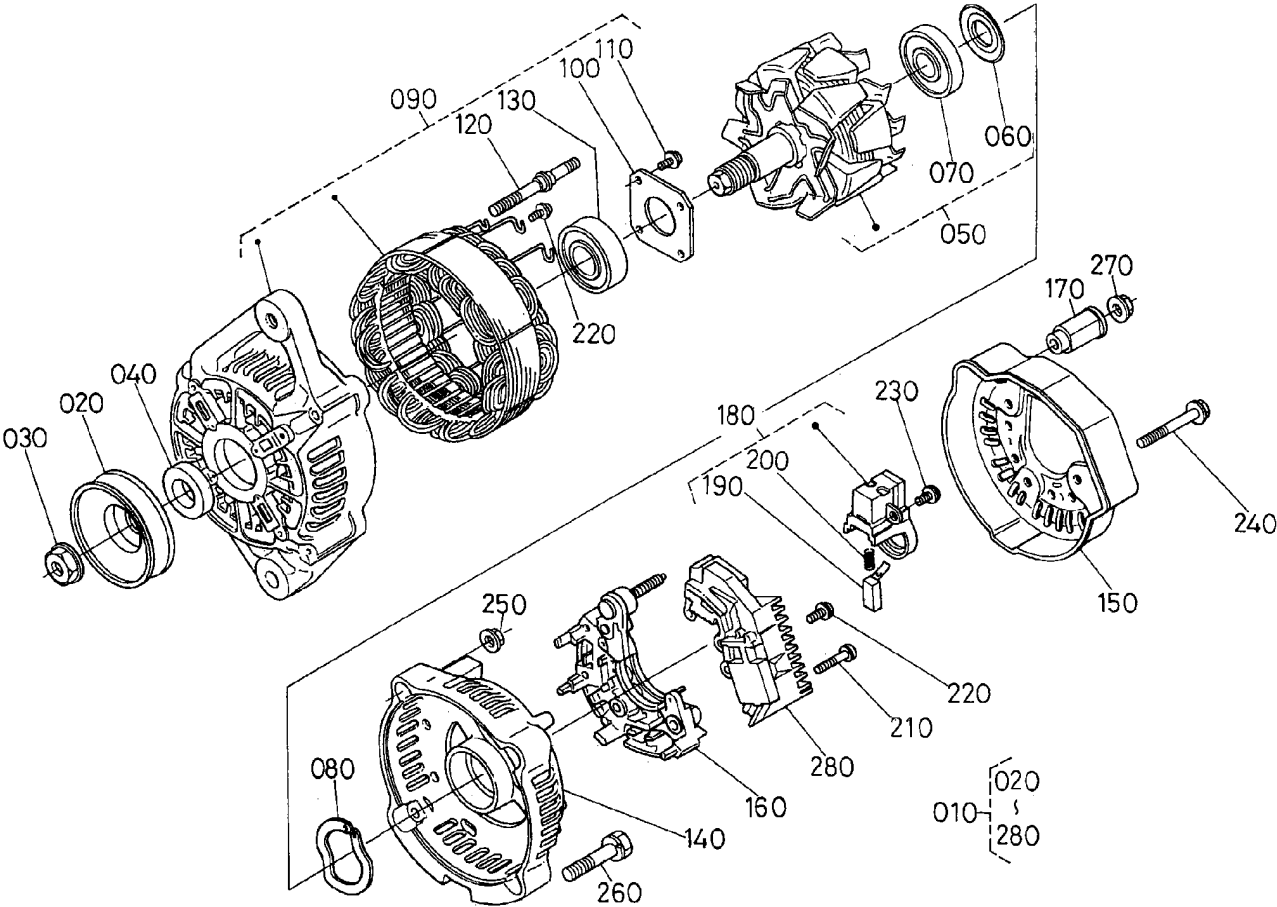
Nozzle Holder Assembly No. 98-9468

Ref	Part No.	Qty.	Description				
010	98-9468	3	Nozzle Holder ASM				
020	99-8301	3	Nut				
030	99-8302	3	Washer-Adjusting				
040	99-8303	3	Spring-Nozzle				
050	99-8304	3	Spacer-Distance				
060	99-8305	3	Rod-Push				
070	99-8306	3	Nut-Nozzle				
080	99-8307	3	Washer-Plain				
090	99-8308	3	Piece-Nozzle				
100	99-8309	3	Adjusting Washer ASM				
110	99-8315	3	Washer-Adjust (0.52mm)				
110	99-8316	3	Washer-Adjust (0.54mm)				
110	99-8317	3	Washer-Adjust (0.56mm)				
110	99-8318	3	Washer-Adjust (0.58mm)				
110	99-8319	3	Washer-Adjust (0.80mm)				
110	99-8310	3	Washer-Adjust (0.10mm)				
110	99-8311	3	Washer-Adjust (0.20mm)				
110	99-8312	3	Washer-Adjust (0.30mm)				
110	99-8313	3	Washer-Adjust (0.40mm)				
110	99-8314	3	Washer-Adjust (0.50mm)				



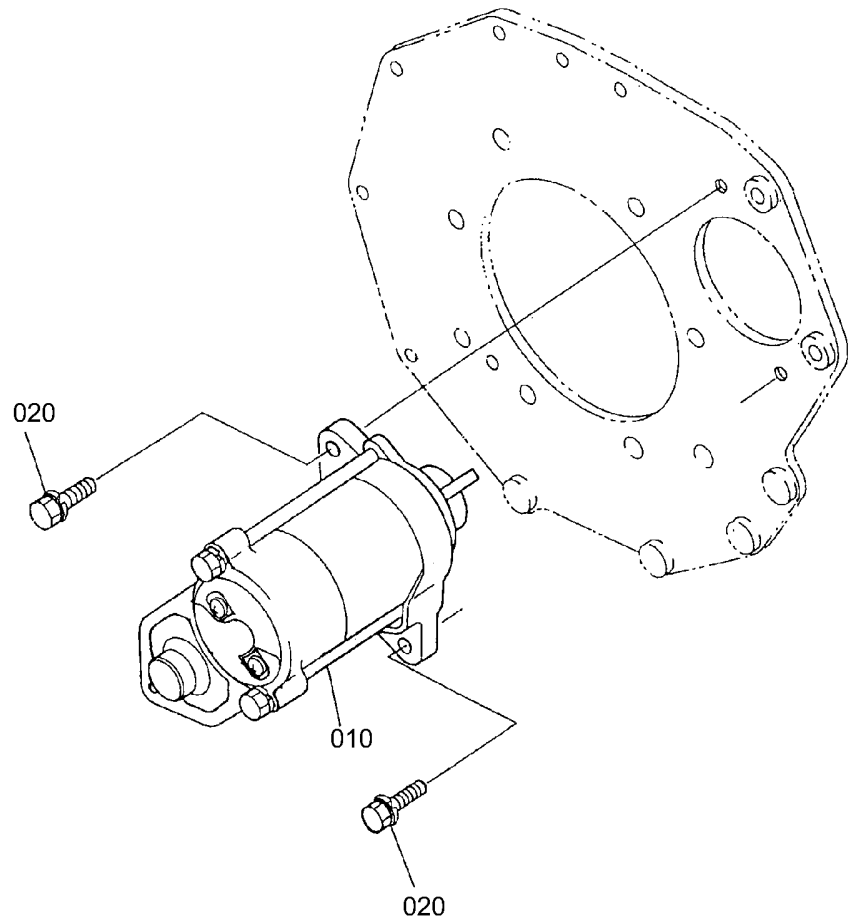
Alternator and Pulley Assembly

Ref	Part No.	Qty.	Description				
010	98-9474	1	Alternator ASM				
020	98-9573	1	Stay-Dynamo				
030	98-7697	1	Bolt				
040	98-9360	1	Bolt				
050	98-7737	1	Nut				
060	3256-24	1	Washer-Flat				
070	98-7738	1	Washer-Spring				
080	100-9233	1	Washer-Plain				
090	98-7692	1	Bolt				
100	98-9473	1	Pulley-Drive, Fan				
110	98-9585	1	Bolt				



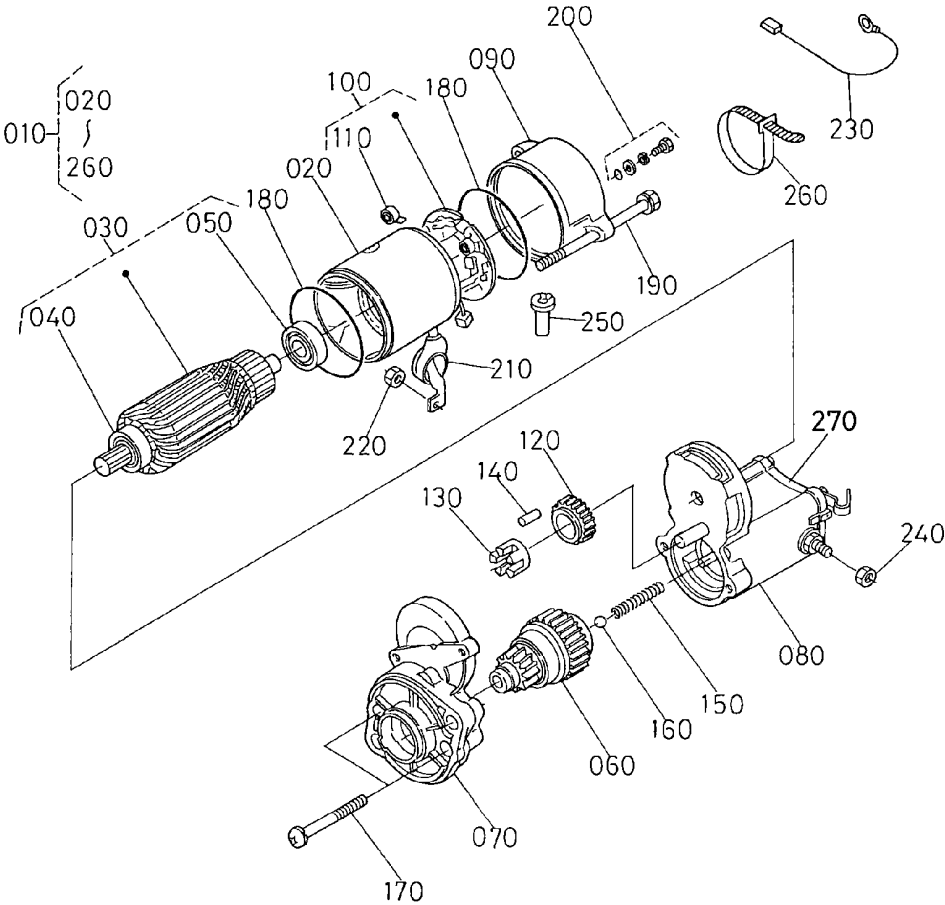
Alternator Assembly

Ref	Part No.	Qty.	Description	Ref	Part No.	Qty.	Description
010	98-9474	1	Alternator ASM	250	98-7730	2	Nut
020	98-9453	1	Pulley-Dynamo	260	98-7731	2	Bolt
030	98-7708	1	Nut	270	98-7732	1	Nut
040	98-7709	1	Collar	280	98-7733	1	Regulator ASM
050	98-7710	1	Rotor				
060	98-7711	1	Cover-Bearing				
070	98-7712	1	Bearing-Ball				
080	98-7713	1	Washer-Thrust				
090	98-7714	1	Frame-End, Drive				
100	98-7715	1	Plate-Retainer				
110	98-7716	4	Screw-Head, Round				
120	98-7717	2	Bolt-Through				
130	98-7718	1	Bearing-Ball				
140	98-7719	1	Frame-End				
150	98-7720	1	Cover-End				
160	98-7721	1	Rectifier ASM				
170	98-7722	1	Bushing-Insulation				
180	98-7723	1	Holder-Brush				
190	98-7724	2	Brush				
200	98-7725	2	Spring-Brush				
210	98-7726	2	Screw-Head, Round				
220	98-7727	6	Screw-Head, Round				
230	98-7728	1	Screw-Head, Round				
240	98-7729	3	Bolt				



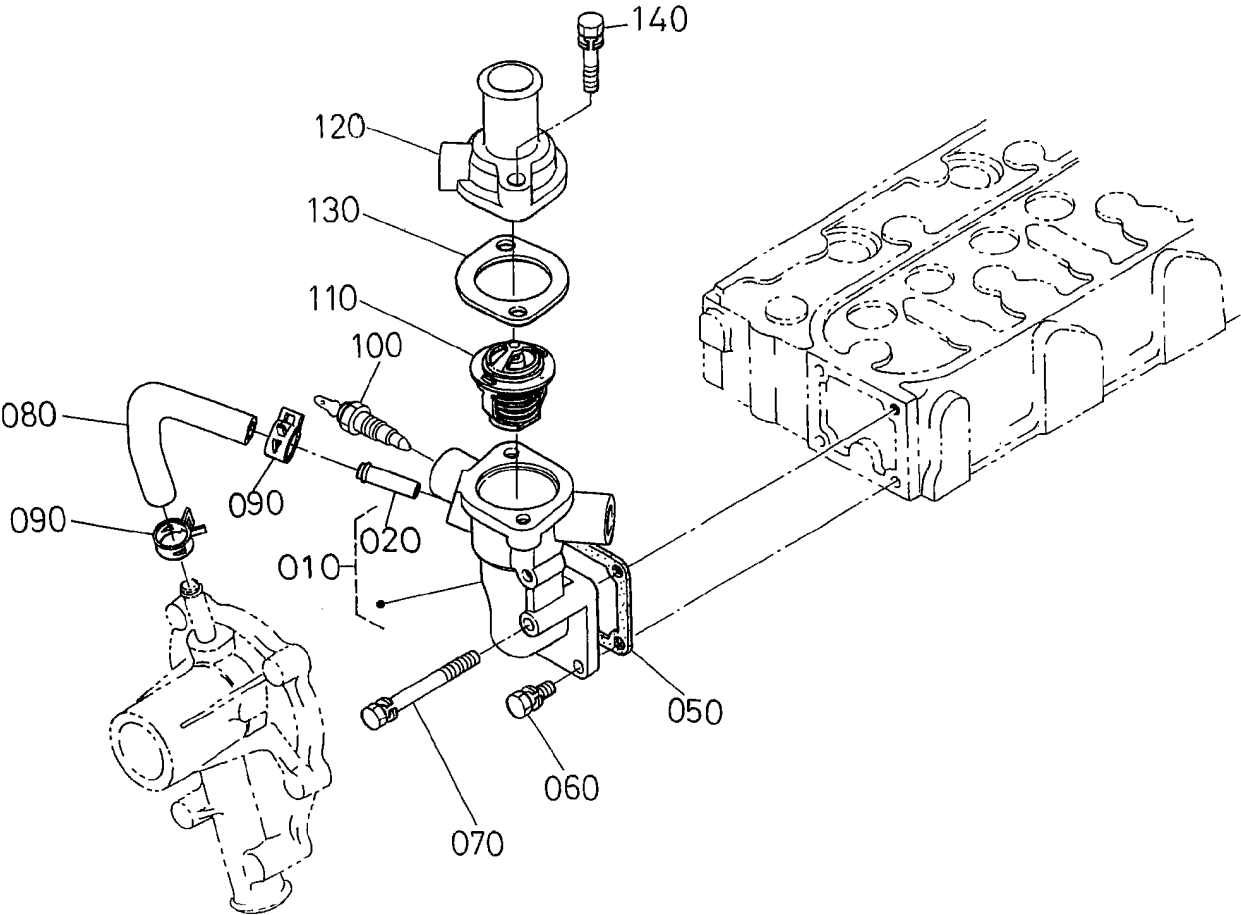
Starter Mount Assembly

Ref	Part No.	Qty.	Description				
010	98-9705	1	Starter ASM				
020	98-7697	2	Bolt				
PROTOTYPE							



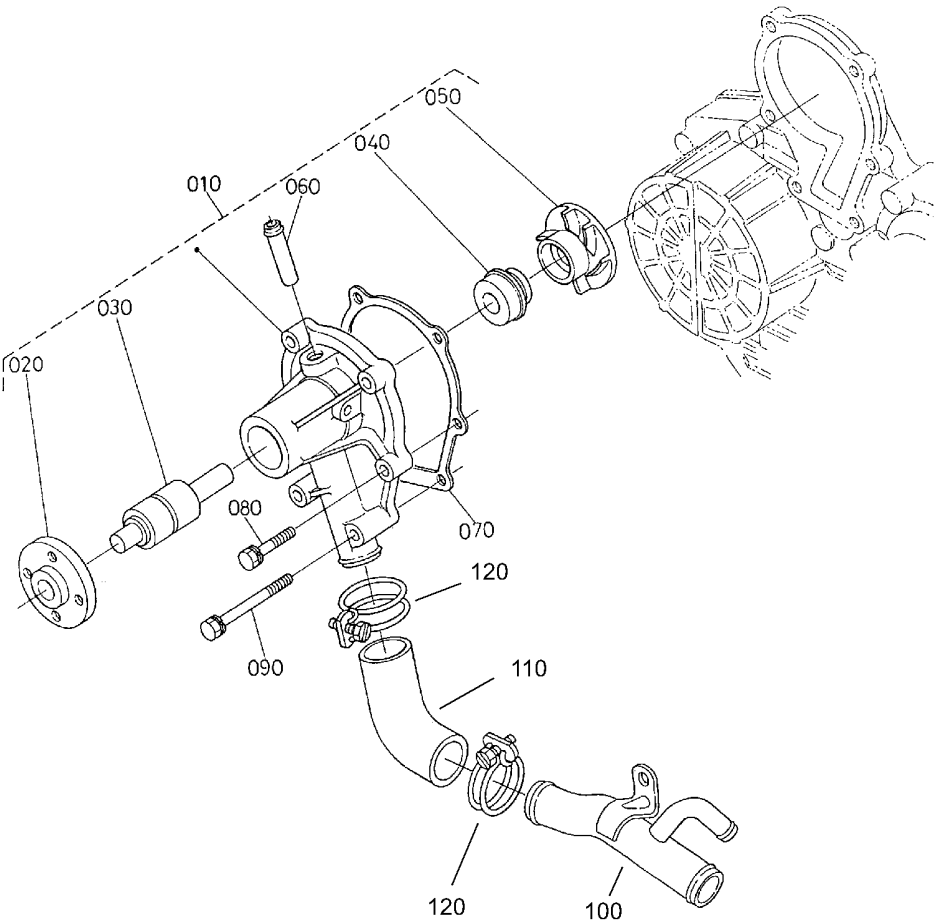
Starter Assembly No. 98-9705

Ref	Part No.	Qty.	Description	Ref	Part No.	Qty.	Description
010	98-9705	1	Starter ASM	250	98-7759	1	Pipe-Drain
020	104-8608	1	Yoke ASM	260	98-9712	1	Band-Cover
030	98-7742	1	Armature ASM	270	105-2886	1	Cover ASM
040	98-7744	1	Bearing				
050	98-7743	1	Bearing				
060	99-8373	1	Clutch-Running, Over				
070	99-8374	1	Frame-End, Drive				
080	105-3746	1	Magnetic Switch ASM				
090	98-7748	1	Frame-End				
100	98-7749	1	Brush Holder ASM				
110	98-7750	4	Spring-Brush				
120	98-7751	1	Gear				
130	98-7752	1	Retainer				
140	98-7753	5	Roller				
150	98-7754	1	Spring				
160	98-7755	1	Ball				
170	98-7756	2	Bolt				
180	98-7757	2	O-Ring				
190	100-9240	2	Bolt				
200	98-7758	2	Bolt ASM				
210	99-8375	1	Cover				
220	99-8371	1	Nut-Hex				
230	98-9711	1	Cord-Solenoid, Stop				
240	99-8376	1	Nut-Hex				



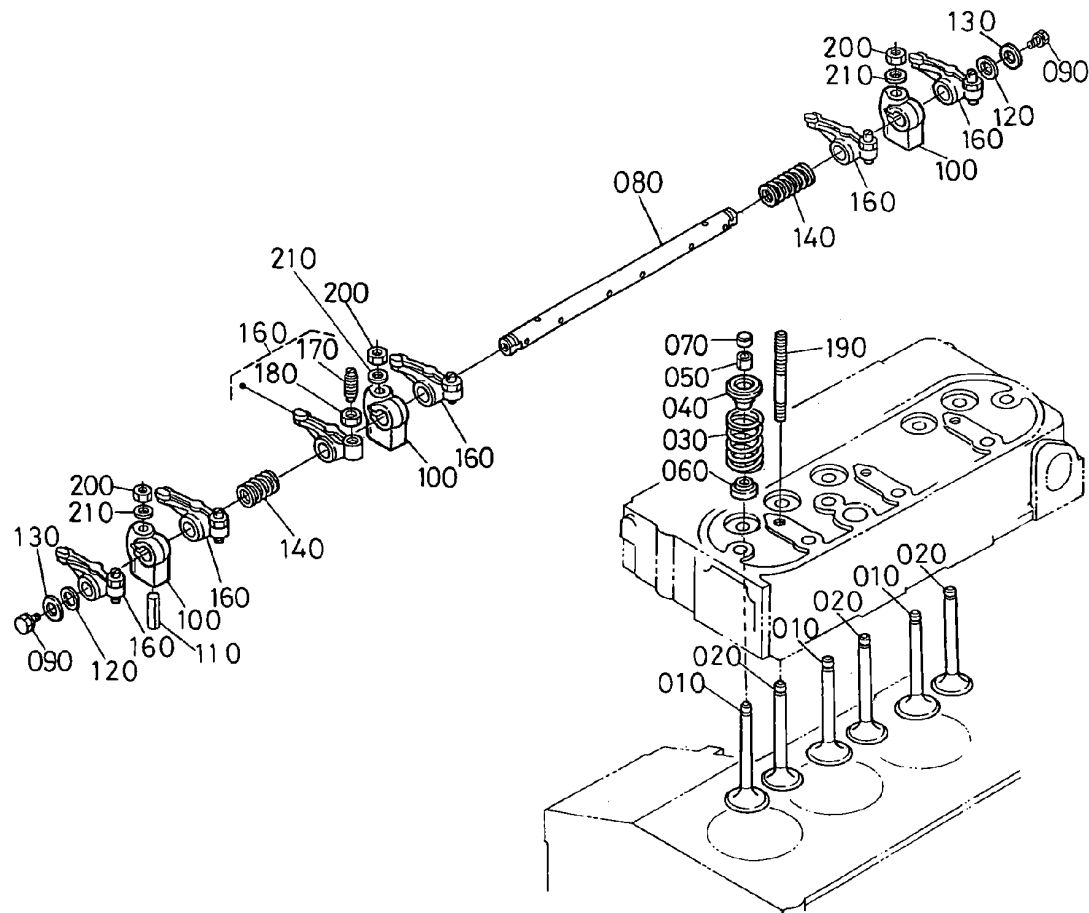
Water Flange and Thermostat Assembly

Ref	Part No.	Qty.	Description				
010	98-9713	1	Water Flange ASM				
020	98-9580	1	Pipe-Return, Water				
050	98-9638	1	Gasket-Flange, Water				
060	98-7692	3	Bolt				
070	98-9356	1	Bolt				
080	98-9578	1	Pipe-Return, Water				
090	98-9579	2	Band-Pipe				
100	98-9719	1	Thermoswitch				
110	98-7778	1	Thermostat ASM				
120	98-9471	1	Cover-Thermostat				
130	105-3748	1	Gasket-Thermostat				
140	98-7777	2	Bolt				



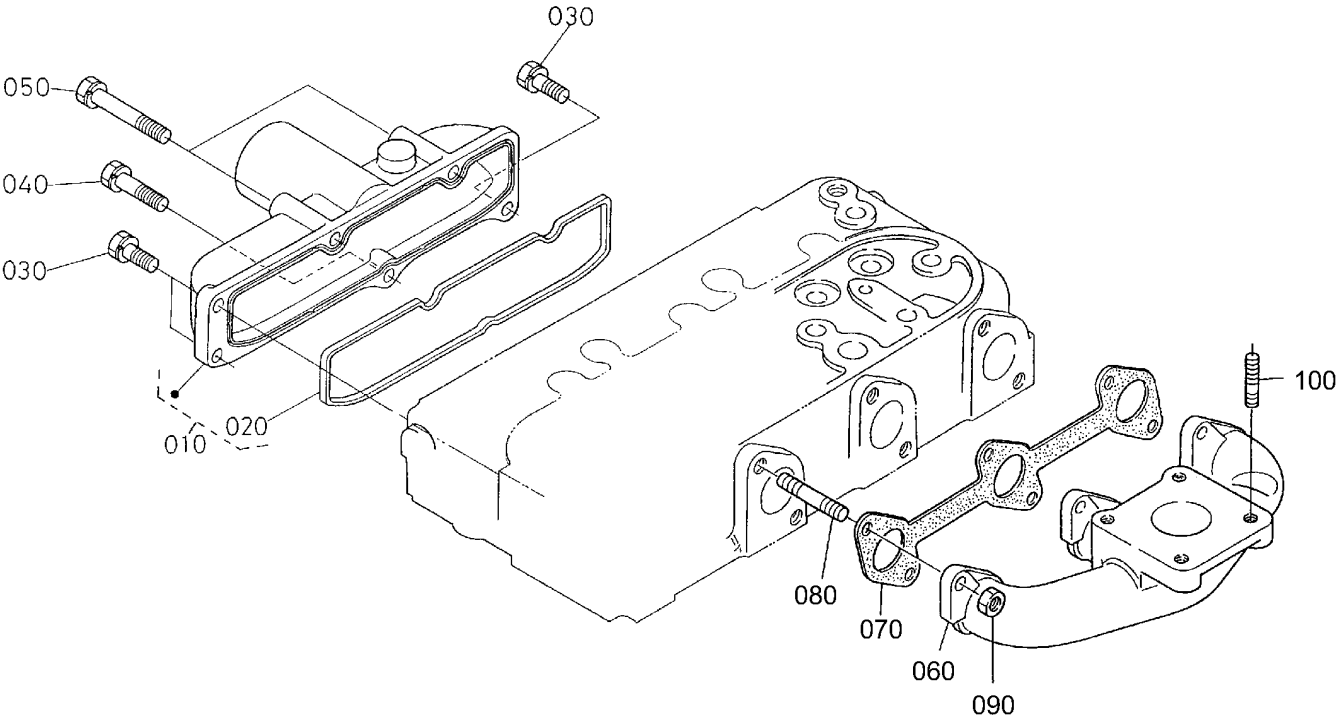
Water pump and Water Pipe Assembly

Ref	Part No.	Qty.	Description				
010	98-9575	1	Water Pump ASM				
020	98-9582	1	Flange-Pump, Water				
030	98-9583	1	Bearing				
040	98-9576	1	Mechanical Seal ASM				
050	98-9581	1	Impeller-Pump, Water				
060	98-9577	1	Pipe-Return, Water				
070	98-9632	1	Gasket-Pump, Water				
080	105-3789	1	Bolt				
090	98-9357	4	Bolt				
100	98-9716	1	Pipe-Water				
110	98-9574	1	Pipe-Water				
120	98-9717	2	Clamp				



Valve and Rocker Arm Assembly

Ref	Part No.	Qty.	Description				
010	98-9494	3	Valve-Inlet				
020	98-9495	3	Valve-Exhaust				
030	98-9648	6	Spring, valve				
040	98-9498	6	Retainer-Valve				
050	98-9390	6	Collet-Set, Valve Spring				
060	99-8385	6	Seat-Stem, Valve				
070	98-9497	6	Cap-Valve				
080	105-3790	1	R-Arm Shaft ASM				
090	100-9265	2	Bolt				
100	98-9505	3	Bracket-Arm, Rocker				
110	98-7602	1	Pin-Spring				
120	98-9507	2	Washer-Shaft, R-Arm				
130	3256-1	2	Washer-Flat				
140	98-9504	2	Spring-Arm, Rocker				
160	98-9501	6	Rocker Arm ASM				
170	98-9502	6	Screw-Adjusting				
180	98-9503	6	Nut				
190	98-9506	3	Stud				
200	98-9393	3	Nut				
210	98-9385	3	Washer-Flat				



Inlet and Exhaust Manifold Assembly

Ref	Part No.	Qty.	Description				
010	105-3791	1	Inlet Manifold ASM				
020	98-9609	1	Gasket				
030	98-7605	3	Bolt				
040	98-9353	1	Bolt				
050	105-3797	2	Bolt				
060	98-9718	1	Manifold-Exhaust				
070	98-9610	1	Gasket				
080	98-9588	6	Stud				
090	98-9665	6	Nut				
100	98-7769	4	Stud				



PROTOTYPE