



SHENNIU
TRACTOR
254

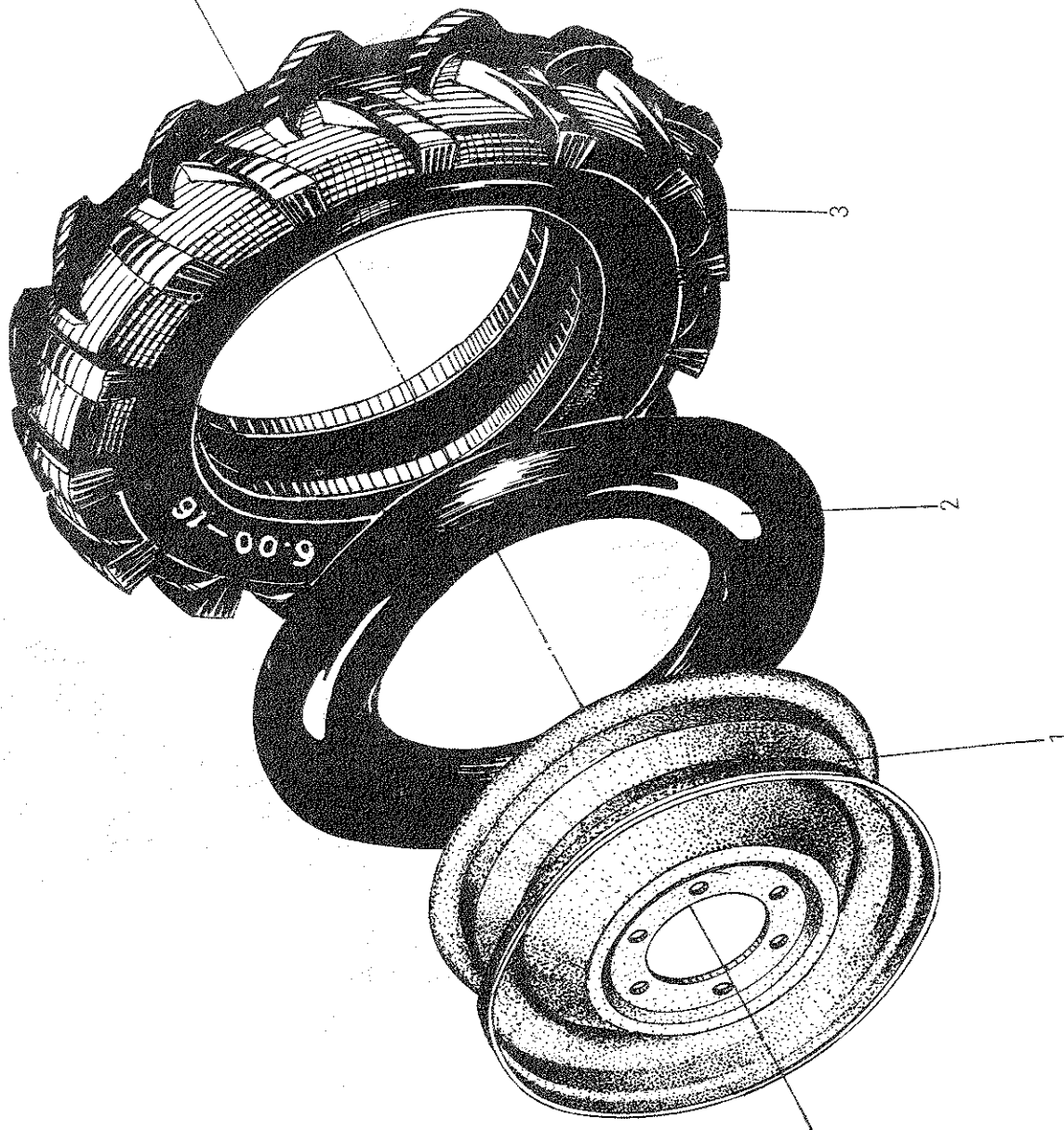
51. SN-254 TRANSFER CASE ASSY

No.	Code	Name	Qty.
1	GB894--76	Snap ring 25	3
2	254 · 42 · 102	Thrust bush	2
3	254 · 42 · 103	Rubber cover	2
4	254 · 42 · 101	Ball connection sleeve	2
5	254 · 42 · 107	Transmission shaft	1
6	254 · 42 · 105	Washer	1
7	254 · 42 · 104	Spring	1
8	GB308--77	Steel ball	13
9	GB1235--76	O-Ring 55×3. 1	1
10	254 · 42 · 109	Front cover	1
11	254 · 42 · 110	Gasket, front cover	1
12	JB2600--80	Oil seal PD 30×45×10	2
13	GB276--64	Bearing 106	2
14	254 · 42 · 108	Transfer case PTO shaft	1
15	254 · 42 · 129	Transfer case body	1
16	254 · 42 · 116	Gasket, Transfer case	1
17	254 · 42 · 112	Sliding gear	1
18	GB52--76	Nut M8	2
19	GB78--76	Screw M8×25	1
20	GB119--86	Pin D8×16	2
21	254 · 42 · 111	Intermediate gear shaft	1
22	254 · 42 · 113	Snap ring	2
23	GB309--77	Needle 3×24	58
24	254 · 42 · 115	Needle snap ring	1
25	254 · 42 · 114	Intermediate gear	1
26	25 · 37 · 139	Shift block PTO	1
27	254 · 42 · 119	Release fork shaft	1
28	GB1235--76	O-Ring 20×2. 4	2
29	254 · 42 · 117	Gasket, real cover	1
30	254 · 42 · 118	Real cover	1
31	GB93--76	Washer 8	8
32	GB21--76	Bolt M8×25	6
33	254 · 42 · 123	Control lever support shaft	1
34	254 · 42 · 014	Control lever assy	1
35	GB894--76	Snap ring 16	1
36	GB97--76	Washer 8	2
37	GB91--76	Cotler pin 2. 5×20	2

50. SN-254 STEERING MECHANISM

No.	Code	Name	Qty.
1	GB893—67	Snap ring 30	4
2	130—3003075B	Spring seat, steering joint	4
3	130—3003069B	Steering joint spring	4
4	130—3003072B	Ball pin lower seat	4
5	130—3003032	Ball pin	4
6	130—3003079B	Ball pin upper seat	4
7	130—3003071B	Steering joint (L. H.)	2
8	130—3003074	Dustproof gasket	4
9	130—3003073	Washer, Steering joint	4
10	254 • 40 • 101	Steering rocker (L. H.)	1
11	25 • 31 • 118	Bush	2
12	254 • 40 • 108	Paper gasket	2
13	254 • 40 • 107	Steering rocker cover	2
14	GB93—76	Washer 6	6
15	GB30—76	Bolt M6×12	6
16	GB1152—79	Oil cup M6	2
17	130—3003016	Front steering joint	1
18	GB1152—79	Oil cup M10×1	4
19	GB51—76	Nut M18×1.5	2
20	GB91—76	Cotter pin 3×20	4
21	GB58—76	Nut M12×1.25	4
22	254 • 40 • 104	Tie rod	1
23	GB51—76	Nut M18×1.5 (L. H.)	2
24	130—3003061A	Steering joint assy (L. H.)	2
25	254 • 40 • 106	Pitman arm	1
26	254 • 40 • 105	Drag link	1 ⁺
27	130—3003068B	Steering joint (R. H.)	1
28	254 • 40 • 103	Steering rocker (R. H.)	1

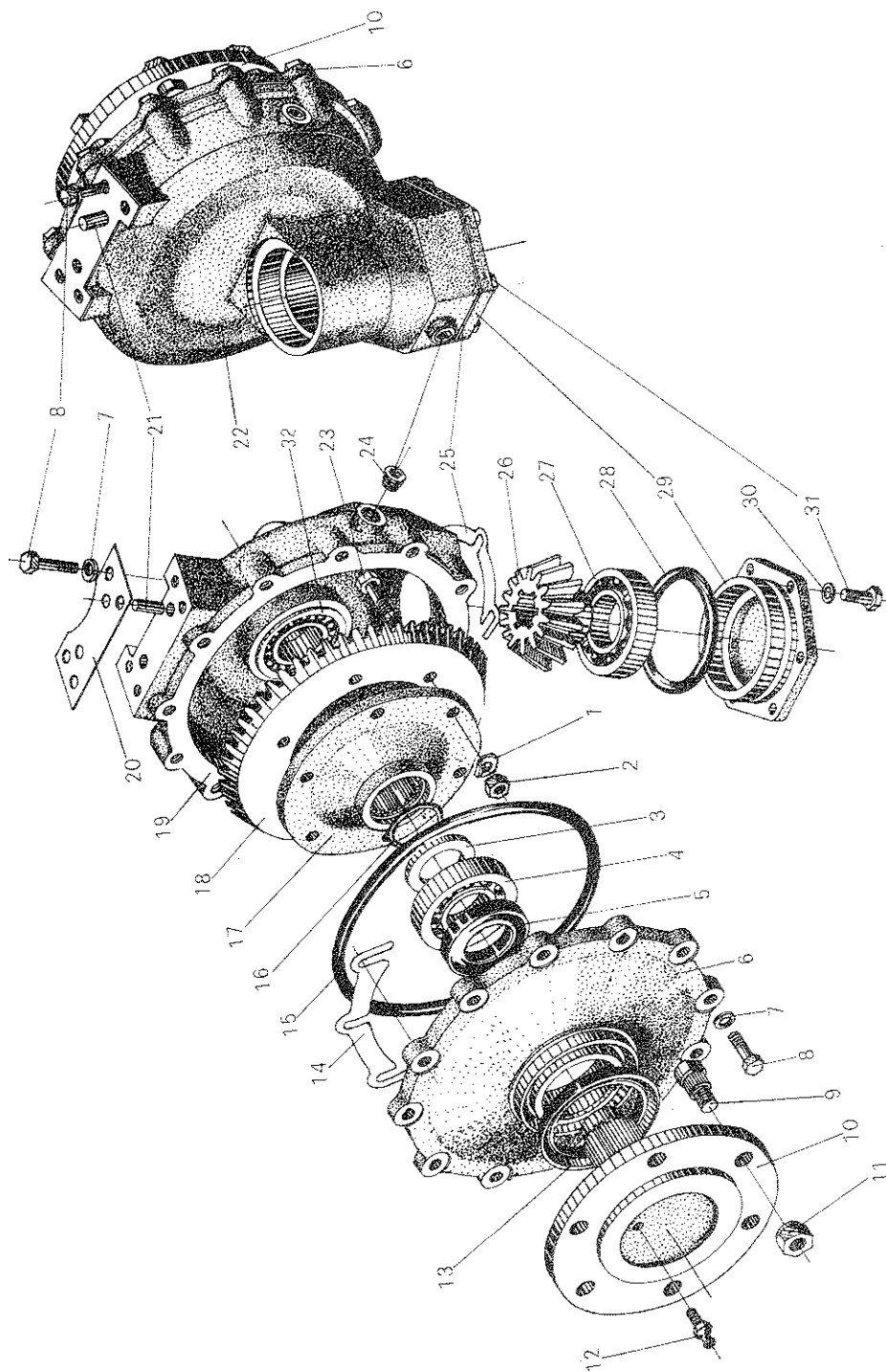
49. SN-254 FRONT DRIVING WHEEL ASSY



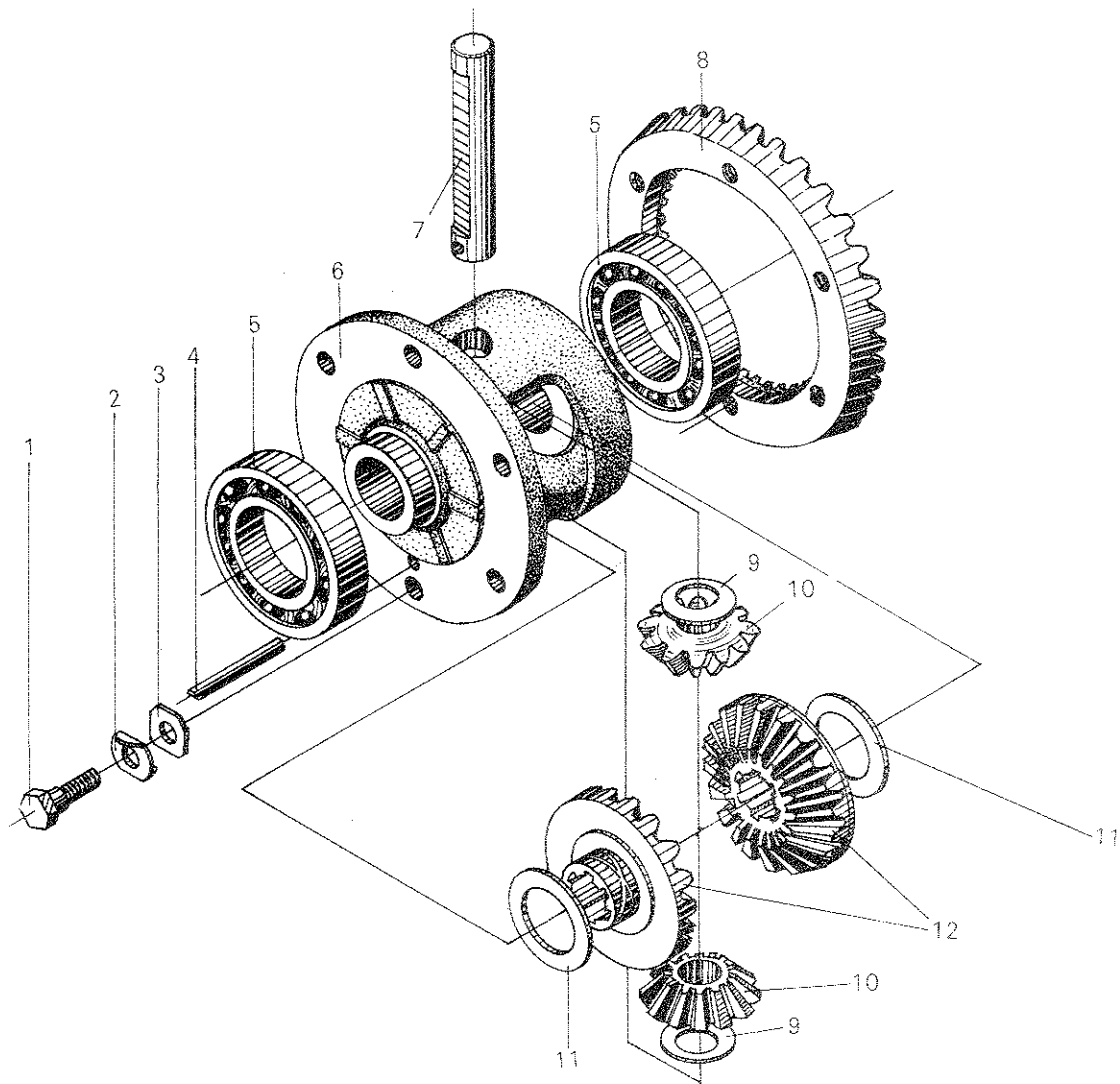
49. SN-254 FRONT DRIVING WHEEL ASSY

No.	Code	Name	Qty.
1	254 • 32 • 011	Front driving wheel rim assy	2
2		Tube 6.00—16	2
3		Tyre 6.00—16	2

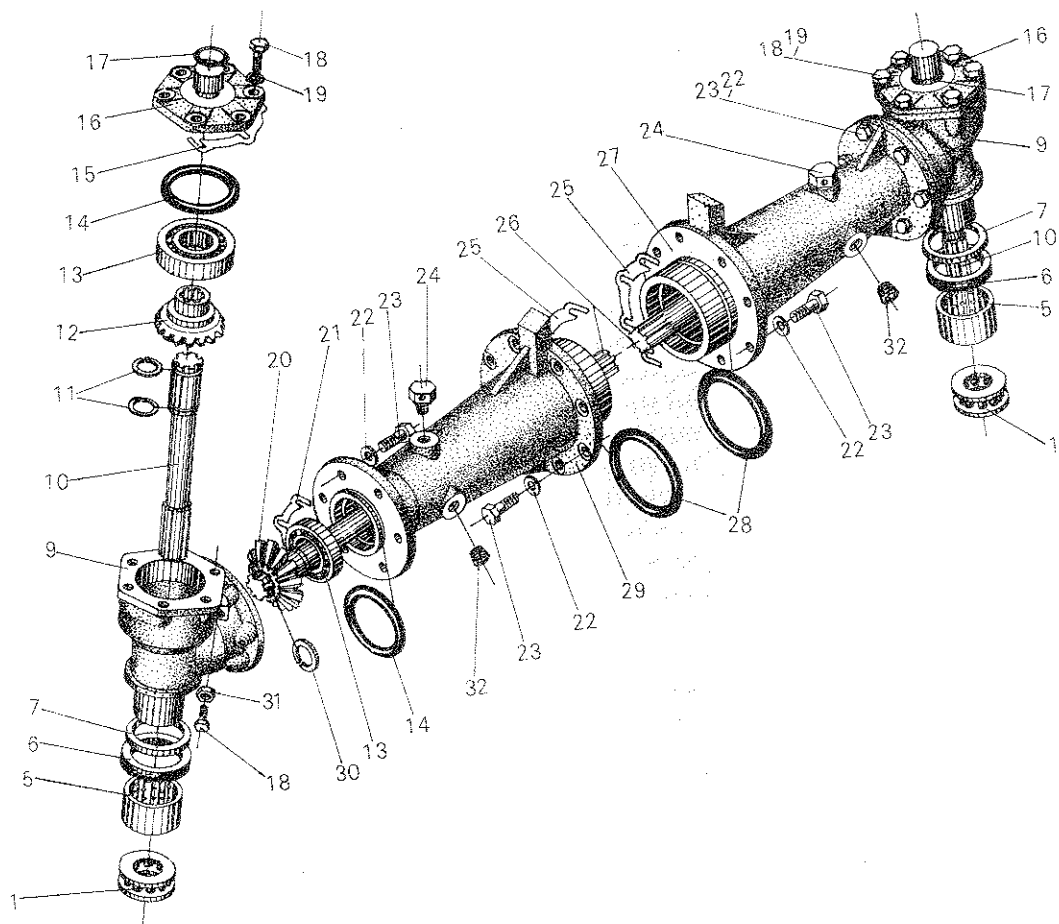
48. SN-254 FRONT DRIVING AXLE ASSY (D)



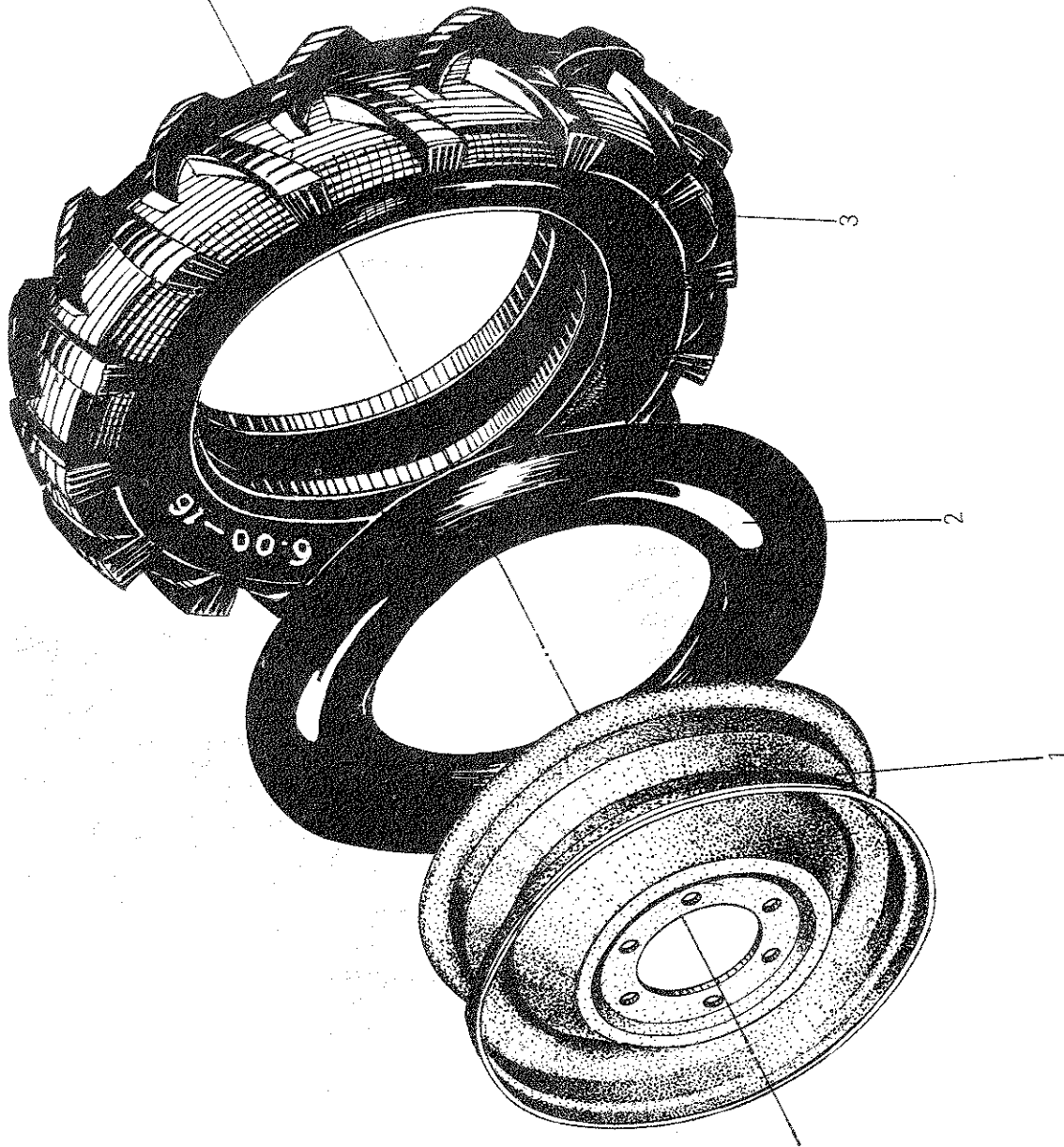
47. SN-254 FRONT DRIVING AXLE ASSY (C)



46. SN-254 FRONT DRIVING AXLE ASSY (B)



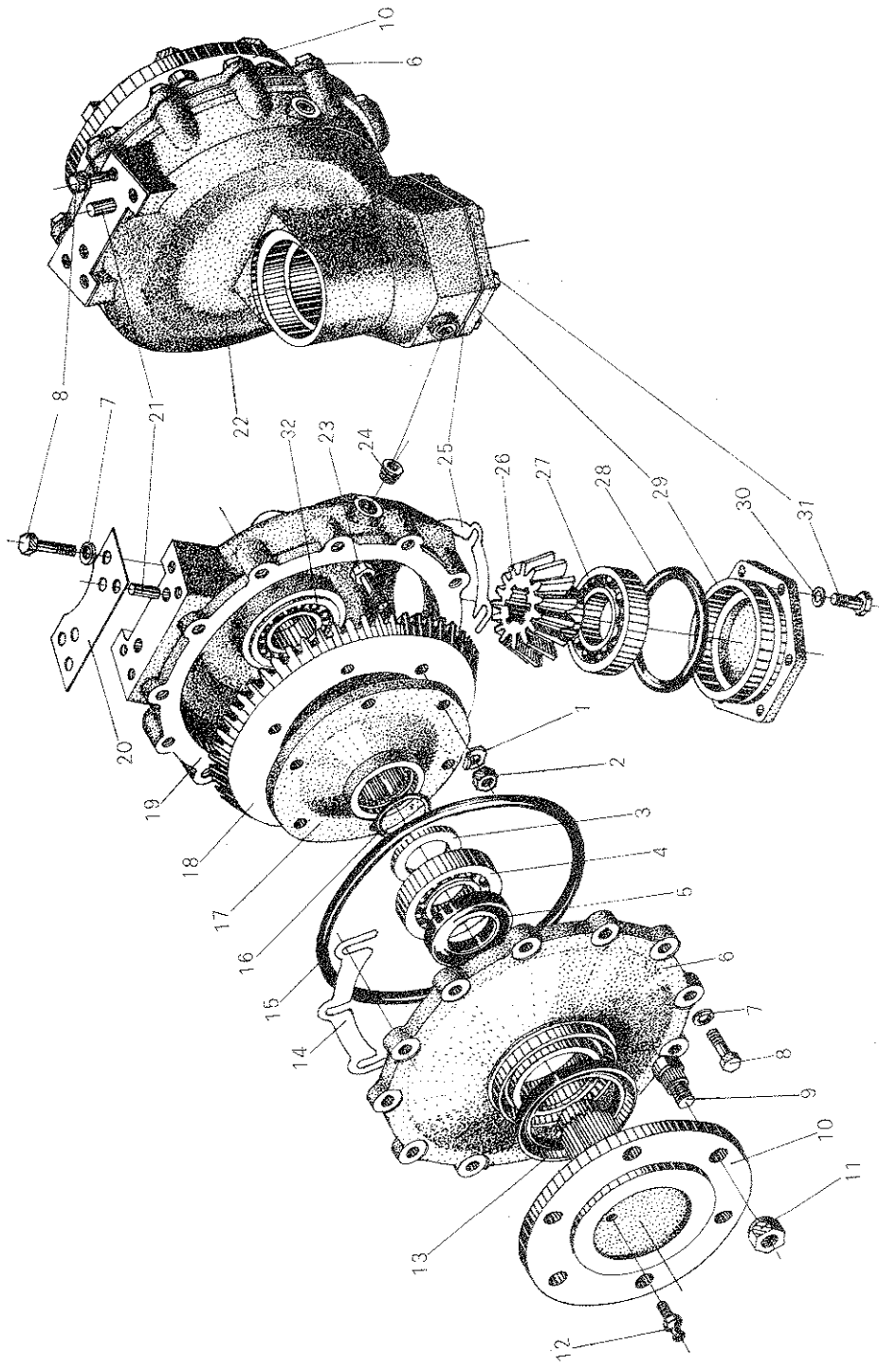
49. SN-254 FRONT DRIVING WHEEL ASSY



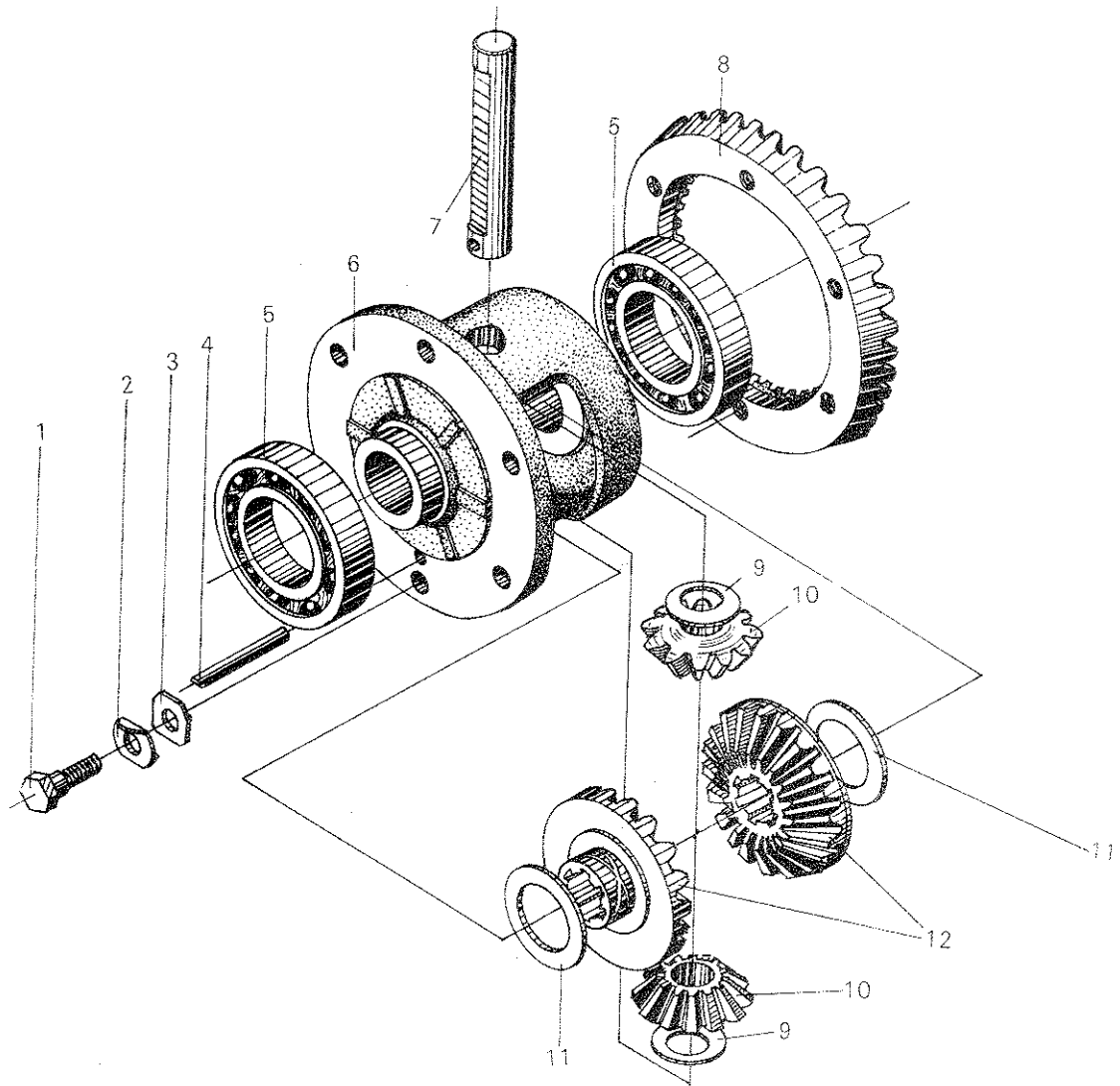
49. SN-254 FRONT DRIVING WHEEL ASSY

No.	Code	Name	Qty.
1	254 • 32 • 011	Front driving wheel rim assy	2
2		Tube 6. 00—16	2
3		Tyre 6. 00—16	2

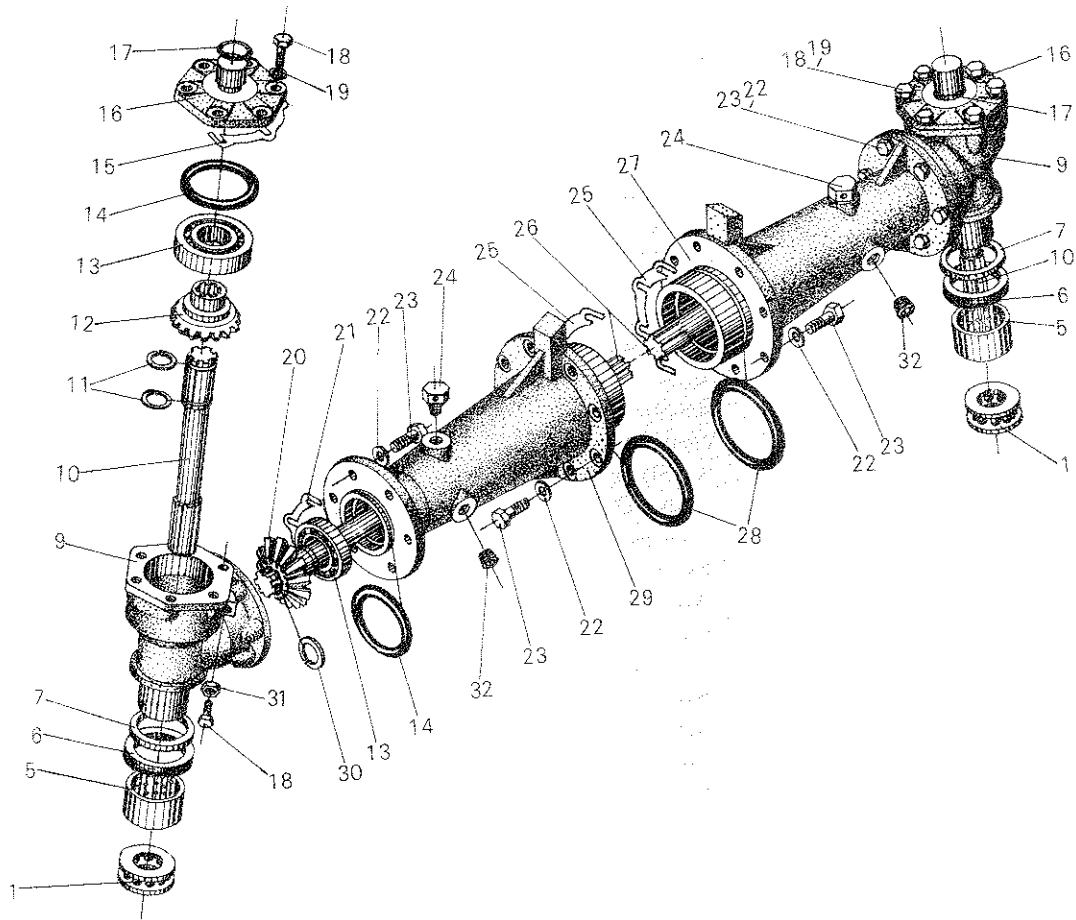
48. SN-254 FRONT DRIVING AXLE ASSY (D)



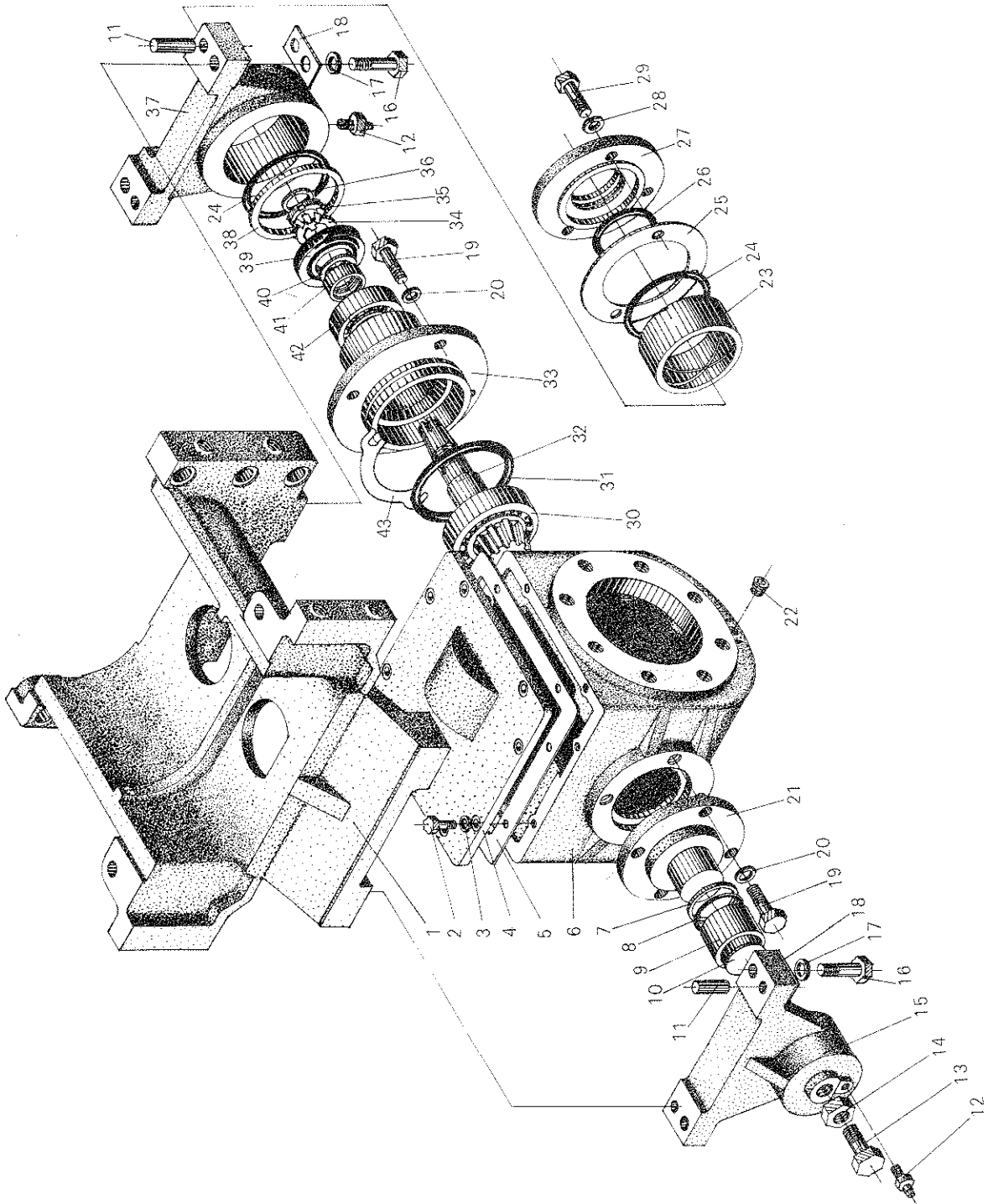
47. SN-254 FRONT DRIVING AXLE ASSY (C)



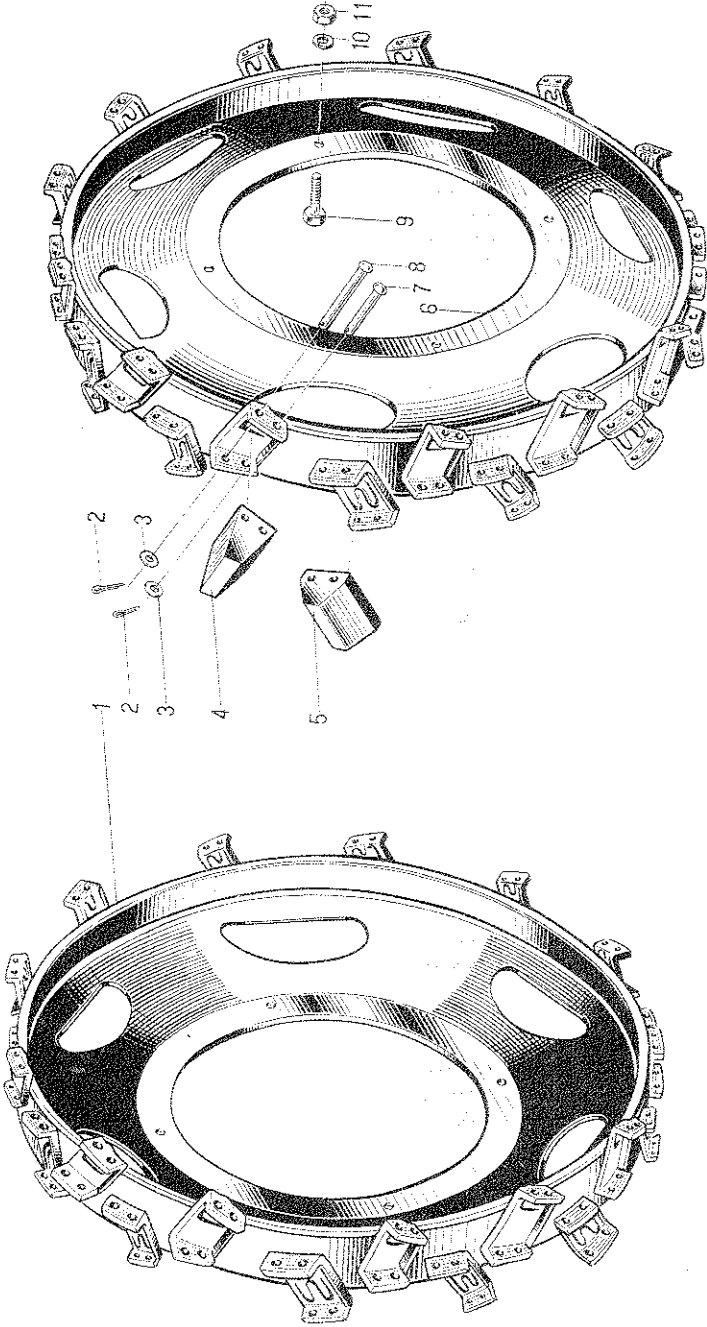
46. SN-254 FRONT DRIVING AXLE ASSY (B)



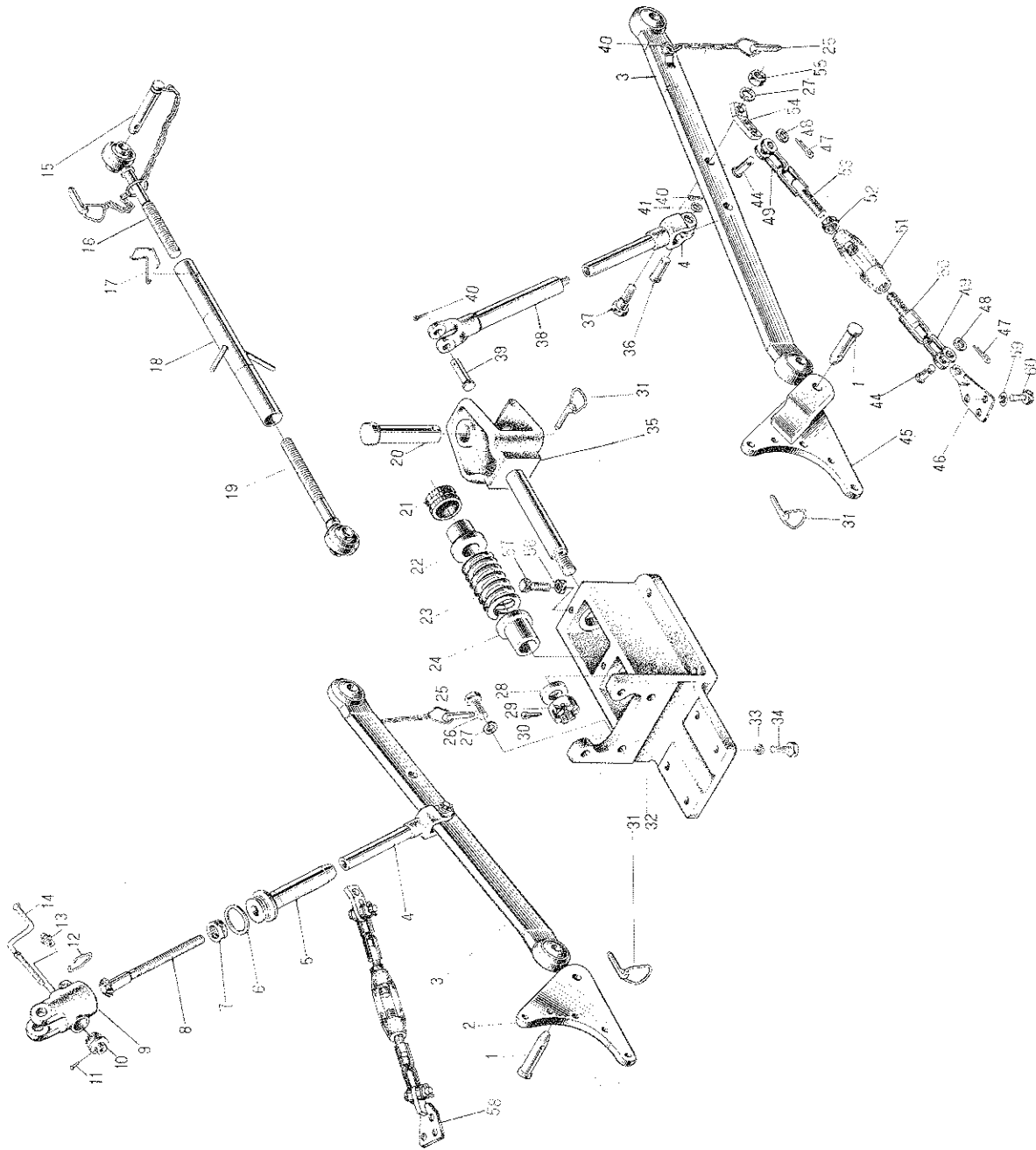
45. SN-254 FRONT DRIVING AXLE ASSY (A)



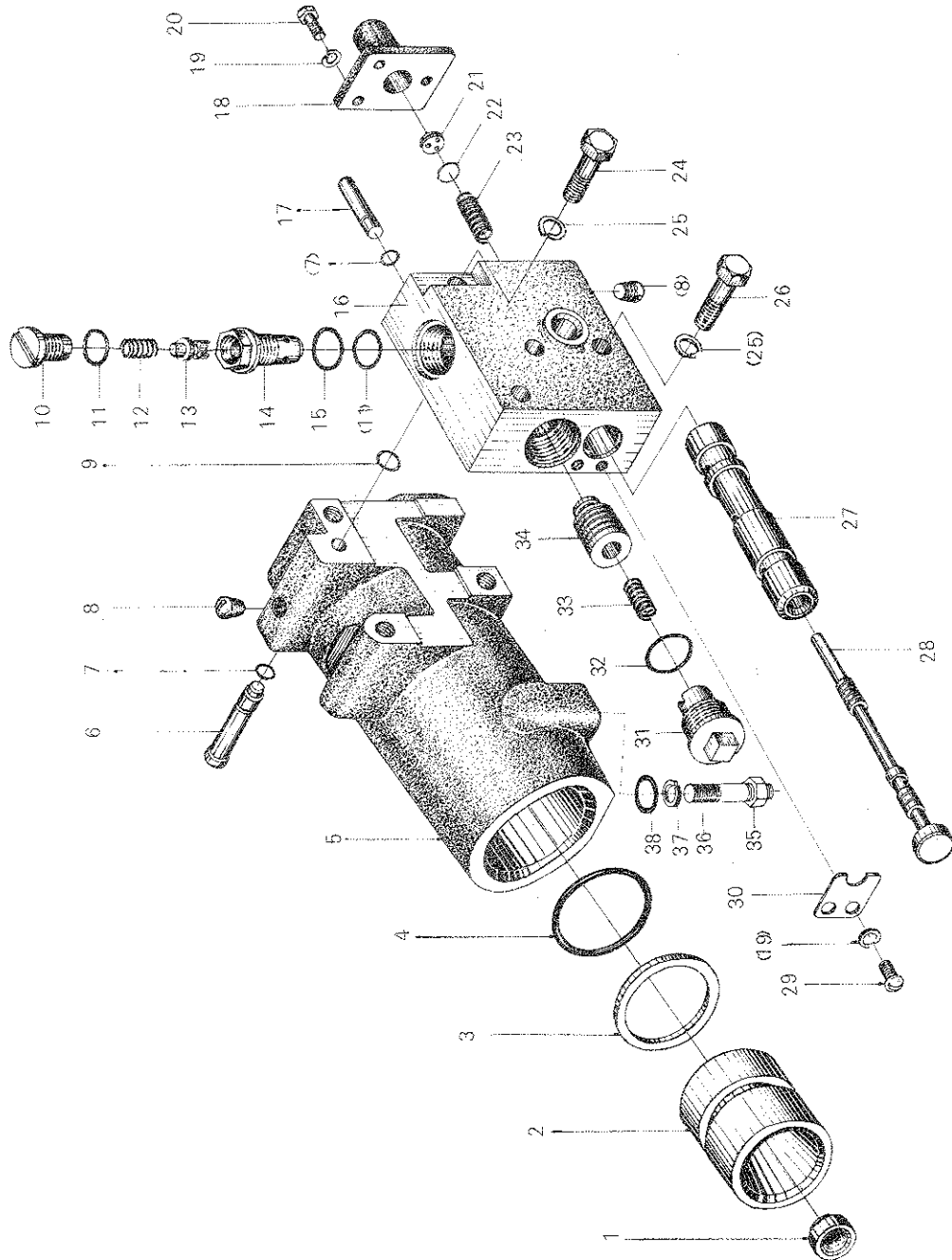
44. SN-25, PADDY FIELD WHEEL ASSY



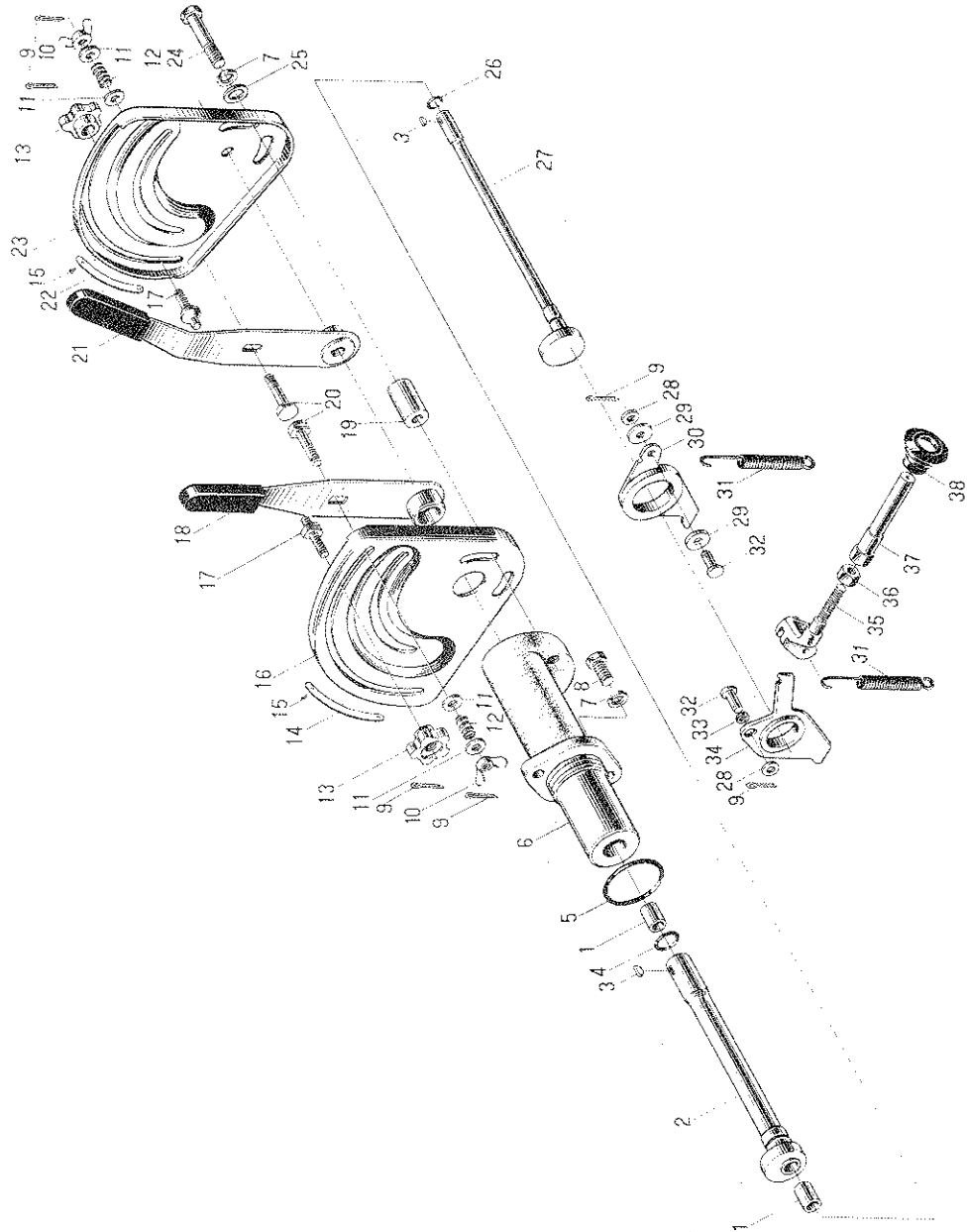
43. SN-25⁵/₃₅, SUSPENSION LINKAGE ASSY



42. SN- $\frac{25}{254}$ CYLINDER—DISTRIBUTOR ASSY



41. SN-²⁵/₂₅₄ POWER LIFT CONTROL MECHANISM



40. SN-²⁵/₂₅₄ HYDRAULIC POWER LIFT

No.	Code	Name	Qty.
1	25 · 55 · 019	Chain assy, upper link front link pin	1
2	25 · 55 · 126	Upper link pin, rocker arm	1
3	25 · 55 · 127	Upper hitch point rocker arm	1
4	25 · 56 · 028	Chain & lock pin assy	1
5	GB91—76	Cotter pin 3×25	1
6	GB95—76	Washer 20	2
7	GB91—76	Cotter pin 5×35	2
8	25 · 55 · 163	Upper link connector	1
9	GB119—76	Pin d ₄ ×40	1
10	25 · 55 · 162	Cover, dust	1
11	25 · 55 · 161	Nut	1
12	GB119—76	Pin 4d ₆ ×14	1
13	25 · 55 · 160	Disk, pressure spring seat	1
14	25 · 55 · 157	Spring, draft control	1
15	25 · 55 · 159	Spring seat	1
16	25 · 55 · 158	Spring rod	1
17	25 · 55 · 226	Limiting screw, lock shaft	1
18	25 · 55 · 227	Gasket	1
19	Q137—59	Plug I —Z1/8"	2
20	25 · 55 · 229	Lock shaft	1
21	25 · 55 · 228	Retaining spring, lock shaft	1
22	GB308—77	Steel ball 11/32"C III	1
23	25 · 55 · 230	Lock shaft lever	1
24	GB1235—76	O-Ring 20×2.4	5
25	25 · 55 · 102	Lift shaft	1
26	25 · 55 · 105	Lift shaft bush	5
27	25 · 55 · 106	Seal ring 52×5.7	2
28	25 · 55 · 016	Lift arm assy	2
29	25 · 55 · 104	Pressure plate, lift arm	2
30	GB93—76	Washer 10	19
31	GB21—76	Bolt M10×20	6
32	25 · 55 · 109	Hex. threaded plug	2
33	GB1235—76	O-Ring 22×2.4	11
34	25 · 55 · 108	Joint, hydraulic power take-off	1
35	25 · 55 · 249	Paper gasket, hydraulic PTO joint	1
36	GB1235—76	O-Ring 16×2.4	4
37	25 · 55 · 115	Pipe, hydraulic PTO	1
38	25 · 55 · 111	Adjusting rod, shut-off valve	1
39	GB1235—76	O-Ring 13×1.9	2
40	25 · 55 · 043	Filter housing assy	1
41	25 · 55 · 225	Paper gasket, lift cover	1
42	25 · 55 · 042	Lifter cover assy	1

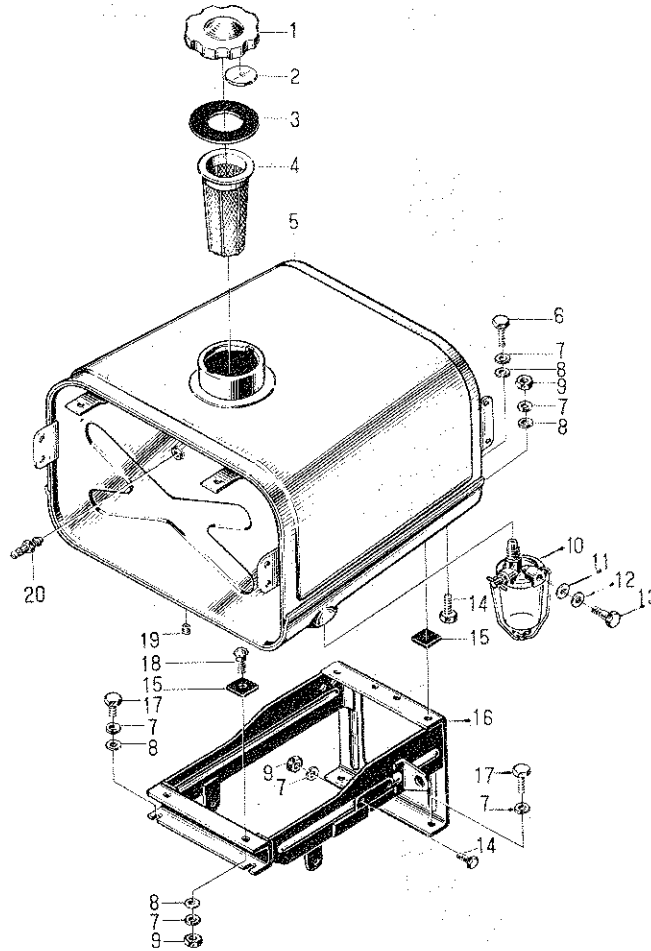
39. 306 HYDRAULIC GEAR PUMP

No.	Code	Name	Qty.
1	GB45—76	Nut M10	4
2	GB859—76	Washer 10	4
3	25 • 54 • 015—1	Pressure oil tube weldment	1
4	306—103	Rear cover, hydraulic pump	1
5	GB21—76	Bolt M8×20	4
6	306—110	Dowel pin	4
7	GB93—76	Washer 8	8
8	GB1235—76	O-Ring 32×3.1	4
9	25 • 54 • 111	Union	1
10	GB1235—76	O-Ring 68×3.1	2
11	GB1235—76	O-Ring 24×2.4	3
12	25 • 54 • 112	Union	1
13	25 • 54 • 012—1	Low pressure rubber hose assy	1
14	306—106	Bush	2
15	306—104	Drive gear	1
16	306—109	Rubber plug	2
17	306—102	Front cover, hydraulic pump	1
18	HG6—692—67	Oil seal SD17×30×10	1
19	25 • 54 • 107	Paper gasket, hydraulic pump	2
20	25 • 54 • 121	Connecting plate	1
21	25 • 54 • 122	Cross joint	1
22	GB35—76	Bolt M10×90	4
23	GB29—76	Bolt M8×55	4
24	306—105	Driven gear	1
25	306—101	Hydraulic pump housing	1
26	GB1235—76	O-Ring 20×2.4	1
27	GB1235—76	O-Ring 16×2.4	2

38. SN-²⁵/₂₅₄ BELT PULLEY ASSY

No.	Code	Name	Qty.
1	GB21—76	Bolt M10×25	4
2	GB93—76	Washer 10	4
3	25·52·102	Housing cover	1
4	HG4—692—76	Oil seal 50×70×12	1
5	GB276—64	Ball bearing 210	1
6	25·52·113	Main conical gear	1
7	25·52·114	Mandrel	1
8	GB276—64	Ball bearing 106	1
9	GB894—76	Snap ring 30	1
10	25·52·111	Adjusting shim	Several
11	25·52·115	Adjusting shim	Several
12	25·52·116	Adjusting shim	Several
13	Q137—59	Plug II —1/4"	1
14	25·52·106	Seal cap	1
15	25·52·101	Housing	1
16	25·52·107	Adjusting shim	Several
17	25·52·108	Adjusting shim	Several
18	25·52·110	Adjusting shim	Several
19	25·52·105	Driven conical gear	1
20	GB1096—72	Key C8×40	1
21	GB276—64	Ball bearing 306	2
22	25·52·112	Bush	1
23	HG4—692—67	Oil seal 45×65×12	1
24	25·52·104	Bearing cover	1
25	25·52·117	Paper gasket	1
26	GB93—76	Washer 8	3
27	GB21—76	Bolt M8×20	3
28	25·52·103	Pulley	1
29	GB97—76	Washer 20	1
30	GB59—76	Nut M20	1
31	GB91—76	Cotter pin 4×35	1

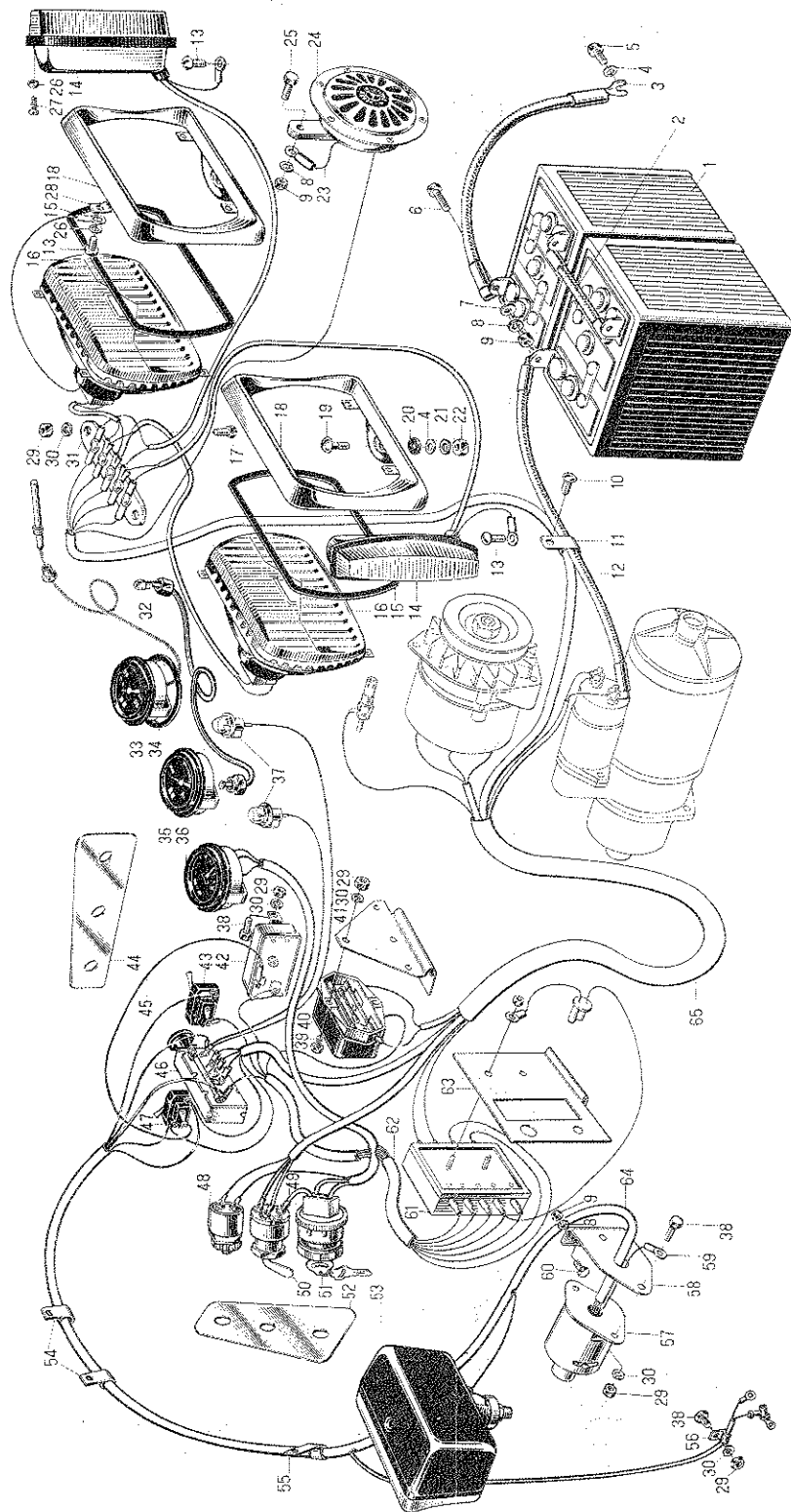
37. SN-²⁵/₂₅₄ FUEL TANK & BRACKET



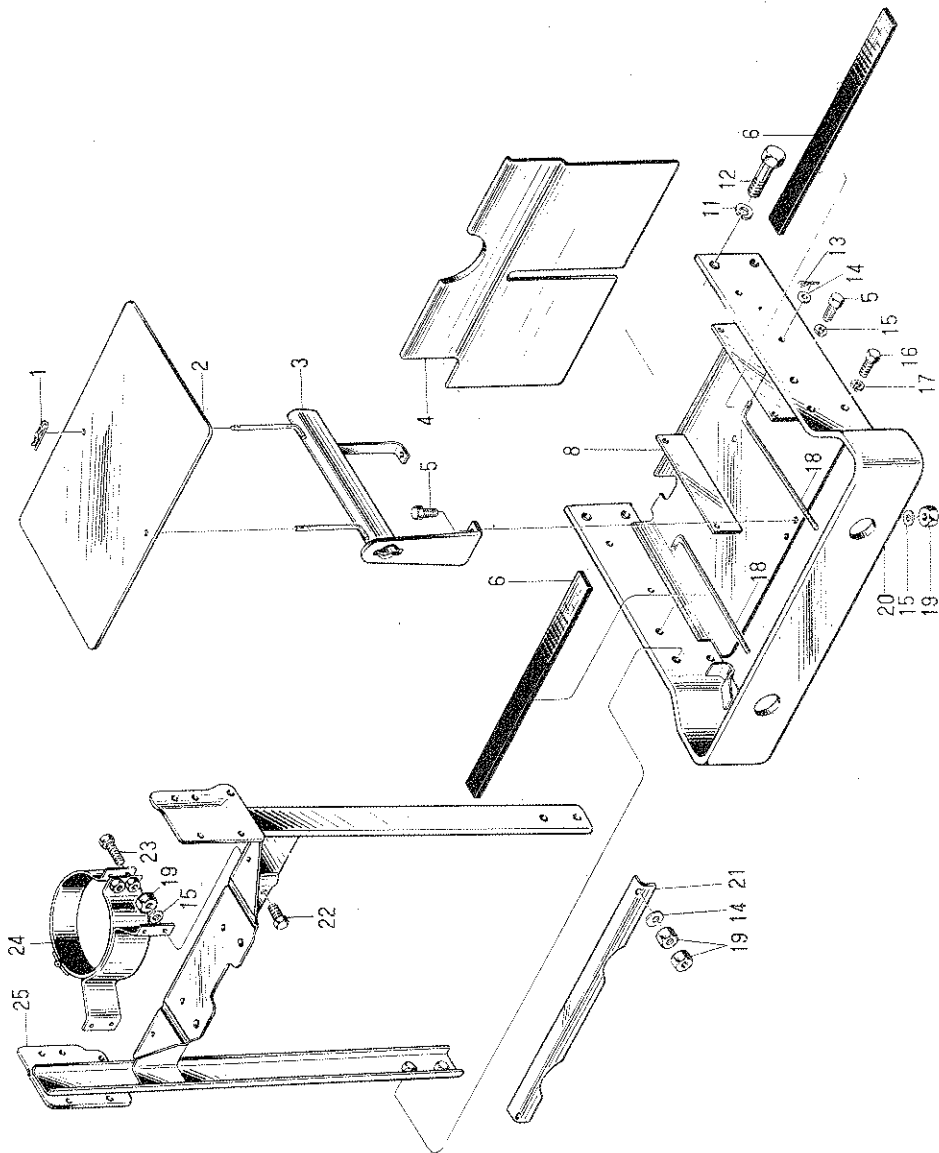
37. SN-²⁵/₂₅₄ FUEL TANK & BRACKET

No.	Code	Name	Qty.
1	25 · 50 · 014	Fuel tank cap assy	1
2	25 · 50 · 122	Ventilation cover	1
3	25 · 50 · 123	Seal ring	1
4	25 · 50 · 013	Screen assy, fuel tank filler	1
5	25 · 50 · 011—1	Fuel tank assy	1
6	GB21—76	Bolt M8×28	2
7	GB93—76	Washer 8	12
8	GB97—76	Washer M8	8
9	GB51—76	Nut 8	6
10	485—110000	Fuel valve & sediment cup assy	1
11	25 · 15 · 125	Small washer, sediment cup	1
12	25 · 15 · 127	Big washer, sediment cup	1
13	25 · 15 · 126	Bolt	1
14	BG21—76	Bolt	4
15	25 · 50 · 103	Rubber gasket	4
16	25 · 20 · 021	Bracket assy	1
17	GB21—76	Bolt	4
18	GB12—76	Bolt	2
19	Q173—59	Plug	1
20		Union assy	1

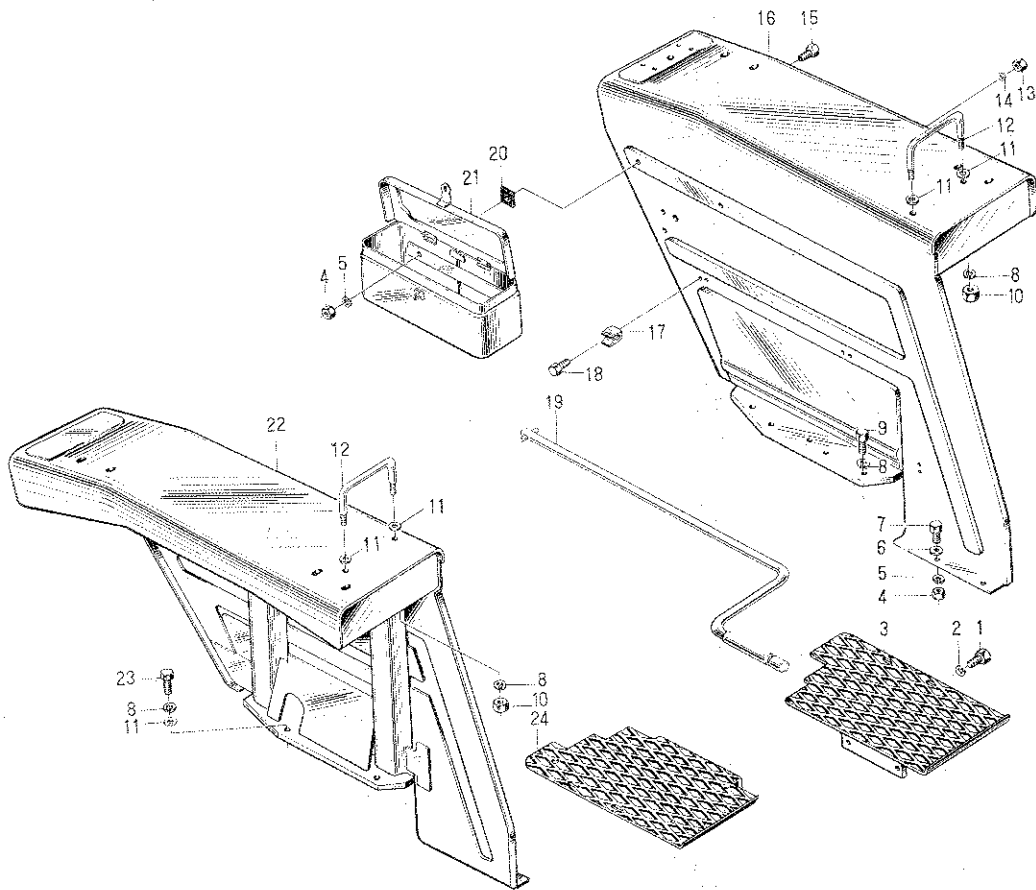
36. SN-25/24 ELECTRICAL SYSTEM



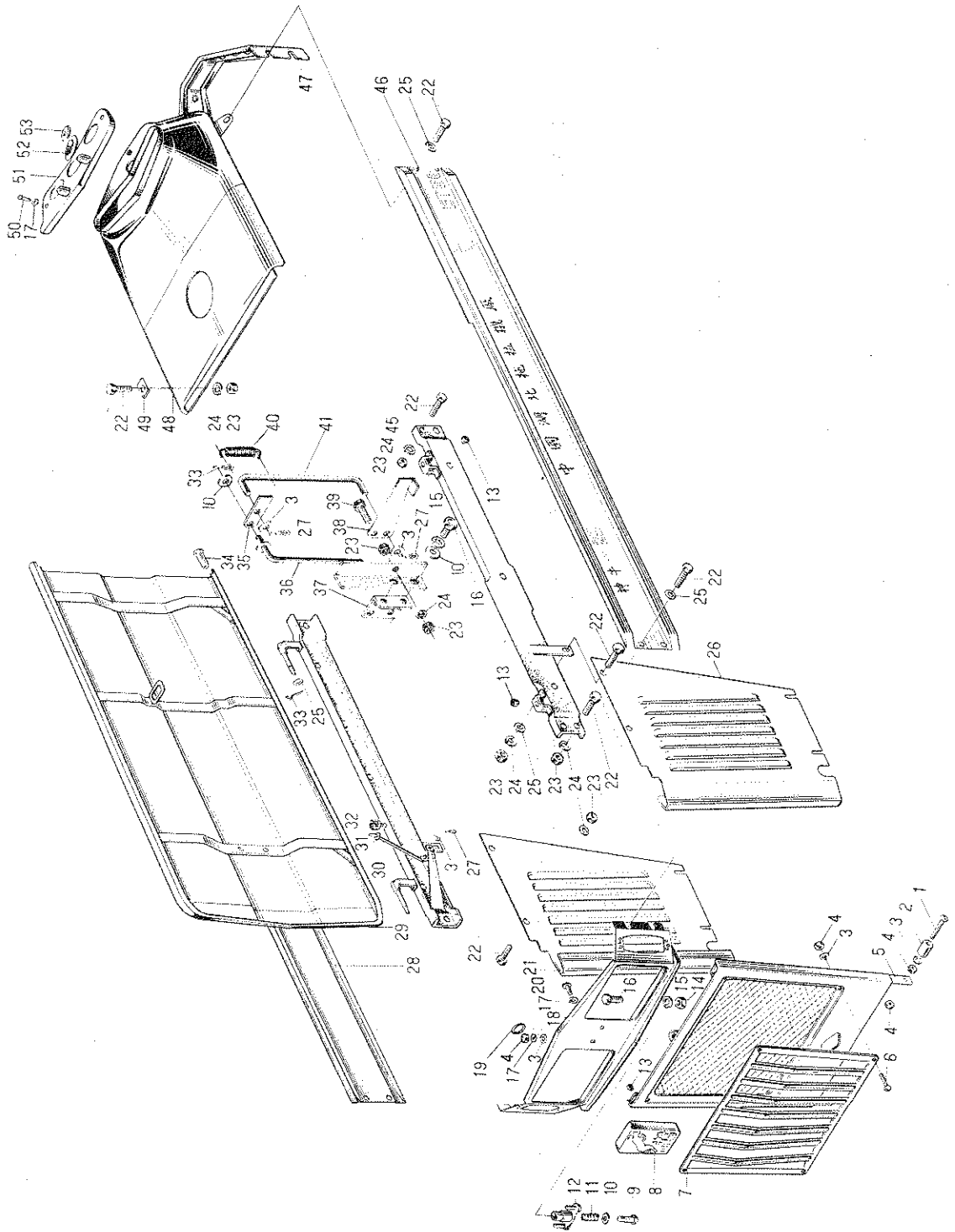
35. SN-²⁵/₂₅₄ FRONT BRACKET ASSY



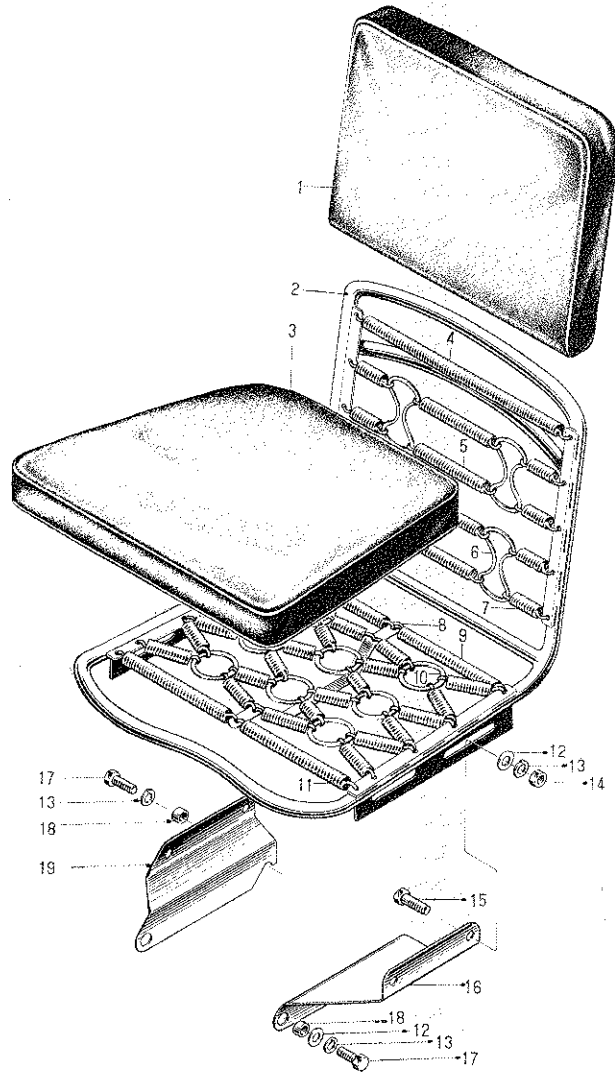
34. SN-²⁵/₂₅₄ FENDER, FLOOR BOARD & TOOL BOX



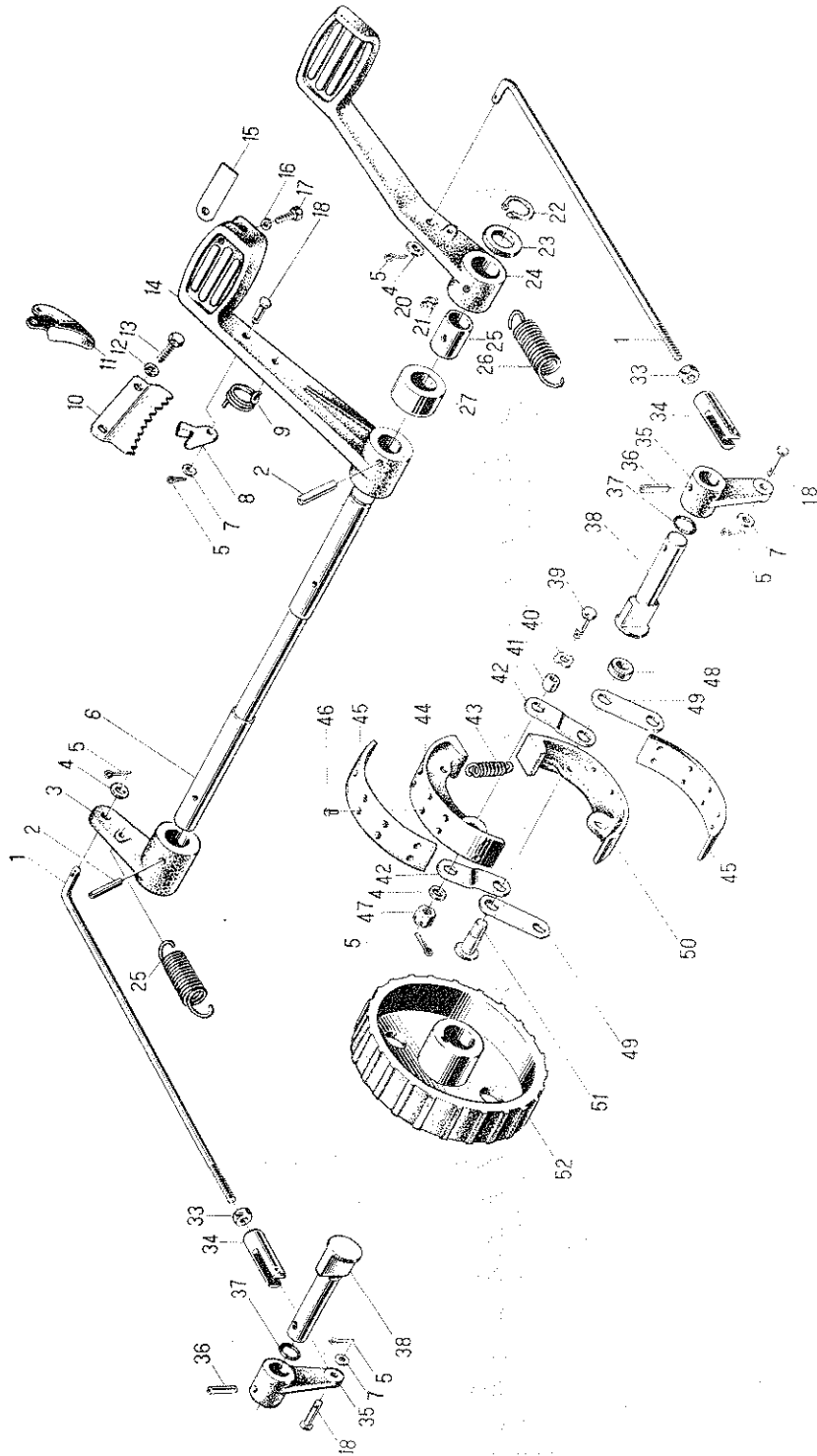
33. SN-²⁵/₂₅₄ ENGINE HOOD ASSY



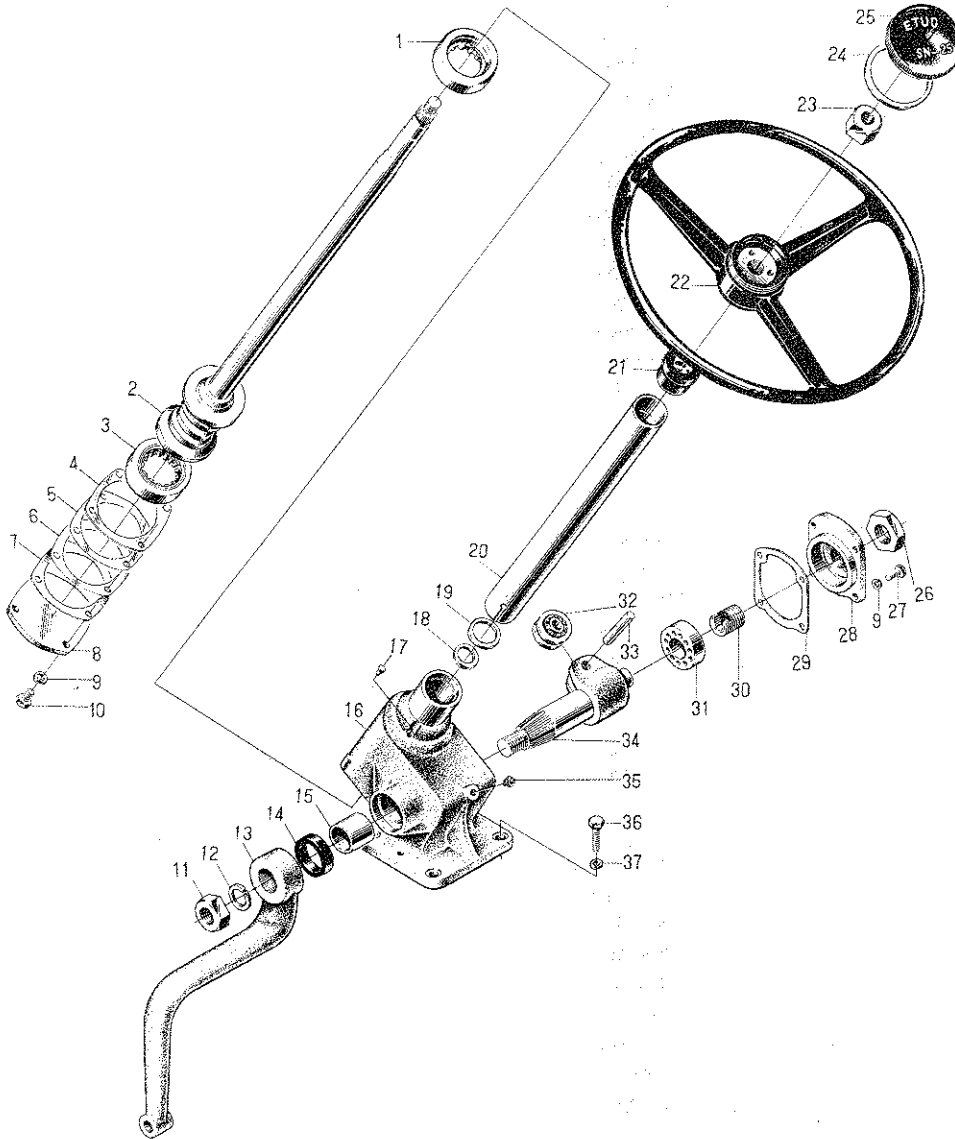
32. SN-²⁵/₂₈₄ DRIVER SEAT ASSY



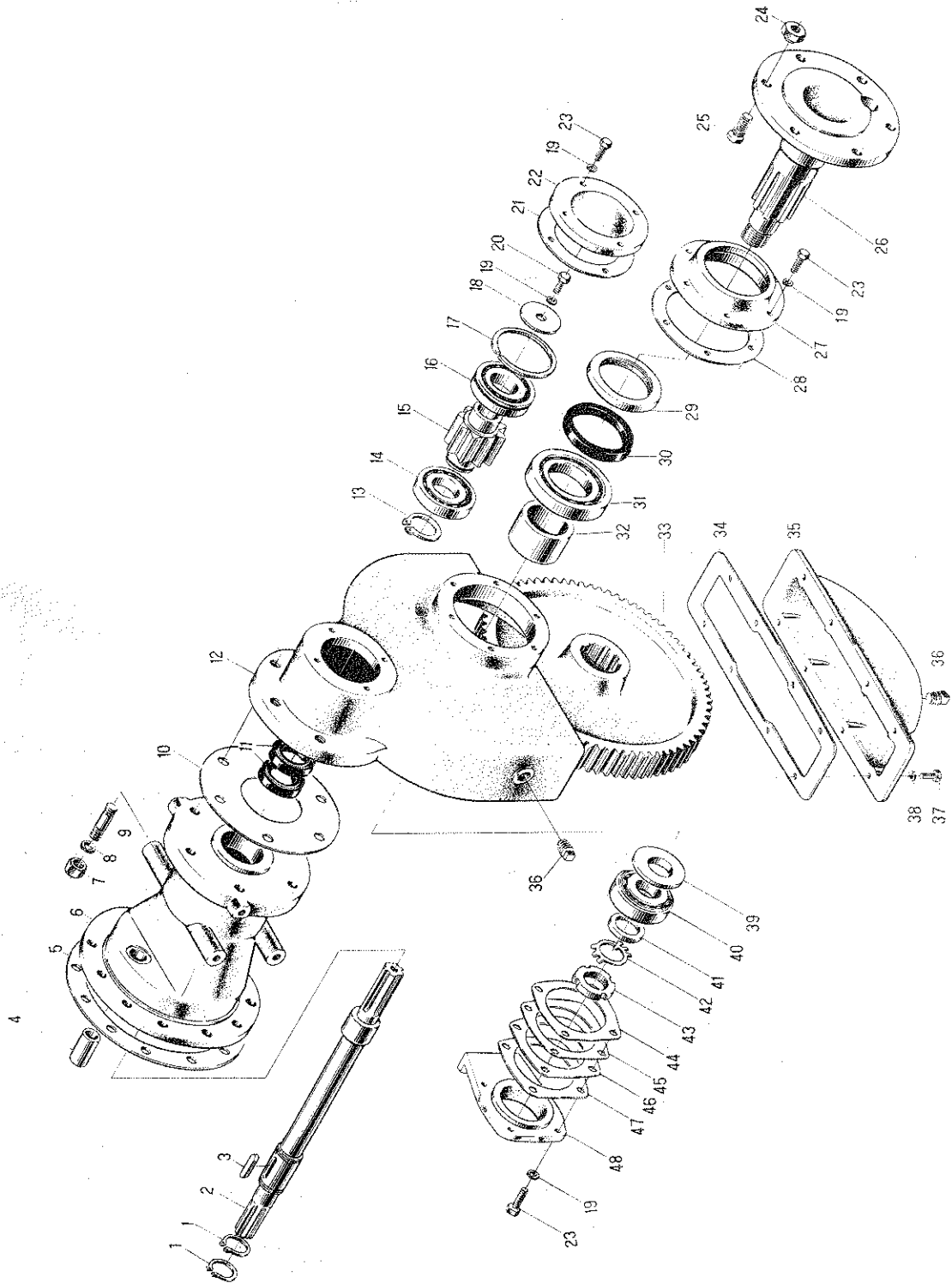
31. SN-²⁵₂₃₄ BRAKE ASSY



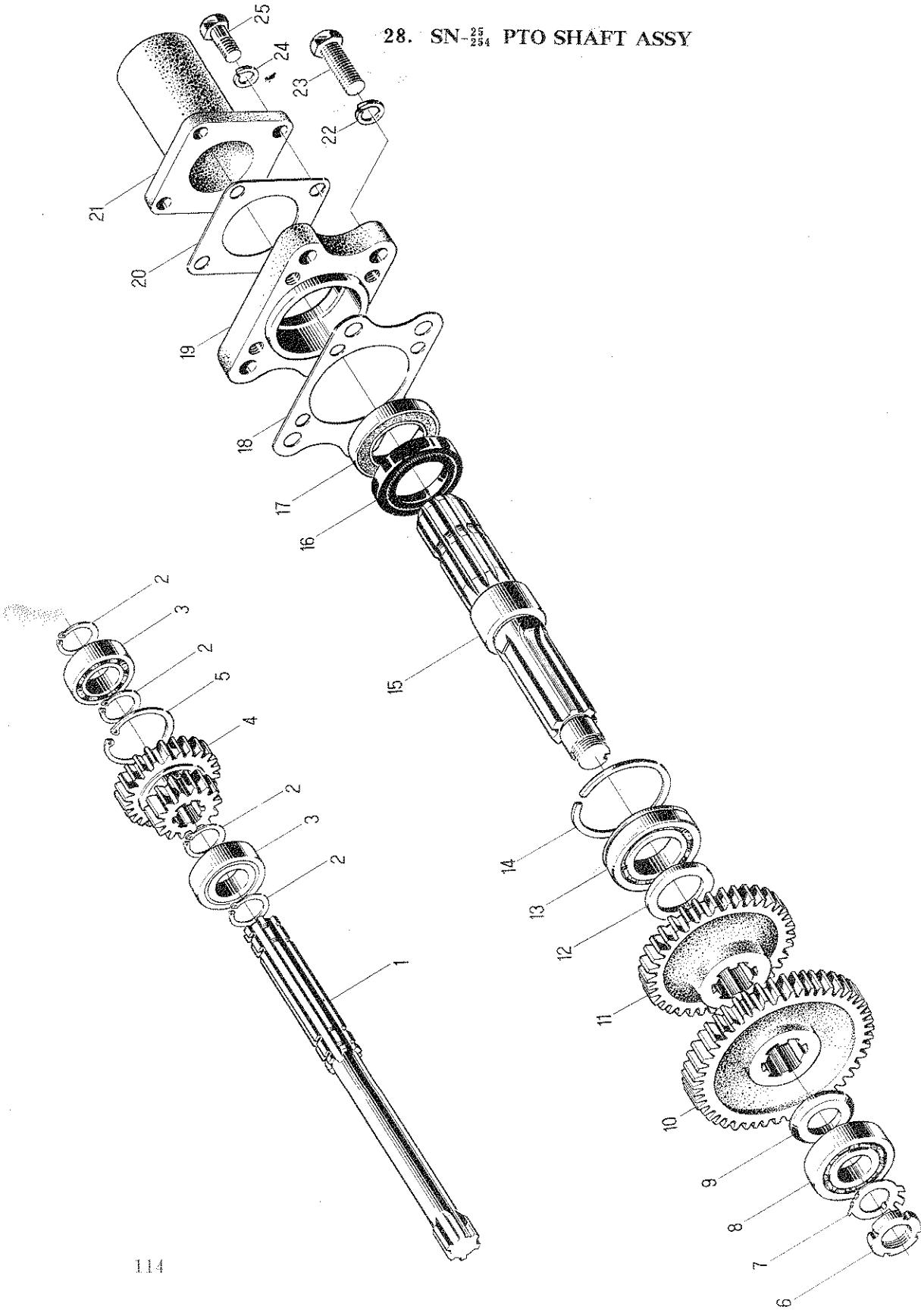
30. SN-²⁵/₂₅₄ STEERING GEAR ASSY



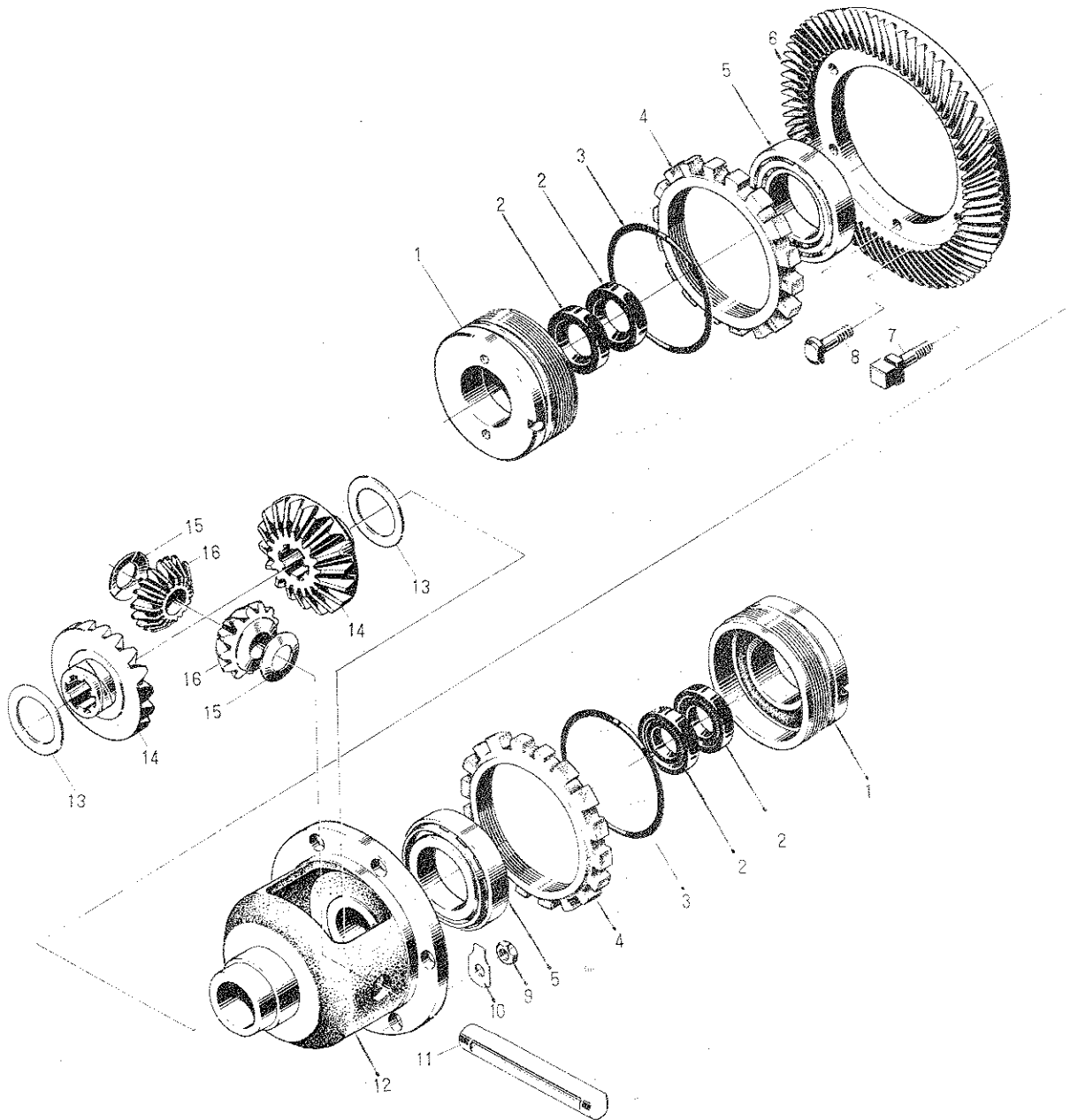
29. SN-²⁵/₂₅₄ FINAL DRIVE ASSY



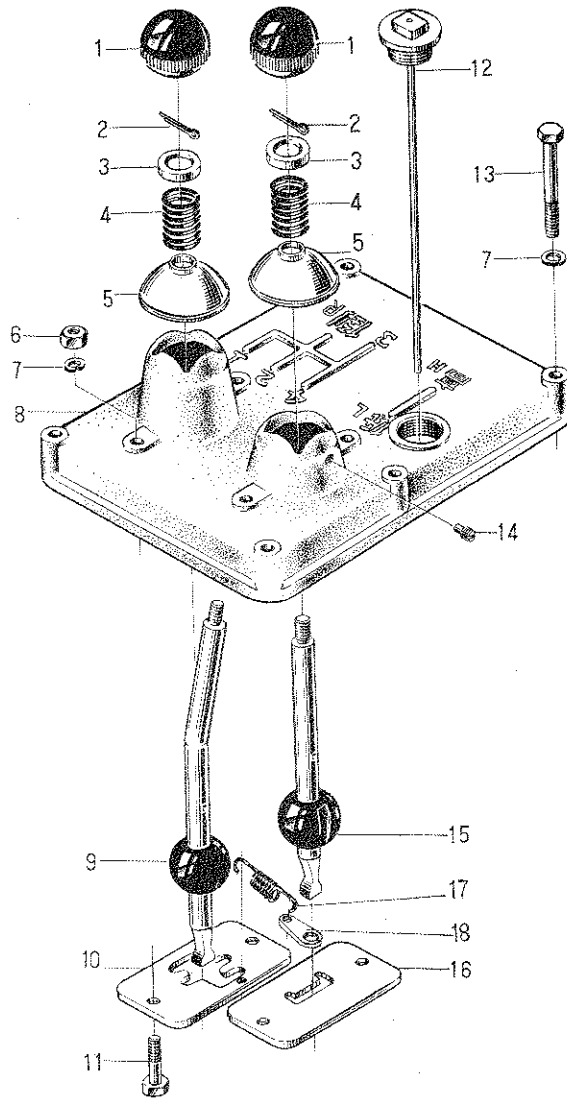
28. SN-²⁵⁵/₂₅₄ PTO SHAFT ASSY



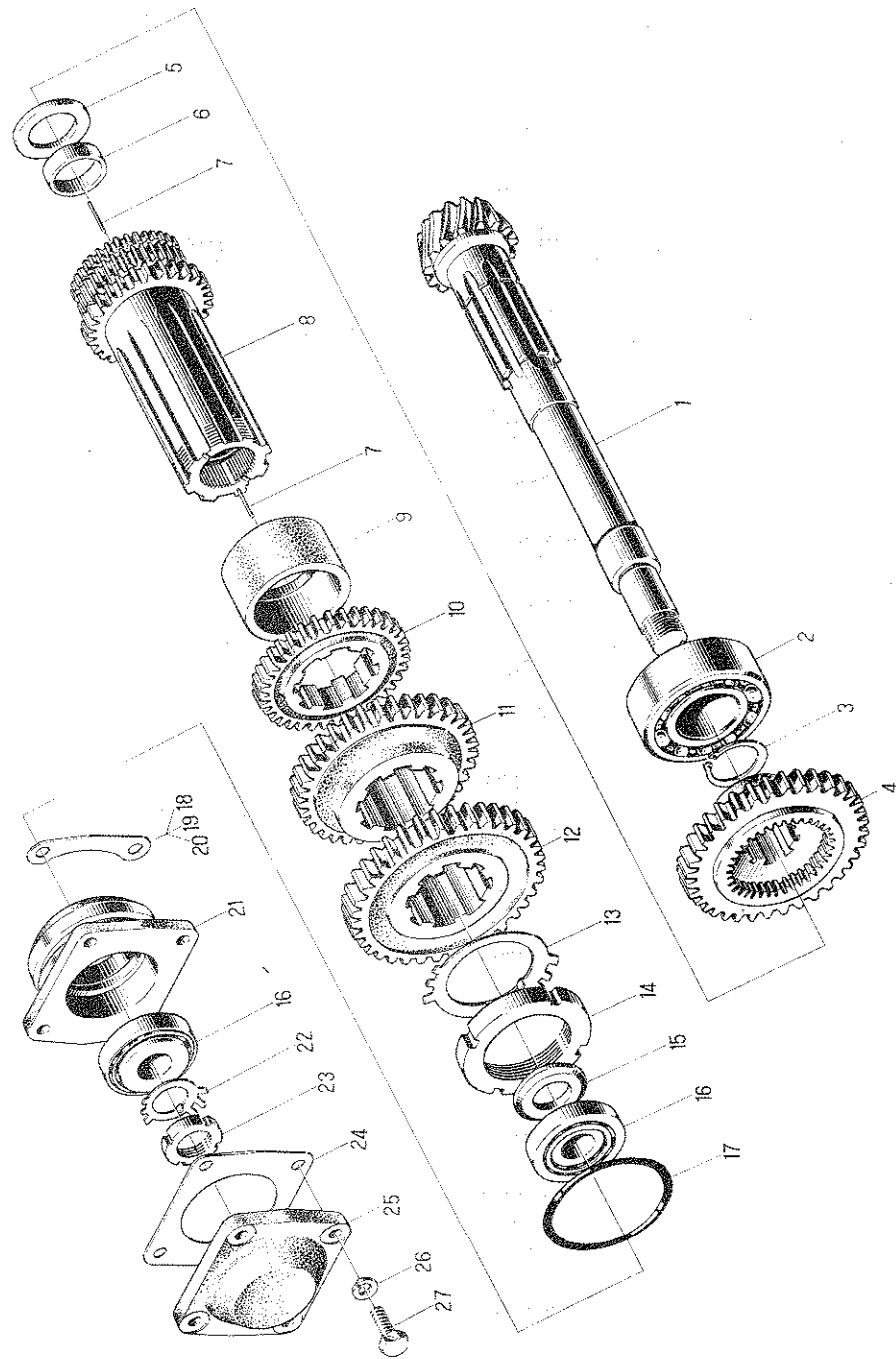
27. SN-²⁵/₂₅₄ DIFFERENTIAL



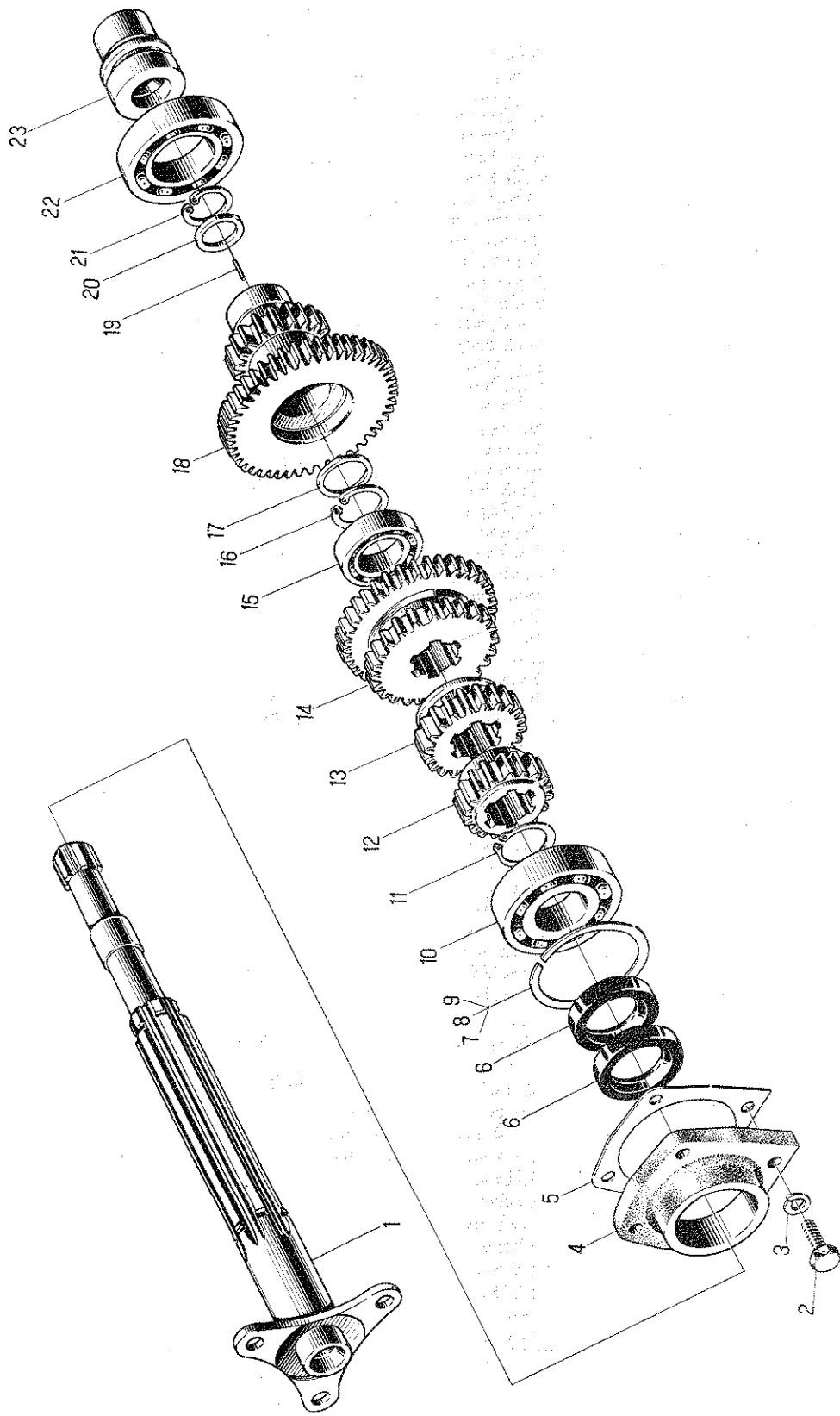
26. SN-²⁵/₂₅₄ TRANSMISSION COVER ASSY



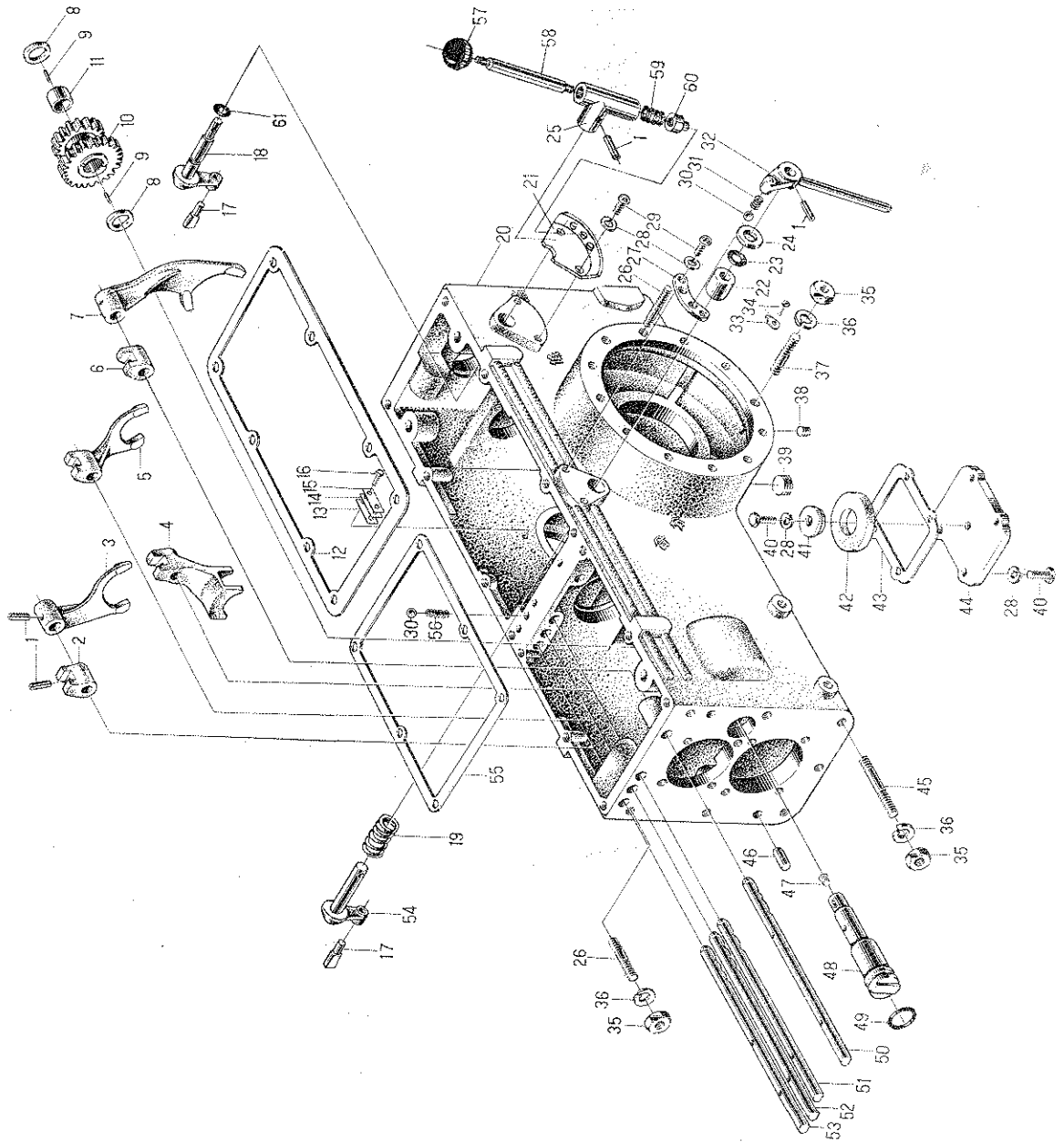
25. SN-25 MAIN SHAFT



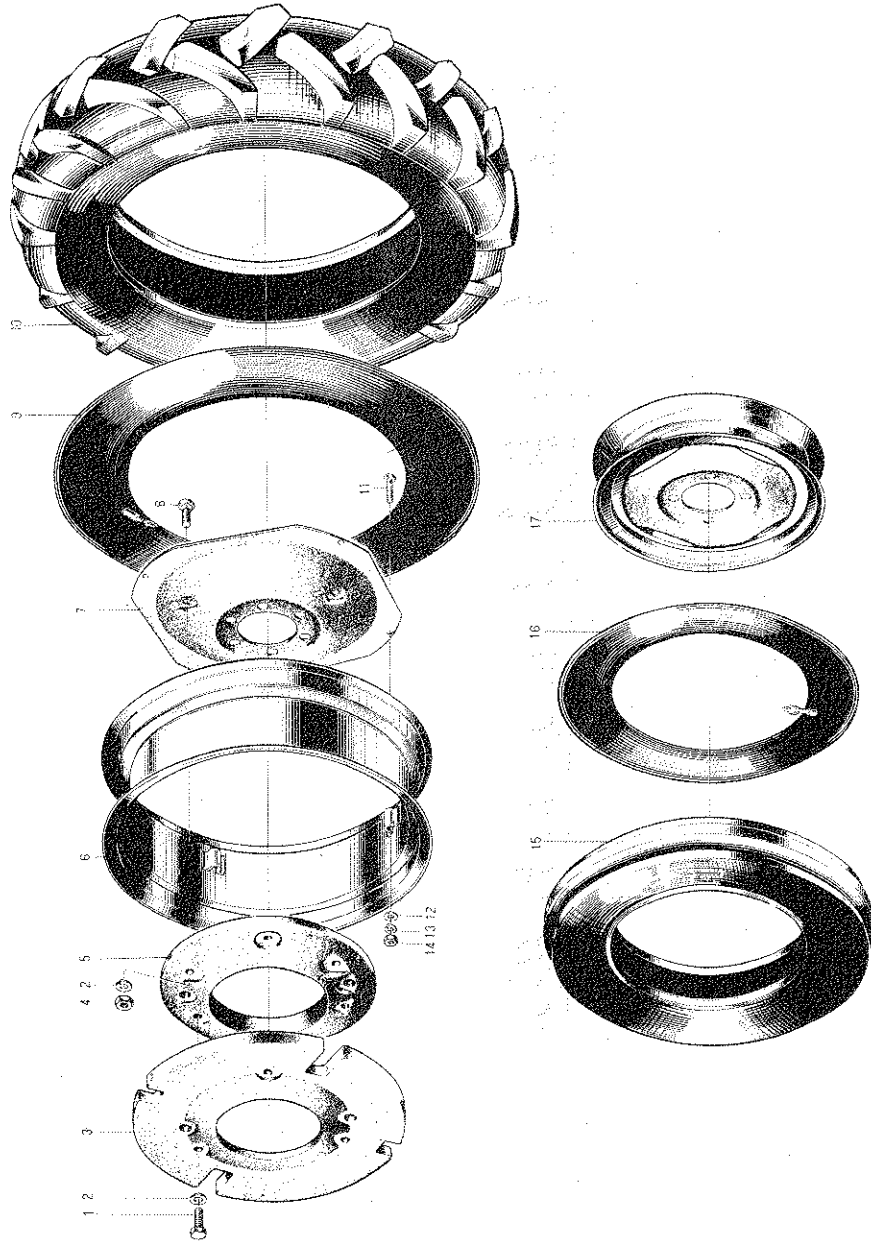
24. SN-²⁵/₂₅₄ PRIMARY SHAFT



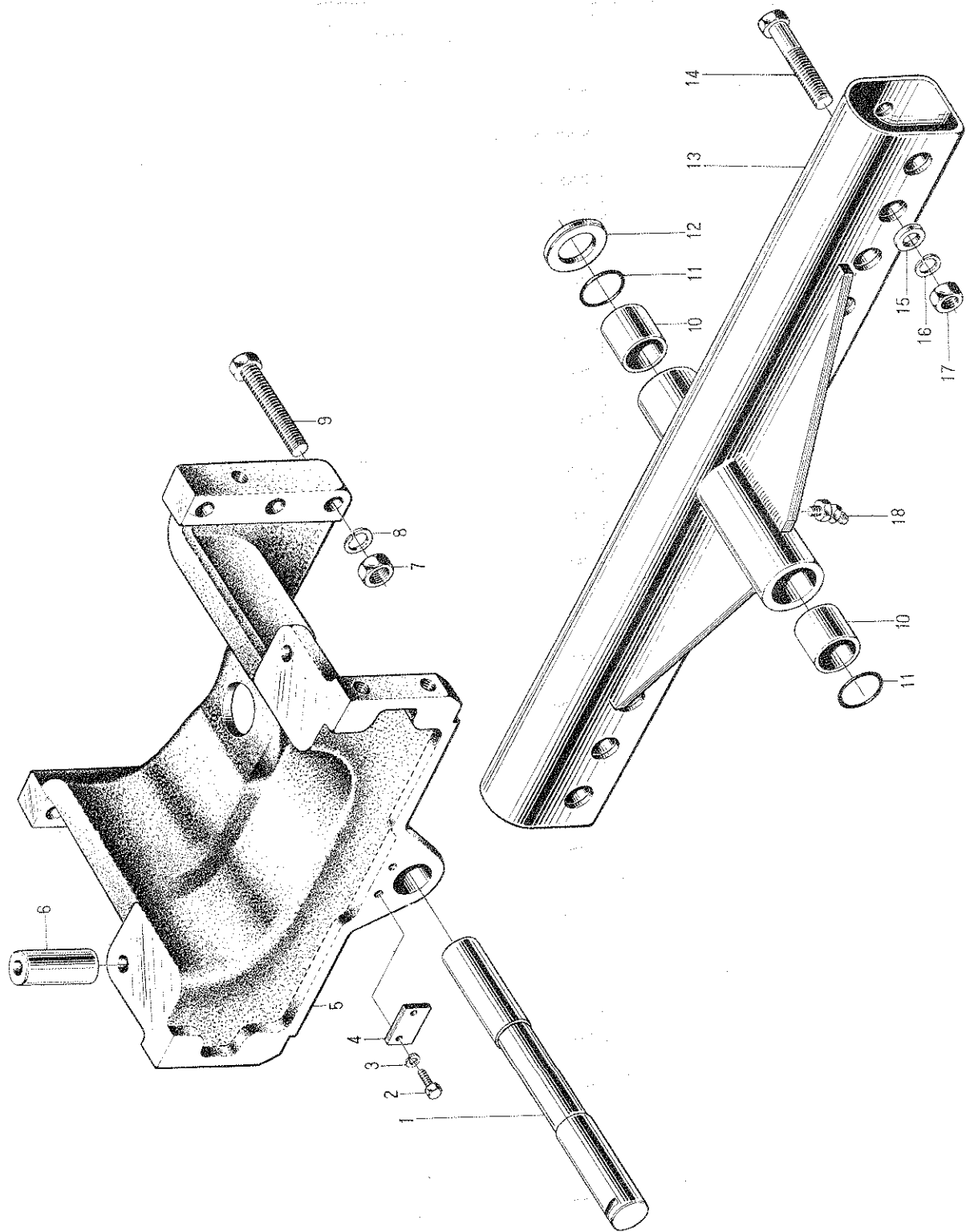
23. SN-²⁵/₂₅₄ TRANSMISSION HOUSING



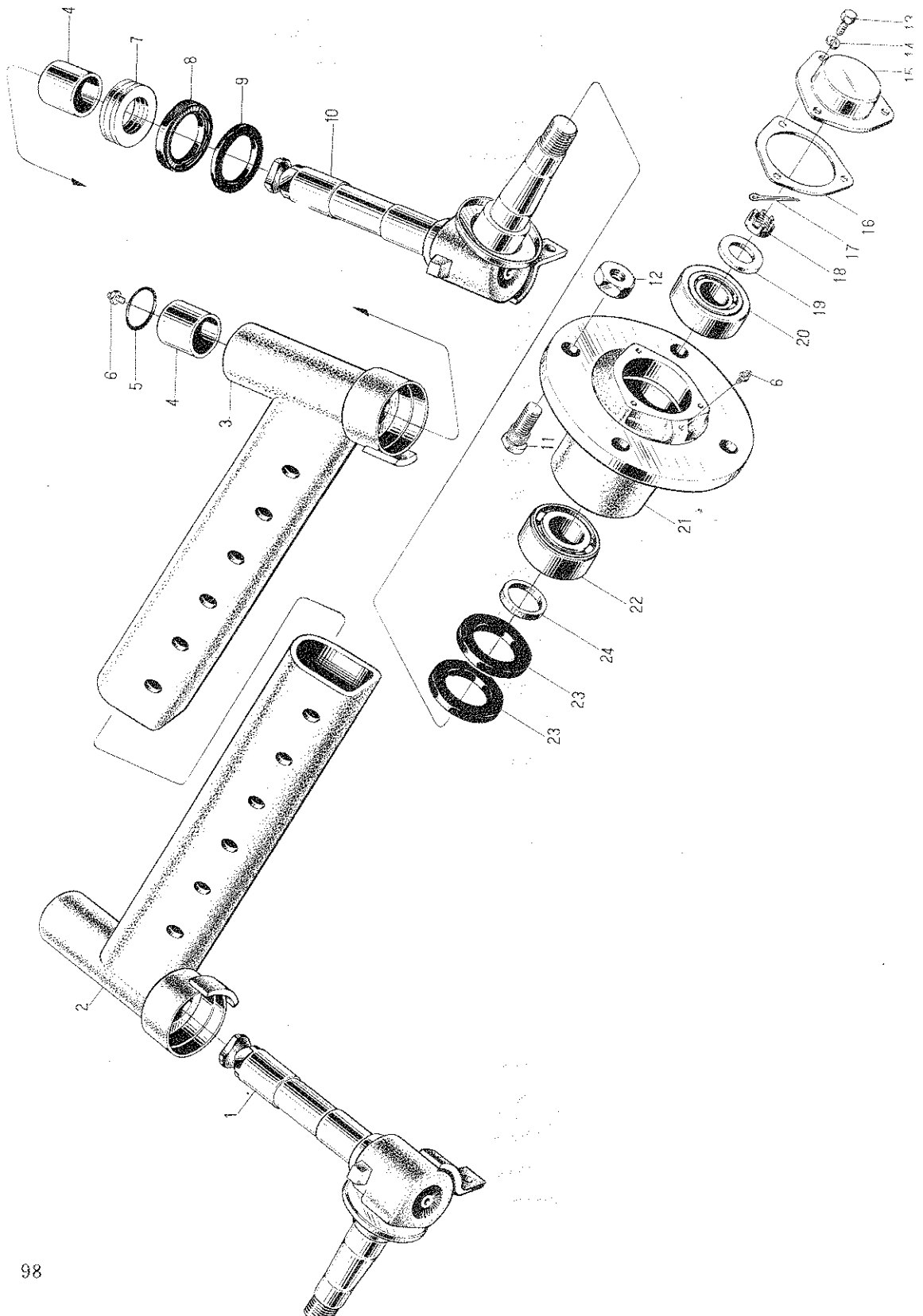
22. SN-25 FRONT WHEEL ASSY & SN-25²⁵/₂₅₄ REAR WHEEL ASSY



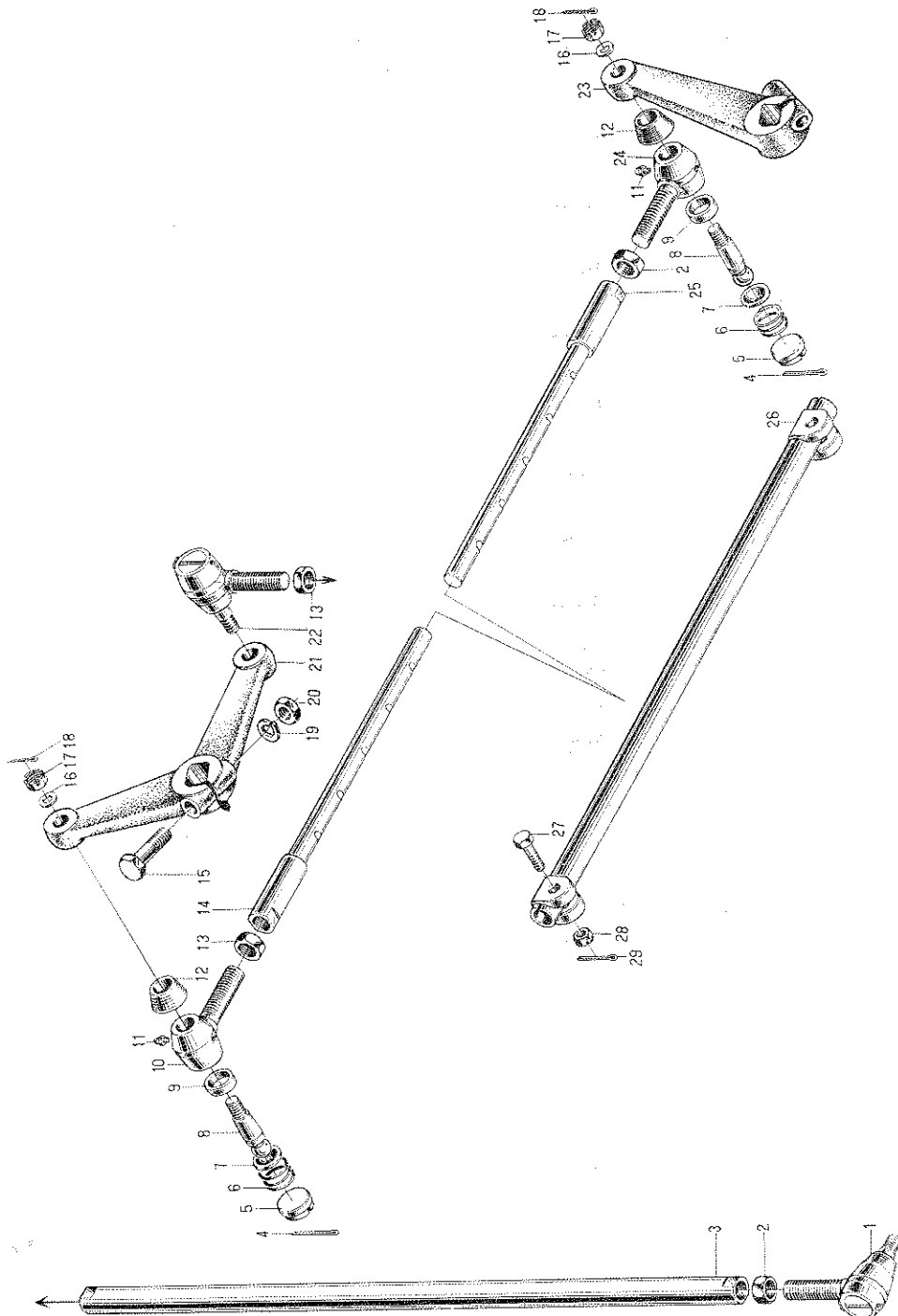
21. SN-25 BRACKET & SLEEVE



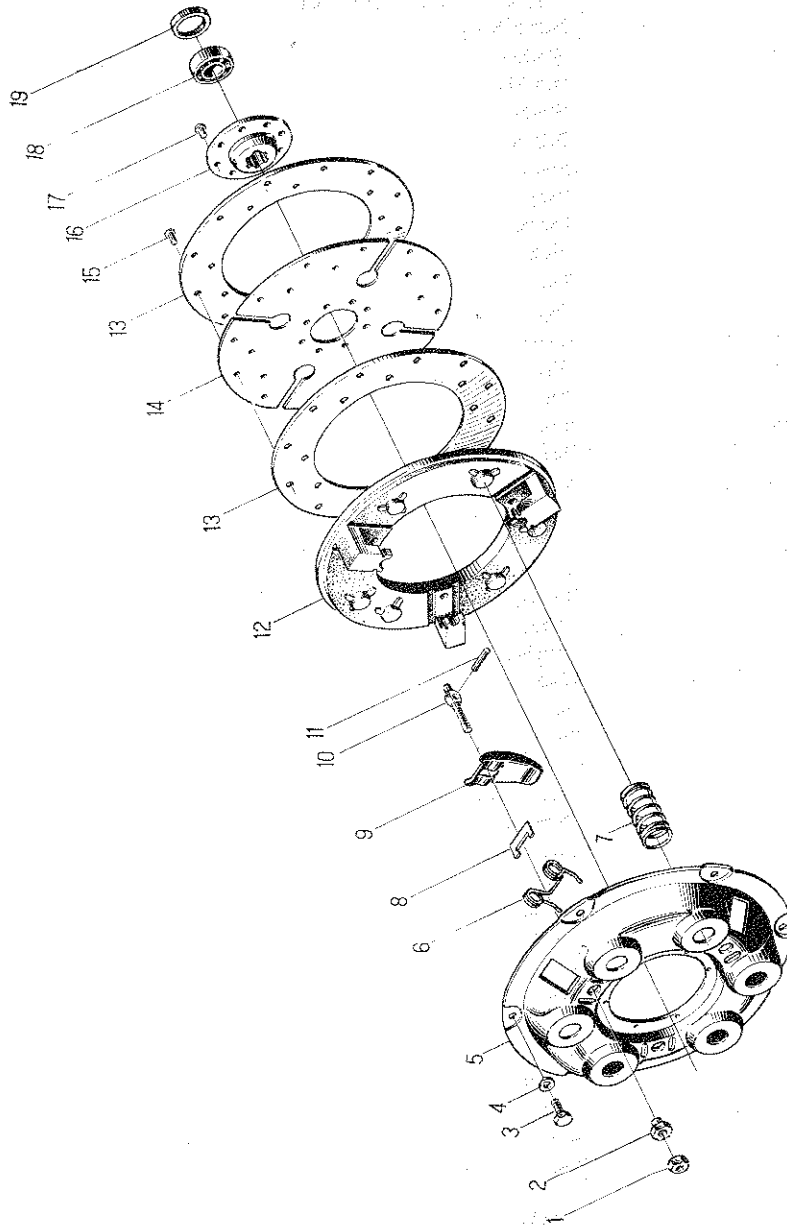
20. SN-25 FRONT SHAFT ARM & FRONT WHEEL HUB



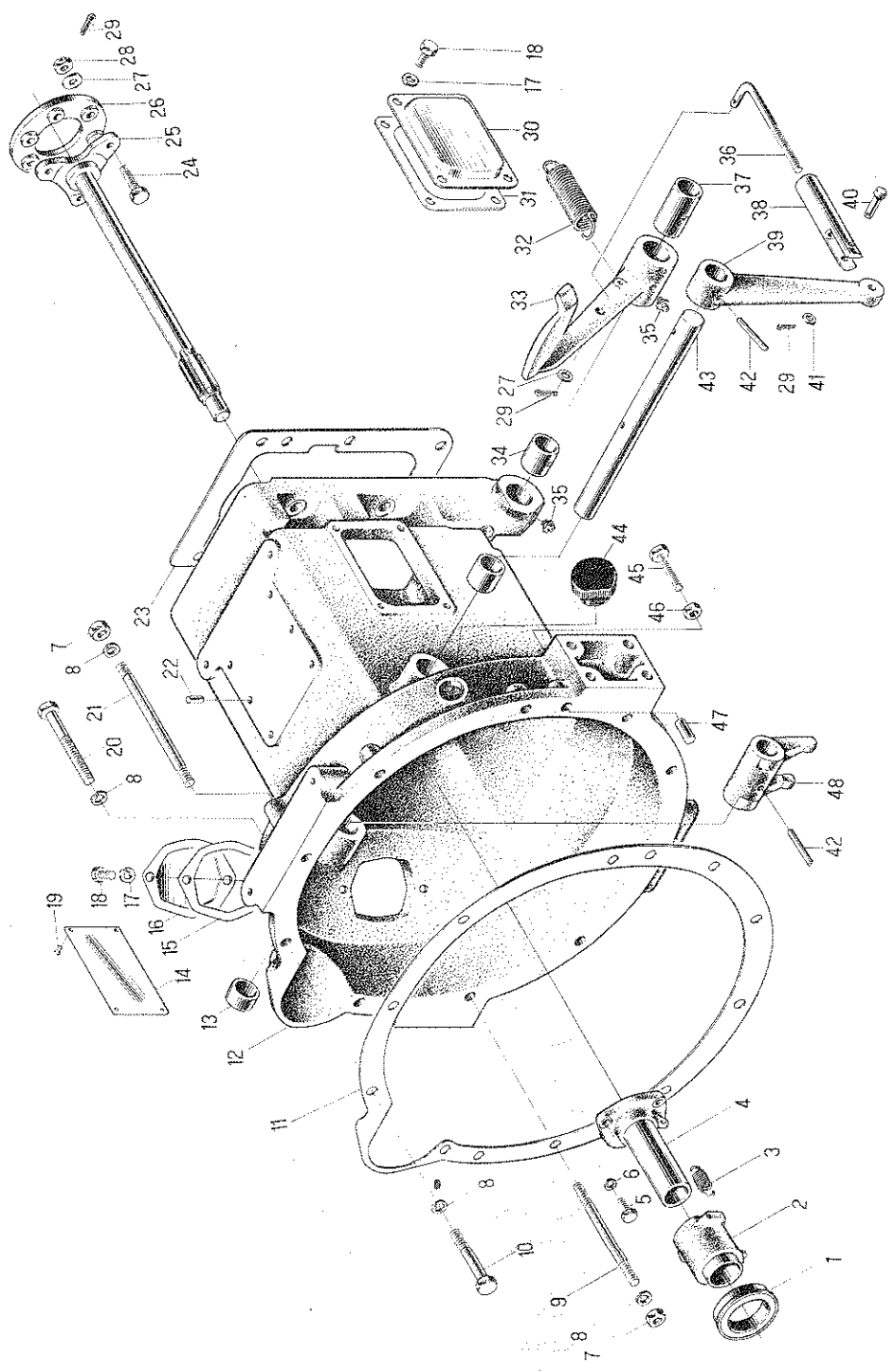
19. SN-25 STEERING DRAG LINK & TIE ROD



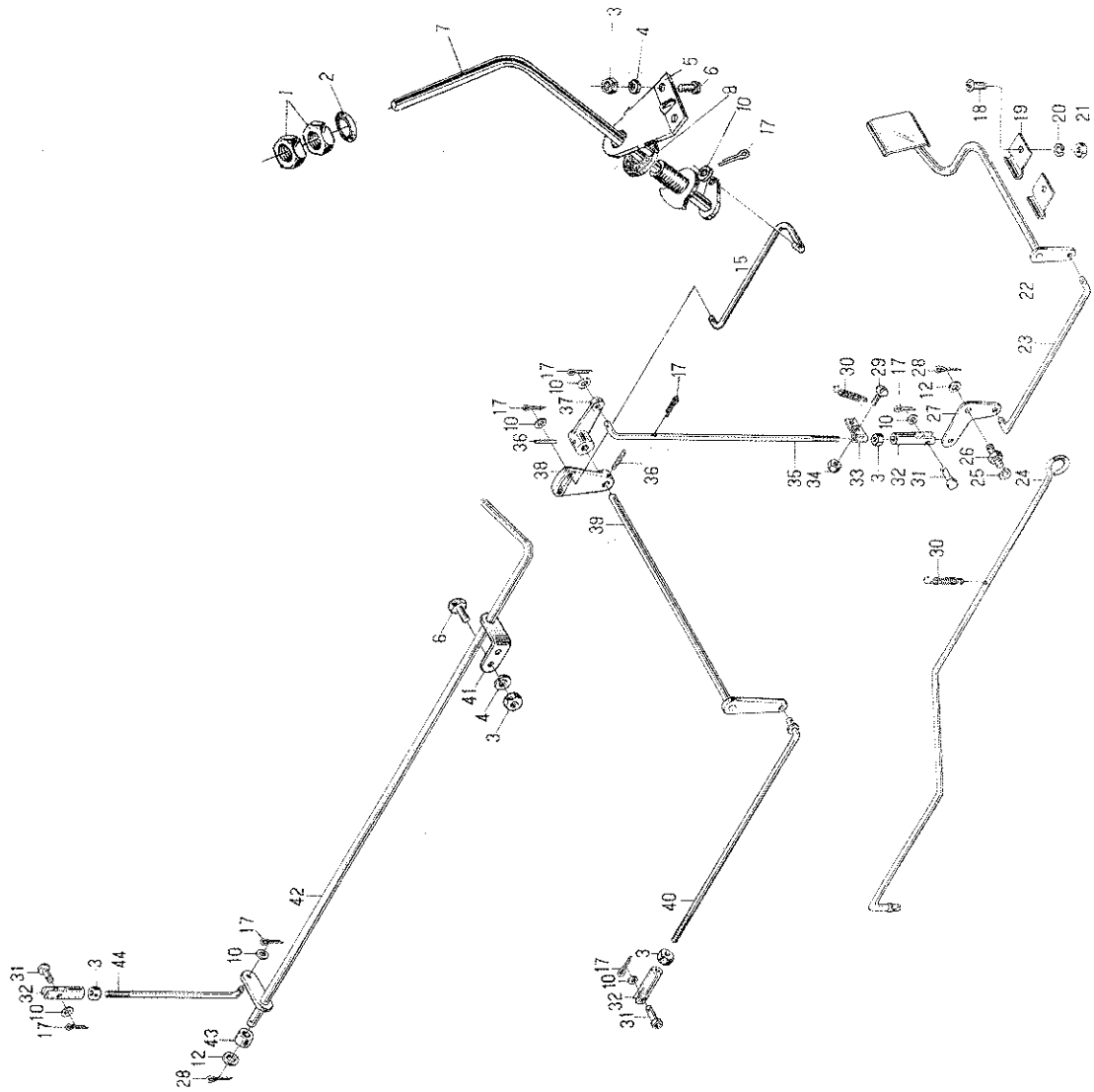
18. SN-²⁵/₂₅₄ CLUTCH



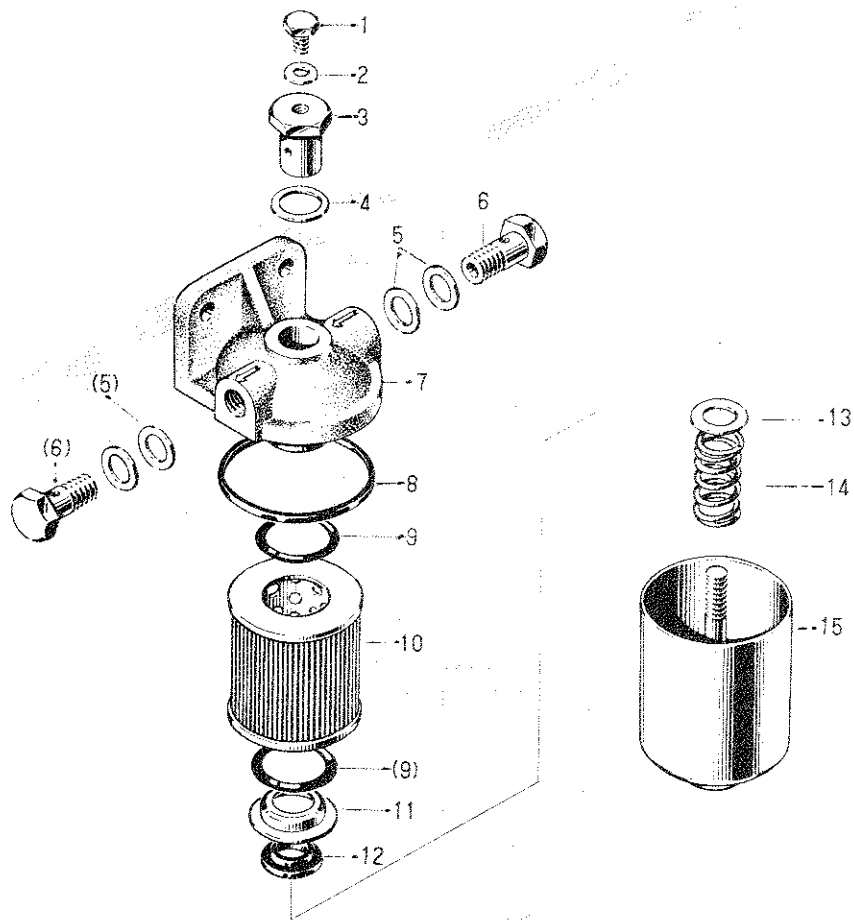
17. SN-354 INTERMEDIATE HOUSING



16. SN-25²⁵/₂₅₄ ENGINE CONTROL MECHANISM ASSY



15. FUEL FILTER



13. FEED PUMP

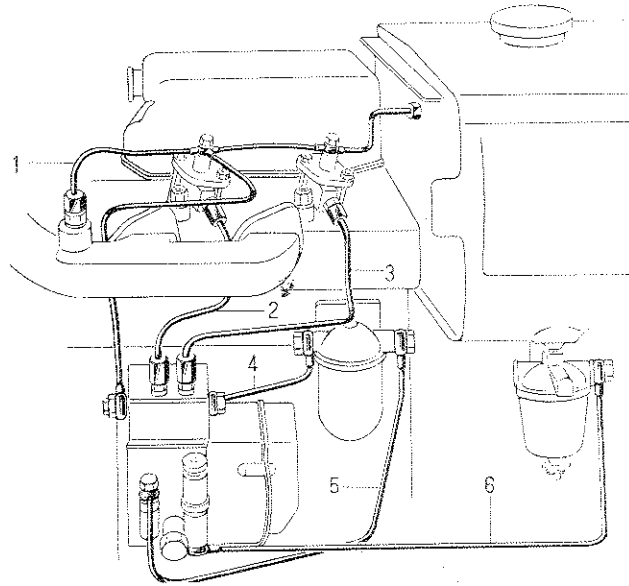
No.	Code	Name	Qty.
1	Q6 • 02 • 08	Pin	1
2	Q6 • 02 • 07	Handle	1
3	Q6 • 02 • 06	Spring, hand pump	1
4	Q6 • 02 • 04	Core rod, hand pump	1
5	Q6 • 02 • 05	Upper cover, hand pump	1
6	Q6 • 02 • 03	Piston, hand Pump	1
7	Q6 • 02 • 02	Seal	1
8	Q6 • 02 • 01	Hand pump hosing	1
9	Q6 • 02 • 18	Washer 16	2
10	Q6 • 02 • 19	Check valve spring	2
11	Q6 • 02 • 21	Check valve	2
12	Q6 • 02 • 13	Seat, check valve	2
13	Q6 • 02 • 14	Connector, fuel outlet pipe	1
14	Q6 • 02 • 15	Washer 14	4
15	Q6 • 02 • 17	Adaptor, fuel outlet pipe	1
16	Q6 • 02 • 26	Screw plug	1
17	Q6 • 02 • 27	Washer 27	1
18	Q6 • 02 • 25	Spring, feed pump piston	1
19	Q6 • 02 • 24	Piston, feed pump	1
20	GS1—8001	Feed pump body	1
21	TI—0008A	Gasket, feed pump	1
22	521—015	Locking ring	1
23	GS1—8007	Pusher	1
24	521—004	Pusher sleeve	1
25	GS1—8005	Slide	2
26	GS1—8004	Roller pin	1
27	GS1—8006	Roller body	1
28	GS1—8003	Roller	1
29	Q6 • 02 • 22	Bolt, fuel inlet pump	1
30	Q6 • 02 • 23	Strainer	1

No.	Code	Name	Qty.
83	GB898—76	Bolt M8×22	3
84	GB93—76	Washer 8	3
85	GB52—76	Nut M8	8
86	TI—0303	Bushing, roller	2
87	TI—0304	Roller	2
88	TI—0302	Pin, roller	2
89	BTI—0301	Tappet	2
90	BTI—0305	Adjusting plate	2
91	U32—01	Plunger assy	2
92	BTI—0004	Lower seat, spring	2
93	TI—0002A	Spring, plunger	2
94	TI—0003	Upper seat, spring	2
95	GB21—76	Bolt M8×10	1
96	8Q/MB401—66	Washer	1
97	TI—0502	Spring for fuel drippings	1
98	GB308—64	Steel ball 6B III 6	1
99	TI—501	Bolt for fuel drippings	1
100	12Q/WB401—66	Washer	4
101	B2I—0101	Upper housing	1
102	U32—02	Barrel	2
103	F30—02	Seat, delivery valve	2
104	TI—0011	Washer, delivery valve	2
105	F30—01	Delivery valve	2
106	TA—0002	Spring, delivery valve	2
107	T1a—0010	Connector, delivery valve	2
108	TI—0015	Rear lock plate	1
109	TI—0014	Front lock plate	1
110	GB65—76	Screw M5×20	1
111	TI—0103B	Vent screw	1
112	TA—0039	Gasket	1
113	TI—0102	Connector, fuel inlet pipe	1
114	GB21—76	Screw M12×1.25×12	1
115	GB97—76	Washer 12	1

12. INJECTION PUMP & GOVERNOR

No.	Code	Name	Qty.
1	GB30—76	Bolt M6×20	1
2	GB93—76	Washer 6	15
3	T7—0205	Speed control handle	1
4	GB894—76	Circlip 10	2
5	GB52—76	Nut M4	1
6	GB93—76	Washer 4	1
7	T7—0206	Locating screw, governor spring	1
8	T7B—0210Y	Shaft, speed control handle	1
9	GB1235—76	Oil seal 10×19	3
10	T7—0209	Bushing	3
11	TA—0044	Gasket	19
12	GB65—76	Bolt M6×16	3
13	GB52—76	Nut M6	3
14	6Q/WB401—66	Washer	5
15	T7B—0214	Screw	1
16	10Q/WB401—66	Washer	1
17	GB30—76	Bolt M6×10	2
18	T7—0212	Speed set bolt	2
19	T7—05B	Air breather assy	1
20	T7B—0201	Cover, governor	1
21	GB30—76	Bolt M5×20	1
22	GB93—76	Washer 5	1
23	T7—0207Q	Speed set block	1
24	T7—0213	Flat	1
25	T7—0211	Governor spring	1
26	T7B—0204	Sleeve	1
27	T7B—0202	Fuel quantity limit screw	1
28	T7—0203	Calibrating spring	1
29	T7B—0215	Support bushing	1
30	GB54—76	Nut M6	8
31	T7B—0002	Start spring	1
32	GB896—76	Circlip	1
33	T7—0008	Washer	1
34	T7B—0402	Floating lever link	1
35	T7B—0403	Spring seat	1
36	GB276—64	Ball bearing E7000105	1
37	T7B—0401	Sliding plate	1
38	GB308—64	Steel ball 1A III 6	6
39	T7—0004	Nut	1
40	T7—0003	Spring washer	1
41	T7—0302a	Drive plate	1

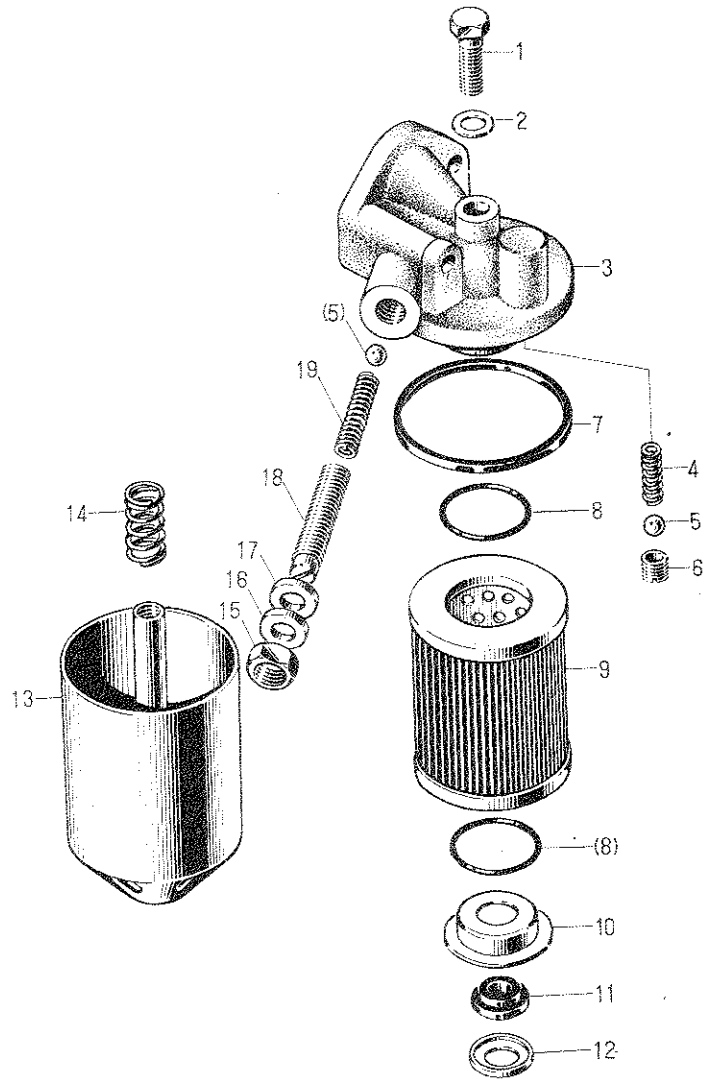
11. FUEL LINE ASSY



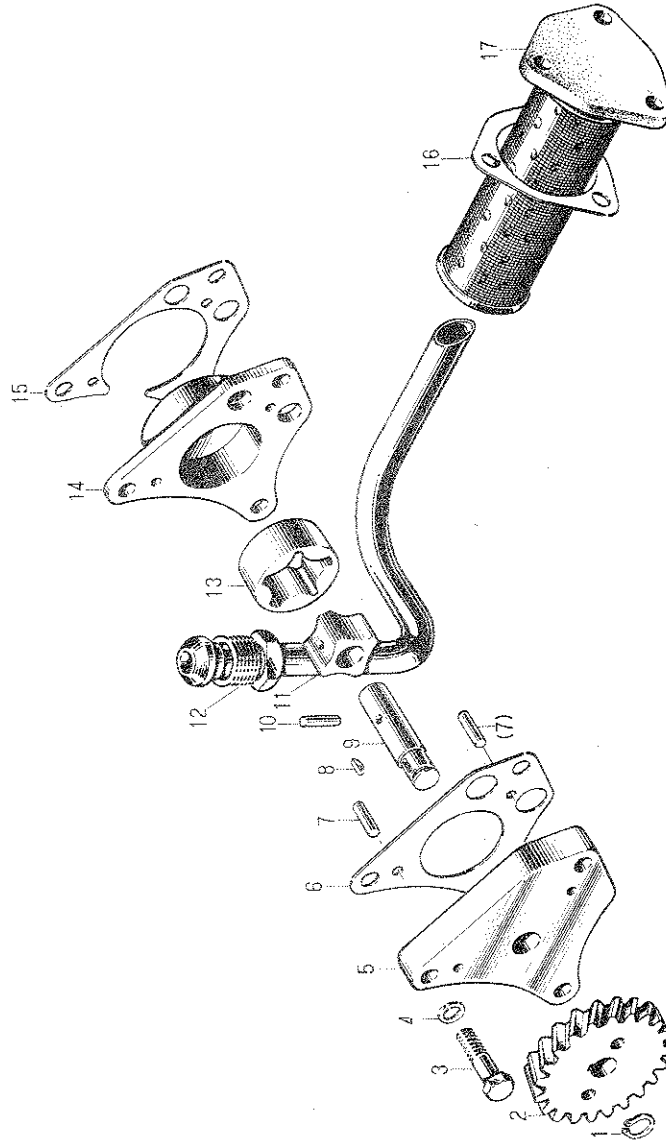
11. FUEL LINE ASSY

No.	Code	Name	Qty.
1	295T—10800	Fuelleak-off pipe unit	1
2	295T—10400 (I)	High pressure fuel pipe unit, 1st cylinder	1
3	295T—10400 (II)	High pressure fuel pipe unit, 2nd cylinder	1
4	295T—10300	Fuel inlet pipe unit, injection pump	1
5	295T—10200—1	Fuel inlet pipe unit, 2nd stage filter	1
6	295T—10700	Fuel inlet pipe unit, feed pump	1

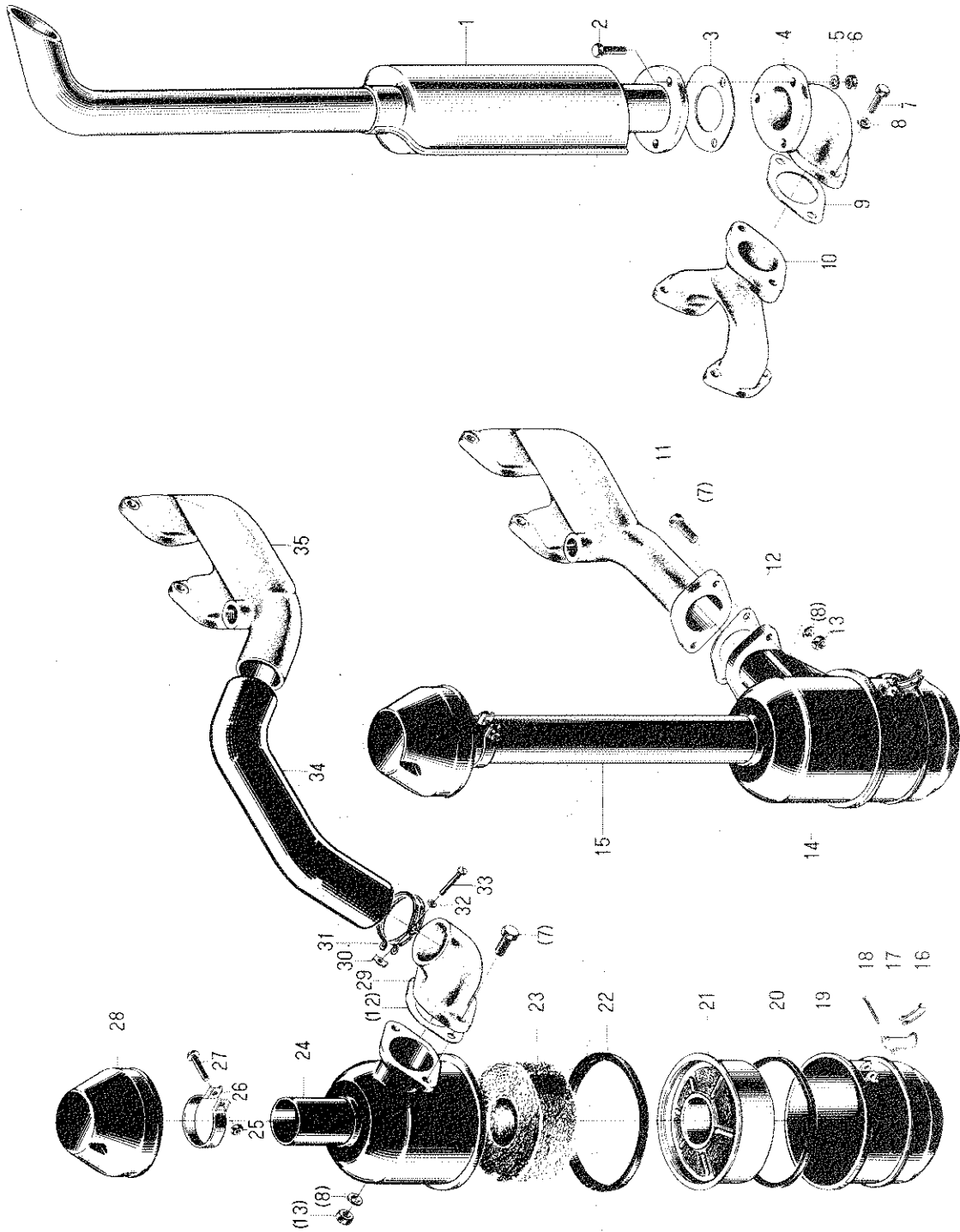
10. OIL FILTER



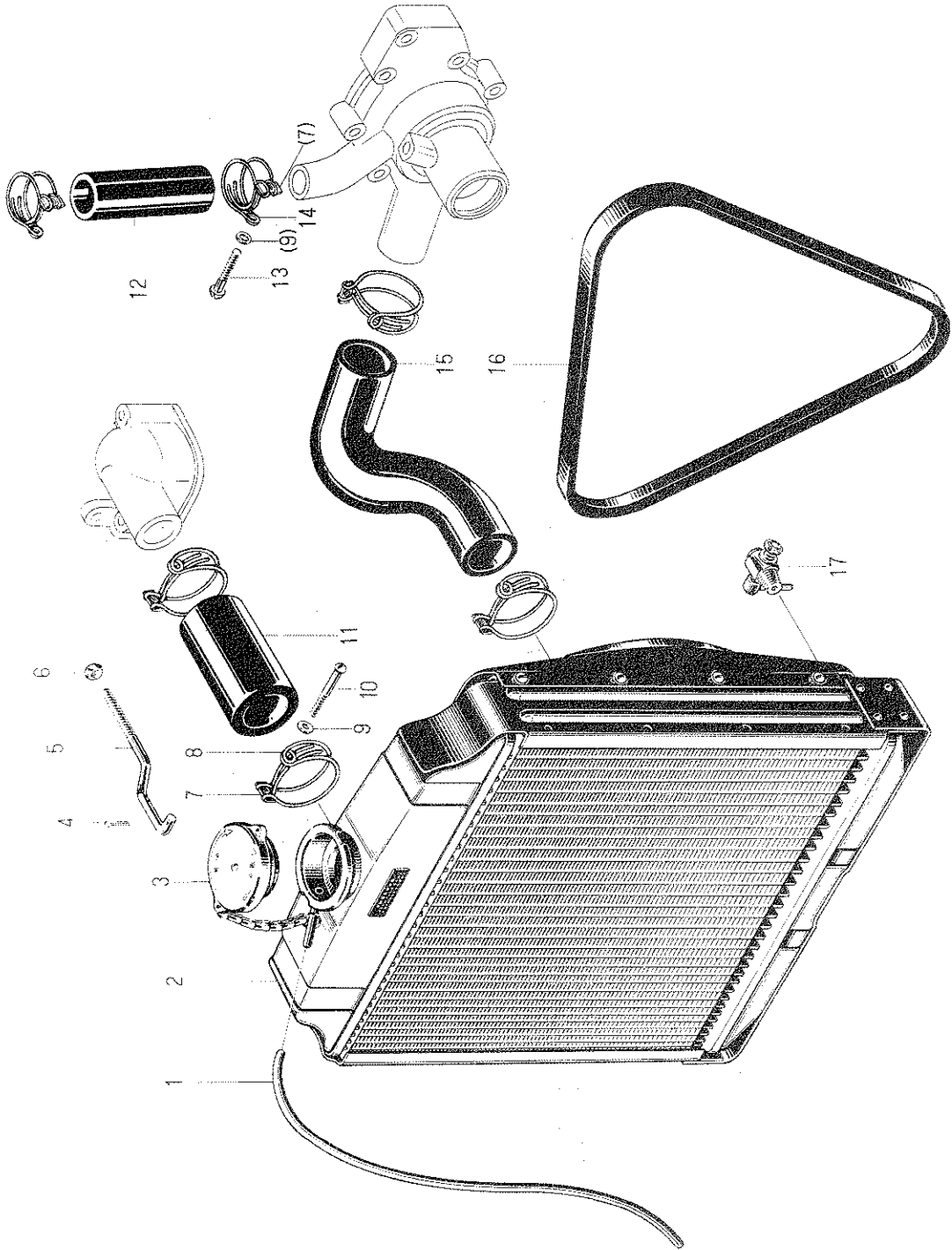
9. OIL PUMP & ROUGH FILTER ASSY



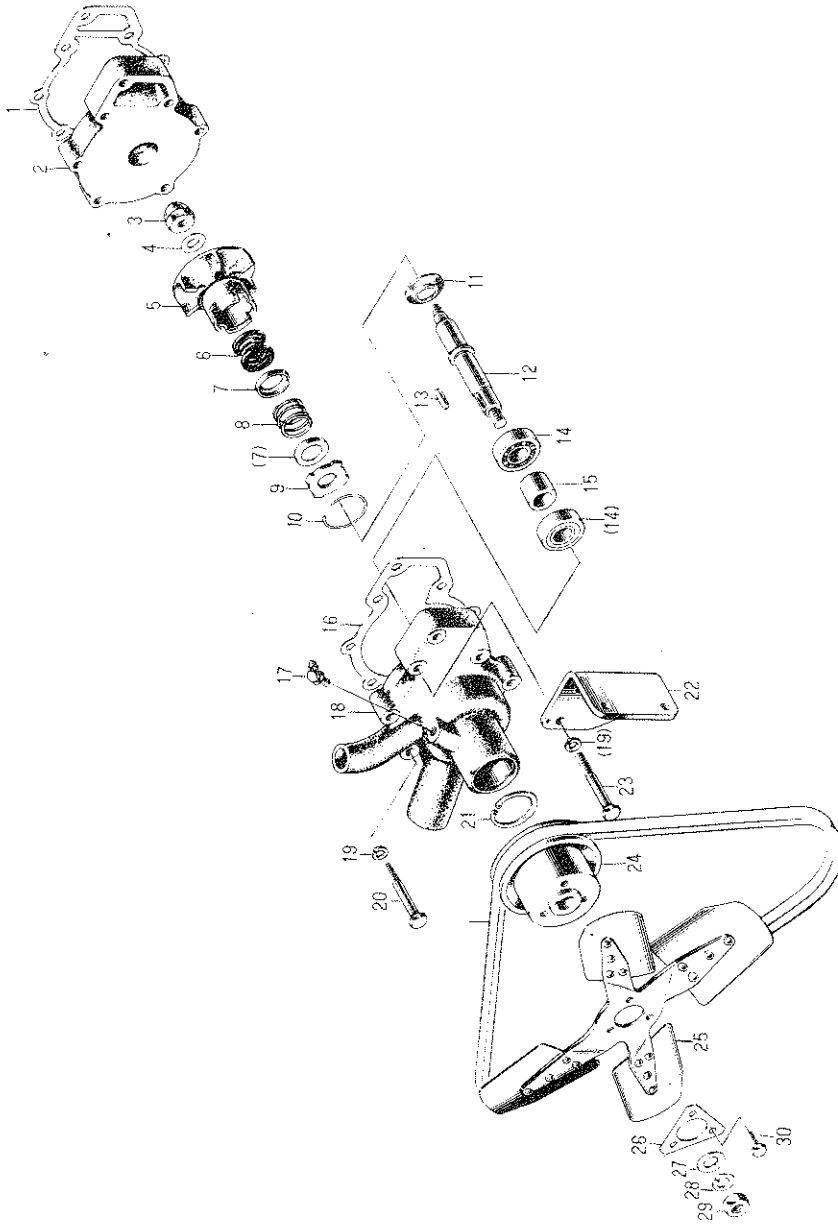
8. AIR INTAKE SYSTEM & EXHAUST SYSTEM



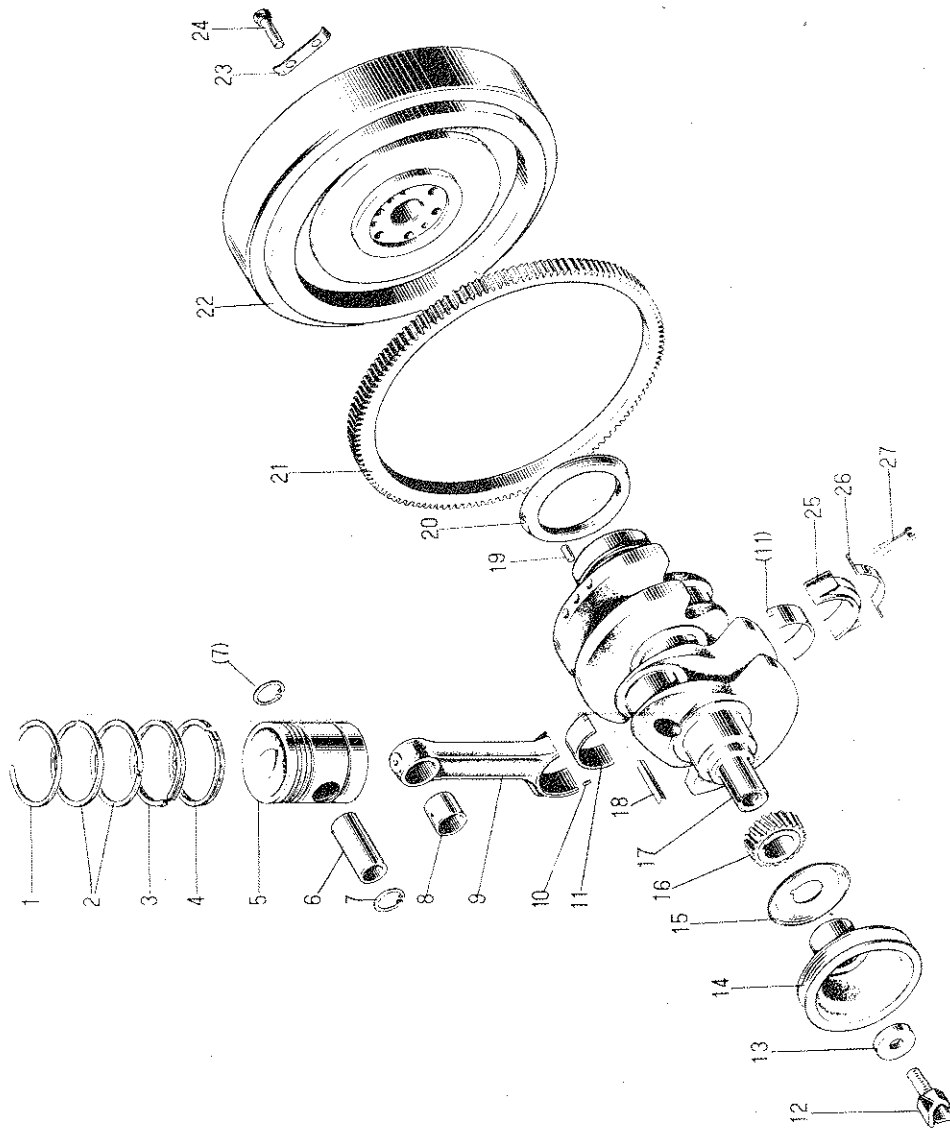
7. RADIATOR ASSY



6. FAN AND WATER PUMP ASSY



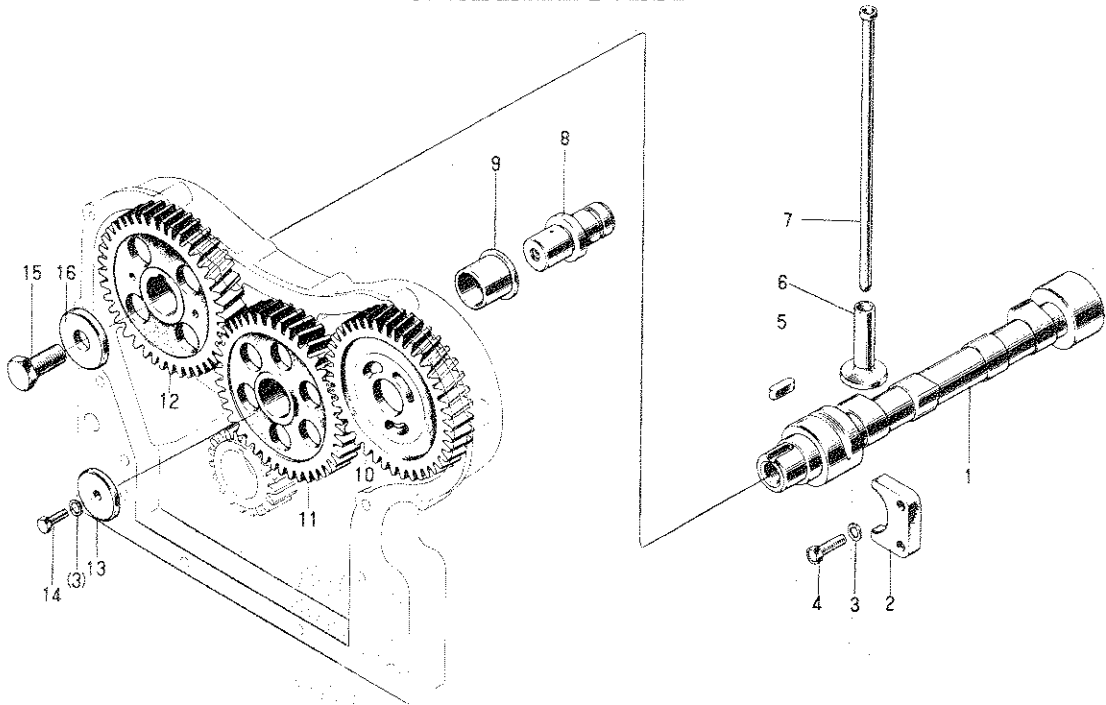
5. DRIVING MECHANISM ASSY



4. CYLINDER HEAD ASSY

No.	Code	Name	Qty.
1	295—03101	Cylinder head	1
2	295—03025	Eye plate	2
3	GB93—76	Washer 10	6
4	GB30—76	Bolt M10×18	4
5	GB52—76	Nut M8(A3)	8
	GB52—76	Nut M8(H62)	4
6	GB93—76	Washer 8	27
7	GB898—76	Bolt M8×22	8
8	95D—0317	Gasket, intake manifold	2
9	295—01012	Gasket, cylinder head	1
10	95—0310	Insert, combustion chamber	2
11	95—0302	Exhaust valve	2
12	95—0309	Valve seat insert, exhaust	2
13	95—0308	Valve seat insert, intake	2
14	95—0301	Intake valve	2
15	295—03007	Gasket, front cover	1
16	295T—03006	Front cover	1
17	295T—03031	Connector, water thermometer	1
18	295T—03032	Gasket, water thermometer connector	1
19	GB30—76	Bolt M8×20	13
20	295T—03008	Thermostat	1
21	95D—0318	Seal ring, thermostat	1
22	295T—03009	Gasket, thermostat cap	1
23	295T—03011	Thermostat cap	1
24	GB30—76	Bolt M8×65	2
25	GB30—76	Bolt M6×20	2
26	GB93—76	Washer 6	2
27	295—03209	Decompression lever assy	1
28	GB119—76	Pin 3d ₁ ×25	1
29	295—03208	Decompression lever spring	1
30	295—03207	Bushing, decompression connector	1
31	295—03206	Gasket	2
32	295—03204	Decompression control Lever	1
33	295—03012	Gasket, cylinder head cover	1

3. CAMSHAFT ASSY

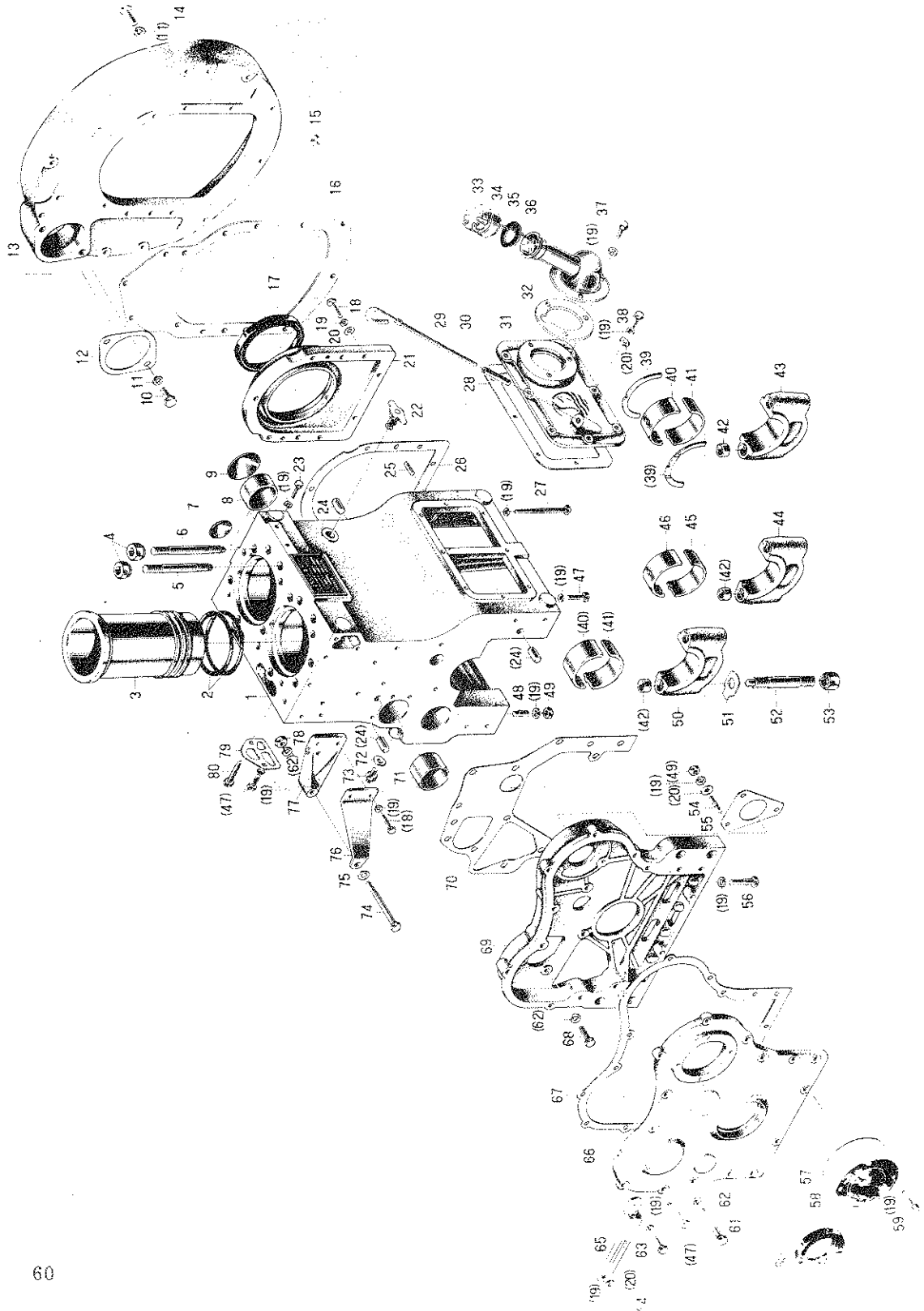


3. CAMSHAFT ASSY

NO.	Code	Name	Qty.
1	295—02001	Camshaft	1
2	95D—0202	Thrust plate, camshaft	1
3	GB93—76	Washer 8	2
4	GB30—76	Bolt M8×25	2
5	GB1096—72	Key A8×18	1
6	95—0201	Tappet	4
7	95D—0204	Push rod	4
8	95D—0112	Idler gear shaft	1
9	95D—0114	Bushing, idler gear	1
10	295—01006	Drive gear, injection pump	1
11	95D—0113	Idler gear	1
12	95D—0203	Drive gear, camshaft	1
13	95D—0115	Circlip, idler gear	1
14	GB30—76	Bolt M8×20	1
15	GB30—76	Bolt M16×1.5×32	1
16	295—02004	Washer	1

No.	Code	Name	Qty.
36	295—01820—1	Oil filler assy	1
37	GB21—76	Bolt M8×12	3
38	GB30—76	Bolt M8×25	8
39	95D—0107	Thrust ring	2
40	95D—0103	The upper insert of front(rear)main bearing	2
41	95D—0104	The lower insert of front(rear)main bearing	2
42	95D—0111	Locating bushing, bearing cap	6
43	295—01108	Cap, 3rd main bearing	1
44	295—01103	Cap, 2nd main bearing	1
45	93D—0106	The lower insert of the center main bearing	1
46	95D—0105	The upper insert of the center main bearing	1
47	GB30—76	Bolt M8×25	14
48	GB898—76	Bolt M8×22	3
49	GB52—76	Nut M8	5
50	295—01102	Cap, 1st main bearing	1
51	GB854—76	Washer 16	6
52	95D—0109	Bolt, main bearing cap	6
53	95D—0110	Nut, main bearing cap	6
54	GB898—76	Stud M8×35	3
55	295—01036	Gasket, injection pump	1
56	GB30—76	Bolt M8×35	4
57	295T—01007—1	Gasket	1
58	295T—01039	Cover, gearcase cover	1
59	GB30—76	Bolt M8×16	4
60	HG4—692—67	Oil seal PG55×85×12	1
61	GB30—76	Bolt M10×70	8
62	GB93—76	Washer 10	12
63	GB30—76	Bolt M8×30	1
64	GB30—76	Bolt M8×20	1
65	295—01018	Support	1
66	295T—01003	Gearcase cover	1
67	295—01002	Gasket, gearcase cover	1
68	GB30—76	Bolt M10×30	4
69	295—01005	Gearcase	1
70	295—01004	Gasket, gearcase	1
71	95D—0116	Front bushing, camshaft	1
72	295—01020	Gasket, oil pressure gauge union	1
73	295T—01019	Union, oil pressure gauge	1
74	GB30—76	Bolt M10×100	1
75	GB97—76	Washer 10	1
76	295T—01037	Bracket	1
77	295—01015	Bracket, tension pulley	1
78	GB52—76	Nut M10	1
79	295—01022	Gasket, oil filter	1
80	GB21—76	Bolt M8×70	1

1. ENGINE BLOCK ASSY



CONTENTS

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When the tractor steering, the max. deflection angle can be measured according to the number of min. turning circle radius. If the degree is over big, we can adjust the bolt (see Fig. 9-7 No. 7) to decrease it. The toe-in difference of front wheels should be 3~11mm reached by adjusting length of the cross-rod of the steering trapezoid (see Fig. 9-7 No. 3).

9.6 Lubricating Points of Front Drive System and Steering System

(1) HC-11 diesel lubricating oil (above 0°C temperature) or HC-8 diesel lubricating oil (the same temperature asked) can be filled into the front central drive, front sleeve and front side drive case until the oil flows out from the sides of sleeve.

Note: The speed of oil flowing into side drive is a little bit slower than that of other parts. Therefore pay attention to the available failure resulting from the oil shortage of other parts.

(2) Present front axle and steering bars have 10 grease nipples together including the front & rear surports, the two front drive shafts, two steering rocker caps and the rest 4 on the steering connectors, which shall be added new grease per shift.

side, while increasing the left side thickness, decreasing correspondently the right one's number at the same time. The details of adjustment please see "Adjustment of teeth contact condition for spiral bevel gears" on Chapter 5.

④ Adjustment of two-stage bevel gear pair, front axle side drive (see Fig. 9-2).

Here is the same way with the above-mentioned to adjust the tooth contact of two-stage bevel gear pair, side drive and clearance by means of increasing and decreasing the thickness of adjusting gasket δ_3 of front one-stage drive gear, side drive; and of adjusting gasket δ_4 of bearing cap under the side drive; again of the adjusting gasket δ_5 of the steering rocker bearing cover; and once again of the gasket δ_6 of front side drive housing cover.

⑤ After the fitting of front axle it requires to run the front central drive gear shaft by hand. If it running handy and producing equal speeds between the right and the left front drive shafts, it means well-fitting, otherwise you should fit it again.

9.3 The Structure, Assembly and Disassembly of Transmission Shaft and Transfer Case

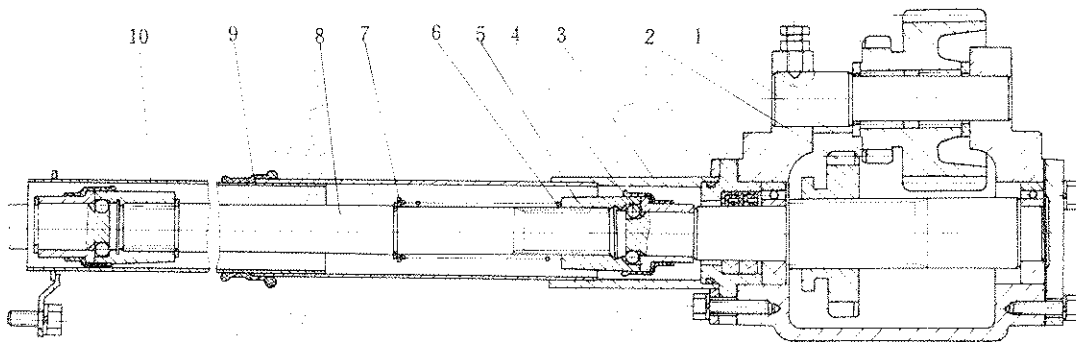


Fig. 9-5 transfer case and transmission shaft assy

- | | | | | | |
|----------------------|-----------------------|----------------------|-----------------------|----------------------|-----------|
| 1. Intermediate gear | 2. Sliding gear | 3. Rear sleeve assy | 4. Steel ball | 5. Ball joint sleeve | 6. Spring |
| 7. Snap ring | 8. Transmission shaft | 9. Protecting shield | 10. Front sleeve assy | | |

When disassembling the transmission shaft first you should take apart the 3 bolts (M8×25) from the rear sleeve assy, secondly slide forward the rear sleeve assy until the axial snap ring is shown, then loosen the snap ring and move the ball joint sleeve toward the front central drive housing until it stops moving forward again. Now you can easily disassembly the drive shaft. Here pay attention to the losses of steel balls and their mixture with those steel balls which should be installed on the shift fork shaft of the transmission housing.

9.4 Connection and Adjustment of Front Axle and Its Bracket

The front axle and the bracket are connected by the front & rear supports. When the tractor travels on the zigzag path the front axle can swing around to reach $\pm 11^\circ$ swing angles. Since the frequent swinging wearing, one of its adjusting ring on the rear support is easy to be wornout, thus you should give it an instant help by adjusting the bolt on the front support (in clockwise direction and lock the nut). The adjusting ring should be changed a new one after using for some time.

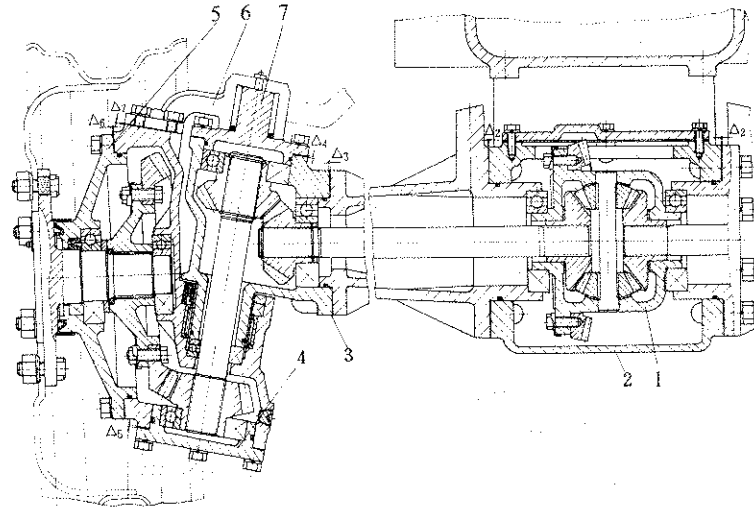
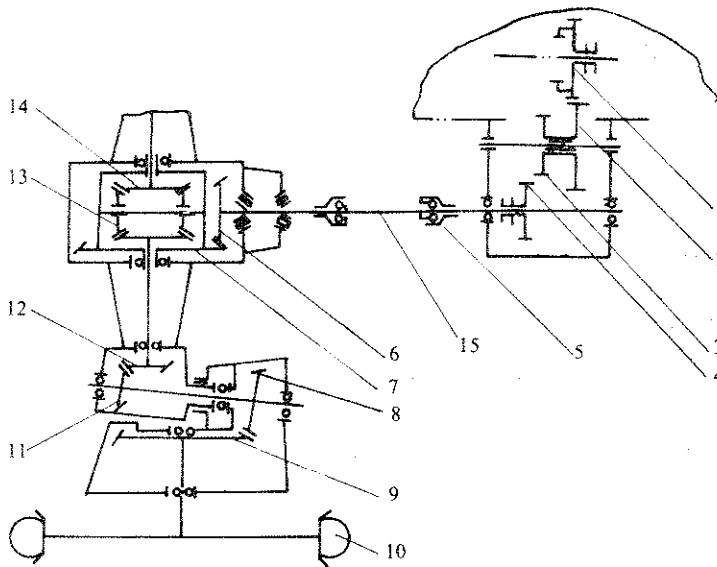


Fig. 9-2 Structure diagram of front drive axle

1. Differential assy 2. Central drive case 3. Front axle sleeve 4. Bearing cap, side drive
 5. Side drive cover 6. Steering arm 7. Shaft cap, steering arm



No.	Gear teeth × Modulus
1	42 × 3
2	30 × 3
3	21 × 3
4	28 × 3
6	9 × 4.1
7	44 × 4.1
8	15 × 5
9	44 × 5
11	16 × 5
12	14 × 5
13	12 × 4.3
14	20 × 4.3

Fig. 9-3 Drive system of front axle

1. Former high-low sliding gear 2、3. Intermediate gear 4. Output sliding gear 5. Ball-shape joint sleeve
 6. Front central drive gear 7. Front central drive, follower gear 8. Two-stage drive gear, front side drive
 9. Two-stage follower gear, front side drive 10. Front wheel 11. Two-stage follower gear, front side drive
 12. One-stage drive gear, front side drive 13. Planet gear, front axle 14. Front semi-shaft gear
 15. Transmission shaft

The power of front drive is passed on firstly to transmission shaft from high-low sliding gear of transmission housing to intermediate gear and output gear of transfer case, secondly passed on to the front drive shaft to run the front wheels from the transmission shaft via the spiral bevel gear of front central drive and two-stage bevel gear.

(cont.)

Item	Fitting position	Standard size	Clearance	Wear-out limits
37	Gear-pump gear and bush	$\varnothing 17_{-0.058}^{+0.045}$ $\varnothing 17_{+0.019}$	0.045~0.079	0.15
38	Gear pump case and gear	$\varnothing 39_{-0.105}^{+0.027}$ $\varnothing 39_{-0.105}$	0.085~0.132	0.20
39	Gear pump case width and bush width and gear width	54.09 $_{-0.030}$ 22 $_{-0.020}$ 10 $_{-0.020}$	0.060~0.150 0.070~0.100 (the best)	0.25
40	Hydraulic cylinder and piston	$\varnothing 70_{-0.033}^{+0.030}$ $\varnothing 70_{-0.033}$	0.012~0.062	0.10
41	Main control valve and valve sleeve	$\varnothing 14_{-0.015}^{+0.008}$ $\varnothing 14_{+0.015}$	0.006~0.012 (selective)	0.02
42	Return valve and valve sleeve	$\varnothing 10_{-0.015}^{+0.008}$ $\varnothing 10_{+0.015}$	0.006~0.012 (selective)	0.02

8.8 Optional Accessories

Table 8-6 Optional Accessories

Item	Description	Quantity	Application
1	Rear wheel ballast (A)	2	Dry field operation or transportation
2	Rear wheel ballast (B)	6	Dry field operation or transportation
3	Pulley	1 set	Stationary operation
4	Paddy wheel	2	Paddy field operation
5	Hermetic cabin	1 set	Improving driving condition
6	Roof	1 set	Sun protection
7	Air brake device	1 set	For trailer
8	Roll-over protective structure	1 set	For safety

(cont.)

Item	Fitting position	Standard size	Clearance	Wear-out limits
14	Camshaft axial clearance	$12^{+0.12}$ $12^{-0.09}$	0.60~0.24	0.40
15	Height of cylinder sleeve above the top of cylinder block surface	$10^{+0.05}$ $10^{-0.09}$	0.06~0.16	Height difference between two cylinders below 0.05
16	Valve tappet and valve tappet guide	$\varnothing 16^{-0.033}$ $\varnothing 16^{+0.019}$	0.016~0.052	0.20
17	Idler and idler shaft	$\varnothing 26^{+0.023}$ $\varnothing 26^{-0.030}$	0.020~0.063	
18	Valve stem and valve guide inner diameter	$\varnothing 9^{-0.070}$ $\varnothing 9^{+0.020}$	0.050~0.100	0.25
19	Rocker shaft and bush	$\varnothing 16^{-0.035}$ $\varnothing 16^{+0.020}$	0.036~0.083	0.25
20	Oil-pump shaft and hole	$\varnothing 13^{-0.012}$ $\varnothing 13^{+0.010}$	0.016~0.052	0.20
21	Oil-pump driven gear and pump case			
22	Meshing clearance of oil pump inner and outer rotors		0.06~0.15	0.20
23	Oil pump rotor axial clearance		0.050~0.100	adjustable
24	Water pump vane and pump case		0.16~0.65	
25	Water pump vane and gasket		1.0~1.5	adjustable
26	Pivot shaft and bush	$\varnothing 30^{-0.023}$ $\varnothing 30^{+0.016}$	0.020~0.098	0.70
27	Steering knuckle pin and bush	$\varnothing 30^{-0.025}$ $\varnothing 30^{+0.015}$	0.025~0.130	0.35
28	Steering rocker arm shaft and bush	$\varnothing 32^{-0.021}$ $\varnothing 32^{+0.039}$	0.025~0.103	0.25

8.6 Hitch System Dimensions

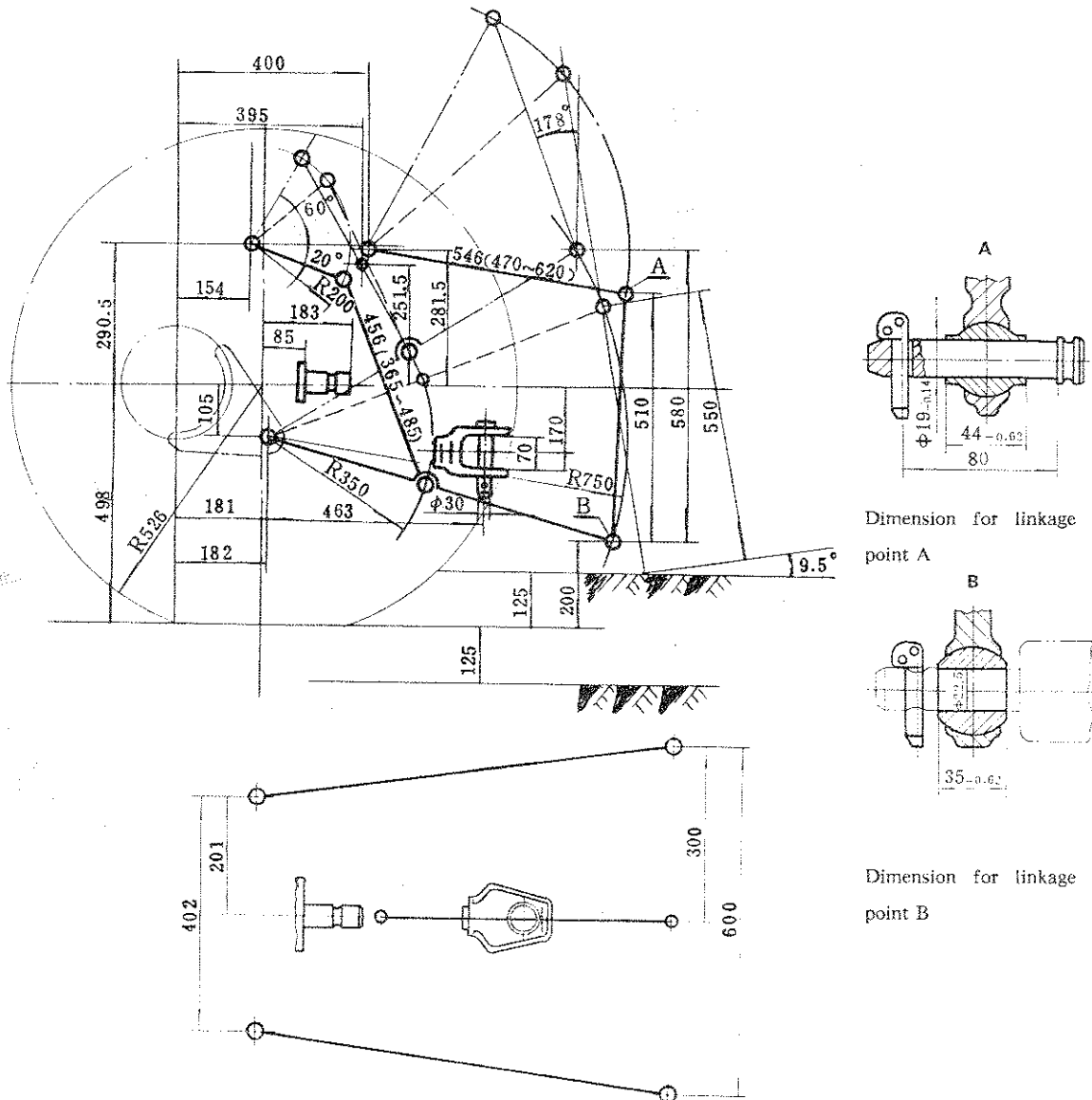


Fig. 8-4 Hitch system dimension

(cont.)

Serial No.	Code	Dimensions	Fitting position	Quan/unit	Standard NO.
9	PD	45×65×12	Pulley	2	HG4-692-67
10	PD	50×70×12	Pulley	1	HG4-692-67
11	PG	55×85×12	Front end of crankshaft	1	HG4-692-67
12	PD	70×95×12	Final drive shaft	2	HG4-692-67
13	PG	100×125×12	Rear end of crankshaft	1	HG4-692-67

8.4 Electrical System Wiring Diagram

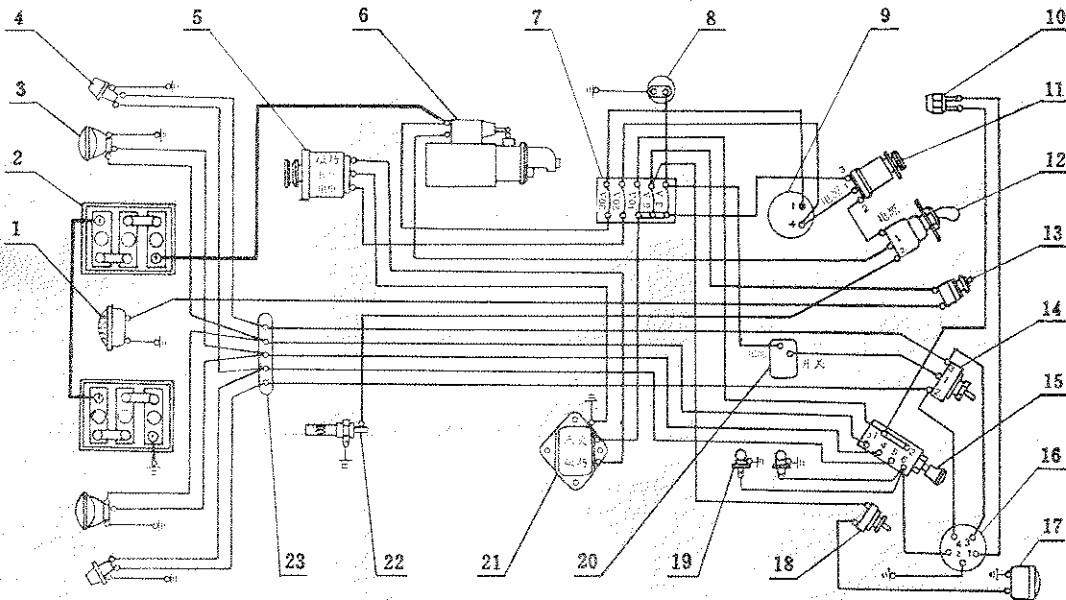


Fig. 8-2 Electric system wiring diagram

1. Horn 2. Battery 3. Corner lamp 4. Silicon rectifying generator 6. Starting motor 7. Fuse box
8. Working light socket 9. Ammeter 10. Brake switch 11. Electric lock 12. Pre-heating/starting switch
13. Horn button 14. Direction light switch 15. 3-position switch 16. Electric socket for the trailer
17. Tail lamp 18. Tail lamp switch 19. Panel lights 20. Blinker 21. Voltage regulator
22. Pre-heating plug 23. Terminal board

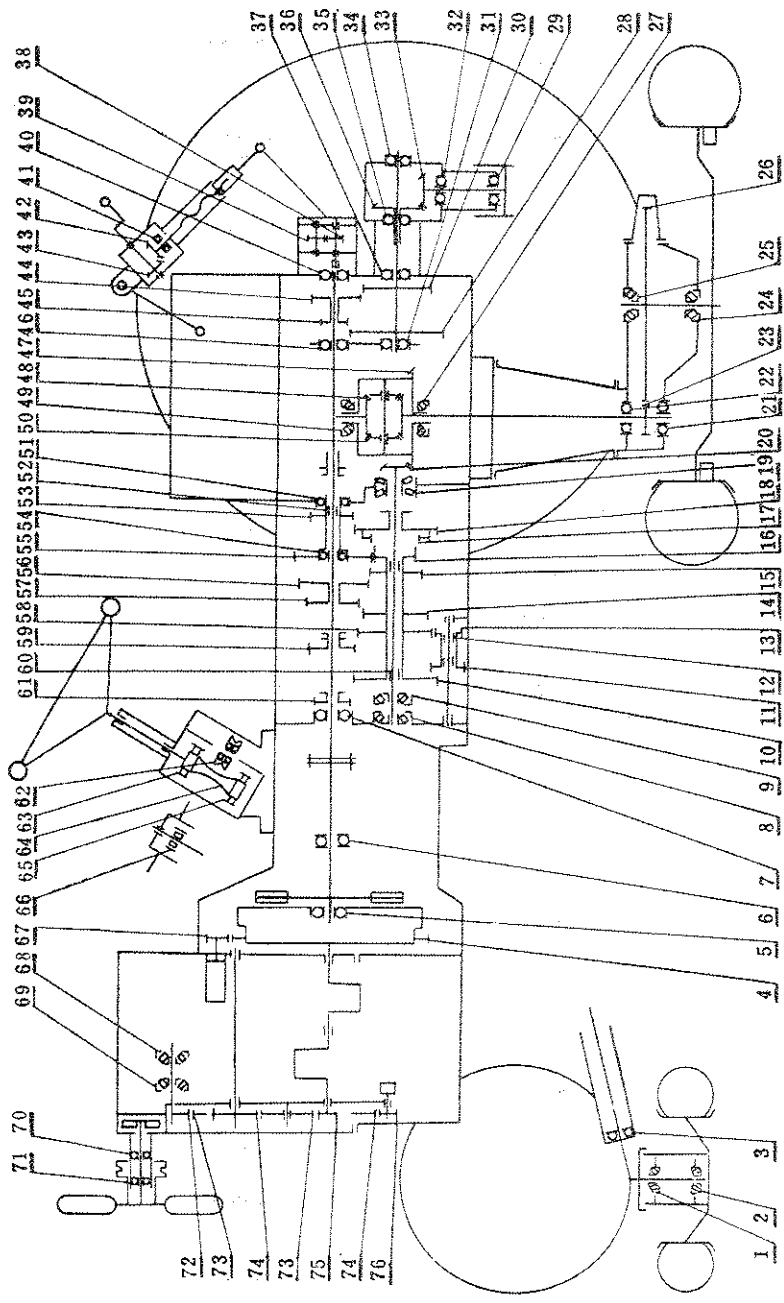


Fig. 8-1 Transmission system diagram

(cont.)

Problems	Presumable causes	Countermeasures
“zi, zi” sound is from relief valve continuously	1. Return valve seized	Wash it with gasoline
When load is being lifted, trembling of lift arm occurs	1. Oil leakage in hydraulic system 2. Main control valve worn	Check and remedy Replace

(cont.)

Problems	Presumable causes	Countermeasures
Too low oil pressure	<ol style="list-style-type: none">1. No enough oil in the sump2. Oil brand is wrong and too viscosity of lubricating oil3. Malfunction of oil pressure gauge or blockage of gauge connector4. Oil filter clogged or leakage of by-pass valve5. Serious wear of oil pump rotors6. Looseness of the screw for adjusting oil pressure7. Excessive clearance between main bearing shells and crankshaft journal	Refill Replace Replace Clean or repair Replace Retighten Repair
The speed of engine is instable	<ol style="list-style-type: none">1. The spring of governor is deformed2. Some parts of governor seized3. Too big axial play of camshaft bearing of injection pump4. Two cylinders don't work evenly5. Injector is in trouble	Replace Repair Change the numbers of shims Check and repair Repair
Oil level rises in the oil sump	<ol style="list-style-type: none">1. Fuel leakage of injector or low fuel pressure2. The gasket of cylinder head damaged3. The gasket of gear case damaged4. Cylinder block cracks5. Water leakage of blocking plate in cylinder head6. Cylinder head cracks	Replace injector or check Replace Replace Repair or replace Remedy Repair or replace
Too high water temperature	<ol style="list-style-type: none">1. Somewhere water leakage2. Air bound is formed in water passage3. No enough water4. Malfunction of thermostat5. Blockage of water piping6. Water temperature gauge is out of order	Check and remedy Perform air bleeding operation Refill Replace Check and remedy Replace

(cont.)

Problems	Presumable causes	Countermeasures
Exhaust fumes are blue conspicuous	<ol style="list-style-type: none"> 1. Air leaking from cylinder 2. Piston ring worn seriously 3. Oil ring is wrongly installed 4. Cylinder sleeve worn seriously 5. Oil level too high 6. Runs at a high speed under no load or at very low temperature of cooling water for a long time 7. Oil of air filter too much 	<p>Repair</p> <p>Replace</p> <p>Remount</p> <p>Repair or replace</p> <p>Drain some</p> <p>Change working condition</p> <p>Drain some</p>
Engine runs detonatively with abnormal sound	<ol style="list-style-type: none"> 1. Too early injection timing 2. Too late injection timing 3. Low fuel pressure or nozzle seized, or carbon-depositel nozzles 4. Valves impact with the piston 5. Too big clearance of valve 6. Too small distance between the mushroom surface of valve and the bottom surface of cylinder head 7. Too big clearance between piston and cylinder sleeve 8. Piston pin loosen 9. Too big clearance between crankpin and connecting rod bearing or between main journal and main bearing 10. Gears worn or too big backlash 	<p>Readjust</p> <p>Readjust</p> <p>Remedy</p> <p>Repair</p> <p>Readjust</p> <p>Grind the valve seat</p> <p>Repair or replace</p> <p>Remedy or replace</p> <p>Repair or replace</p> <p>Replace</p>
Two cylinders don't work even	<ol style="list-style-type: none"> 1. Different fuel injection pressure or fuel amout in two cylinders 2. Poor working condition of one cylinder 	<p>Readjust</p> <p>Repair</p>
Engine failure to give out rated power	<ol style="list-style-type: none"> 1. Air filter or fuel filter clogged 2. Valve spring is broken 3. Improper fuel injection timing 4. Air into fuel system 	<p>Clean or replace</p> <p>Replace</p> <p>Readjust</p> <p>Perform air bleeding operation</p>

6.5 Special Maintenance in Winter

Attention should be paid to the following items when atmospheric temperature is below 5°C (41°F).

- (1) Starting engine is forbidden if there is no water in the cooling system.
- (2) The coolant temperature should not be below 60°C (140°F) when the tractor begins to work.
- (3) For long stay the water in the cooling system should be drained out [the water temperature should be dropped down to 50~55°C (122~131°F) before draining], so should the oil in the oil sump.
- (4) Under extremely low atmospheric temperature antifreezing coolant with lower freezing point should be used, which consists of 94% alcohol and water, the proportion of volume being 2.5 (alcohol) : 5.5 (water).
- (5) The tractor should stay inside room.

CHAPTER 6 TECHNICAL MAINTENANCE OF TRACTOR

6.1 Technical Maintenance per Shift

The following maintenance work should be made before and after each shift.

- (1) Fill fuel, lubricating oil and grease according to the instructions of oil chart and table.
- (2) Check the water level of the radiator and replenish it if necessary.
- (3) Inspect whether there is dirt or water in the fuel sediment cup. Clean it and expel the air from the fuel line.
- (4) Inspect and remove any leakage of oil, water and air from the fittings.
- (5) Check and tighten fasteners of all fittings.
- (6) Check the tire and its inflation pressure.
- (7) Check and bring along all the necessary tools.
- (8) Clean the dust on the surface of the batteries and the rust of the battery terminals. Check the electrolyte level in the batteries (18~23mm above the separator), add distilled water if it is insufficient. Check should be done every 60 hours when working in winter or in wet area.

6.2 1st Technical Maintenance

The following maintenance work should be made after every 100 hours of working.

- (1) Complete all the maintenance items in technical maintenance per shift.
- (2) Change the oil in the oil sump.
- (3) Wash the fuel tank and its inlet screen.
- (4) Wash the oil filter and change the element if necessary.
- (5) Wash the cleaner and change the oil.
- (6) Check the tension of the fan belt by pressing with thumb nearly midway on its straight portion, if the belt deflects about 15mm the tension is correct.
- (7) Turn off the plugs on each side of transmission brakes and the plug under the flywheel housing. Check and drain any oil that may leak out.

6.3 2nd Technical Maintenance

The following maintenance work should be made after every 500 hours of working.

- (1) Carry out all the maintenance items in technical maintenance per shift and primary technical maintenance.

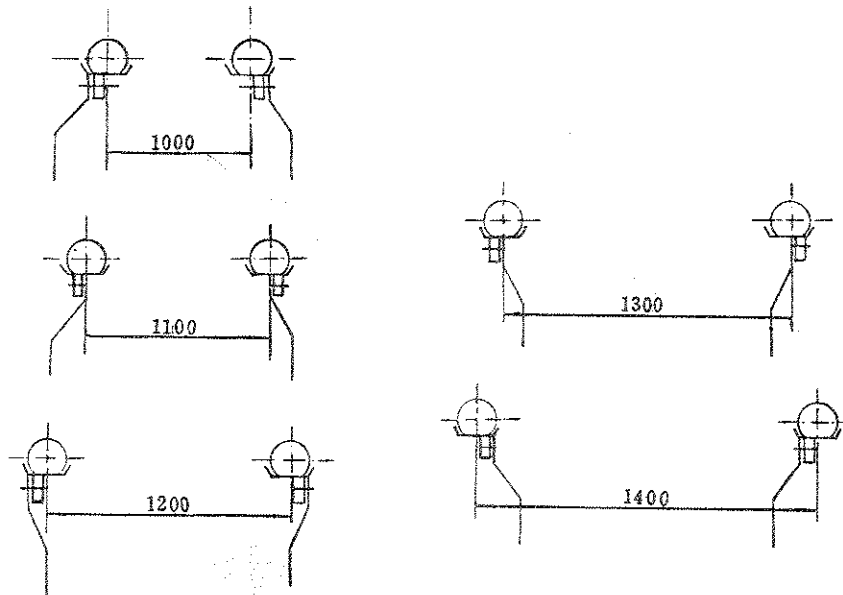


Fig. 5-9 Tread adjustment of the driving wheel

5.9 Adjustment of the Lifter

(1) For the adjustment of spring assembly of draft control system, see Fig. 5-10.

After the spring assembly is put together, the clearance between the washer and the shoulder of the spring rod should be 1.8~2.4 mm.

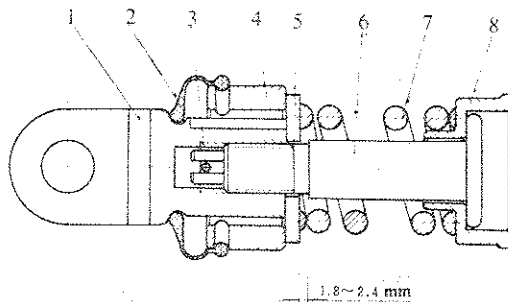


Fig. 5-10 Adjustment of draft control spring assembly

- | | | | |
|-----------------------------------|--------------------|--------|--------|
| 1. Upper link connector | 2. Dustproof cover | 3. Pin | 4. Nut |
| 5. Washer of draft control spring | 6. Spring rod | | |
| 7. Draft control spring | 8. Spring seat | | |

(2) For the adjustment of push rod of the draft control system, please see Fig. 5-11.

Put the draft control spring assemble into the lift housing, make its front end to contact surface

(1) Place a piece of fuse wire of about 2 mm diameter between the inner bearing cover and the bearing No. 7307. Place also a set of adjusting shims of a total thickness of about 1.5 mm. After mounting the inner bearing cover, tighten the bolts with a torque of 40~50 N · m, to press the fuse into a flat plate.

(2) Dismount the bearing cover, take out the fuse plate and measure its thickness.

(3) Deduct the thickness of the fuse plate from the total thickness of the shims. This will form a set of shims the use of which will result in clearance or interference of less than 0.1 mm. Assemble the shims and bearing cover and tighten the bolts with a torque of 40~50 N · m (347~434 lbf · in).

5.6 Adjustment of Steering Gear

For the adjustment of the steering system, please see Fig. 5-7.

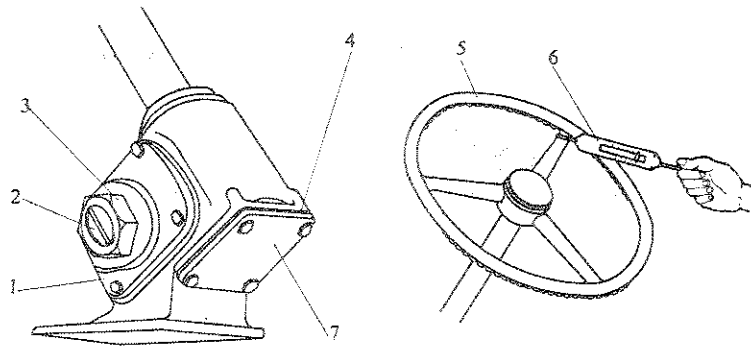


Fig. 5-7 Adjustment of steering gear

1. Side cover of steering gear 2. Adjusting screw of steering rock arm shaft 3. Lock nut
4. Adjusting shims 5. Steering wheel 6. Spring scale
7. Lower cover of steering gear

(1) Preloading the worm bearing is accomplished by increasing or decreasing the adjusting shims to make sure that when the steering rocker arm shaft and the roller are not assembled, the tangential force at steering wheel radius of 190 mm (7.48 in) should be 2.5~5.0 N (0.55~1.10 lbf).

(2) The backlash of the worm shaft and roller is adjusted by the adjusting screw of steering wheel and the locking nut. When the adjustment is made, it should be assured at the same time that;

① At the steering wheel radius of 190 mm (7.48 in), the tangential force will be 8~13 N;

② When the steering wheel is turned 45° in either direction from the neutral position, no meshing clearance shall exist;

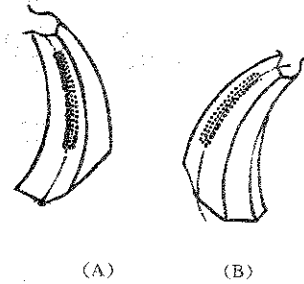
③ When the steering wheel is turned to its extremities, it is permissible to have a clearance about 30°.

(1) For the preloading of the front bearing No. 27305 of the 2nd shaft and that of the differential bearing No. 7210, see Fig. 5-2. The preloading of bearing No. 27305 requires a frictional torque of $1.2 \sim 1.9 \text{ N} \cdot \text{m}$ ($10.4 \sim 16.5 \text{ lbf} \cdot \text{in}$), which corresponds to a reading in force on the spring scale of $6.0 \sim 9.5 \text{ N}$ ($1.32 \sim 2.09 \text{ lbf}$). The preloading of bearing No. 7210 requires a frictional torque of $0.9 \sim 1.4 \text{ N} \cdot \text{m}$ ($7.8 \sim 12.2 \text{ lbf} \cdot \text{in}$). When this is transformed to the 2nd shaft and added to it the preloading torque of bearing No. 27305 ($1.2 \sim 1.9 \text{ N} \cdot \text{m}$) the corresponding reading on spring scale should be $7 \sim 11 \text{ N}$ ($1.5 \sim 2.4 \text{ lbf}$).

(2) Make sure that the axial play shall be less than 0.1 mm . This can be made by means of changing the number and thickness of the shims.

(3) For the condition of teeth contact, see Fig. 5-3.

Fig. 5-3 Ideal condition of teeth contact of spiral bevel gears when the tractor is driven forward (A— Small gear B— Big gear)



forward	backward	direction of adjustment

Fig. 5-4 Adjustment of teeth contact condition for spiral bevel gears

CHAPTER 5 IMPOTANT ADJUSTMENTS

5.1 Important Adjustment Data of Engine

The main adjustment data of engine is shown in Table 5-1.

Table 5-1 Main adjustment data of the engine

Adjusting position	Value
Valve timing (in crankshaft deg.):	
Inlet valve opening, BTC	17°
Inlet valve closing, ABC	43°
Exhaust valve opening, BBC	43°
Exhaust valve closing, ATC	17°
Cold clearance between inlet valve and rocker arm	0.30~0.40 mm
Cold clearance between exhaust valve and rocker arm	0.35~0.45 mm
Distance between bottom surfaces of valves and cyl. head	1.39~1.96 mm
Angle of advance of fuel supply, BTC	16°±2°
Rated speed of injection pump	1000 r/min
Rated fuel supply of injection pump	22±3 cm ³ /400 times
Idling speed of injection pump	275 r/min
Fuel supply at idling speed	2~3 cm ³ /200 times
Cutout speed of injection pump	1100 r/min
Injection pressure	120±10 kgf/cm ² (1760 lbf/in ²)
Lubrication oil pressure	2~4 kgf/cm ² (28~56 lbf/in ²)

5.2 Adjustment of Clutch

(1) After the clutch assembly is mounted onto the flywheel, the pressure ends of the three release levers shall be on the same plane, the differences shall be less than 0.15 mm and the distance between the plane and the rear end plane of the flywheel shall be 26.5 mm (1.04 in).

(2) For adjustment of the free travel and the working travel of the clutch, please see Fig. 5-1. A—free travel 4~7 mm (0.16~0.27 in); B—working travel 20~36mm (0.79~1.41 in).

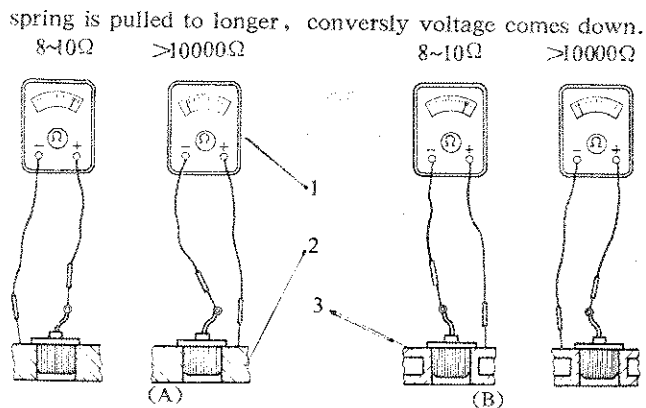


Fig. 4-5 Procedure to check the silicon rectifier

1. Universal electric meter 2. Rear end cover 3. Seat of components
- A. Check of the right-direction rectifier
- B. Check of the opposit-direction rectifier

3. Starting Motor

The starting motor modle QD121 is a series excitation motor. It is positioned by its front flanger and fixed on the right side of flywheel shell by 2 bolts of M12×25. The distance between the end surface of its gear and the end surface of flywheel ring gear is 2.5~5 mm. The gear is meshed with the flywheel ring gear by controlling the electro-magnetic switch driven by means of mechanic device. The spring clutch has a function of reversal-slipping which can provent starting motor from damaging due to rotated with high speed of engine after engine is started.

A. The Main Specifications of the Starting Motor (Table 4-4)

Table 4-4 Main technical specification of the starter

Rated voltage (V)	Rated power (kW) [HP]	Brush brand	Parameters of gear		
			Modulus	No. of teeth	Pressure angle
12	1.471 [2]	ST103	3	11	20°

B. Operation and maintenance of the starting motor

(1) Only when it is assured that the engine works normally, the starting motor is fixed securely, connection of wires is in good condition and the batteries are fully charged, can the starting motor be put into operation according to the instructions.

(2) The starting motor is inspected at regular periods. Make sure that whether each bolt is screwed tightly and each connecting end of electrical wires is well connected. Dismount the anti-dust cover and use the compressed air to blow off the dust inside and clean the dirt part with a piece of cloth moistened with a little gasoline or kerosene. Inspect the contact condition of the commutator. If the ovality is greater than 0.05 mm, it should be turned and ground. The brush spring shall have a force of 8.8~14.7N (1.9~3.2 lbf). If not, it should be replaced. Make sure that the brushes are in good contact with commutator. If they are worn seriously, it must be replaced with new one.

(3) With an electrical bulb of 25W connected in series with a 220V AC source, the insulation between the 3 pairs of components can be checked; the armature winding and shaft, the pole winding and the motor shell, the insulated brush and rear end cover.

(6) When the temperature of the battery raises to over 45°C (113°F) during charging, the charging current shall be reduced by half or the temperature lowered by artificial cooling. If the temperature is still raising, charging should be stopped temporarily. After the temperature drops to below 35°C (95°F), and the charging can be resumed with the charging time extended.

(7) During charging process, don't permit to interrupt the charging with exception of temperature raising or other inevitable condition.

(8) Voltage of each cell should be within a range of 2~2.1V after full charging. It can be put in service after the plastic cover is screwed on.

C. Daily service of battery

(1) The surface of battery must be kept clean to prevent any dirt from getting into the cells. The terminal post should be contacted to the cable terminal in good condition and the air vent hole of plastic cover shall be well ventilated.

(2) The level of electrolyte should be checked frequently. It can be replenished with distilled water if the level drops. It is not permitted to fill water when charging is going on. It is forbidden to fill any pure sulphuric acid into the battery.

(3) Start the tractor according to the regulations. Don't use horn too frequently. The alternator and regulator shall be kept in good condition so that it can charge the battery, which has been consumed some electrical power, on time.

(4) The battery should be recharged once on each 3 months. At first each cell should be charged to the voltage of 2.4V with charging current of 12 amps, then continued to charge it with charging current of 6 amps until the density and level of electrolyte and the voltage of a cell have reached to the value as specified. The other requestments are as same as those of first charging of new battery.

(5) If the battery is wanted to be stored for long period, it shall be fully recharged before. Then repeat the charging processing per month as above item (4).

2. Alternator and Regulator

The tractor is equipped with silicon rectifier alternator of model JF01C, which working matched with the regulator of model FT111 as a pair of working set.

The alternator is basic power source on the tractor, mounted on the right side of the engine and driven by crankshaft through a fan belt. The electrical power generated by the alternator is not only used for charging the batteries, but also for lights and signals.

The regulator works matched with the alternator together. It can keep the output voltage of the alternator in a certain range automatically.

The performance of alternator model JF01C is in Table 4-3 within the environmental temperature $20\pm 5^{\circ}\text{C}$ ($68\pm 41^{\circ}\text{F}$).

The rated voltage of the regulator is 14V. The range of regulated voltage is between 13.5~14.5V at half-load with alternator speed of 3500 r/min. The clearance between the armature and core is 1.4~1.5 mm.

The wiring diagram of the alternator matching with the regulator is shown in Fig. 4-4.

When the agricultural implement or the trailer is in need of hydraulic power, the oil pipe shall be connected with the joint at first. Then put the lift arm at the lowest position to exhaust remaining oil in the lift cylinder. Then turn on the adjusting rod of shut-off valve to cutoff the oil supply into the oil cylinder. In this way, either a draft control or a position control handle can be operated to control the oil output.

The tractor can't be used for doing fields work and giving hydraulic power at same time. If wanting to do fields work, should turn fully off the shut-off valve to make oil flowing into the cylinder, thus controlling the implement up or down.

3. Operation of the PTO Shaft (see Fig. 4-3)

(1) Put the control lever of the PTO shaft at neutral position. Remove the PTO shaft guard and connect reliably the PTO shaft to the implement.

(2) Depress the clutch pedal. Depending on the requirement of the implement, the control lever of the PTO shaft is set at the high or low position.

(3) Gradually release the clutch pedal to start the implement. First run the implement at low speed to inspect the operation condition. If it runs normally, it will be put to work in the normal condition.

4. Operation of the Belt Pulley

(1) The belt pulley assembly shall be correctly connected and reliably installed. To determine the direction of rotation of the pulley, seeing forward from the rear end of the tractor, if the pulley is on the left side of the PTO shaft, it will turn in the direction opposite to the driving wheel of the tractor. If the belt pulley is on the right side, it will turn in the same direction as that of the driving wheels.

(2) Align the pulley on the tractor with that of the working machine, put on the belt and tighten the belt properly, fix the position of the tractor and the working machine.

(3) Put the range shift-gear lever at its neutral position and main shift-gear lever at the 1st gear or 2nd gear position to ensure the front bearing of the 2nd shaft being sufficiently lubricated.

(4) After starting the tractor, run the tractor first at low speed. When it is assured that the tractor and its implement are working properly, they can be put into operation under normal load.

4.4 Operation of Electrical Equipment

This tractor is equipped with silicon rectifier generator and with an electrical system of negative terminal grounded. The wiring diagram of the system are shown in Fig. 8-2.

1. Battery

A. The function of the battery

The battery is used as a power source for starting motor and pre-heating plug while the engine is started. It's also for lights and signals when the generator don't charge the battery or charge not enough. When the voltage of generator generating is higher than the that of the battery, the battery

Table 4-1 Usage of various speeds of tractor

Gear	Usage	Theor. speed (km/hr) [M/hr]	Rev. speed (r/min)	Permissible draft force	
				Water field (N) [lbf]	Dry field (N) [lbf]
1st	Rotary tillage, transplantation	1.66 [1.04]		450~500 [991~1102]	550~650 [1212~1432]
2nd	Rotary tillage, transplantation	2.09 [1.31]		450~500 [991~1102]	550~650 [1212~1432]
3rd	Harvesting	3.40 [2.13]		450~500 [991~1102]	550~650 [1212~1432]
4th	Plowing, harrowing and seeding	5.40 [3.38]		450~500 [991~1102]	550~650 [1212~1432]
5th	Plowing, harrowing and seeding	6.49 [4.06]		450~500 [991~1102]	550~650 [1212~1432]
6th	Plowing, harrowing and seeding	8.20 [5.13]		350~400 [771~881]	450~550 [991~1102]
7th	Transportation	13.34 [8.34]		250~300 [551~661]	250~300 [551~661]
8th	Transportation	21.20 [13.25]		150~200 [330~440]	150~200 [330~440]
Rev 1st		1.55 [0.97]			
Rev 2nd		6.06 [3.79]			
PTO 1st	Stationary work		536		
PTO 2nd	Stationary work		1015		

4.3 Operation of the Working Facilities

1. Operation and Control of the PTO Shaft (see Fig. 4-3)

When the PTO release lever is moved to the working position, the hydraulic pump will start to work. If at this time the PTO control lever is put on either the high or the low position, the mechanical power will be supplied to the external equipment.

When either hydraulic pump or the PTO shaft is not wanted for use, the PTO release lever should be shifted to disengage position.

Note: The operation stated above can be carried out only after the clutch has been depressed.

2. The Operation and Control of the Hydraulic Hitch System (see Fig. 4-2)

A. Connection and operation of the implement

4.2 Operating and Driving

1. Starting the Engine

A. Preparations for the starting

- (1) Perform daily inspection and service (see Chapter 6 for details). Remove all troubles discovered.
- (2) Put the shifting levers at the "neutral" position.
- (3) Open the fuel cock on the sediment cup.
- (4) Push the fuel feed pump to remove air in the supply system.
- (5) Turn the crankshaft a few circles with the crank.

B. Starting procedure

- (1) Insert the key into electric lock, turn it to the starting position.
- (2) Put the throttle handle at the position of maximum fuel supply.
- (3) Turn the preheating and starting switch to the starting position for about 5 seconds. Then engine will start.

C. Points to be noticed and auxiliary measures for starting

(1) When it is difficult to start the engine, put the decompressor to the decompression position and the preheating and starting switch to the preheating position. After about 10 seconds, the switch is turned quickly to the preheating-starting position. After another 5 seconds the decompression mechanism is invalidated and the engine will be started.

(2) For each starting, the electric starter shall not be run over 5 seconds. When the starting failed for the first time, it can be tried again after the elapse of 2 seconds. When the engine failed to start for 3 times, the cause shall be investigated and removed.

(3) When the atmospheric temperature is lower than 0°C (32°F), the engine will be hard to start. It is permissible to add hot oil of $75\sim 80^{\circ}\text{C}$ ($167\sim 176^{\circ}\text{F}$) into the oil sump. Also, hot water of $80\sim 90^{\circ}\text{C}$ ($176\sim 196^{\circ}\text{F}$) can be added into the radiator.

D. Operation of the engine after starting

(1) After starting the engine, immediately return throttle handle to the "Idling" position for a few minutes.

(2) After idling, the engine speed is gradually increased to the medium speed range for about 10 seconds. To warm up the engine, the speed is again increased to $1000\sim 1500$ r/min.

(3) Only after the water temperature has reached over 60°C (140°F), can the engine be permitted to work at full load.

2. Starting to Move the Tractor

- (1) Loosen the fixing pawl of the brake pedals.
- (2) Depress the clutch pedal and put the shifting lever at the required speed.
- (3) Gradually depress the throttle and raise the engine speed.
- (4) Sound the horn if necessary. Be sure that nothing will obstruct the movement of the tractor.

CHAPTER 4 OPERATION OF TRACTOR

4.1 Controls and Instruments

The controls of the tractor are shown in Fig. 4-1 to Fig. 4-3, and the instruments in Fig. 4-1.

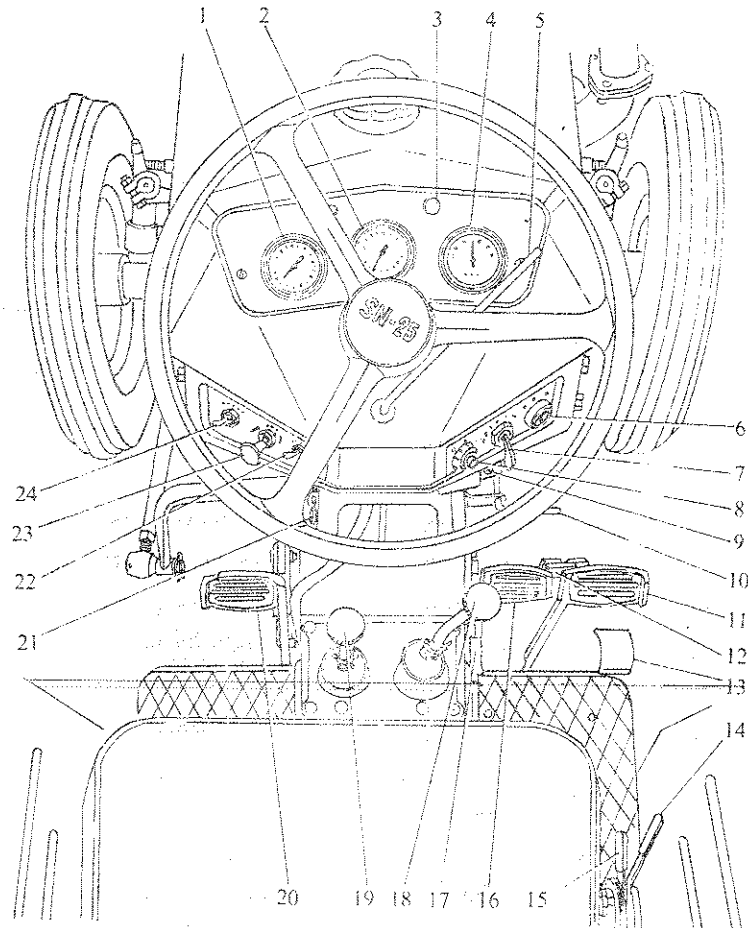


Fig. 4-1 Instruments and part of the controls

- | | | | | |
|-----------------------------|-------------------------------|--------------------------|---------------------------|----------------------------|
| 1. Water temperature gauge | 2. Oil pressure gauge | 3. Instrument panel lamp | 4. Ammeter | 5. Throttle handle |
| 6. Electricity lock | 7. Preheating/starting switch | 8. Horn button | 9. Working lamp socket | |
| 10. Decompression handle | 11. Brake pedal RH | 12. Lock plate | 13. Foot throttle | 14. Draft control handle |
| 15. Position control handle | 16. Brake pedal, LH | 17. Brake pawl | 18. Main gear-shift lever | 19. Range gear-shift lever |
| 20. Clutch pedal | 21. Shut-off pull rod | 22. Corner lamp switch | | |
| 23. 3-position switch | 24. Tail lamp switch | | | |

- (2) Fuel must be carefully filtered when it is handled.
- (3) It is not permitted to wipe any containers or fuel line connections with felts, cotton waste or used cloth.

3.2 Running-in of a New Tractor

A new tractor or a rebuilt tractor must be properly run-in as so that the fitting and contacting surface of the parts can be well contact with each other, resulting in that the tractor can withstand loads more reliably without the early worn or damaging of the parts.

1. Preparations before Running-in

- (1) Inspect and tighten all accessible bolts and nuts.
- (2) Fill up lubricating oil, fuel and water to the rated level.
- (3) Clean all external parts of the tractor.

2. Running-in the Tractor

A. Idling running-in of the engine (10 min)

Start the engine according to the specified procedures. With the raising of water temperature and oil temperature, gradually increase the speed. Carefully inspect whether there are leakages of water, oil or gases. Listen to the engine for any abnormal noise. Be careful to watch the water temperature gauge, oil pressure gauge, and ammeter to see if they are working normally.

B. Running-in of hydraulic hitch system (10min)

When the tractor is properly attached with its implement and the engine is kept at its rated speed, operate the draft control and the position control handles and thus raise and descend the implement for at least 20 times. To prevent possible damage of the implement, this test must not be carried out on ground with hard surface.

C. Running-in of tractor without load (2 hours) (Table 3-2)

After starting the tractor according to specified procedures, run the tractor without load according to the following specifications.

During the tractor is running-in without load, it is required to make turns both to the right and to the left. It is also required to make turns with brakes. In such running-in procedures, the following should be noted;

(1) Observe and listen to the engine, power trains, wheels, and steering system to see whether they are working properly.

(2) Notice whether the clutch, brake and gear-shifting are working normally and conveniently.

(3) Observe whether the instruments, meters and the electric equipment are working normally. When any abnormality or troubles are found, they shall be analyzed immediately to find out the causes. Then only after removal of the troubles, can the running-in procedure be resumed.

D. Running-in of tractor with load (48 hours)

Running-in the tractor with load is the procedure that make tractor to work with a certain

same time.

(5) When the tractor is used for stationary work through the use of belt and pulley system, the range shift lever must be put in the neutral position, and the main gear shift lever must be in the 1st or 2nd gear position, thus ensuring good lubrication of the front bearing of the 1st shaft in the transmission housing.

(6) This tractor is equipped with silicon rectifier alternator which negative terminal is grounded. Any mistake of wiring will damage the alternator and the regulator. It is strictly forbidden to make short circuit tests by contacting the terminal to the ground, as this will destroy the diode. When the engine is stopped, the key shall be turned to the position "0" to prevent the battery from continued discharging.

Generator model	JF01C
Generator type	AC generator with self-excitation
Regulator model	FT-111
Heater plug model	YR201

1.7 Filling Capacities (L)

Front drive axle		6
Fuel tank	36	36
Hydraulic system	7	7
Transmission housing	9.8	11.8
Final drive	1.7×2	1.7×2
Engine oil sump	7	7
Air filter	0.5	0.5
Belt pulley	0.5	0.5
Water cooling system	7	7

Note: The specifications are subject to change without notice.

Reverse	2.774~10.869	2.774~10.869
Central drive:		
Type	Spiral bevel gear	Spiral bevel gear
Reduction ratio	3.786	3.786
Final drive:		
Type	With spur gears	With spur gears
Reduction ratio	5.923	5.923
Brake	Shoe type	Shoe type
Front central drive type		Spiral bevel gear
Front final drive, two stage reduction ratio		3.352
Auxiliary box, reduction ratio		0.952

1.4 Running and Steering System

Type of front axle	Telescopic type	Frameless
Tire pressure [MPa(lbf/in ²)]:		
Front wheel	0.20~0.25 (28.44~35.55)	0.23~0.25 (32.71~35.55)
Rear wheel	0.10~0.12 (14.22~17.06)	0.10~0.12 (14.22~17.06)
Tire specification:		
Front wheel	4.00-16	6.00-16
Rear wheel	9.5/9-24	9.5/9-24
Front wheel alignment		
Toe in [mm(in)]	3~11 (0.12~0.43)	3~11 (0.12~0.43)
Camber	2°	2°
King pin inclination	8°	10°
Paddy wheel	Steel wheel with plastic inserts	Steel wheel with plastic inserts
Type of steering gear	Worm and roller	Worm and roller
Angle ratio of steering gear	18.2	18.2
Ackerman steering	Ahead of axle	Backward of axle
Steering wheel dia. [mm(in)]	400 (15.75)	400 (15.75)
Inclination angle of steering column	60°	60°

In dry fields	5500~6500 (1102~1432.6)	6000~7500
Theoretical travel speed of tractor [km/hr(M/hr)]		
1st gear	1.66 (1.04)	1.66 (1.04)
2nd gear	2.09 (1.31)	2.09 (1.31)
3rd gear	3.40 (2.13)	3.40 (2.13)
4th gear	5.40 (3.38)	5.40 (3.38)
5th gear	6.49 (4.06)	6.49 (4.06)
6th gear	8.20 (5.13)	8.20 (5.13)
7th gear	13.34 (8.34)	13.34 (8.34)
8th gear	21.20 (13.25)	21.20 (13.25)
R. 1st gear	1.55 (0.97)	1.55 (0.97)
R. 2nd gear	6.06 (3.79)	6.06 (3.79)

1.2 Engine

1. General Specifications of Engine

Model	295T
Type	4 stroke, vertical, water cooled
Type of combustion chamber	Swirl
Number of cylinders	2
Cylinder bore [mm(in)]	95 (3.74)
Stroke [mm(in)]	115 (4.53)
Type of cylinder liner	Wet
Compression ratio	18~20
Under rated working conditions:	
Output power of 12-hour rating [kW (HP)]	17.7 (24)
Rated speed (r/min)	2000
Fuel consumption (g/kW · h)	Not more than 254
Oil consumption (g/kW · h)	Not more than 2.04
Max. torque [N · m(lbf · in)]	96.1 (850.9)
Speed of max. torque (r/min)	1400~1600
Rotating direction of crankshaft (as viewed from flywheel)	Counter-clockwise
Fuel injection timing	16° ± 2° before TDC
Firing order (at a phase interval of 180° of crankshaft rotation)	1st cylinder to 2nd cylinder

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FORWARD

Thank you for purchasing our ShenNiu-25, ShenNiu-254 tractor. SN-25 & SN-254 tractor is characterized by its compact construction, easy operation, and big excess power. With a relevant implement, it can make various kinds of work, such as plowing, rototilling, harrowing, seeding, harvesting, irrigation, electric generation, transportation and gardening, etc. .

The correct usage, adjustment and maintenance of the tractors may prolong their service life, and give their full play. This book, for this reason, is compiled to provide the above informations for owners of the tractor. The user of the tractor is required to read this book carefully before putting the tractor into operation, and strictly to observe the regulations and instructions in using and servicing the tractors.

The parts catalogue, on last half part of the book, is provided to help you to understand the construction and fitting position of all parts. When you want to order some spare parts, please give the part No. , name, quantity you needed, and the date of your tractor delivered from our plant according to the list of catalogue strictly, otherwise easy to make mistakes.

With the requirements of customers and the developments of engineering science, this product will be improved continuously. So please notice the contents of the book may be somewhat not accordance with the tractor you have owned. We will publish new one periodically.

Hubei Tractor Plant, China.

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CHAPTER 1 MAIN SPECIFICATIONS OF TRACTOR

1.1 General Specifications

	ShenNiu-25	ShenNiu-254
Tractor model	ShenNiu-25	ShenNiu-254
Type	Frameless, 4×2, wheeled tractor	Frameless, 4×4, wheeled tractor
Overall length [mm(in)]	2864 (112.8)	2900 (114.2)
Overall width (with a tread of 1100) [mm(in)]	1355 (53.4)	1400 (55.1)
Height (to the top of the steering wheel) [mm(in)]	1367 (53.8)	1450 (57.1)
Height (to the top of the exhaust pipe) [mm(in)]	1945 (76.6)	2200 (86.6)
Wheel base [mm(in)]	1550 (61.02)	1610 (63.4)
Wheel tread [mm(in)]:		
Front wheel	1000~1400 (39.4~55.1)	1160 (45.7)
Rear wheel	1000~1400 (39.4~55.1)	1100~1400 (43.3~55.1)
Radius of turning circle [m(in)]		
With one side braked	2.5 (98.4)	3.0 (118.1)
Without braking	2.9 (114.2)	3.5 (137.8)
Ground Clearance [mm(in)]		
Transportation	300 (11.8)	362 (14.3)
Cultivation	345 (13.6)	407 (16.0)
Under front axle	376 (14.8)	280 (11.0)
Under the rear axle housing	405 (15.9)	467 (18.4)
Tractor dry mass [kg(lb)]	1120 (2468.48)	1320 (2909.3)
Min. operation mass [kg(lb)]	1230 (2710.92)	1430 (3151.7)
Coefficient of weight on front wheel	0.427	0.450
Coefficient of weight on rear wheel	0.573	0.550
Ballast weight-on rear wheels [kg(lb)]	300 (661.2)	300 (661.2)
Rated drawbar pull [N(lbf)]		
In paddy fields	4500~5000 (991.8~1102)	5000~6000

Cold clearance between rocker arm and inlet valve (mm)	0.30~0.40
Cold clearance between rocker arm and exhaust valve (mm)	0.35~0.45
Method of lubrication	Pressure and splash lubrication type combined
Method of cooling	Closed and forced water circulation
Method of starting	Electric starting

2. Technical Specifications of Main Components

Injector type	ZS481A, single hole needle valve
Injector pressure [MPa(lbf/in ²)]	11.77+0.98 (1706.4+142.2)
Injection pump type	2-cylinder series 1 injection pump
Diameter of plungers (mm)	8
Oil pump:	
Model and type	JZX1018, inner and outer rotor type
Speed (r/min)	1905
Capacity (L/min)	12
Water cooling pump:	
Type	Centrifugal
Speed (r/min)	3075
Capacity (L/min)	62.5
V-belt	B1120
Type of fuel filter	C0506A single-stage paper element filter
Type of oil filter	J0708C single-stage paper element filter
Type of air cleaner	3-stage strainer and oil-bath air cleaner
Model of thermostat	Jiefang-141

1.3 Transmission System

Clutch	Dry single disk with constant engagement	Dry single disk with constant engagement
Universal joint	Nylon type	Nylon type
Type of transmission	(4+1)×2 complex transmission	(4+1)×2 complex transmission
Transmission reduction ratio:		
Forward	0.794~10.142	0.794~10.142

1. 5 Working Facilities

1. Hydraulic Hitch System :

Type	Partial separated units
Oil pump model	306 gear pump
Method of controlling the depth of plowing	Draft control & position control
Relief valve opening pressure [MPa(lbf/in ²)]	15.7 (2275.2)
Piston dia. × stroke [mm (in)]	70×100 (2.76×3.94)
Max. lift capacity [N(lbf)]	6370 (1433.25)
Lifting time (s)	2
Mast pin diameter [mm(in)]	19 (0.75)
Lower hitch pin dia. [mm(in)]	22 (0.87)
Lifting range [mm(in)]	580 (22.84)
Mast pin vertical spacing [mm(in)]	510 (20.08)
Distance between two lower hitch points [mm(in)]	600 (23.62)

2. Power Take-off Shaft :

Type	Transmission-driven PTO
Low speed (r/min)	536
High speed (r/min)	1015
Nominal diameter [mm(in)]	35 (1.38), 6-spline

3. Belt Pulley :

Dia. × width of pulley [mm(in)]	200×125 (7.87×4.92)
---------------------------------	---------------------

Linear speed of belt

(at engine speed of 1800 r/min)

Low speed [m/s (in/s)]	8 (314.96)
High speed [m/s (in/s)]	15 (590.55)

1. 6 Electrical System

Battery type & model	Day-store 3-QA-105
Starting motor model	QD-121
Starting motor type	DC motor with series excitation

CHAPTER 2 SAFETY REGULATIONS AND IMPORTANT INSTRUCTIONS

2.1 Safety Regulations

- (1) Only those people who have been trained properly are allowed to drive a tractor.
- (2) Before moving a tractor, you must observe whether there are obstacles on the road, especially whether there is a man between the tractor and its trailer or its implement.
- (3) Nobody is permitted to get on or alight from a moving tractor. While the engine is running, nobody shall be allowed to work under the tractor for inspection and repair.
- (4) When climbing or going down a steep hill, drive only at low gear. It is not permitted to shift gear under such conditions.
- (5) When a tractor is used for transportation, the left and right brake pedals must be locked together.
- (6) Never make sharp turns when the tractor is being driven at high speeds. It is even more strictly forbidden to make sharp turns with one side braked.
- (7) Frequently inspect the tightness of bolts and nuts, fasten those connections such as the engine and the chassis, driving wheels (or paddy wheels) and the axle shaft, steering gear and intermediate housing, etc. Retighten any loosening of bolts and nuts.
- (8) At the time of personnel changing shift, any troubles occurred with the tractor must be informed to the workers of next shift. If necessary, the troubles must be eliminated before the tractor is assigned to work.

2.2 Important Instructions

- (1) Tractors that newly delivered from the plant or rebuilt must undergo running-in process according to the requirements stated in Chapter 3 before being assigned to work under normal load.
- (2) Before starting the tractor, you must inspect the fuel system, electric system, cooling system and the lubrication system. In any condition, it must not be permitted to fill unfiltered fuel into the fuel tank. After starting the engine, you must pay attention to ensure that the instruments or meters are working normally.
- (3) When moving the tractor with implements attached, make sure that the lock handle for liftarm must be in the locking position.
- (4) When hydraulic power output is used, the lift arm shall be at the lowest position and the adjusting rod of the cut-off valve shall be turned in. On the other hand, if the attached implement is used for fields work, the adjusting rod shall be turned out. It is not allowed to work both at the

CHAPTER 3 OILING AND RUNNING-IN PROCESS

3.1 Oiling and Fueling of the Tractor

1. Oiling and Fueling Points of the Tractor

The oiling and fueling points of the tractor & specification of fuel and lubricants are shown in Table 3-1.

Table 3-1 Specifications of fuels and lubricants for tractor

Fueling and oiling points	Brand of fuel and lubricants	
	At ambient temperature above 0°C (32°F)	At ambient temperature below 0°C (32°F)
Fuel tank	No. 0 light diesel fuel (GB252-81)	No. 10 light diesel fuel (GB252-81)
	Recommended foreign brand; SAEJ313c No. 2 diesel fuel or local equivalent	
Engine oil sump, speed governor, air filter, hydraulic lift, transmission	No. HC-11 diesel engine oil (SY1152-77) Recommended foreign brand; SAE30 oil or equivalent	No. HC-8 diesel engine oil (SY1152-77) Recommended foreign brand; SAE15W/30 oil or equivalent
Final drive, belt pulley	90-GL-3 gear oil or gear oil SAE80	85W-90-GL-3 gear oil or gear oil SAE80
2 grease nipples in clutch bearings	ZN-sodium based lubrication grease (GB492-77) Recommended foreign brand: BRB3-MOBIL	
16 grease nipples, including 1 nipple in each of water pump bearing, steering mechanism, pitman arm & gear adjustment case, 2 nipples in each of steering knuckle king pin, front wheel hub, axle bushing of clutch pedal & intermediate housing, 4 nipples in connection rod ends.	ZG-2 calcium based lubrication grease (GB 491-65) Recommended foreign brand; AA2, B2-MOBIL	

2. Instructions on the Use of Fuel

- (1) Fuel must be settled for at least 48 hrs before used.

load. Load and speed must be increased from low to high as specified in the Table3-3.

Table 3-2 Time to Run-in Tractor without Load

Speed	3rd	4th	5th	6th	Rev. 1
Time (min)	20	30	30	30	10

Table 3-3 Time in hrs. of the tractor running-in under load

Running-in time(hrs)	Gear of transmission					Total
		3rd	4th	5th	6th	
Load(kgf)						
150 (330 lbf) (1/4 load)		3	4	5	5	17
300 (661 lbf) (1/2 load)		3	5	5	5	18
450 (992 lbf) (3/4 load)		3	5	5		13

Under conditions when it is hard to provide tractor with the specified load, it is permissible to replace the load with same equivalent work. During the running-in period any trouble and working condition should be recorded in detail.

3.3 Work on the Tractor after Running-in

(1) After running-in, drain immediately the oil cells in different parts of the tractor chassis while it is still warm. Then fill some kerosene or diesel fuel into the oil cells, run the tractor for 2 ~ 3 min in the 2nd and reverse 1st speed. Raise up and descend down the hitch for a few times. Stop the tractor and immediately drain out the flushing oil. Once again the cells are filled with clean new oil.

(2) While the engine is still warm, drain the oil from the oil sump. After cleaning the oil sump and the oil filter, fill new clean oil into the engine.

(3) Inspect and tighten all accessible bolts and nuts.

(4) After inspecting and adjusting, add grease to the nipples.

(5) Record all findings and conclusions. Only after this, can the tractor be delivered to the customers for normal usage.

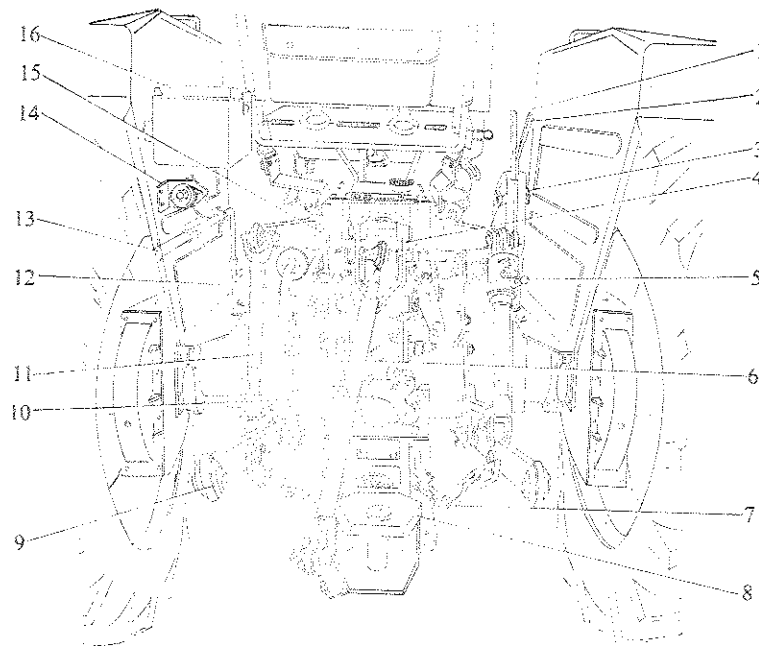


Fig. 4-2 Hitch linkages and part of the control mechanism

1. Position control handle 2. Draft control handle 3. Dowel handwheel 4. Upper hitch point rocker arm
 5. Leveling handle 6. Upper link 7. Check chain 8. Drawbar 9. Lower link
 10. Take-off shaft guard 11. Left lift link 12. PTO control lever 13. Starting crank
 14. Electric socket for the trailer 15. Lock lever 16. Tool box

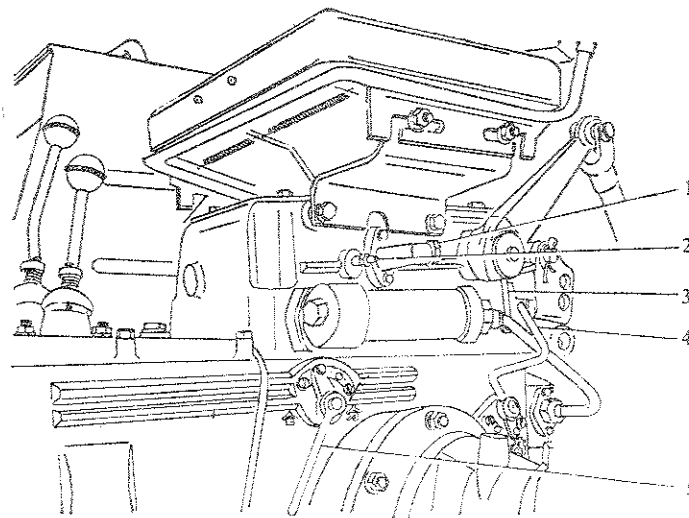


Fig. 4-3 Hydraulic power take-off and part of the control mechanism

1. Joint for hydraulic power take-off 2. Adjusting rod of shut-off valve 3. Lock lever
 4. Control lever of PTO shaft 5. Release lever of PTO shaft

tor.

(5) Gradually engage the clutch, thus starting the tractor.

3. Driving the Tractor

A. Selecting the speed

It will increase the productivity and the economical gains when the speed is properly chosen.

For the proper usage of the various speeds, see Table 4-1.

The 1st, 2nd, 3rd speeds can not be used for plowing and harrowing (even more so with the purpose to get greater draft force), otherwise, the transmission system will be seriously overloaded to cause damage of the tractor.

B. When driving, take notice of the following points;

(1) Notice frequently the readings of the meters. Water temperature gague, normally at $70 \sim 90^{\circ}\text{C}$ ($158 \sim 196^{\circ}\text{F}$). Oil pressure gague, normally at $2 \sim 4 \text{ MPa}$ ($28.4 \sim 56.9 \text{ lbf/in}^2$). Ammeter, normally at the middle or in the positive range. Any undue readings shall be investigated and the trouble removed.

(2) Listen carefully to the engine. If there be any abnormal or knocking sound, the engine shall be immediately stopped to remove the abnormalities.

(3) Sharp turns can be made only when the tractor is at low speed. When the tractor is working in the fields, particularly in the paddy fields, turn with single side braking can be made. In transportation work, it is strictly forbidden to make single side braking to make sharp turns at high speeds.

(4) It is forbidden to continuously run the engine under overload when black fumes will come out of the exhaust pipe.

(5) It is not permitted to rest the foot on the clutch pedal or brake pedal, nor is it permissible to drive down-hill in the neutral gear or with the clutch disengaged. When passing over obstructions, must decrease throttle or put the gear-shift lever to low position. It is not allowed to control the speed of the tractor with manoeuvring of the clutch. When it is discovered that the clutch slips or unable to disengage completely or the brakes fail to work, the tractor must be stopped for repairing.

(6) When the tractor is working in the paddy fields, if the front end of the tractor tends to rise up, the clutch pedal should be immediately depressed to cut off the driving torque, thus avoiding the danger of overturning the tractor.

4. Stopping the Engine and the Tractor

(1) Decrease the throttle opening and clutch pedal. When necessary, depress also the brake pedal, thus halting the tractor.

(2) Put the shifting levers to the neutral position, release the clutch pedal and lock the brake pedal if necessary.

Idling the engine for sometime until the water temperature drops to below 70°C (158°F), then pulling the shut-off pull rod to stop the engine. It is strictly forbidden to stop the engine suddenly from high temperature.

Put the draft control handle or the position control handle to the down position, then move the tractor backward to approach the implement. Connect at first the joint of the lower left link, then the one of the lower right link, and finally make connection with the upper joint and lock the joints with locking pins. Put both the draft control and the position control handles to up position, the implement will be raised. Putting either the draft control or the position control handle to down position will lower the implement.

B. Depth control of the mounted implement

(1) The draft control system is generally used when the tractor works in the rough fields for plowing. When the draft control handle is moved to a definite position, the implement will go down the earth to a definite depth. With the action of the draft control mechanism, the depth of plowing can be kept at the same automatically. The lower the downward movement of the handle, the deeper will be the depth of the plowing. After selection of the desired depth of the work, dowel hand wheel can be used to fix the handle in the same position for repeating operation.

(2) Position control is generally used for the following work; rotary tilling, harvesting, earth moving, loading, or plowing in the flat fields with little variation of the specific resistance.

Move the position control handle downward, the implement will move downwards also. For each position of the control handle, there will be a definite position of the implement with respect to the tractor. The more the downward movement of the handle, the more downward will be the implement. Likewise, dowel hand wheel can be used for each time to put the control handle to the same position, thus resulting in working to the same depth of work.

C. Selecting the hitch point of the upper link

There are 3 hitch points connecting the front end of the upper link with the rear end of lifter. The lowest hitch point is used for position control. For draft control system, the upper hitch point is used for shallow plowing and low specified resistance; the middle hitch point for deep plowing and high specified resistance.

D. Adjustment of the implement

By means of the turnbuckle, the length of the upper link can be changed, thus adjusting the horizontal position of the implement longitudinally.

By turning the leveling handle of right lift link, the length of the link can be changed, thus adjusting the horizontal position of the implement laterally.

The tightness of the check chain shall be such as to guarantee that when the implement is in the up position the links shall not touch the tires.

E. Operation of the lock lever (see Fig. 4-2)

Raise the attached implement to the topmost position. Move forward the lock lever, then put the draft control or position control handle downward. The implement will be in the transportation position. To change such condition, both the draft and position control handles must be put in the upmost position. Then put the lock lever backward. Only in this way, can the implement be moved downward.

F. Application of hydraulic power take-off (see Fig. 4-3)

is being charged, resulting in that the battery is replenished and electrical power is to be stored.

B. The first charging of a new battery

There are two kind of batteries used in this tractor. One is lead-storage battery of model 3-Q-90; The other is dry-storage battery of model 3-QA-90.

It is no necessary to charge a new dry-storage battery. After being filled with the electrolyte, which prepared according to the Table 4-2, to the specified level, and waiting for 20~30 minutes, it will be ready for use. All the tractors for exported to foreign countries use this kind of battery.

If the lead-storage battery is used, first charging has to be taken as follow;

(1) Clean the external surface of new batteries. Turn off the plastic cover and penetrate the air vent hole.

(2) Pour slowly the pure sulphuric acid into distilled water (It is strictly forbidden to pour water into sulphuric acid), and stir it. The solution is made up with a density of 1.260. When it is cooled to 10~35°C (50~95°F), the density has to be measured again. If its density is correct, it can be filled into the battery to a level which is higher 18~23 mm than the top of the separators.

(3) After 3~5 hours, check the level of electrolyte and refill it to original level if the level dropped. Only when it has been cooled to below 35°C (95°F), can it be begun to be charged.

(4) Connect the positive terminal of the battery with that of a charger and the negative terminal of the battery also with that of the charger. The battery is charged with an electric current of 6 amps. After each cell is charged to 2.4 volts (at this time, a lot of bubbles will be generated in the battery), charging current will be changed to 3 amps, and continued charging the battery until the volt and the density of electrolyte are stable within 3 hours.

(5) After charging, the density of electrolyte must be corrected according to Table 4-2. The battery has to be charged continued for another hour. Then measure the density of electrolyte again. If the result is not in accordance with the desired value, the above process shall be repeated. Finally, the level of the electrolyte shall be still 18~23 mm above the separator.

Table 4-2 Density of the electrolyte at various temperatures

Temperature of the Electrolyte (°C) [°F]	The corresponding density
0~5 [32~41]	1.305
5~10 [41~50]	1.300
10~15 [50~59]	1.295
15~20 [59~68]	1.290
20~30 [68~86]	1.285
30~35 [86~95]	1.280
35~40 [95~104]	1.275
40~45 [104~113]	1.270
45~50 [113~122]	1.265

Table 4-3 Model JF01C silicon rectifier generator at 20°C

Rated power (W)	Rated voltage (V)	Rated current (A)	At rated voltage speed of charge beginning (r/min)	Speed of full load (r/min)	Max. rated speed (r/min)
180	14	13	1300	3500	8000

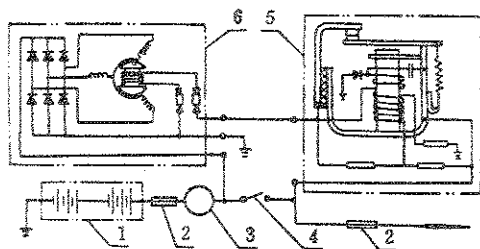


Fig. 4-4 Wiring diagram connected between model JF01C alternator and model FT111 regulator

1. Battery 2. Fuse 3. Ammeter 4. Electrical lock 5. Model FT111 regulator 6. Model JF01C alternator

Important :

(1) The alternator must work with its regulator together as a working pair. The wires should be connected securely with good electrical contact and any short circle among them don't permit to exit. It is forbidden to make short circle test by touching the alternator terminal with any grounded parts to see whether the alternator is in good condition, otherwise resulting in damaging the silicon diode and regulator.

(2) When stopping the tractor, you should put the key to "0" position in order to prevent the batteries from discharging to the coil of the alternator through the regulator, otherwise resulting in heating the coil and damaging it. When the alternator is inspected and repaired, it is forbidden to test the insulation of the alternator by using the megohm meter or any AC source of voltage higher than 100V. Only a multimeter with high internal resistance can be used for this purpose.

(3) The tension of the belt of the alternator is advisable when the belt can be depressed downward 10~12 mm with a thumb. Alternator should be maintained and inspected once on every 750 working hours and grease of its bearings must be removed and filled with new one.

(4) We can inspect a silicon diode whether good or bad by using the multimeter with high internal resistance. The right-direction resistance of a silicon diode is 8~12 ohms. The opposite-direction resistance is more than 10,000 ohms. It shall be replaced if can't comply with the requirements. The detail check is shown in Fig. 4-5.

(5) A repaired alternator should be tested without load. It can't be mounted on the tractor for use until it can comply with the requirements.

(6) The regulator should be checked and adjusted on specified equipment once on every 350 working hours. If the regulator is out of order, at first the contact point of electricity should be checked as usual. The function of the spring is to adjust the voltage. The voltage comes up when the

(4) When inspecting the contacting of connection point in the electro-magnetic switch, remove the grounded soldering of the plastic case. Then loosen the bolts and remove the plastic case. After polishing the contact point with NO. 0 sand paper, put it back to original position.

(5) Inspect the armature shaft to see whether it is bent, whether the armature coils are open-circle or short-circle or grounded. Inspect the spring clutch. It shall be able to withstand a torque of 40 N · m (347 lbf · in) without slippage at counterclockwise direction.

(6) Before the starting motor is reassembled, the gears, helical splines and shaft bushing shall be smeared with lubricating oil and the bearings with greases. The repaired starting motor should pass the test on testing equipment and accord with the data in Table 4-5.

Table 4-5 Test parameters of the starting motor

Voltage (V)	No-load test		Brake test	
	Electric current (A)	Speed of revolution (r/min)	Electric current (A)	Braking torque (kg · m)
12	≤100	≥6,000	≤640	≥2.60

4. Ammeter

Ammeter is used for indicating the conditions of both charging and discharging of the batteries. When the indicator of the ammeter is inclined to “+” direction, it shows in charging condition. If to “-” direction, it shows in discharging condition. If at “0” position, it shows that no current is passed.

(1) Indicator at “0”: If the engine can be started rapidly and with the speed increasing, the needle is inclined to “+” direction. After while, the indicator moves to “0” position gradually. It means the batteries have been fully charged already and all circles work normally. If the engine is difficulty to be started and the needle is still at “0” position with the engine speed of 2000 r/min, it means that either the electric circle or electrical equipment is in trouble, which must be checked and eliminated immediately.

(2) Indicator is pointed to “+” direction: This means the batteries are being charged by the alternator. The more the indicator inclines to “+” direction, the more charging current is to be. If the value of charging current is above 14A, it means that the voltage adjusted by regulator is too high. The checking and rejustment must be taken.

(3) Indicator is pointed to “-” direction: It means that the batteries are being discharged when the lights is turned on, and starting motor and electric horn are being operated without engine running.

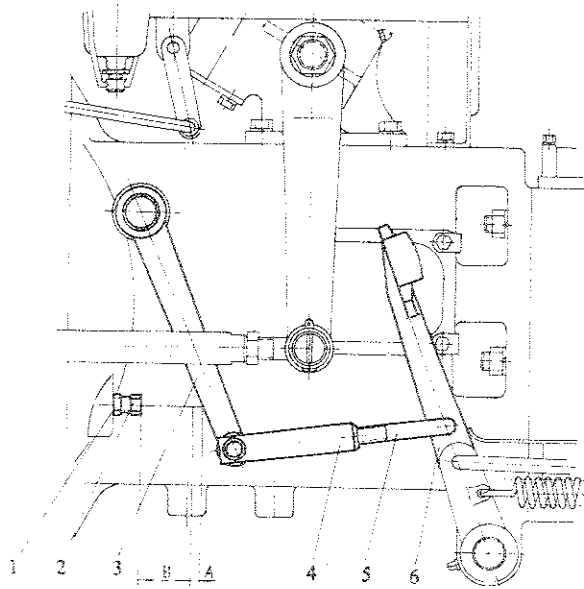


Fig. 5-1 Adjustment of clutch travels

- 1. Lock nut
- 2. Bolt
- 3. Release rocker arm
- 4. Adjustment fork
- 5. Push rod
- 6. Clutch pedal

5.3 Adjustment of Transmission

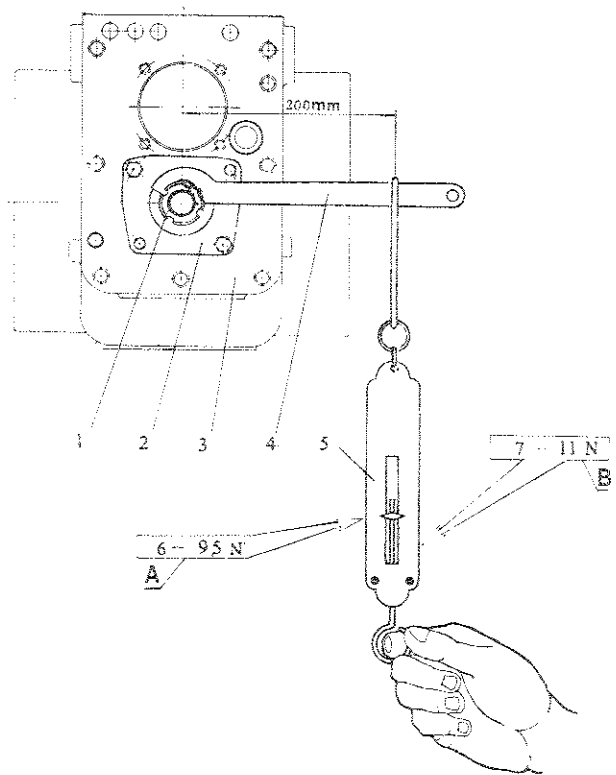


Fig. 5-2 Preloading of front bearing of the second shaft and that of the differential bearing

- A. The spring scale reading after preloading the front bearing of the second shaft
- B. The spring scale reading after preloading the differential bearing and that of the front bearing of the second shaft

- 1. Circular nut
- 2. Front bearing cover of the second shaft
- 3. Transmission housing
- 4. Special wrench
- 5. Spring scale

In case of abnormal teeth contact condition, it is possible to make adjustments according to Fig. 5-4.

The solid line with arrow head shows the adjustment of teeth contact, while the dashed line shows the adjustment of backlash.

(4) When it is assured of normal teeth contact condition, the backlash could be adjusted to 0.1 ~ 0.2 mm.

5.4 Adjustment of Brakes

The adjustment of the brakes is shown in Fig. 5-5. The length of the control rod is adjusted so that when the top of the brake pedal is subjected to a force of 13N (2.86 lbf), the travel should be 20~40 mm (0.78~1.57 in). It shall be assured also that the left and right brakes will work equally effective.

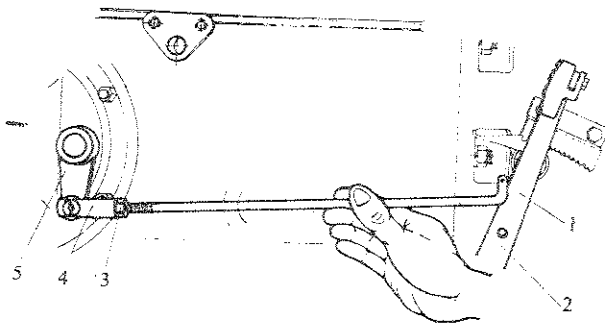


Fig. 5-5 Adjustment of brakes

1. Brake pedal
2. Control rod
3. Lock nut
4. Adjusting fork
5. Rocker arm of cam

5.5 Adjustment of Final Drive

For the adjustment of preloading of the drive shaft bearings see Fig. 5-6.

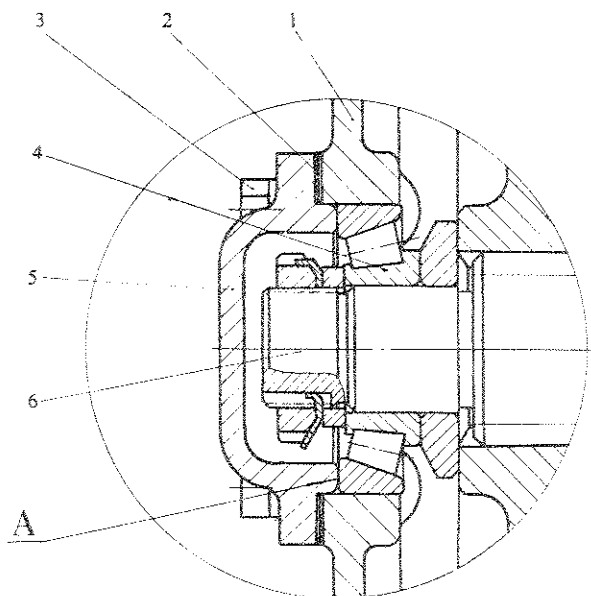


Fig. 5-6 Adjustment of preloading the bearings of the drive shaft

1. Housing of final drive
2. Adjustment shims of the drive shaft
3. Bolts
4. Bearing No. 7307
5. Inner bearing cover of drive shaft
6. Drive shaft

5.7 Adjustment of Front Axle

(1) The adjustment of the toe-in is shown in Fig. 5-8. By means of adjusting the length of the tie rod, the distance of front end A should be made shorter than that of the rear end B, when the steering wheel at middle position. The difference between them is 3~11 mm.

(2) The axial play of the front wheel hub bearing shall be adjusted to lie in the range 0.05~0.15 mm. When adjustment is made, there shall be no radial load on the bearing. First tighten the castellated nut, then turn it backward $1/30 \sim 1/10$ circle. Be assured that the torque for turning is $1 \sim 3 \text{ N} \cdot \text{m}$, then lock up the cotter pin.

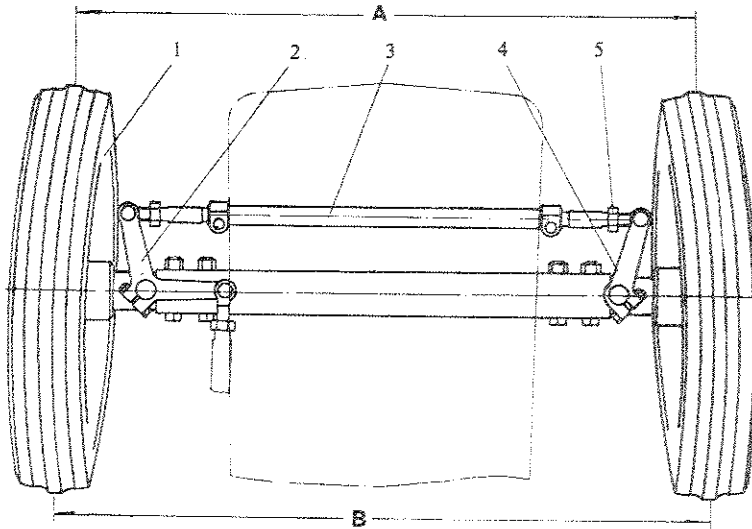


Fig. 5-8 Adjustment of the toe-in

1. Front wheels 2. Left steering arm 3. Tie rod
4. Right steering arm 5. Lock nut

5.8 Adjustment of the Tread

(1) The distance between the front wheels can be adjusted to have 5 different lengths by means of the telescopic tubes within the range of 1,000~1,400 mm (39.4~55.1 in).

(2) For the driving wheels, the tread may be changed by the wheel spokes and the wheel rims. This makes it possible to have 5 different lengths of the tread within the range of 1,000~1,400 mm (39.4~55.1 in). Please see Fig. 5-9.

E of the housing, and insert the locating pin.

Put the draft and position control handles in the vertical position, adjust the length of the push rod, and make sure that its end will contact the surface A of the spring rod. At same time, make the control end G of the draft control lever have a clearance of $1.5 \sim 2$ mm with the end surface of the main control valve at moment the main control valve in outmost position.

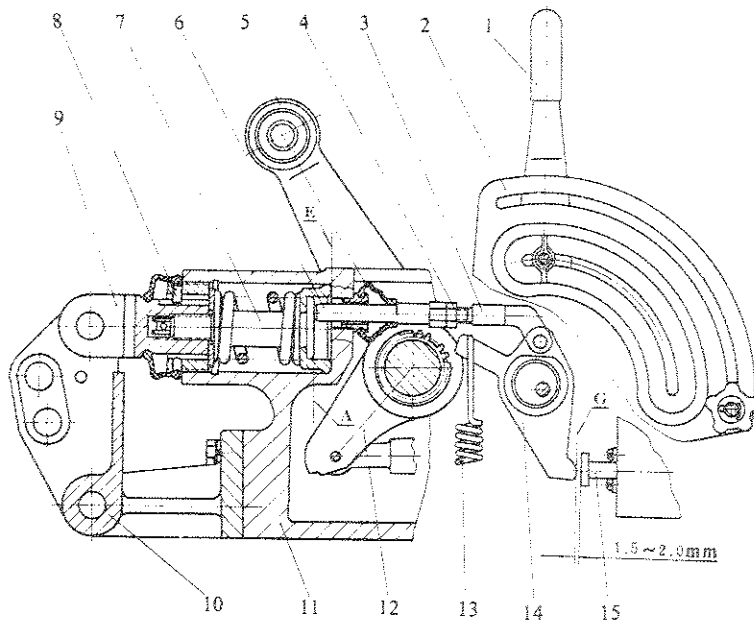


Fig. 5-11 The adjustment of the push rod of the draft control system

1. Draft control handle
2. Sector plate
3. Link arm
4. Lock nut
5. Lift arm
6. Push rod of the draft control system
7. Spring rod
8. Dowel pin
9. Spring assembly of draft control
10. Rocker arm of upper hitch point
11. Lift housing
12. Inner lift arm
13. Pull spring
14. Draft control lever
15. Main control valve

(3) For the adjustment of position control cam, please see Fig. 5-12.

Put the handles of the position and draft control in the vertical position. Make the lift arm an angle of 60° with horizontal plane and make the inner lift arm have a clearance of 4 mm with the housing. The position control cam is so turned that the control end of the position control lever push the main control valve 5.1 ± 0.2 mm into its block from its outmost position. Then tighten the bolt on the position control cam.

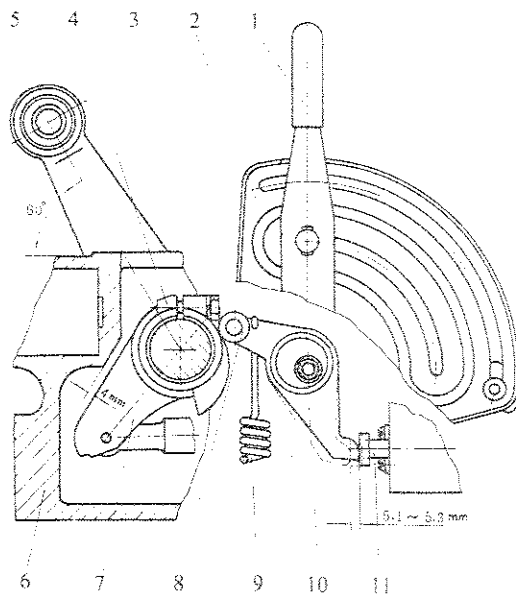


Fig. 5-12 Adjustment of the cam of position control

1. Position control handle
2. Sector plate for position control
3. Bolt
4. Cam for position control
5. Lift arm
6. Lift housing
7. Inner lift arm
8. Roller
9. Pull spring
10. Position control lever
11. Main control valve

- (2) Wash the oil sump, inlet screen and strainer.
- (3) Check the injection pressure and the condition of atomization. Clean and readjust the nozzles if necessary.
- (4) Check the working of the injection pump and its advanced angle. Readjust it if necessary.
- (5) Wash the fuel filter, change the element if necessary. Expel the air from fuel lines after reassembling.
- (6) Check and readjust the valve clearance and the free-turning clearance of steering wheel.
- (7) Check and readjust the free travel and working travel of the brake pedal and the clutch pedal.
- (8) Check the clearance of front wheel bearing. Readjust it and adjust front toe-in if necessary.
- (9) Wash the screen in hydraulic system.

6.4 3rd Technical Maintenance

After every 1000 hours of working the following maintenance work should be made.

- (1) Carry out all the maintenance items in technical maintenance per shift, technical maintenance of primary and secondary.
- (2) Clean the dust and dirt on the tractor, the dust between radiator pipes and the scale in the water pump.
- (3) Dismount the engine. Clean the carbon deposit on the cylinder head. Check the valve seats (reamer the valve seat and grind the valve if necessary). Clean the carbon deposit on the piston. Check the piston ring end gap, the wear-out of cylinder sleeve, the corrosion of alloy surface of connecting-rod bearing and crankshaft bearing and change the bearing if necessary.
- (4) Wash the main oil passage in cylinder block. Check wear-out of the end cover of oil pump and the working of the pressure-limiting valve on the oil filter cover. Readjust them if necessary.
- (5) Change the lubricant in transmission housing and final drive housing and clean the magnet in transmission housing.
- (6) Renew the grease in the front wheel hub.
- (7) Check the specific gravity of battery electrolyte and discharge condition. Correct the specific gravity of electrolyte or recharge if necessary.
- (8) Inspect the voltage regulator. Readjust it if necessary.
- (9) Inspect the components and parts of the alternator and the starter, especially the brush and silicon rectifier. Repair or change them if necessary.
- (10) Check the grease in steering gear and renew it if necessary.
- (11) After reassembling of the tractor, a short-time running-in is necessary to inspect the action of every part.

CHAPTER 7 TROUBLE SHOOTING

7.1 Engine

Problems	Presumable causes	Countermeasures
Failure to start, without fumes from exhaust manifold	<ol style="list-style-type: none"> 1. Air taken into fuel system 2. Fuel pipe and filter clogged 3. The piston of feed pump worn 4. No fuel in the injection pump and high pressure pipe 5. The delivery valve of injection pump is seized 	<p>Perform air bleeding operation</p> <p>Clean or replace the element</p> <p>Replace</p> <p>Check if feed pump work normally</p> <p>Remedy</p>
Failure to start, with white fumes from exhaust manifold	<ol style="list-style-type: none"> 1. Discharged battery 2. Poor atomization of injector or carbon-deposited on it 3. Improper fuel injection timing 4. Leakage of air valves 5. Piston ring worn 	<p>Recharge battery</p> <p>Replace or clean the injector</p> <p>Readjust</p> <p>Grind valve or change valve spring</p> <p>Replace</p>
Engine stops after a few turns of running	<ol style="list-style-type: none"> 1. One cylinder works intermittently because of air in fuel system 2. No injection fuel or too little 	<p>Perform air bleeding operation</p> <p>Check injection pump and injector. Readjust if necessary</p>
Exhaust fumes are black conspicuous	<ol style="list-style-type: none"> 1. Overloaded 2. Improper injection timing 3. Needle valve of injector is seized or carbon-deposited 4. Too small valve clearance or poor sealing 5. Working of two cylinders is unbalanced 	<p>Reduce load</p> <p>Readjust</p> <p>Remedy or clean</p> <p>Readjust or remedy</p> <p>Adjust injection pump and check injector</p>

(cont.)

Problems	Presumable causes	Countermeasures
	<ol style="list-style-type: none">5. Mating parts of injection pump worn, or spring broken, or leakage between the contact surface of injection pump upper housing and fuel delivery valve seats6. Injector is out of order7. Cylinder gasket damaged or air leakage from injector mounting hole8. Engine overheated9. Two cylinder don't work even seriously	Remedy Remedy Replace or remedy Cooling Check and remedy
Engine stops suddenly	<ol style="list-style-type: none">1. Fuel-feeding broken2. Over-load3. Crankshaft is seized with its bearing shell4. Piston is seized with cylinder	Check and remedy Reduce load Repair Repair
<p>Important ; Before restarting engine, should turn the engine with a starting crank by hands. Only with easy turning engine be started. If with difficulty turning, cause must be checked and eliminated.</p>		
Engine fails to run at specified idle speed	<ol style="list-style-type: none">1. Ambient temperature is too low2. Serious wear of piston ring and cylinder sleeve3. Speed governor is out of order4. Wrong position of idling speed limiting screw5. Poor adjustment of injection pump or plunger barrel mating pair worn	Raise ambient temperature Replace Replace Readjust Repair or replace
Engine over speeding	<ol style="list-style-type: none">1. Control rod of injection pump is seized owing to its serious deformation2. The regulating arm at bottom of plunger er body or remove from control fork of control rod3. No lubricating oil in the governer4. Wrong adjustment of injection pump	Replace or repair Repair Refill Readjust

7.2 Chassis

Problems	Presumable causes	Countermeasures
Clutch slips	<ol style="list-style-type: none"> 1. Oil smears on frictional disk 2. Pressure spring weaken or broken 3. 3 release levers are not on same plane 4. Driven plate warped or worn 	<p>Wash disk with petrol and eliminate the cause of leaking</p> <p>Replace</p> <p>Readjust</p> <p>Replace</p>
Clutch releasing is incomplete and gear shifting is difficulty	<ol style="list-style-type: none"> 1. Too big free play and too small working play 2. Too big warped of driven plate 	<p>Readjust</p> <p>Rectify or replace</p>
Tractor starts to move tremblingly	<ol style="list-style-type: none"> 1. Clutch frictional disk broken 2. Clutch driven plate warped 3. Poor adjustment of clutch 	<p>Replace</p> <p>Rectify or replace</p> <p>Readjust</p>
Poor braking	<ol style="list-style-type: none"> 1. Oil smears on brakes 2. Brakes over-wear 	<p>Wash them with gasoline</p> <p>Replace</p>
Tractor runs sideward when braking taken	<ol style="list-style-type: none"> 1. Different working play between left and right pedals 2. One side brake is out of order 	<p>Readjust</p> <p>Check and remedy</p>
Brakes got hot	<ol style="list-style-type: none"> 1. Return springs of brake shoe became weaken 2. Releasing of brake is incomplete 	<p>Replace them with new one</p> <p>Check and remedy</p>
Without load, hydraulic system can work. But with load it can't lift it or lift it very slowly	<ol style="list-style-type: none"> 1. Oil level is too low 2. Oil filter clogged 3. Sealing ring of gear pump damaged 4. Gear pump worn seriously 	<p>Refill to specified level</p> <p>Clean it</p> <p>Replace</p> <p>Replace</p>
Implement neither lifts nor goes down	<ol style="list-style-type: none"> 1. Main control valve seized 2. Return valve seized 	<p>Dismount and clean</p> <p>Dismount and clean</p>

CHAPTER 8 APPENDICES

8.1 Tightening Torque of Important Bolts and Nuts

Table 8-1 Tightening torque of important bolts and nuts

Parts to be connected	Tightening torque, (kg · m) [lbf · in]
Cylinder head and cylinder block	12~14 [1041~1215]
Connecting rod cap and connecting rod	10~12 [868~1041]
Cover of main bearing and cylinder block	14~16 [1215~1388]
Flywheel and crankshaft	10~12 [868~1041]
Bracket and engine	9~12 [781~1041]
Front bush of 2nd shaft and transmission housing	4~6 [347~520]
Inner bearing cover of drive shaft and final drive housing	4~5 [347~434]
Intermediate housing and flywheel housing	3.5~5 [303~434]
Intermediate housing and transmission housing	6~8 [520~694]
Rear axle sleeve and transmission housing	6~8 [520~694]
Rear axle sleeve and final drive housing	6~8 [520~694]
Front axle sleeve and front axle arm	6~8 [520~694]
Lifter housing and transmission housing	2~3 [173~260]
Steering-gear case and intermediate housing	2~3 [173~260]
Front wheel spoke and front wheel hub	12~14 [1041~1215]
Rear wheel spoke and drive shaft	12~14 [1041~1215]
Rear wheel spoke and rear wheel rim	7~9 [607~781]
Ballast weight on rear wheels	3.5~5 [303~434]

8.2 Diagram of Transmission System

For transmission system diagram, please see Fig. 8-1 and Table 8-2 and 8-3.

Table 8-2 Bearing No. and needle size of the tractor

Item	Bearing No.	Item	Bearing No.	Item	Bearing No.	Item	Bearing No.
1	7506	21	50208	37	50207	63	977907
2	7305	22	208	40	205	65	977907K
3	8206	24	7212	41	8104	66	922905
5	60203	25	7307	46	205	68	7203
6	688908	27	7210	49	7210	69	7203
7	307	29	306	51	208	70	60203
8	27305	31	305	52	2.5×16×34	71	60203
9	27305	32	306	54	106		
12	2.5×16×56	34	106	60	3×24×72		
19	3608	35	210	62	776701		

Table 8-3 Gear teeth and modulus of the tractor

Item	Gear teeth × modulus	Item	Gear teeth × modulus	Item	Gear teeth × modulus	Item	Gear teeth × modulus
4	130×3	23	13×4	44	22×3	59	20×3
10	44×3	26	77×4	45	14×3	61	17×3
11	23×3	28	47×3	47	53×4.2	64	1×4.6685
13	17×3	30	39×3	48	20×4.3	67	12×3
14	34×3	33	18×3.5	50	12×4.3	72	40×3
15	27×3	36	26×3.5	53	19×3	73	41×3
16	22×3	38	10×3	55	39×3	74	40×3
17	22×3	39	10×3	56	34×3	75	20×3
18	42×3	42	15×2.5	57	27×3	76	21×3
20	14×4.2	43	10×2.5	58	41×3		

8.3 Self-tightening Seals

Table 8-4 Self-tightening seal

Serial No.	Code	Dimensions	Fitting position	Quan/unit	Standard NO.
1	SD	17×30×10	Gear pump	1	HG4-692-67
2	PD	17×35×10	Fuel injection pump	1	HG4-692-67
3	PD	28×47×11	Transmission housing	4	
4	PD	32×45×10	Steering gear	1	
5	PD	35×56×12	Transmission housing	2	HG4-692-67
6	PD	38×58×12	Final drive	4	HG4-692-67
7	PD	40×58×8	Steering knuckle pin	2	
8	PD	40×64×8	Front wheel hub	4	

8. 5 Fuel System Diagram

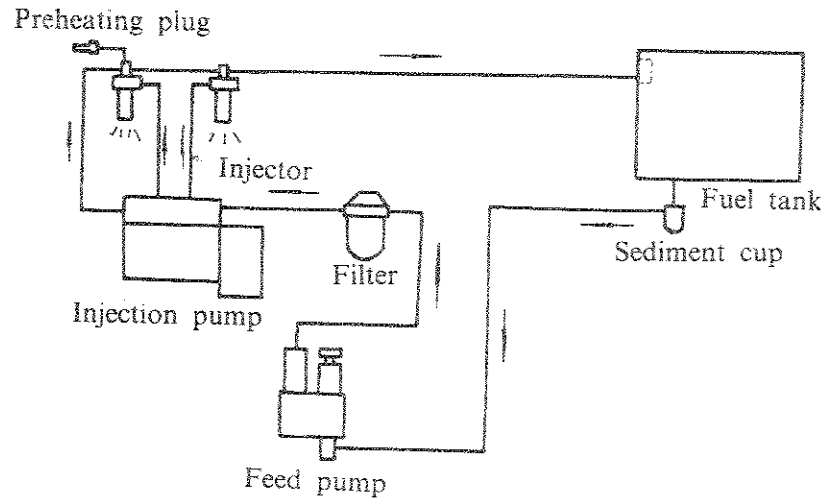


Fig. 8-3 Fuel system diagram

8.7 Clearances and Wear-out Limits of Main Parts of Tractor

Table 8-5 The clearance and wear-out limits of the main components and parts of the tractor

Item	Fitting position	Standard size	Clearance	Wear-out limits
1	Crankshaft main journal and bearing shell	$\varnothing 75 \begin{matrix} -0.020 \\ +0.030 \end{matrix}$ $\varnothing 75 \begin{matrix} +0.030 \\ +0.030 \end{matrix}$	0.070~0.155	0.30
2	Crankshaft axial clearance		0.070~0.200	0.50
3	Connecting rod journal and bearing shell	$\varnothing 65 \begin{matrix} -0.020 \\ +0.030 \end{matrix}$ $\varnothing 65 \begin{matrix} +0.030 \\ +0.030 \end{matrix}$	0.050~0.118	0.30
4	Width of connecting rod big end and width of connecting-rod journal	$38 \begin{matrix} -0.11 \\ +0.10 \end{matrix}$ $38 \begin{matrix} +0.10 \\ +0.10 \end{matrix}$	0.17~0.44	0.70
5	Piston skirt and cylinder sleeve	$\varnothing 95 \begin{matrix} -0.188 \\ +0.085 \end{matrix}$ $\varnothing 95 \begin{matrix} +0.085 \\ +0.085 \end{matrix}$	0.160~0.225	0.50
6	Piston pin and connecting-rod bush	$\varnothing 35 \begin{matrix} -0.011 \\ +0.030 \end{matrix}$ $\varnothing 35 \begin{matrix} +0.030 \\ +0.030 \end{matrix}$	0.020~0.051	0.15
7	Top compression ring and groove	$3 \begin{matrix} -0.012 \\ +0.050 \end{matrix}$ $3 \begin{matrix} +0.050 \\ +0.050 \end{matrix}$	0.050~0.087	0.20
8	2nd and 3rd compression ring and groove	$3 \begin{matrix} -0.012 \\ +0.050 \end{matrix}$ $3 \begin{matrix} +0.050 \\ +0.050 \end{matrix}$	0.030~0.062	0.18
9	Oil ring and groove	$6 \begin{matrix} -0.012 \\ +0.050 \end{matrix}$ $6 \begin{matrix} +0.050 \\ +0.050 \end{matrix}$	0.030~0.062	0.18
10	Top compression ring end gap	to be measured in the cylinder	0.30~0.45	3.00
11	2nd and 3rd compression ring end gap	to be measured in the cylinder	0.25~0.40	3.00
12	Camshaft front journal and bearing inner diameter	$\varnothing 50 \begin{matrix} -0.070 \\ +0.027 \end{matrix}$ $\varnothing 50 \begin{matrix} +0.027 \\ +0.027 \end{matrix}$	0.075~0.142	0.25
13	Camshaft rear journal and bearing inner diameter	$\varnothing 50 \begin{matrix} -0.070 \\ +0.027 \end{matrix}$ $\varnothing 50 \begin{matrix} +0.027 \\ +0.027 \end{matrix}$	0.075~0.142	0.25

(cont.)

Item	Fitting position	Standard size	Clearance	Wear-out limits
29	Shift fork shaft and its hole	$\varnothing 15 \begin{smallmatrix} -0.008 \\ -0.010 \end{smallmatrix}$ $\varnothing 15 \begin{smallmatrix} +0.005 \\ +0.005 \end{smallmatrix}$	0.020~0.105	0.30
30	1st shaft and gear	$\varnothing 28 \begin{smallmatrix} -0.008 \\ -0.010 \end{smallmatrix}$ $\varnothing 28 \begin{smallmatrix} +0.003 \\ +0.003 \end{smallmatrix}$	0.020~0.063	
	Width of spline teeth and width of spline grooves of the collar	$7 \begin{smallmatrix} -0.008 \\ -0.010 \end{smallmatrix}$ $7 \begin{smallmatrix} +0.005 \\ +0.005 \end{smallmatrix}$	0.085~0.205	1.60
31	2nd shaft and gear	$\varnothing 38 \begin{smallmatrix} -0.008 \\ -0.010 \end{smallmatrix}$ $\varnothing 38 \begin{smallmatrix} +0.003 \\ +0.003 \end{smallmatrix}$	0.025~0.100	
	Width of spline teeth and width of spline grooves of the collar	$6 \begin{smallmatrix} -0.008 \\ -0.010 \end{smallmatrix}$ $6 \begin{smallmatrix} +0.005 \\ +0.005 \end{smallmatrix}$	0.050~0.130	1.20
32	2nd shaft spline sleeve and gear	$\varnothing 60 \begin{smallmatrix} -0.008 \\ -0.010 \end{smallmatrix}$ $\varnothing 60 \begin{smallmatrix} +0.003 \\ +0.003 \end{smallmatrix}$	0.030~0.120	
	Width of spline teeth and width of spline grooves of the collar	$10 \begin{smallmatrix} -0.008 \\ -0.010 \end{smallmatrix}$ $10 \begin{smallmatrix} +0.005 \\ +0.005 \end{smallmatrix}$	0.085~0.205	1.20
33	PTO driving shaft and gear	$\varnothing 25 \begin{smallmatrix} -0.007 \\ -0.007 \end{smallmatrix}$ $\varnothing 25 \begin{smallmatrix} +0.007 \\ +0.007 \end{smallmatrix}$	0.020~0.079	
	Width of spline teeth and width of spline grooves of the collar	$5 \begin{smallmatrix} -0.008 \\ -0.010 \end{smallmatrix}$ $5 \begin{smallmatrix} +0.005 \\ +0.005 \end{smallmatrix}$	0.065~0.165	1.40
34	PTO shaft and gear	$\varnothing 34 \begin{smallmatrix} -0.008 \\ -0.010 \end{smallmatrix}$ $\varnothing 34 \begin{smallmatrix} +0.006 \\ +0.006 \end{smallmatrix}$	0.025~0.100	
	Width of spline teeth and width of spline grooves of the collar	$7 \begin{smallmatrix} -0.008 \\ -0.010 \end{smallmatrix}$ $7 \begin{smallmatrix} +0.005 \\ +0.005 \end{smallmatrix}$	0.085~0.205	1.60
35	PTO shaft and pulley drive gear	$\varnothing 34.79 \begin{smallmatrix} -0.008 \\ -0.010 \end{smallmatrix}$ $\varnothing 34.93 \begin{smallmatrix} -0.008 \\ -0.010 \end{smallmatrix}$	0.050~0.230	
	Width of spline teeth and width of spline grooves of the collar	$8.69 \begin{smallmatrix} -0.008 \\ -0.010 \end{smallmatrix}$ $8.69 \begin{smallmatrix} +0.007 \\ +0.007 \end{smallmatrix}$	0.210~0.11	1.90
36	Gear pump case and bush	$\varnothing 39 \begin{smallmatrix} -0.027 \\ -0.027 \end{smallmatrix}$ $\varnothing 39 \begin{smallmatrix} -0.025 \\ -0.025 \end{smallmatrix}$	0.025~0.077	0.10

CHAPTER 9 FRONT DRIVE SYSTEM

9.1 The Operation Controls of Front Drive Axle

The separating and joint of front drive axle of 4 wheel drive tractor are controlled by the handle under the left side of driver's seat. See Fig. 9-1 No. 4. Put the handle backward, it shuts together the front drive axle, otherwise it takes off them. Points to be noticed here; while taking off or shut together the front drive axle, first press down the clutch pedal then operate the controlling handle.

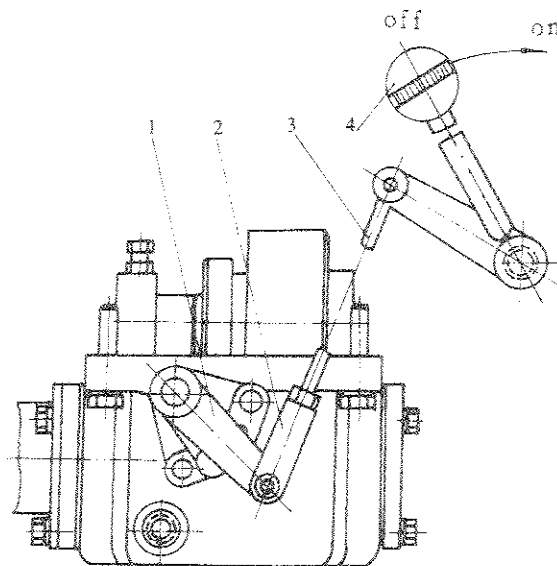


Fig. 9-1 Transfer case & control mechanism assy

1. Release rocker
2. Adjusting fork
3. Draw bar
4. Handle control

When the tractor is travelling on the fine road or at high speed, the power of front drive should be cut off, thus the drive wheels changed to be the driven wheels in order to reduce the wearing of tires and prevent the parasitic power of drive system from producing. On the contrary, you should shut together the front drive axle to enforce the pulling power and raise efficiency.

9.2 The Structure and Adjustment of Front Drive Axle

- (1) The structure and power transmission are shown in Fig. 9-2 & 9-3.

(2) The bearing preloading of front drive conical gear is shown in Fig. 9-4.

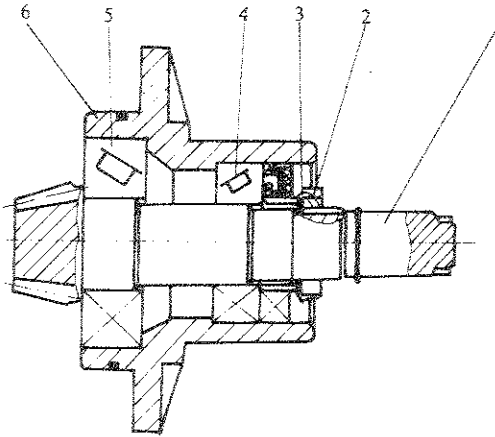


Fig. 9-4 Front central drive conical gear assy

- 1. Front central drive gear
- 2. Round nut
- 3. Thrust washer
- 4. Model 7206 bearing
- 5. Model 27307 bearing
- 6. Housing

When assembling, the rolling bearing model 27307 & model 7206 are needed to enforce some preload. Since the friction of bearing brings about the axial clearance between the front central drive gears and makes some alteration, while the clearance surpasses 0.1mm (measured by clock gauge) the adjustment is required. Dismount the assy of Fig. 9-4, prize open the thrust washer, turn the round nut and thus enforce the assy to produce 1~1.5 N·m force moment, at last lock the round nut with thrust washer.

(3) Check on gear-meshing of front central drive gear pair

After the set-up of front central drive gear pair, we can observe their gear-meshing conditions and inspect their gear backlash through the square hole on the upper side of front central drive case to sure whether they are running normally or not.

① Check the mark

The fitting meshing marks should be on the central drive gears, not less than 13mm long and 3.5mm wide, distributing over the middle side of tooth depth, a little bit nearby the narrow end. The mark must be under the condition of no-oil, first smear evenly the tooth-face of driven gear with red lead oil, then run the gear both in positive and negative directions in order to make marks over the both sides of drive gear.

② Check the gear backlash

The tooth space of the gear pair should be 0.15~0.30mm measured by S-shape fuse or other soft metal, about 25mm long, put in the unworking faces between the meshed teeth, then running the follower gear and fetching out the squeezed fuse, the thinnest degree is just the tooth space. We had better measure 3 points around the gear circle.

③ Adjustment

The meshing contact mark and tooth space can be adjusted by way of increasing or decreasing the thickness of gaskets δ_1 (see Fig. 9-6) between the front central drive housing and the front central drive gear assy, and of gasket group δ_2 (see Fig. 9-2) between the front axle sleeve and front central housing. Points should be noted that group δ_2 have two groups between the right side and the left

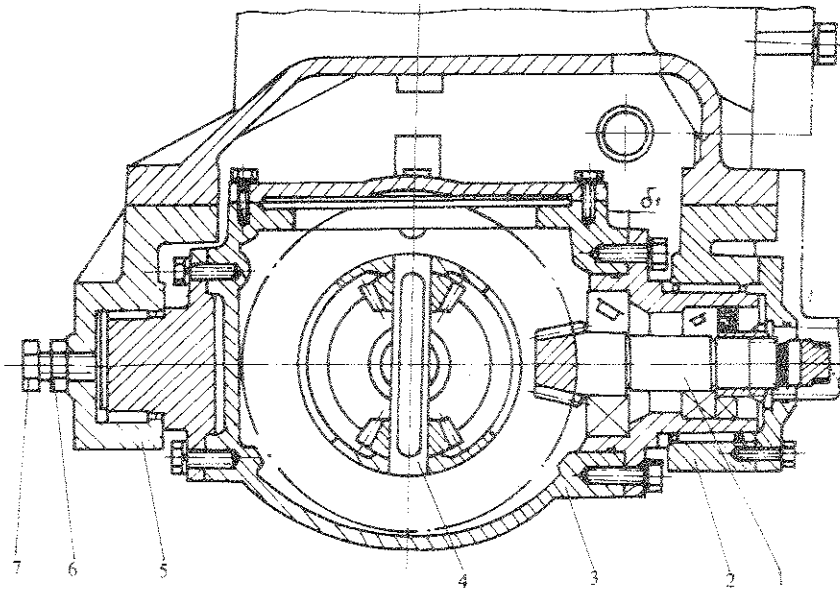


Fig. 9-6 Front central drive assy

1. Front central drive gear assy 2. Rear support 3. Central drive case 4. Differential assy
 5. Front support 6. Lock nut 7. Adjusting bolt

9.5 Adjusting of Front wheel Deflection Angle and Toe-in

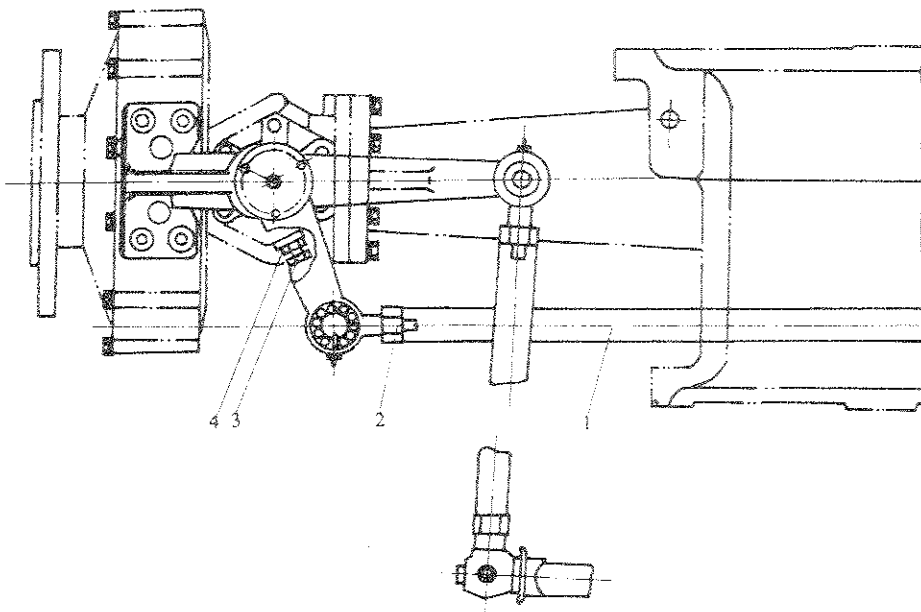


Fig. 9-7 Steering mechanism assy

1. Steering rocker (L. H.)
 2. Steering rocker (R. H.)
 3. Cross-rod
 4. Pitman arm
 5. Steering rocker assy
 6. Drag link
 7. Adjusting bolt
 8. Lock nut

TRACTOR MODEL SN-²⁵₂₅₄

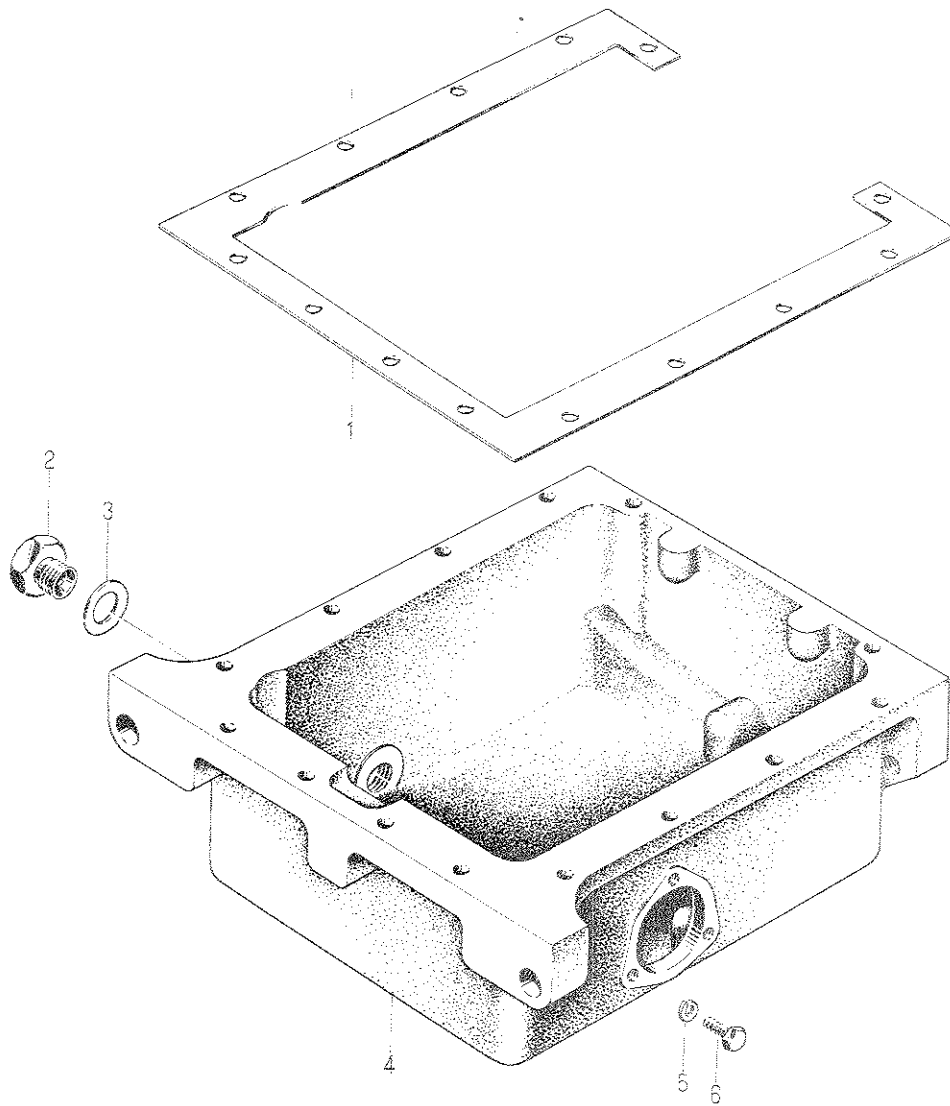
PARTS BOOK

47. SN-254 FRONT DRIVING AXLE ASSY (C)	(152)	WHEEL ASSY	(156)
48. SN-254 FRONT DRIVING AXLE ASSY (D)	(154)	50. SN-254 STEERING MECHANISM	(157)
49. SN-254 FRONT DRIVING		51. SN-254 TRANSFER CASE ASSY	(159)

1. ENGINE BLOCK ASSY

No.	Code	Name	Qty.
1	295---01100	Engine block machine assy	1
2	95---0102	Packing for liner	4
3	95--0101	Cylinder liner	2
4	95D---0108	Nut, cylinder head	10
5	295---01010	Stud, cylinder head	2
6	295---01008	Stud, cylinder head	8
7	95D---0131	Blocking plate	1
8	95D---0117	Middle(rear)bushing, camshaft	1
9	95D---0126	Plate plug (φ60)	1
10	GB30---76	Bolt M12×25	2
11	GB93---76	Washer 12	10
12	18·02·118	Gasket, starter	1
13	295T---01014	Flywheel housing	1
14	GB30---76	Bolt M12×30	8
15	295T---01033	Plug	1
16	295T---01040	Gasket, flywheel housing	1
17	HG4---692---67	Oil seal PG100×125×12	1
18	GB30---76	Bolt M8×30	9
19	GB93---76	Washer 8	55
20	GB97---76	Washer 8	19
21	295---01021	Rear seal sleeve cover plate	1
22	42·02·018---3	Drain cock assy, cylinder block	1
23	GB30---76	Bolt M8×22	2
24	GB119---76	Pin 12d4×25	4
25	GB119---76	Pin 8d4×25	2
26	295---01025	Gasket, rear seal sleeve cover plate	1
27	GB30---76	Bolt M8×100	2
28	95D---0119	Gasket, lower side cover	1
29	95D---013---1	Welded assy, oil dipstick	1
30	42·07·103	Sleeve, oil dipstick	1
31	295--01611---B	Side cover, oil filler	1
32	42·02·184---1	Gasket, sealing cap	1
33	42·02·019---1	Oil filler cap assy	1
34		Chain (L=70)	1
35	42·02·168	Washer	1

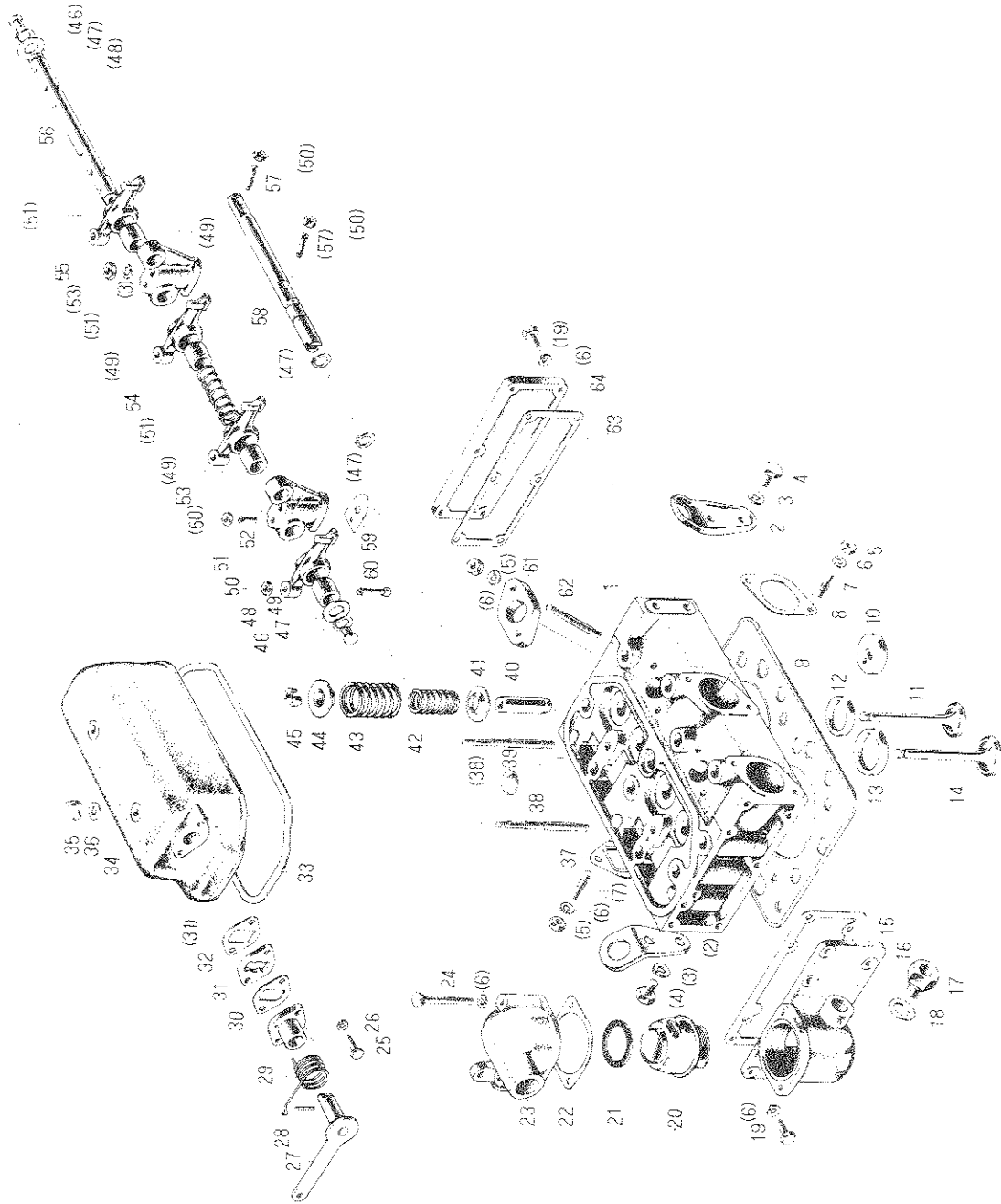
2. OIL SUMP ASSY



2. OIL SUMP ASSY

No.	Code	Name	Qty.
1	295--01001	Gasket, oil pan	1
2	95D--0136	Oil drain plug	1
3	295D--01501	Gasket, oil drain plug	1
4	295T--01501	Oil pan	1
5	GB93--76	Washer 8	3
6	GB30--76	Bolt M8×22	3

4. CYLINDER HEAD ASSY



No.	Code	Name	Qty.
34	295--03202	Cylinder head cover	1
35	GB923--67	Nut M8	2
36	GB97--76	Washer 8	2
37	295--03028	Gasket, exhaust manifold	2
38	295--03023	Stud, rocker lever shaft support	2
39	295--01114	Plate plug (A)	1
40	95--0307	Valve guide	4
41	95D--0314	Lower seat, valve spring	4
42	95--0305	Valve spring, inner	4
43	95--0306	Valve spring, outer	4
44	295--03013	Seat, valve spring	4
45	95--0303	Valve collet	8
46	295--03019	Plug, rocker lever shaft	2
47	GB894--67	Circlip 16	4
48	GB848--76	Washer 16	2
49	95--0312	Bushing, rocker lever	4
50	GB51--76	Nut M8×1	7
51	95--0311	Valve rocker lever	4
52	GB73--76	Lock screw with flat end M8×1×18	1
53	95D--0320	Support A, rocker lever shaft	2
54	95D--0316	Spring rocker lever shaft	1
55	GB52--76	Nut M10	2
56	95D--0322	Rocker lever shaft	1
57	95--0315	Decompression screw	2
58	295--03203	Decompression shaft	1
59	295--03029	Gasket, rocker lever shaft support	2
60	95--0313A	Adjusting screw, valve clearance	4
61	95D--0319	Nozzle hold plate	2
62	GB898--76	Bolt M8×60	4
63	295--03020	Gasket, rear cover	1
64	295--03021	Rear cover plate	1

5. DRIVING MECHANISM ASSY

No.	Code	Name	Qty.
1	95—0402	1st compression ring	2
2	95—0403	2nd (3rd) compression ring	4
3	95—0404B	Oil control ring set	2
4	95—0404A	Cast iron oil ring	2
5	95—04005	Piston	2
6	95—0405	Piston pin	2
7	GB893—67	Circlip 35	4
8	95—0407	Bushing, connecting rod	2
9	295—04007	Connecting rod	2
10	GB119—76	Pin 4d _s ×12	2
11	95—0406	Bearing insert, connecting rod	4
12	95D—0504	Cranking jaw, crankshaft	1
13	95D—0505	Washer	1
14	295—05005	Pulley, crankshaft	1
15	295—05008	Front oil retainer	1
16	95D—0503	Crankshaft pinion	1
17	295—05001—B	Crankshaft	1
18	GB1096—72	Key C10×55	1
19	GB119—76	Pin 10d _s ×20	1
20	295—05009	Rear oil retainer	1
21	95D—0501—A	Ring gear	1
22	295T—05002	Flywheel	1
23	95D—0506	Lock washer	3
24	95D—0502	Bolt, flywheel	6
25	295—04008	Cap, connecting rod	2
26	295—04009	Lock plate, connecting rod	2
27	95—0408	Bolt, connecting rod	4

6. FAN AND WATER PUMP ASSY

No.	Code	Name	Qty.
1	295T-0613	Gasket, water pump seat	1
2	295T-06010	Seat, water pump	1
3	GB923-76	Nut M10	1
4	GB97-76	Washer A10	1
5	295-06008	Impeller	1
6	95D-0602	Housing, water seal	1
7	95D-0604	Spring seat, water seal	2
8	95D-0603	Spring, water seal	1
9	95D-0601	Seal ring	1
10	95D-0605	Snap ring	1
11	295-06005	Water retainer	1
12	295-06007	Shaft, water pump	1
13	GB1096-72	Key 5×18	1
14	GB278-64	Bearing 60203	2
15	295-06003	Socket	1
16	295-06012	Gasket, water pump	1
17	GB1153-74	Grease nipple M10×1	1
18	295T-06006	Body, water pump	1
19	GB93-76	Washer 8	7
20	GB30-76	Bolt M8×65	7
21	GB893-67	Cirelip 40	1
22	25·47·289	Seat, drag hook	1
23	GB30-76	Bolt M8×70	3
24	295-06002	Pulley, water pump	1
25	295T-06001	Fan blade	2
26	295T-06011	Lock plate	1
27	GB97-76	Washer 12	1
28	GB93-76	Washer 12	1
29	GB52-76	Nut M12	1
30	GB30-76	Bolt M8×16	3

7. RADIATOR ASSY

No.	Code	Name	Qty.
1		Vent-pipe L=550	1
2	295T-06100A	Radiator assy	1
3	295T-06101	Radiator cap assy	1
4	GB91-76	Cotter pin 2.5×12	1
5	18·13·130S	Tie rod, radiator	1
6	GB51-76	Nut M8	2
7	42·13·113	Nut	6
8	42·13·112-1	Clamp (∅47)	4
9	GB95-76	Washer 5	8
10	GB67-76	Screw M5×45	4
11	295T-06151	Inlet rubber hose, radiator	1
12	295T-06020	Rubber hose, small circulation	1
13	GB67-76	Screw M5×30	4
14	42·13·114-1	Clamp (∅34)	2
15	18·13·105S	Outlet rubber hose, radiator	1
16	GB1171-74	V-belt (B-type 1120)	1
17	295T-06104	Water drain cock, radiator	1

8. AIR INTAKE SYSTEM & EXHAUST SYSTEM

No.	Code	Name	Qty.
1	295T--08100	Muffler assy	1
2	GB30--76	Bolt M8×32	3
3	295T--08004--A	Gasket, muffler	1
4	295T--08003	Exhaust elbow	1
5	GB93--76	Washer 8	3
6	GB52--76	Nut M8	3
7	GB30--76	Bolt M10×28	6
8	GB93--76	Washer 10	4
9	295T--08002--A	Gasket, exhaust manifold	1
10	295T--08001C	Exhaust manifold	1
11	295T--07001--2	Intake manifold	1
12	295T--7006	Gasket, air clear connector	2
13	GB52--76	Nut M10	4
14	95A--1109300--1	Final cleaner assy	1
15	95A--1109301--1	Center tube	1
16	SH760--1109205	Hook, lock	3
17	SH760--1109204	Claw, lock	3
18	GB91--76	Cotter pin 3×25	3
19	95A--1109101	Oil pan	1
20	95A--1109001	Seal	1
21	95A--1109200	Fine cleaner assy	1
22	95A--1109002	Rubber gasket	1
23	95A--1109303	Element (1)	1
24	95A--1109300	Final cleaner assy	1
25	GB52--76	Nut M6	1
26	95A--1109404	Clamp	1
27	GB67--76	Screw M6×25	1
28	95A--1109400	Primary cleaner assy	1
29	295T--7005	Connector, air cleaner outlet	1
30	42 • 13 • 133	Nut, clamp	1
31	18 • 11 • 110	Clip (∅61)	1
32	GB96--76	Washer 5	1
33	GB67--76	Screw M5×55	1
34	18 • 11 • 109S	Rubber hose, air cleaner	1
35	295T--07001--1	Intake manifold	1

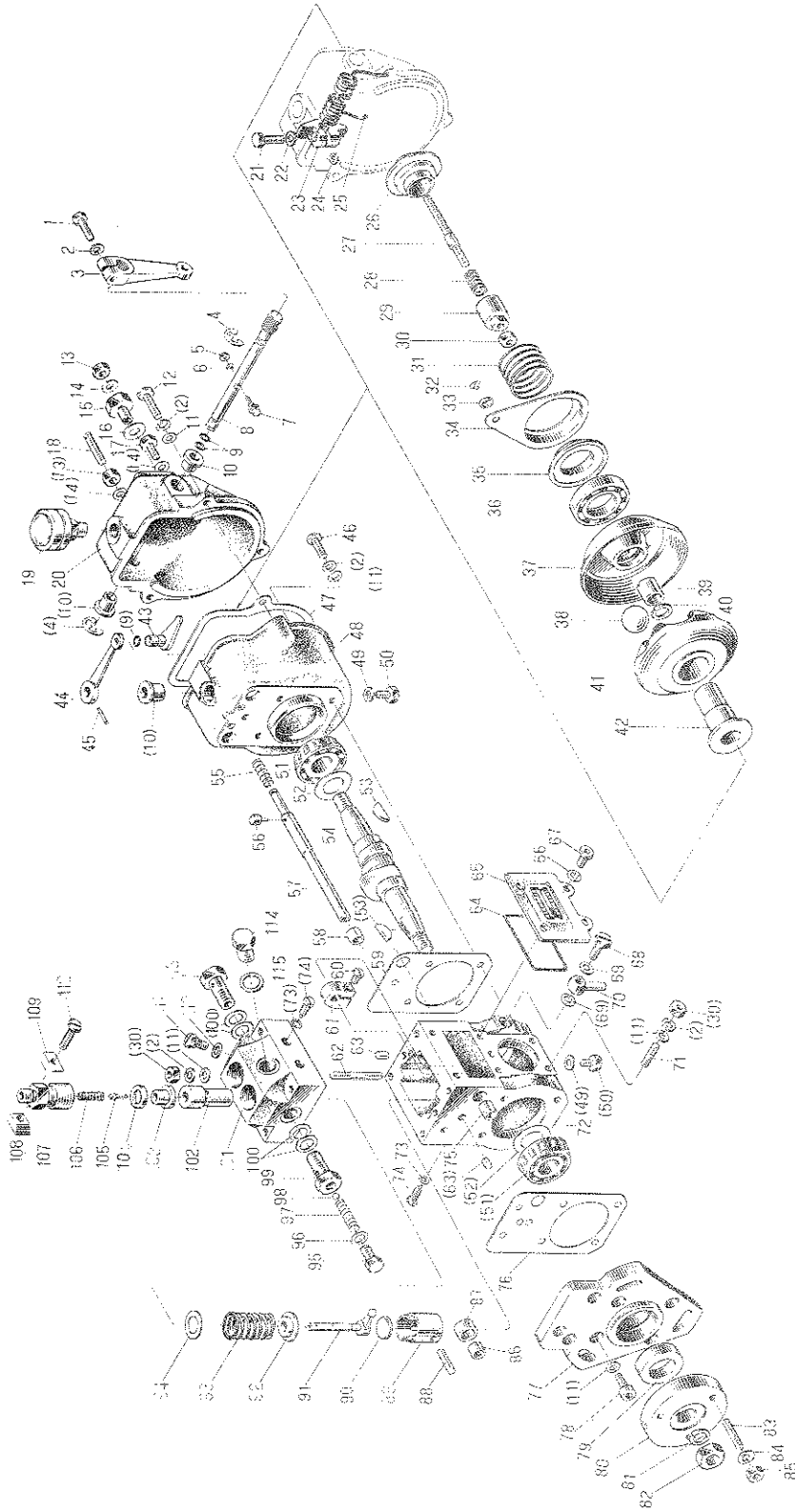
9. OIL PUMP & ROUGH FILTER ASSY

No.	Code	Name	Qty.
1	GB894--87	Cirelip 11	1
2	295--09203	Gear, oil pump	1
3	GB30--76	Bolt M8×32	3
4	GB93--76	Spring washer 8	3
5	295--09202	Oil pump cover	1
6	295--09205	Adjusting shim	several
7	GB119--76	Pin 5 $\frac{1}{2}$ ×18	2
8	GB1099--79	Key 3×10	1
9	295--09204	Shaft, oil pump	1
10	295--09208	Pin \varnothing 5×18	1
11	295--09207	Inner rotor, oil pump	1
12	295--09400	Oil pipe assy	1
13	295--09206	Outer rotor, oil pump	1
14	295--09201	Body, oil pump	1
15	295--09209	Oil pump gasket	1
16	295--09001	Gasket, rough filter	1
17	295--09100	Oil suction strainer assy	1

10. OIL FILTER

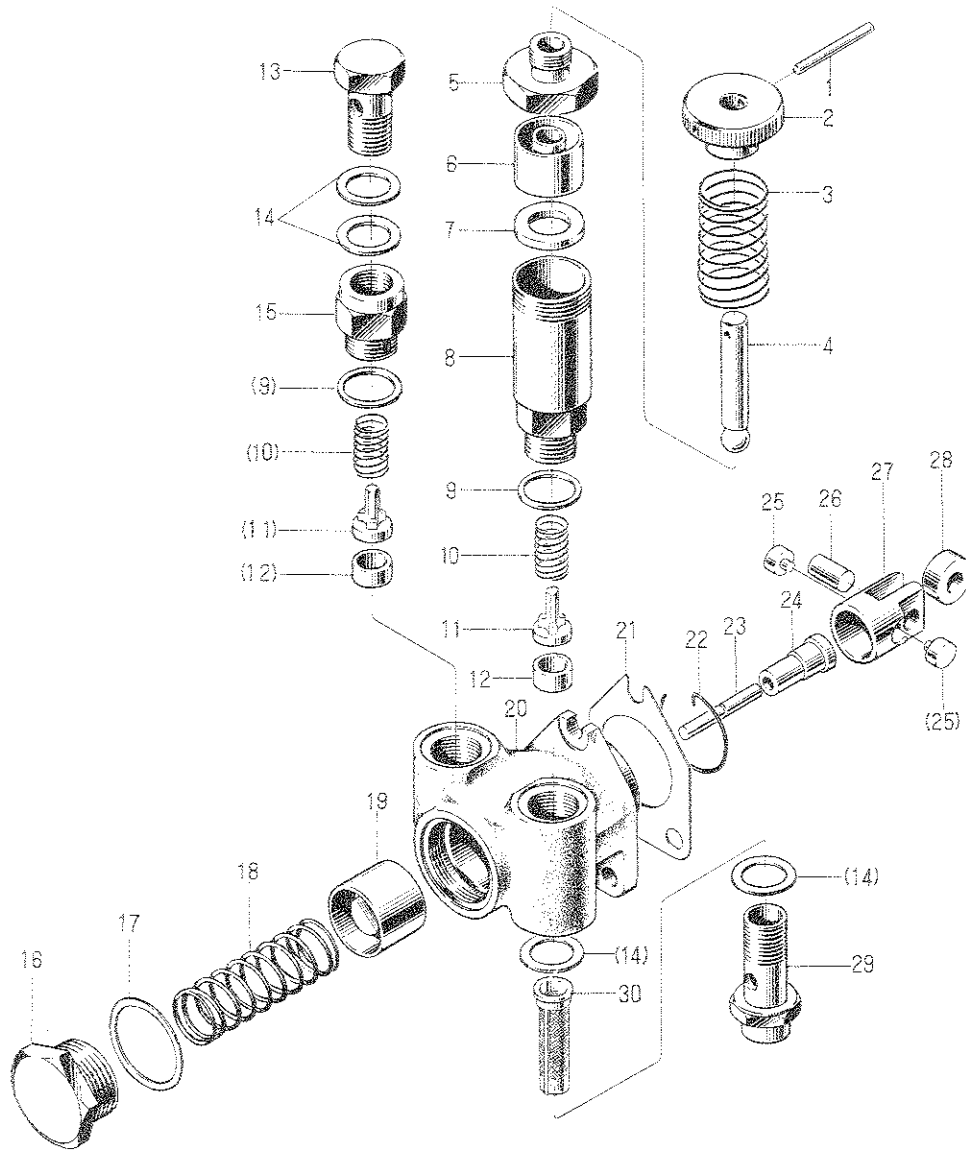
No.	Code	Name	Qty.
1	BG21--76	Bolt M10×1×30	1
2	J0708C--0001	Washer	1
3	J0708C--2001--1	Filter seat	1
4	J0708C--2002	Spring	1
5	GB308--64	Steel ball $\varnothing 8$	2
6	J0708C--2004	Valve seat	1
7	J0708C--0003	Oil seal	1
8	J0708C--0002	Rubber "O" ring	2
9	J0708C--1000	Oil filter element assy	1
10	J0708C--0005	Supporting disc	1
11	C0506A--0013	Oil seal	1
12	J0708C--0006	Gasket	1
13	J0708C--3000A	Housing assy	1
14	C0506A--0016	Spring	1
15	J0708C--2003	Nut BM14×1.5	1
16	J0812 II--5002	Washer	1
17	J0812 II--5003	Oil seal	1
18	J0812 II--5001	Pressure regulating screw	1
19	J0708C--5004	Spring, regulating valve	1

12. INJECTION PUMP & GOVERNOR

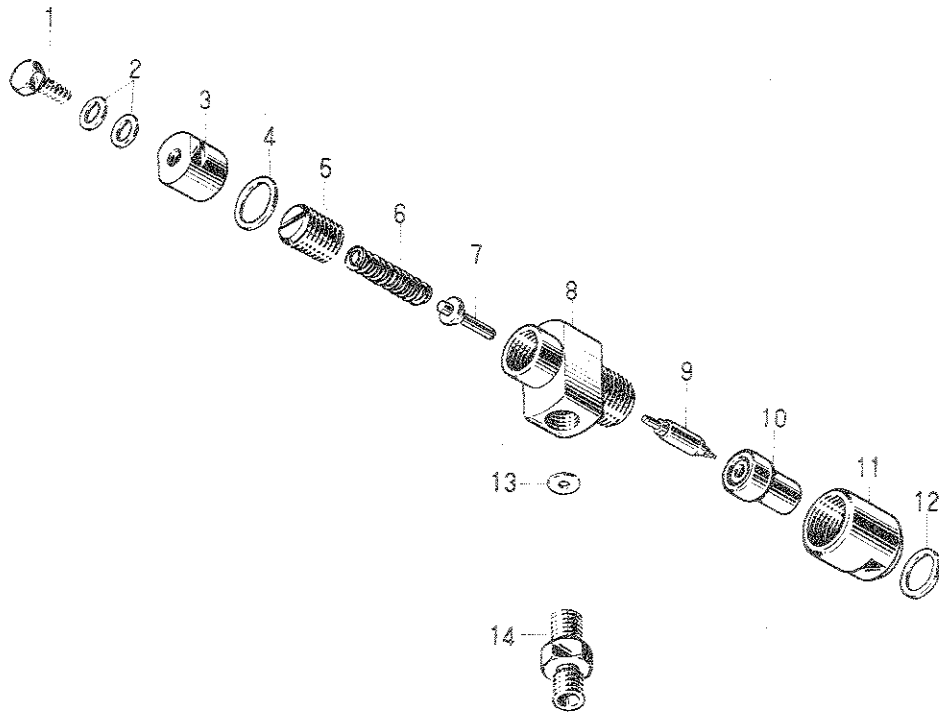


No.	Code	Name	Qty.
42	T7B--0301	Drive sleeve	1
43	T7--0103	Stop rocker arm	1
44	T7--0105a	Stop handle	1
45	GB117--76	Dowel pin 3×18	1
46	GB65--76	Bolt M6×12	4
47	T7--0005	Gasket, governor	1
48	T7B--0101	Seat, governor	1
49	8Q/WB401--66	Washer	2
50	GB21--76	Bolt M8×10	2
51	GB297--64	Bearing 7203	2
52	TI--0401--1	Shims	2
53	GB1099--72	Key 3×16	2
54	21a--0401	Camshaft	1
55	T7--0001	Stop spring	1
56	T7--0006	Stop pin	1
57	21a--0003	Control rod	1
58	T1a--0202	Bushing, control rod	1
59	T1a--0009	Gasket, Lower housing	1
60	GB65--76	Screw M5×8	2
61	T1a--0007	Control fork	2
62	GB900--76	Stud AM6×35	4
63	GB119--76	Dowel pin 5ga×10	8
64	B21--002	Oil seal, side cover	1
65	B21--0001	Side cover	1
66	GB859--76	washer 6	14
67	GB822--76	Screw M6×10	4
68	BT1--0201	Screw for oil dipstick	1
69	GB97--76	Washer 8	2
70	BT1--0202	Connector for oil dipstick	1
71	TA--0043	Stud	3
72	B21--0201	Lower housiny	1
73	Q/WB401--66	Washer 6	4
74	TI--0005	Locating screw	4
75	TI--0201	Locating bush, pull rod	2
76	TI--0019A	Gasket	1
77	TI--0001A--2Y	Flange	1
78	GB70--76	Screw M6×14	5
79	HG4--692--67	Oil seal	1
80	295--01034	Connecting plate	1
81	GB93--76	Washer 12	1
82	GB52--76	Nut M12	1

13. FEED PUMP



14. INJECTOR ASSY



14. INJECTOR ASSY

No.	Code	Name	Qty.
1	295—14013	Pipe joint bolt	1
2	295—14014	Washer	2
3	295—14005	Cap nut	1
4	295—14009	Washer	1
5	295—14008	Adjusting screw	1
6	295—14007	Nozzle spring	1
7	295—14003	Needle valve rod	1
8	295—14002	Nozzle body	1
9	295—14102	Needle valve	1
10	295—14101	Nozzle head	1
11	295—14001	Cap nut, injector	1
12	295—14012	Washer	1
13	295—14004	Washer	1
14	295—14011	Strainer connector	1

15. FUEL FILTER

No.	Code	Name	Qty.
1	C0506A---0007	Plug	1
2	C0506A--0008	Washer	1
3	C0506A---0004---1	Nut, tie bar	1
4	C0506A--0001	Washer	1
5	C0506A--0010---1	Washer	4
6	C0506A---0009B	Clamp bolt, fuel tube	2
7	C0506A---0002A	Fuel filter head	1
8	C0506A--0012	Seal ring	1
9	C0506A---0019	O-Seal	2
10	C0506A--1000	Fuel filter element assy	1
11	C0506A-0014	Retaining disc	1
12	C0506A--0013	Seal ring	1
13	C0506A---0015	Washer	1
14	C0506A-0016	Spring	1
15	C0506A--2000---1	Housing assy	1

16. SN—²⁵/₂₅₄ ENGINE CONTROL MECHANISM ASSY

No.	Code	Name	Qty.
1	GB54-76	Nut M16×1.5	2
2	25·20·120	Butterfly spring	1
3	GB52-76	Nut	8
4	GB93-76	Washer	4
5	25·20·101-1	Limiting seat	1
6	GB30-76	Bolt	4
7	25·20·015	Handle assy	1
8	25·20·103-1	Friction plate	1
10	GB97-76	Washer	11
12	GB97-76	Washer	2
15	25·20·109	Handle throttle pull rod	1
16	25·20·111	Washer	1
17	GB91-76	Cotter pin	12
18	GB67-76	Screw	2
19	25·20·110	Half round shaft seat	2
20	GB93-76	Washer	2
21	GB51-76	Nut	2
22	25·20·013	Transmission shaft assy, foot throttle	1
23	25·20·134	Tie rod, foot throttle	1
24	25·20·014	Shut-off pull rod assy	1
25	GB93-76	Washer	1
26	25·20·115	Countershaft	1
27	25·20·114	L-Rocker, foot throttle	1
28	GB91-76	Cotter pin	2
29	GB67-76	Screw	1
30	25·20·119	Return spring	2
31	GB882-76	Pin A6×20	3
32	25·20·117	Link fork	3
33	25·20·104	Clip	1
34	GB52-76	Nut M4	1
35	25·20·136	Rod, foot throttle	1
36	GB119-76	Pin 3ga×22	2
37	25·20·105	Rocker	1
38	25·20·106	Sector rocker	1
39	25·20·012	Transmission shaft assy, hand throttle	1
40	25·20·018	Throttle push rod assy	1
41	25·20·147	Support, decompressor handle	1
42	25·20·020	Decompressor handle assy	1
43	25·20·150	Limiting bush, decompressor handle	1
44	25·20·148	Decompressor pull rod	1

17. SN-²⁵/₂₅₄ INTERMEDIATE HOUSING

No.	Code	Name	Qty.
1		Ball bearing 688908	1
2	25 · 21 · 130	Release bearing seat	1
3	25 · 21 · 104	Return spring, release bearing seat	1
4	25 · 21 · 101	Support, release bearing seat	1
5	GB21-76	Bolt M8×20	3
6	GB93-76	Washer 8	3
7	GB51-76	Nut M12	5
8	GB93-76	Washer 12	10
9	GB898-76	Bolt AM12×70	1
10	GB21-76	Bolt M12×75	4
11	25 · 21 · 111	Paper gasket, intermediate housing	1
12	25 · 21 · 114	Intermediate housing	1
13	25 · 21 · 115	Bush	1
14	25 · 21 · 143	Tractor nameplate	1
15	25 · 21 · 142	Paper gasket, cover	1
16	25 · 21 · 141	Cover	1
17	GB93-76	Washer	6
18	GB21-76	Bolt M10×20	6
19	GB827-76	Nail 2×5	4
20	GB21-76	Bolt M12×95	1
21	GB898-76	Bolt AM12×150	4
22	GB119-76	Pin 8j _c ×16	2
23	25 · 21 · 140	Paper gasket, intermediate housing to transmission housing	1
24	GB23-76	Bolt M10×35	6
25	25 · 21 · 016	Clutch shaft assy	1
26	25 · 21 · 133	Coupling	1
27	GB97-76	Washer 10	7
28	GB59-76	Nut M10	6
29	GB91-76	Cotter pin 2.5×20	8
30	25 · 21 · 112	Cover	1
31	25 · 21 · 113	Paper gasket, cover	1
32	25 · 21 · 110	Clutch pedal spring	1
33	25 · 21 · 138	Clutch pedal	1
34	25 · 21 · 116	Bush	3
35	GB1152-74	Oil cup M6	3
36	25 · 21 · 106	Clutch push rod	1
37	25 · 21 · 136	Bush	1
38	25 · 21 · 107	Adjusting fork, clutch push rod	1
39	25 · 21 · 105	Clutch release rocker	1
40	GB882-76	Pin A8×30	1
41	GB97-76	Washer 8	1
42	GB879-76	Pin 8×40	2
43	25 · 21 · 103	Shaft, clutch release fork	1
44	25 · 21 · 229	Plug	1
45	GB21-76	Bolt M10×45-Q	1
46	GB51-76	Nut M10	1
47	GB119-76	Pin 12j _c ×25	2
48	25 · 21 · 102	Clutch fork	1

18. SN- $\frac{25}{254}$ CLUTCH

No.	Code	Name	Qty.
1	GB54—76	Nut	3
2	25 • 21 • 124	Adjusting nut, release lever	3
3	GB21—76	Bolt	6
4	GB93—76	Washer	6
5	25 • 21 • 117	Clutch cover	1
6	25 • 21 • 122	Spring, release lever	3
7	25 • 21 • 119	Clutch pressure spring	6
8	25 • 21 • 121	Release lever strut	3
9	25 • 21 • 120	Release lever	3
10	25 • 21 • 123	Adjusting bolt, release lever	3
11	GB119—76	Pin	3
12	25 • 21 • 118	Clutch pressure plate	1
13	25 • 21 • 219	Clutch disk	2
14	25 • 21 • 226	Driven plate	1
15	GB875—76	Rivet	20
16	25 • 21 • 225	Spline bush	1
17	GB867—76	Rivet	8
18	GB278—64	Ball bearing	1
19	25 • 21 • 230	Bush	1

19. SN-25 STEERING DRAG LINK & TIE ROD

No.	Code	Name	Qty.
1	25 • 31 • 018	Steering joint assy (R. H.)	1
2	GB51—76	Nut M16×1.5	2
3	25 • 31 • 123	Drag link	1
4	GB91—76	Cotter pin 2×40	2
5	25 • 31 • 129	Seal cover	2
6	25 • 31 • 128	Pressure spring	2
7	25 • 31 • 127	Cover, ball pin	2
8	25 • 31 • 125	Ball pin	2
9	25 • 31 • 126	Ball pin seat	2
10	25 • 31 • 131	Joint, pull rod (L. H.)	1
11	GB1152—74	Oil cup M6	2
12	25 • 31 • 130	Joint, oil seal bush	2
13	GB51—76	Nut M16×1.5 (L. H.)	2
14	25 • 31 • 025	Tie rod extension assy (L. H.)	1
15	GB21—76	Bolt M12×65	2
16	GB97—76	Washer 12	4
17	GB59—76	Nut M12	4
18	GB91—76	Cotter pin 3×25	4
19	GB93—76	Washer 12	2
20	GB51—76	Nut M12	2
21	25 • 31 • 103	Steering lever	1
22	25 • 31 • 017	Steering joint assy (L. H.)	1
23	25 • 31 • 104	Steering rocker	1
24	25 • 31 • 132	Joint, pull rod (R. H.)	1
25	25 • 31 • 024	Tie rod extension assy (R. H.)	1
26	25 • 31 • 023	Main tie rod assy	1
27	GB23—76	Bolt M10×35	2
28	GB50—76	Nut M10	2
29	GB91—76	Cotter pin 2.5×20	2

20. SN-25 FRONT SHAFT ARM & FRONT WHEEL HUB

No.	Code	Name	Qty.
1	25 • 31 • 014	Steering knuckle assy (R. H.)	1
2	25 • 31 • 022	Front shaft arm assy (R. H.)	1
3	25 • 31 • 021	Front shaft arm assy (L. H.)	1
4	25 • 31 • 118	Bush	4
5	GB1235--76	O-Ring 36×3.5	2
6	GB1152--74	Oil cup M6	4
7	GB301--64	Bearing 8206	2
8	HG4-692-67	Oil seal 40×58×8	2
9	25 • 31 • 114	Rubber oil seal	2
10	25 • 31 • 019	Steering knuckle assy (L. H.)	1
11	25 • 39 • 113	Bolt	8
12	25 • 39 • 114	Nut	8
13	GB30--76	Bolt M6×12	6
14	GB93--76	Washer 6	6
15	25 • 31 • 106	Bearing cover	2
16	25 • 31 • 113	Paper gasket	2
17	GB91--76	Cotter pin 5×40	2
18	GB59--76	Nut M22×1.5	2
19	25 • 31 • 150	Washer	2
20	GB297--64	Bearing 7305	2
21	25 • 31 • 105	Front wheel hub	2
22	GB297--64	Bearing 7506	2
23	HG4-692-67	Oil seal 40×64×8	4
24	25 • 31 • 153	Thrust ring	2

21. SN-25 BRACKET & SLEEVE

No.	Code	Name	Qty.
1	25 • 31 • 102	Pivot shaft	1
2	GB21—76	Bolt M8×16	1
3	GB93—76	Washer 8	1
4	25 • 31 • 110	Limiting plate	1
5	25 • 31 • 101	Bracket	1
6	25 • 31 • 116	Rubber gasket, radiator	2
7	GB51—76	Nut M16	6
8	GB39—76	Washer 16	6
9	GB21—76	Bolt M16×75	6
10	25 • 31 • 118	Bushing	2
11	GB1235—76	O-Ring 36×3.5	2
12	25 • 31 • 109	Gasket	1
13	25 • 31 • 020	Sleeve assy	1
14	GB30—76	Bolt M14×1.5×85	6
15	25 • 31 • 151	Bush	6
16	GB93—76	Washer 14	6
17	GB51—76	Nut M14×1.5	6
18	GB51—76	Oil cup 45° M10×1	1

22. SN-25 FRONT WHEEL ASSY & SN-25²⁵/₂₅₄ REAR WHEEL ASSY

No.	Code	Name	Qty.
1	GB21---76	Bolt M12×70	3
	GB21---76	Bolt M12×100	3
	GB21---76	Bolt M12×130	3
2	GB93---76	Washer 12	6
3	25 • 34 • 105	Ballast (2)	3
4	GB51---76	Nut M12	3
5	25 • 34 • 104	Ballast (1)	1
6	25 • 34 • 011	Rear wheel rim assy	1
7	25 • 34 • 103	Rear wheel spoke	1
8	GB12---76	Bolt M12×40	3
	GB12---76	Bolt M12×70	3
9		Tube (9.5/9---24)	1
10		Tyre (9.5/9---24)	1
11	GB30---76	Bolt M14×1.5×70---2a	4
12	GB95---76	Washer 14	4
13	GB93---76	Washer 14	4
14	GB52---76	Nut M14×1.5---2a	4
15		Tyre 4.00---16	1
16		Tube 4.00---16	1
17	25 • 32 • 011	Front wheel rim assy	1

23. - SN - ²⁵/₂₅₄ TRANSMISSION HOUSING

No.	Code	Name	Qty.
1	GB879-76	Pin 5×25	8
2	25·37·137	3-4 gear shifting block	1
3	25·37·123	3-4 gear shift fork	1
4	25·37·121	1st gear shift fork	1
5	25·37·122	2-R gear shift fork	1
6	25·37·138	High-Low gear shifting block	1
7	25·37·124	High-Low gear shift fork	1
8	25·37·153	Thrust ring, reverse gear shaft	1
9	GB309-77	Needle 2.5×16	56
10	25·37·113	Reverse gear	1
11	25·37·145	Spacer, reverse shaft needle	1
12	25·37·156	Paper gasket, transmission rear	1
13	25·37·216	Rubber gasket, limiting	2
14	25·37·166	Lock plate, adjusting nut	2
15	25·37·167	Lock plate	2
16	GB30-76	Bolt M6×16	4
17	25·37·139	Shift block, PTO	2
18	25·37·131	PTO release fork shaft	1
19	25·37·149	Spring, PTO release fork shaft	2
20	25 ₁ ·37·176	Transmission housing	1
21	25·37·165-1	Retaining plate, PTO shaft drive rod	1
22	25·37·177	Bush, PTO release fork shaft	2
23	GB1235-76	O-Ring 20×2.4	1
24	25·37·220	Washer	2
25	25·37·023	PTO rocker lever support welding assy	1
26	GB898-76	Stud AM14×1.5×30	14
27	25·37·163	Retaining plate, release rod	1
28	GB93-76	Washer 8	9
29	GB67-76	Screw M8×16	4
30	GB308-77	Steel ball 11/32"	6
31	25·55·228	Retaining spring	2
32	25·37·016	Release drive rod assy, PTO shaft	1
33	25·37·175	Flat key, differential bearing seat	2
34	GB68-76	Screw M6×12	2
35	GB51-76	Nut M14×1.5	31
36	GB93-76	Washer 14	31
37	GB898-76	Stud AM14×1.5×40	14
38	Q137-59	Plug I - 1/4"	2
39	Q137-59	Plug I - 1/2"	1
40	GB21-76	Bolt M8×25	5
41	25·37·218	Pressure block	1
42	25·37·215	Magnet	1
43	25·37·217	Paper gasket, magnet cover	1
44	25·37·214	Magnet end cover	1
45	GB898-76	Stud AM14×1.5×70	3
46	GB119-76	Pin 12jc. ×25	2
47	25·37·219	Plug, reverse gear shaft	1
48	25·37·120	Reverse gear shaft	1
49	GB1235-76	O-Ring 32×3.1	1
50	25·37·129	High-Low gear shift fork shaft	1
51	25·37·126	1st gear shift fork shaft	1
52	25·37·127	2-R gear shift fork shaft	1
53	25·37·128	3-4 gear shift fork shaft	1
54	25·37·154	Release fork shaft	1
55	25·37·169	Gasket, box cover	1
56	25·37·147	Lock spring, selector rod	4
57	25·37·022	Change-gear lever ball head assy	1
58	25·37·227	Drive rod	1
59	25·37·229	PTO lock spring	1
60	25·37·228	Pin	1
61	GB1235-76	O-Ring 16×2.4	1

24. SN- $\frac{25}{354}$ PRIMARY SHAFT

No.	Code	Name	Qty.
1	25 • 37 • 013	Primary shaft assy	1
2	GB21—76	Bolt M10×25	4
3	GB93—76	Washer 10	4
4	25 • 37 • 119	Front bearing cover, primary shaft	1
5	25 • 37 • 171	Gasket, primary shaft front bearing cover	1
6	HG4—692—67	Oil seal 35×56×12	2
7	25 • 37 • 157	Adjusting shim, primary shaft 0.1	Several
8	25 • 37 • 158	Adjusting shim, primary shaft 0.2	Several
9	25 • 37 • 159	Adjusting shim, primary shaft 0.5	Several
10	GB276—64	Ball bearing 307	1
11	GB894—76	Snap ring 35	1
12	25 • 37 • 104	1st sliding gear	1
13	25 • 37 • 106	2—R sliding gear	1
14	25 • 37 • 108	3—4 sliding gear	1
15	GB276—64	Ball bearing 106	1
16	GB893—76	Snap ring 34	1
17	25 • 37 • 210	Front spacer, primary shaft needle	1
18	25 • 37 • 111	High-Low twin gear	1
19	GB309—77	Needle 2.5×16	34
20	25 • 37 • 174	Rear spacer, primary shaft needle	1
21	GB893—76	Snap ring 30	1
22	GB276—64	Ball bearing 208	1
23	25 • 37 • 136	Splined connection sleeve	1

25. SN-²⁵/₂₅₄ MAIN SHAFT

No.	Code	Name	Qty.
1	25 · 37 · 101	Main shaft	1
2	GB286--64	Ball bearing 3608	1
3	GB894--76	Snap ring 40	1
4	25 · 37 · 112	High-Low sliding gear	1
5	25 · 37 · 152	Rear thrust ring, main shaft	1
6	25 · 37 · 144	Needle snap ring, main shaft	1
7	GB309--77	Needle 3×24	72
8	25 · 37 · 110	Splined sleeve, main shaft	1
9	25 · 37 · 142	Distance sleeve, main shaft	1
10	25 · 37 · 109	3rd driven gear	1
11	25 · 37 · 107	2nd driven gear	1
12	25 · 37 · 105	1st driven gear	1
13	GB858--76	Washer 60	1
14	GB810- 76	Circular nut M60×2	1
15	25 · 73 · 151	Front thrust ring, main shaft	1
16	GB298-- 64	Ball bearing 27305	2
17	GB1235--76	O-Ring 90×5.7	1
18	25 · 37 · 132	Adjusting shim, main shaft 0.1	Several
19	25 · 37 · 133	Adjusting shim, main shaft 0.2	Several
20	25 · 37 · 134	Adjusting shim, main shaft 0.5	Several
21	25 · 37 · 117	Front bearing bush, main shaft	1
22	GB858-76	Washer 24	1
23	GB810-- 76	Circular nut M24×1.5	1
24	25 · 37 · 170	Gasket, main shaft front bearing cover	1
25	25 · 37 · 135	Front bearing cover, main shaft	1
26	GB93--76	Washer 10	4
27	GB21--76	Bolt M10×35	4

26. SN—²⁵/₂₅₄ TRANSMISSION COVER ASSY

No.	Code	Name	Qty.
1	25 · 37 · 022	Change-gear lever ball head assy	2
2	GB91—76	Cotter pin 2.5×20	2
3	25 · 37 · 195	Pressure ring,change-gear lever spring	2
4	25 · 37 · 194	Spring,change-gear lever	2
5	25 · 37 · 196	Boot,change-gear lever	2
6	GB51—76	Nut M8	4
7	GB93—76	Washer 8	10
8	25 · 37 · 189	Transmission cover,front	1
9	25 · 37 · 192	Main change-gear,lever	1
10	25 · 37 · 190	Guide plate,main change-gear	1
11	GB21—76	Bolt M8×32	4
12	25 · 37 · 019	Dipstick assy	1
13	GB21—76	Bolt M8×45	6
14	GB75—76	Screw M8×12	2
15	25 · 37 · 193	Auxiliary change-gear lever	1
16	25 · 37 · 191	Guide plate,auxiliary change-gear	1
17	25 · 37 · 224	Draw spring	1
18	25 · 37 · 223	Link plate	1

27. SN-²⁵/₂₅₄ DIFFERENTIAL

No.	Code	Name	Qty.
1	25 • 37 • 164	Differential bearing seat	2
2	HG4--692--67	Oil seal 28×47×11	4
3	GB1235--76	O-Ring 105×5.7	2
4	25 • 37 • 150	Adjusting nut, differential	2
5	GB297--64	Conical roller bearing 7210	2
6	25 • 37 • 180	Differential crown gear	1
7	25 • 37 • 205	Stop bolt	2
8	25 • 37 • 187	Bolt, differential crown	4
9	GB51--76	Nut M10	6
10	GB854--76	Washer 10	6
11	25 • 37 • 183	Shaft, planet pinion	1
12	25 • 37 • 179	Differential housing	1
13	25 • 37 • 184	Gasket, axle shaft gear	2
14	25 • 37 • 182	Axle shaft gear	2
15	25 • 37 • 185	Gasket, planet pinion	2
16	25 • 37 • 201	Planet pinion	2

28. SN-²⁵/₁₁, PTO SHAFT ASSY

No.	Code	Name	Qty.
1	25 · 37 · 102	Driving shaft, PTO	1
2	GB894—74	Snap ring 25	4
3	GB276—64	Ball bearing 205	2
4	25 · 37 · 114	Sliding gear, PTO	1
5	GB893—76	Snap ring 52	1
6	GB810—76	Circular nut M24×1.5	1
7	GB858—76	Washer 24	1
8	GB276—64	Ball bearing 305	1
9	25 · 37 · 151	Front thrust ring, main shaft	1
10	27 · 37 · 116	Low speed gear, PTO	1
11	25 · 37 · 115	High speed gear, PTO	1
12	25 · 37 · 155	Rear thrust ring, PTO shaft	1
13	GB277—64	Ball bearing 50207	1
14	GB305—64	Thrust ring 72	1
15	25 · 37 · 103	PTO shaft	1
16	HG4—692—67	Oil seal 45×65×12	1
17	25 · 37 · 021	Felt seal assy	1
18	25 · 37 · 172	Gasket, rear end cover	1
19	25 · 37 · 118	Rear end cover, PTO shaft	1
20	25 · 37 · 173	Gasket, PTO shaft guard	1
21	25 · 37 · 146	PTO shaft guard	1
22	GB93—76	Washer 12	4
23	GB21—76	Bolt M12×40	4
24	GB93—76	Washer 10	4
25	GB21—76	Bolt M10×30	4

29. SN-²⁵/₂₅₄ FINAL DRIVE ASSY

No.	Code	Name	Qty.
1	GB894—76	Snap ring 32	2
2	25 • 39 • 103	Differential axle	1
3	GB1096—72	Flat key A10×45	1
4	25 • 39 • 124	Bush	1
5	25 • 39 • 108	Gasket, final drive housing	1
6	25 ¹ • 39 • 127	Axle shaft sleeve	1
7	GB51—76	Nut M14×1.5	6
8	GB93—76	Washer 14	6
9	GB898—76	Stud AM14×1.5×40	6
10	25 • 39 • 129	Middle gasket, final drive	1
11	HG4—692—67	Oil seal 38×58×12	2
12	25 • 39 • 101	Final drive housing	1
13	GB894—76	Snap ring 40	1
14	GB276—64	Ball bearing 208	1
15	25 • 39 • 125	Driving gear, final drive	1
16	GB277—64	Ball bearing 50208	1
17	GB305—64	Thrust ring 80	1
18	25 • 39 • 123	Snap rim, axle end	1
19	GB93—76	Washer 10	15
20	GB21—76	Bolt M10×20	1
21	25 • 39 • 120	Gasket, axle shaft sleeve	1
22	25 • 39 • 109	Bearing cover, axle	1
23	GB21—76	Bolt M10×25	14
24	25 • 39 • 114	Nut, hub	6
25	25 • 39 • 113	Bolt, hub	6
26	25 • 39 • 102	Rear shaft	1
27	25 • 39 • 106	Outer bearing cover, rear shaft	1
28	25 • 39 • 119	Gasket, rear shaft outer end cover	1
29	25 • 39 • 014	Felt seal assy	1
30	HG4—692—67	Oil seal 70×95×12	1
31	GB297—64	Ball bearing 7212	1
32	25 • 39 • 111	Thrust sleeve	1
33	25 • 39 • 105	Final drive driven gear	1
34	25 • 39 • 118	Gasket, final drive cover	1
35	25 • 39 • 110	Final drive cover	1
36	Q137—59	Plug I -1/2"	3
37	GB21—76	Bolt M8×20	8
38	GB93—76	Washer 8	8
39	25 • 39 • 112	Taper washer	1
40	GB297—64	Ball bearing 7307	1
41	25 • 39 • 104	Inner end washer, rear shaft	1
42	GB858—76	Washer 33	1
43	GB812—76	Circular nut M33×1.5	1
44	25 • 39 • 115	Adjusting shim, rear shaft 0.1	Several
45	25 • 39 • 116	Adjusting shim, rear shaft 0.2	Several
46	25 • 39 • 117	Adjusting shim, rear shaft 0.5	Several
47	25 • 39 • 130	Paper gasket, rear shaft	1
48	25 ¹ • 39 • 107	Inner bearing cover, drive shaft	1

30. SN-²⁵/₂₅₄ STEERING GEAR ASSY

No.	Code	Name	Qty.
1		Ball bearing 977907	1
2	25 • 40 • 102----1	Steering column with worm assy	1
3		Ball bearing 977907k	1
4	25 • 40 • 211	Adjusting shim 0.5	Several
5	25 • 40 • 210	Adjusting shim 0.2	Several
6	25 • 40 • 209	Adjusting shim 0.1	Several
7	25 • 40 • 213	Paper gasket	1
8	25 • 40 • 103	Lower cover, steering gear	1
9	GB93---76	Washer 8	8
10	GB21---76	Bolt M8×20	4
11	GB51---76	Nut M22×1.5	1
12	GB93---76	Washer 22	1
13	25 ¹ • 40 • 101	Pitman arm	1
14		Oil seal 32×45×10	1
15	25 • 40 • 110	Bushing, pitman arm	1
16	25 • 40 • 109	Steering gear housing	1
17	25 • 40 • 212	Plug	2
18	25 • 40 • 115	Oil seal gasket, steering column	1
19	25 • 40 • 114	Oil seal cover, steering column	1
20	25 • 40 • 102	Steering tube	1
21	25 • 40 • 108	Oil seal	1
22	25 • 40 • 014	Steering wheel assy	1
23	GB51---76	Nut M16×1.5	1
24	25 • 40 • 106	Cover washer	1
25	25 • 40 • 107	Steering wheel cover	1
26	GB53 - 76	Nut M24×1.5	1
27	GB21---76	Bolt M8×16	4
28	25 • 40 • 207	Steering gear side cover	1
29	25 • 40 • 208	Gasket, steering gear side cover	1
30	25 • 40 • 202	Adjusting screw, pitman arm	1
31		Ball bearing 922205	1
32		Bearing 776701	1
33	25 • 40 • 205	Pin, pitman arm	1
34	25 • 40 • 112	Pitman arm shaft	1
35	GB1152---74	Oil cup M6	1
36	GB21---76	Bolt M10×30	4
37	GB93---76	Washer 10	4

31. SN- $\frac{25}{254}$ BRAKE ASSY

No.	Code	Name	Qty.
1	25 • 43 • 111	Pull rod	2
2	GB879—76	Pin 8×45	2
3	25 • 43 • 136	Pull arm	1
4	GB97—76	Washer 10	6
5	GB91—76	Cotter pin 2.5×20	9
6	25 • 43 • 102	Brake pedal shaft	1
7	GB97—76	Washer 8	3
8	25 • 43 • 114	Pawl	1
9	25 • 43 • 110	Torsional spring	1
10	25 • 43 • 112	Ratchet plate	1
11	25 • 43 • 113	Pawl rocker	1
12	GB93—76	Washer 10	2
13	GB21—76	Bolt M10×20	2
14	25 • 43 • 127—1	Brake pedal, L. H.	1
15	25 • 43 • 130	Lock plate	1
16	GB93—76	Washer 8	1
17	GB21—76	Bolt M8×25	1
18	GB882—76	Pin A8×30	3
21	GB1152—74	Oil cup M6	1
22	GB894—76	Snap ring 25	1
23	25 • 43 • 121	Snap ring	1
24	25 • 43 • 132—1	Brake pedal, R. H.	1
25	25 • 43 • 137	Bush, brake pedal, R. H.	1
26	25 • 21 • 110	Pedal spring	2
27	25 • 43 • 104	Socket	1
33	GB51—76	Nut M10	2
34	25 • 43 • 109	Adjusting fork, pull rod	2
35	25 • 43 • 105	Cam rocker	2
36	GB879—76	Pin 8×30	2
37	25 • 43 • 131	Seal ring	2
38	25 • 43 • 103	Cam	2
39	GB23—76	Bolt M10×28	4
40	25 • 43 • 119	Snap plate	4
41	25 • 43 • 117	Bushing	4
42	25 • 43 • 115	Curved link plate	4
43	25 • 43 • 107	Draw spring	2
44	25 • 43 • 125	Brake shoe 2	2
45	25 • 43 • 123	Brake bush	4
46	GB875—76	Rivet 4×12	40
47	GB59—76	Nut M10	4
48	25 • 43 • 118	Washer	2
49	25 • 43 • 116	Flat link plate	4
50	25 • 43 • 122	Brake shoe 1	2
51	25 • 43 • 134	Pin	2
52	25 • 23 • 101	Brake drum	2

32. SN-²⁵/₂₅₄ DRIVER SEAT ASSY

No.	Code	Name	Qty.
1	25 • 44 • 013	Back cushion assy	1
2	25 • 44 • 011	Support assy, driver seat	1
3	25 • 44 • 012	Cushion assy	1
4	25 • 44 • 101	Long spring	1
5	25 • 44 • 104	Middle spring	4
6	25 • 44 • 103	Rhombic ring	4
7	25 • 44 • 102	Short spring	28
8	25 • 44 • 105	Connecting plate	1
9	25 • 44 • 111	Rear spring	2
10	25 • 44 • 110	Link ring	8
11	25 • 44 • 108	Front spring	2
12	GB95—76	Washer 12	6
13	GB93—76	Washer 12	8
14	GB51—76	Nut M12	4
15	GB21—76	Bolt M12×30	4
16	25 • 44 • 121—1	Driver seat support, L. H.	1
17	GB21—76	Bolt M12×25	4
18	25 • 44 • 123	Bush	4
19	25 • 44 • 122—1	Driver seat support, R. H.	1

33. SN—²⁵/₂₅₄ ENGINE HOOD ASSY

No.	Code	Name	Qty.
1	GB67—76	Screw M6×35	2
2	25·47·285	Bush, side hood	2
3	GB97—76	Washer 6	11
4	GB52—76	Nut M6	10
5	25·47·053	Radiator screen assy	1
6	GB67—76	Screw M6×25	4
7	25·47·281	Grille, radiator screen	1
8	25·47·066	Emblem assy	1
9	25·47·257	Pin	1
10	GB97—76	Washer 10	4
11	25·47·261	Pin spring, side hood	1
12	25·47·074	Pin seat assy	1
13	25·47·283	Rubber gasket	10
14	GB51—76	Nut M10	2
15	GB93—76	Washer 10	4
16	GB21—76	Bolt M10×20	4
17	GB93—76	Washer 6	6
18	25·47·067	Front head light seat welding assy	1
19		Key ring Φ35	1
20	GB67—76	Screw M6×10	2
21	25·47·222	Side hood, R. H.	1
22	GB21—76	Bolt M8×20	22
23	GB51—76	Nut M8	16
24	GB93—76	Washer 8	15
25	GB97—76	Washer 8	14
26	25·47·221	Side hood, L. H.	1
27	GB91—76	Cotter pin 2×16	3
28	25·47·228	Side hood, R. H.	1
29	25·47·051	Front hood assy	1
30	25·47·060	Commercial steel welding assy, R. H.	1
31	25·47·063	Brace assy, hood	1
32	25·47·284	Rubber clip	1
33	GB91—76	Cotter pin 2.5×20	2
34	25·47·287	Nylon bush	2
35	25·47·290	Pressure arm	1
36	25·47·072—1	Drag hook bracket assy	1
37	25·47·289	Seat drag hook	1
38	25·47·251—1	Handle	1
39	GB21—76	Bolt M8×25	1
40	25·20·119	Return spring	1
41	25·47·291	Tie rod	1
45	25·47·059	Commercial steel welding assy, L. H.	1
46	25·47·227	Side hood, L. H.	1
47	25·47·058	Switch fixing plate assy	1
48	25·47·052	Rear hood assy	1
49	25·47·286	Pressure washer	2
50	GB67—76	Screw M6×16	2
51	25·47·062	Instrument panel assy	1
52	25·48·203	Sealing ring	1
53	25·47·288	Rubber ring, throttle handle	1

34. SN-²⁵/₂₅₄ FENDER, FLOOR BOARD & TOOL BOX

No.	Code	Name	Qty.
1	GB21—76	Bolt M10×25	4
2	GB93—76	Washer 10	4
3	25 ¹ / ₄ • 47 • 005	Floor board assy, L. H.	1
4	GB51—76	Nut M8	6
5	GB93—76	Washer 8	6
6	GB97—76	Washer 8	4
7	GB21—76	Bolt M8×20	4
8	GB93—76	Washer 12	12
9	GB21—76	Bolt M12×25	6
10	GB51—76	Nut M12	4
11	GB97—76	Washer 12	6
12	25 • 47 • 194	Door handle	2
13	GB52—76	Nut M6	6
14	GB93—76	Washer 6	6
15	GB21—76	Bolt M8×25	2
16	25 • 47 • 021	Left fender assy	2
17	25 • 47 • 165	Catch, starter handle	3
18	GB30—76	Bolt M6×16	6
19	25 • 49 • 021—1	Starter handle assy	1
20	25 • 50 • 103	Rubber washer	2
21	25 • 49 • 011	Tool box assy	1
22	25 • 47 • 022	Right fender assy	1
23	GB21—76	Bolt M12×30	2
24	25 • 47 • 004—1	Pedal assy, R. H.	1

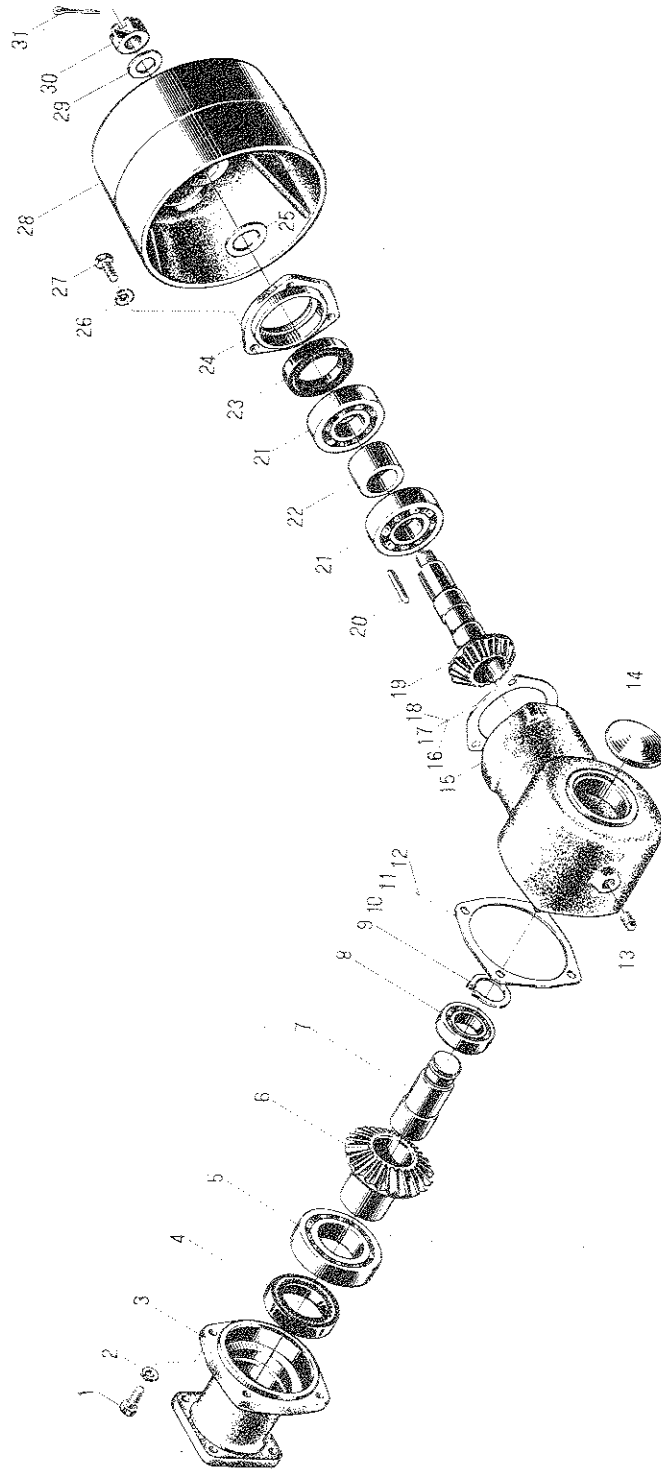
35. SN-²⁵₂₈₄ FRONT BRACKET ASSY

No.	Code	Name	Qty.
1	25 • 48 • 116	Cotter pin	2
2	25 • 48 • 115—1	Battery cover	1
3	25 • 48 • 023	Sleeve welding assy	1
4	25 • 48 • 114	Windshield plate	1
5	GB21—76	Bolt M8×20	7
6	25 • 48 • 110	Rubber pad	2
7	25 • 48 • 154	Raising block, R. H.	1
8	25 • 48 • 152	Pressure plate	2
11	GB93—76	Washer 14	4
12	GB21—76	Bolt M14×1.5×50	4
13	GB91—76	Cotter pin 2.5×20	2
14	GB97—76	Washer 8	4
15	GB93—76	Washer 8	11
16	GB21—76	Bolt M10×25	4
17	GB93—76	Washer 10	4
18	25 • 48 • 151	Fixing rod, battery	2
19	GB51—76	Nut M8	11
20	25 ¹ • 48 • 021	Battery bracket assy	1
21	25 • 48 • 150	Fixing strip, battery	1
22	GB21—76	Bolt M8×16	4
23	GB21—76	Bolt M8×35	2
24	25 • 48 • 024	Clamp seat assy	1
25	25 • 48 • 022	Support welding assy	1

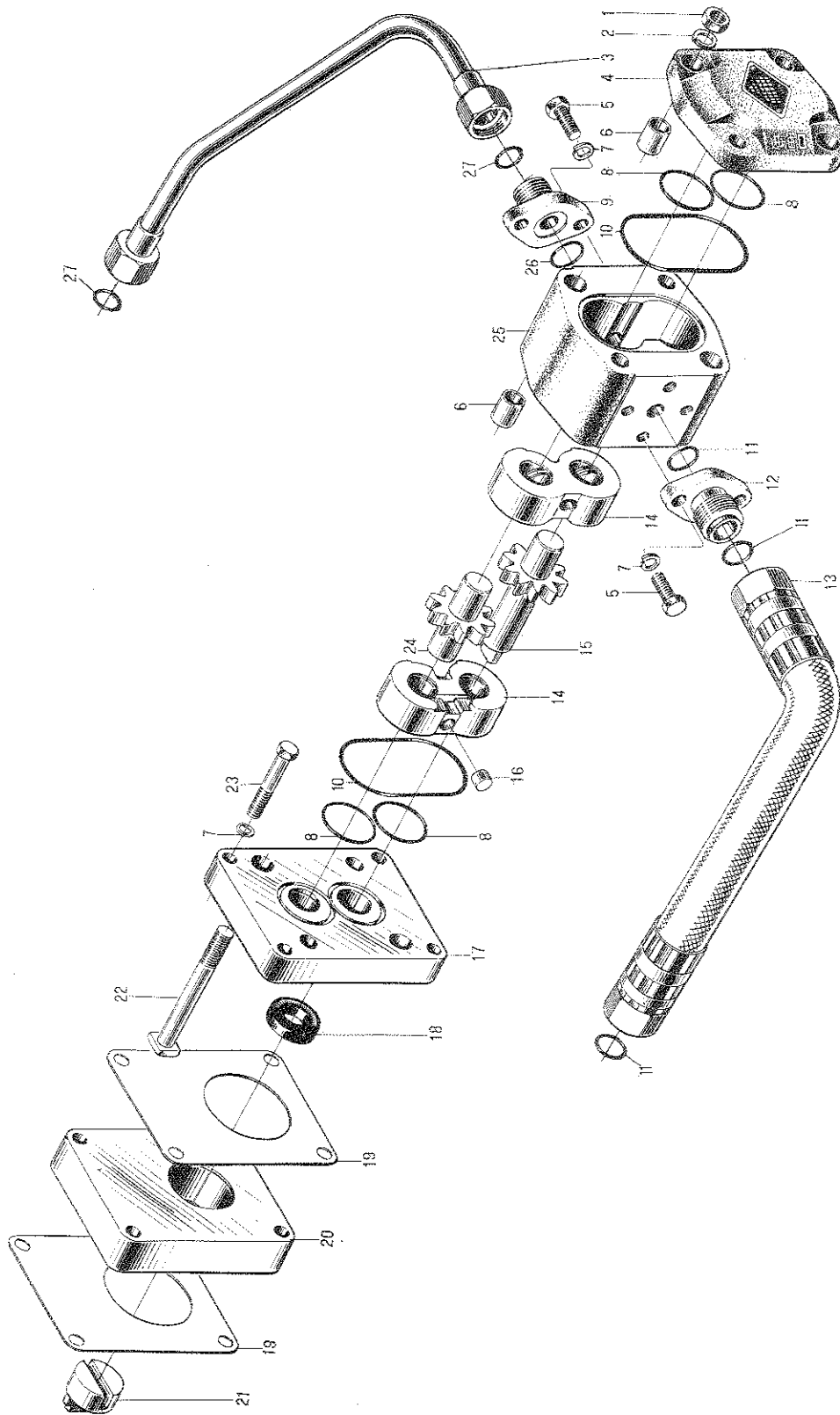
36. SN-²⁵/₁₅₄ ELECTRICAL SYSTEM

No.	Code	Name	Qty.
1	25 · 48 · 033	Battery assy	2
2	25 · 48 · 052—2	Connecting cable assy, battery	1
3	25 · 48 · 054—2	Battery ground cable assy	1
4	GB95—76	Washer 12	3
5	GB21—76	Bolt M12×25	1
6	GB21—76	Bolt M8×25	4
7	GB97—76	Washer 8	4
8	GB93—76	Washer 8	7
9	GB51—76	Nut M8	7
10	GB67—76	Screw M6×16	1
11	25 · 48 · 212	Clip	1
12	25 · 48 · 053—2	Cable assy, battery-starting motor	1
13	GB67—76	Screw M4×10	8
14	25 · 48 · 083	Corner lamp assy	2
15	25 · 48 · 338	Rubber pad, head light	2
16	25 · 48 · 081	Head light assy	2
17	GB30—76	Bolt M6×22	2
18	25 · 48 · 075	Bracket welding assy, head light	2
19	GB12—76	Bolt M12×1.25×35	2
20	25 · 48 · 207	Rubber gasket, head light	3
21	GB93—76	Washer 12	2
22	GB52—76	Nut M12×1.25	2
23	25 · 48 · 056	Ground wire assy, horn	1
24	25 · 48 · 035	Horn assy	1
25	GB21—76	Bolt M8×20	1
26	GB93—76	Washer 4	10
27	GB67—76	Screw M4×16	4
28	25 · 48 · 339	Fixing plate, front head light assy	6
29	GB52—76	Nut M6	8
30	GB93—76	Washer 6	8
31	25 · 48 · 051	Connection board assy	1
32	25 · 48 · 073	Oil duct assy, oil pressure gauge	1
33	25 · 48 · 071	Water temperature gauge assy	1
34	25 · 48 · 204	Washer	3
35	25 · 48 · 072	Oil pressure gauge assy	1
36	25 · 48 · 037	Ammeter assy	1
37	25 · 48 · 042	Instrument panel lamp assy	2
38	GB30—76	Bolt M6×16	4
39	GB30—76	Bolt M6×12	2
40	25 · 48 · 034—1	Voltage adjuster assy	1
41	25 · 48 · 208—A	Fixing plate, voltage adjuster	1
42	25 · 48 · 036	Blinker assy	1
43	25 · 48 · 048	Tail lamp switch assy	1
44	25 · 48 · 341	Switch emblem (L. H.)	1
45	25 · 48 · 065	Wire assy, direction indicator lamp switch	1
46	25 · 48 · 046	Switch assy, three throw	1
47	25 · 48 · 047	Direction indicator lamp switch assy	1
48	25 · 48 · 049	Horn button assy	1
49	25 · 48 · 063	Wire assy, electricity lock2~pre-heating/starting switch source	1
50	25 · 48 · 045	Pre-heating/starting switch assy	1
51	25 · 48 · 044	Electricity lock assy	1
52	25 · 48 · 342	Switch emblem (R. H.)	1
53	25 · 48 · 082	Tail lamp assy	1
54	25 · 48 · 215	Clip (2)	2
55	25 · 48 · 216	Clip (3)	1
56	25 · 48 · 288	Clip (5)	1
57	25 · 48 · 076	Connector assy, trailer	1
58	25 · 48 · 219	Fixing plate, trailer connector	1
59	25 · 48 · 078	Ground wire assy, trailer connector	1
60	GB21—76	Bolt M8×16	2
61	25 · 48 · 050	Fuse box assy	1
62	25 · 48 · 066—1	Instrument wiring harness assy	1
63	25 · 48 · 205	Fixing plate, fuse box	1
64	25 · 48 · 059	Rear wire harness assy	1
65	25 · 48 · 067—1	Main wire harness assy	1

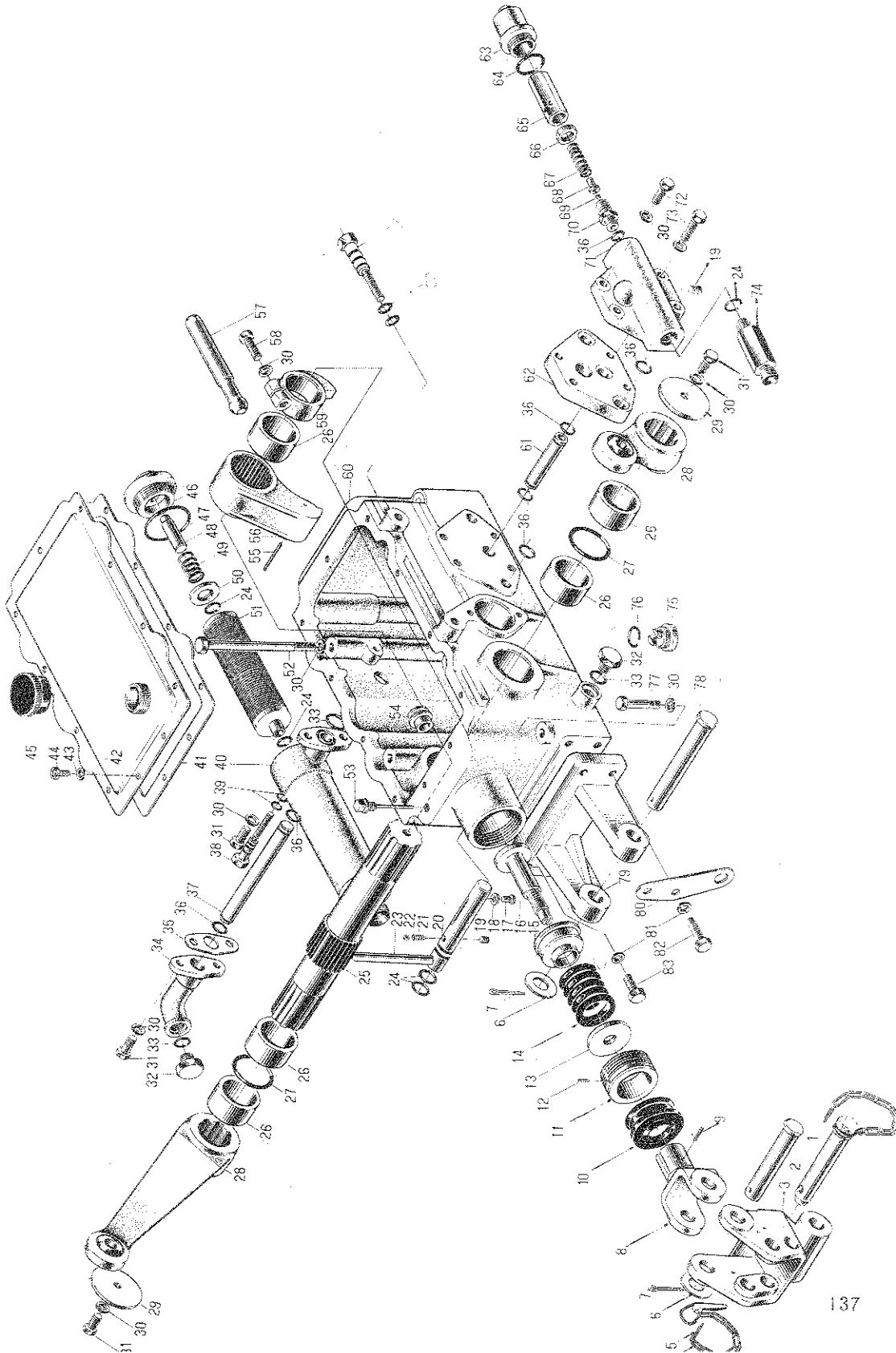
38. SN-²⁵/₂₅₄ BELT PULLEY ASSY



39. 306 HYDRAULIC GEAR PUMP



40. SN-²⁵/₂₅₄ HYDRAULIC POWER LIFT



No.	Code	Name	Qty.
43	GB93—76	Washer 8	11
44	GB21—76	Bolt M8×16	11
45	25·55·112	Cover, filler	1
46	25·55·246	Filter cap (upper)	1
47	GB1235—76	O-Ring 55×3.1	1
48	25·55·247	Pin, filter cap (upper)	1
49	25·55·236	Pressure spring	1
50	25·55·237	Spring gasket	1
51	25·55·044	Filter element assy	1
52	GB21—76	Bolt M10×180	4
53	25·55·041	Dipstick assy	1
54	25·55·146	Seal bush seat	1
55	GB119—76	Pin 5jc ₂ ×45	1
56	25·55·153	Inner lift arm	1
57	25·55·154	Piston ram rod	1
58	GB21—76	Bolt M10×30	1
59	25·55·107	Position control cam	1
60	25·55·101	Hydraulic power lift housing	1
61	25·55·116	Inlet pipe	1
62	25·55·103	Multi-way valve connecting plate	1
63	25·55·233	Shield	1
64	25·55·142	O-Ring 35×3.1	1
65	25·55·209	Safety valve	1
66	25·55·213	Lock ring	1
67	25·55·210	Spring, safety valve	1
68	25·55·211	Spring seat, safety valve	1
69	GB308—77	Steel ball $\varnothing 7$	1
70	25·55·214	Seat, safety valve	1
71	25·55·164	Inlet oil cover	1
72	GB21—76	Bolt M10×45	2
73	GB21—76	Bolt M10×70	2
74	25·55·165	Joint, inlet oil cover	1
75	25·55·110	Spring hook	1
76	GB1235—76	O-Ring 24×2.4	1
77	GB21—76	Bolt M10×100	4
78	25·55·128	Link pin, rocker arm	1
79	25·55·125	Bracket, upper hitch point rocker arm	1
80	25·55·248	Fixing plate, joint	1
81	GB93—76	Washer 12	4
82	GB21—76	Bolt M12×35	1
83	GB21—76	Bolt M12×30	2

41. SN-²⁵/₂₅₄ POWER LIFT CONTROL MECHANISM

No.	Code	Name	Qty.
1	25 • 55 • 198	Bush, handle shaft	2
2	25 • 55 • 038	Position control eccentric cam assy	1
3	GB1099—72	Woodruff key 4×13	2
4	GB1235—76	O-Ring 20×2.4	1
5	GB1235—76	O-Ring 48×3.5	1
6	25 • 55 • 136	Sector plate support	1
7	GB93—76	Washer 10	4
8	GB21—76	Bolt M10×20	2
9	GB91—76	Cotter pin 2×10	6
10	GB62—76	Nut M6	2
11	GB96—76	Washer 6	4
12	25 • 55 • 131	Pressure spring, lever	2
13	25 • 55 • 141	Dowel hand wheel	2
14	25 • 55 • 196	Guide plate, position control	1
15	GB867—76	Rivet 2×6	4
16	25 • 55 • 195	Sector plate, position control	1
17	25 • 55 • 140	Dowel pin	2
18	25 • 55 • 025	Position control lever assy	1
19	25 • 55 • 137	Sleeve, sector plate	2
20	25 • 55 • 132	Pressure screw, lever	2
21	25 • 55 • 024	Draft control lever assy	1
22	25 • 55 • 194	Guide plate, draft control	1
23	25 • 55 • 193	Draft control sector plate	1
24	GB21—76	Bolt M10×55	2
25	GB97—76	Washer 10	2
26	GB1235—76	O-Ring 10×1.9	1
27	25 • 55 • 029	Welding assy, draft control eccentric cam	1
28	GB97—76	Washer 6	2
29	25 • 55 • 144	Roller	2
30	25 • 55 • 030	Position control lever assy	1
31	25 • 55 • 118	Pull spring	2
32	25 • 55 • 143	Pin	2
33	25 • 55 • 221	Bush, draft control lever	1
34	25 • 55 • 031	Draft control lever assy	1
35	25 • 55 • 150	Link arm	1
36	GB51—76	Nut M10	1
37	25 • 55 • 152	Draft control push rod	1
38	25 • 55 • 145	Seal bush, draft control push rod	1

42. SN- $\frac{25}{54}$ CYLINDER DISTRIBUTOR ASSY

No.	Code	Name	Qty.
1	250 · 55 · 207	Ball sear, piston	1
2	250 · 55 · 206	Piston	1
3	GB1235—76	Snap ring A70×2	1
4	GB1235—76	O-Ring 70×5.7	1
5	250 · 55 · 168	Cylinder	1
6	250 · 55 · 188	Shutoff valve	1
7	GB1235—76	O-Ring 10×1.9	2
8	Q137—59	Plug IV—Z1/8"	2
9	GB1235—76	O-Ring 13×1.9	1
10	250 · 55 · 177	Plug	1
11	GB1235—76	O-Ring 20×2.4	2
12	250 · 55 · 182	Spring, check valve	1
13	250 · 55 · 170	Check valve	1
14	250 · 55 · 171	Check valve seat	1
15	GB1235—76	O-Ring 26×2.4	1
16	250 · 55 · 216	Distributor housing	1
17	250 · 55 · 187	Adjusting valve speed	1
18	25 · 55 · 183	Cover, valve	1
19	GB93—76	Washer 6	5
20	GB30—76	Bolt M6×15	3
21	25 · 55 · 035	Steel ball	1
22	25 · 55 · 179	Gasket	1
23	25 · 55 · 181	Spring, main control valve	1
24	GB21—76	Bolt M8×50	1
25	GB93—76	Washer 8	3
26	GB21—76	Bolt M8×60	2
27	250 · 55 · 217	Bush, main control valve	1
28	250 · 55 · 172	Main control valve	1
29	GB67—76	Half-round screws M6×10	2
30	25 · 55 · 180	Limiting plate	1
31	250 · 55 · 176	Rear plug, return valve	1
32	250 · 55 · 178	O-Ring 28×2.4	1
33	250 · 55 · 184	Spring, return valve	1
34	250 · 55 · 173	Return valve	1
35	GB52—76	Nut M14×1.5	4
36	GB898—76	Stud AM14×1.5	4
37	GB93—76	Washer 14	4
38	GB1235—76	O-Ring 26×2.4	4

43. SN—²⁵/₂₅₄ SUSPENSION LINKAGE ASSY

No.	Code	Name	Qty.
1	25·56·101	Connecting pin, lower link	2
2	25·56·015	Right connecting link assy	1
3	25·56·024	Lower link assy	2
4	25·56·027	Lower end assy, lift link	2
5	25·56·026	Sleeve assy, right lift link	1
6	25·56·112	Lock plate	1
7	GB301—64	Ball bearing 8104	1
8	25·56·109	Shaft, leveling box	1
9	25·56·107	Leveling box	1
10	25·56·108	Conical gear, leveling box	1
11	GB865—76	Rivet 1×22	1
12	25·56·111	Lock ring	1
13	GB1152—74	Oil cup M6	1
14	25·56·110	Leveling handle	1
15	25·56·023	Pin and linch pin assy	1
16	25·56·020	Rear end assy, upper link	1
17	25·56·106	Lock ring, upper link	1
18	25·56·022	Buckle assy	1
19	25·56·021	Front end assy, upper link	1
20	25·56·103	Hitch pin	1
21	25·56·167	Bracket bush	2
22	25·56·160	Sleeve	1
23	25·56·161	Spring, linkage drawbar	1
24	25·56·163	Front sleeve	1
25	25·56·028	Chain & lock pin assy	2
26	GB21—76	Bolt M16×45	2
27	GB93—76	Washer 16	6
28	25·56·164	Washer	1
29	GB59—76	Nut M24×2	1
30	GB91—76	Cotter pin 5×40	1
31	25·56·018	Linch pin assy	3
32	25·56·162	Linkage drawbar	1
33	GB93—76	Washer 14	6
34	GB21—76	Bolt M14×40	6
35	25·56·041	Drawbar hook assy	1
36	GB882—76	Pin shaft A16×45	2
37	25·56·105	Connecting screw, check chain	2
38	25·56·034	Left lift link assy	1
39	25·56·102	Connecting pin, lift link	2
40	GB91—76	Cotter pin 3×25	6
41	GB848—76	Washer 16	2
44	GB882—76	Pin shaft A10×40	1
45	25·56·016	Left connecting plate assy	1
46	25·56·043	Left connecting seat assy	1
47	GB91—76	Cotter pin 2.5×20	4
48	GB97—76	Washer 10	4
49	25·56·118	Connecting ring	2
50	25·56·038—1	Left—hand screw assy	2
51	25·56·117	Adjusting rod	2
52	GB51—76	Nut M14	2
53	25·56·039—1	Right—hand screw assy	2
54	25·56·150	Link plate, check chain	2
55	GB51—76	Nut M16	2
56	GB51—76	Nut M10	1
57	GB21—76	Bolt M10×35	1
58	25·56·044	Right connecting seat assy	1
59	GB93—76	Washer 12	6
60	GB21—76	Bolt M12×25	6

44. SN-²⁵/₂₅₄ PADDY FIELD WHEEL ASSY

No.	Code	Name	Qty.
1	25 · 71 · 011	Wheel rim assy (L. H.)	1
2	GB91 -76	Cotter pin 1×20	104
3	GB95 -76	Washer 12	104
4	25 · 71 · 102	Plactics tooth (R. H.)	26
5	25 · 71 · 101	Plactics tooth (L. H.)	26
6	25 · 71 · 012	Wheel rim assy (R. H.)	1
7	25 · 71 · 104	Short axis pin	52
8	25 · 71 · 103	Long axis pin	52
9	GB30- 76	Bolt M14×1.5×30-- 2a	8
10	GB93---76	Washer 14	8
11	GB52--76	Nut AM14×1.5· 2a	8

45. SN-254 FRONT DRIVING AXLE ASSY (A)

No.	Code	Name	Qty.
1	254 · 31 · 148	Bracket	1
2	GB30---76	Bolt M6×25	8
3	GB93---76	Washer 6	8
4	254 · 31 · 109	Front central transmission housing cover	1
5	254 · 31 · 108	Gasket	1
6	254 · 31 · 107	Front central transmission housing	1
7	254 · 31 · 111	Front snap ring	1
8	GB1235---79	O-Ring 46×3.5	1
9	254 · 31 · 162	Bush (B)	1
10	254 · 31 · 170	Gasket	1
11	GB119---86	Pin D12×35	4
12	GB1152 76	Oil cup M6	2
13	254 · 31 · 171	Adjusting bolt	1
14	GB51---76	Nut M16×1.5	1
15	254 · 31 · 161	Front bush seat	1
16	GB30---76	Bolt M14×1.5×45	4
17	GB93---76	Washer 14	4
18	254 · 31 · 172	Cover plat	4
19	GB30---76	Bolt M12×30	8
20	GB93 76	Washer 12	8
21	254 · 31 · 110	Front pivot shaft	1
22	Q137 59	Plug Z 1/4"	1
23	254 · 31 · 160	Bush (A)	1
24	GB1235 79	O-Ring 80×3.1	2
25	254 · 31 · 102	Gasket	1
26	GB1235 79	O-Ring 54×3.5	1
27	254 · 31 · 101	Cover	1
28	GB93---76	Washer 8	3
29	GB30---76	Bolt M8×25	3
30	GB298---64	Bearing 27307	1
31	GB1235 76	O-Ring 95×3.1	1
32	254 · 31 · 157	Front central drive gear	1
33	254 · 31 · 156	Bearing seat, Front central drive gear	1
34	GB858---76	Washer 27	1
35	GB810---76	Circular nut M27×1.5	1
36	GB894---76	Snap ring 25	1
37	254 · 31 · 159	Rear bush seat	1
38	254 · 31 · 103	Washer	1
39	JB2600---80	Oil seal SD35×62×12	1
40	254 · 31 · 173	Spacer	1
41	254 · 31 · 020	Front drive gear shaft bush assy	1
42	GB297 64	Bearing 7206	1
43	254 · 31 · 104	Adjusting shim	several
	254 · 31 · 105	Adjusting shim	several
	254 · 31 · 106	Adjusting shim	several

46. SN-254 FRONT DRIVING AXLE ASSY (B)

No.	Code	Name	Qty.
1	GB301 64	Bearing 8206	2
5	254 · 31 · 180	Bush, side transmission housing	2
6	JB2600 80	Oil seal PD 55×75×12	2
7	254 · 31 · 018	Felt seal assy	2
9	254 · 31 · 123	Three hole housing	1
10	254 · 31 · 129	Front driving upright shaft	2
11	GB894—76	Snap ring 30	4
12	254 · 31 · 121	Front side transmission driven gear I	2
13	GB292 64	Bearing 46208	4
14	GB1235 76	O-Ring 80×3.1	4
15	254 · 31 · 118	Adjusting shim	several
	254 · 31 · 119	Adjusting shim	several
	254 · 31 · 120	Adjusting shim	several
16	254 · 31 · 117	Steering rocker shaft cover	2
17	GB1235 76	O-Ring 35×3.1	2
18	GB30—76	Bolt M8×25	14
19	GB93 76	Washer 8	12
20	254 · 31 · 122	Front side transmission drive gear I	2
21	254 · 31 · 124	Adjusting shim	several
	254 · 31 · 125	Adjusting shim	several
	254 · 31 · 126	Adjusting shim	several
22	GB93—76	Washer 12	28
23	GB30 76	Bolt M12×30	28
24	254 · 31 · 116	Plug	1
25	254 · 31 · 112	Adjusting shim	several
	254 · 31 · 113	Adjusting shim	several
	254 · 31 · 114	Adjusting shim	several
26	254 · 31 · 149	Front differential axle	2
27	254 · 31 · 175	Front sleeve (R. H.)	1
28	GB1235—76	O-Ring 105×3.1	2
29	254 · 31 · 115	Front sleeve (L. H.)	1
30	GB894—76	Snap ring 28	2
31	GB51—76	Nut M8	2
32	Q137 59	Plug Z 1/2"	2

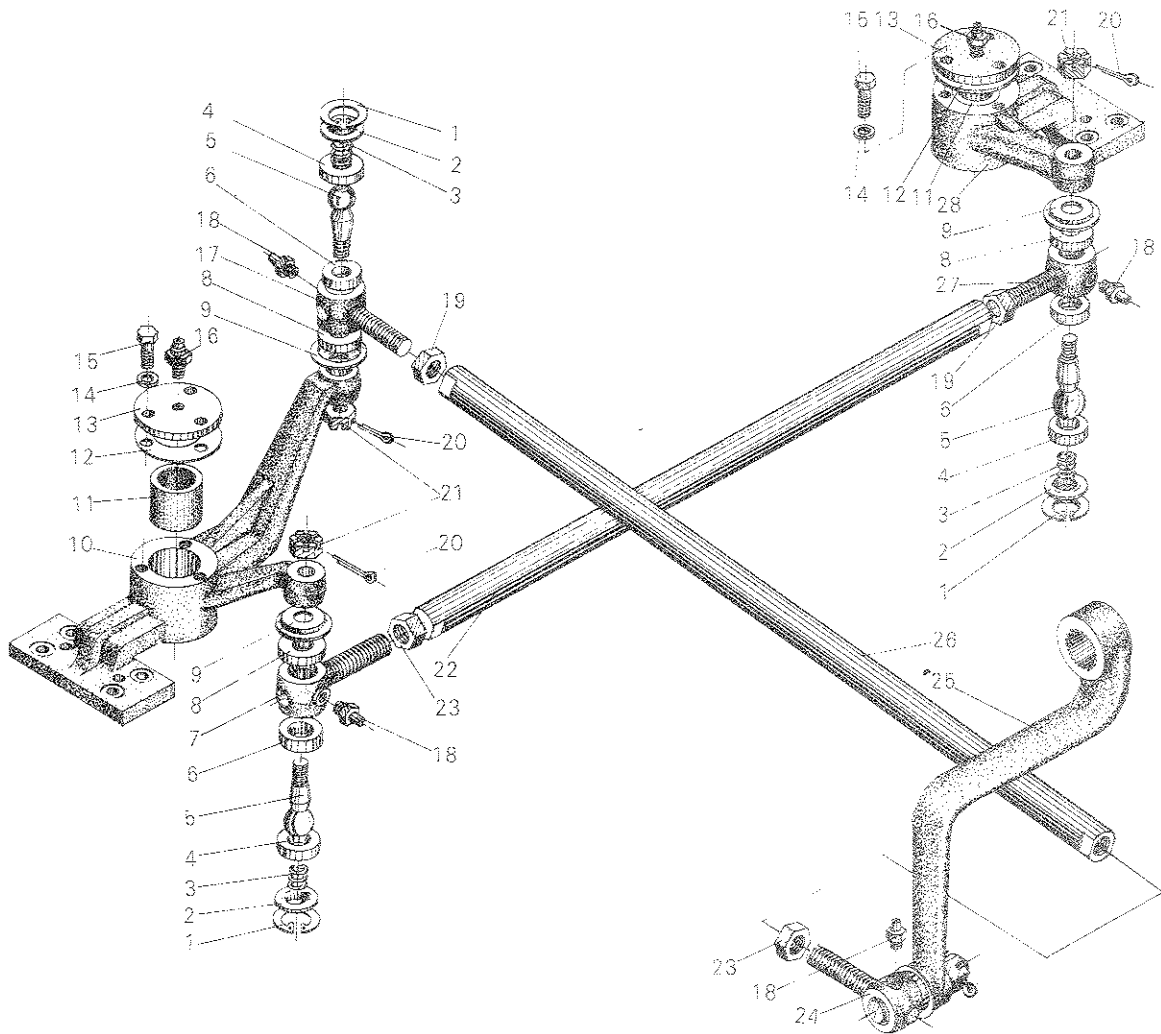
47. SN-254 FRONT DRIVING AXLE ASSY (C)

No.	Code	Name	Qty.
1	254 • 31 • 150	Bolt, Front central driven gear	6
2	GB854 --76	Washer 10	6
3	254 • 31 • 151	Lock pin block	1
4	254 • 31 • 153	Lock pin, Front planet pinion shaft	1
5	GB292---64	Bearing 46210	2
6	254 • 31 • 155	Front differential housing	1
7	254 • 31 • 154	Front planet pinion shaft	1
8	254 • 31 • 152	Front central driven gear	1
9	25 • 37 • 185	Washer, planet gear	2
10	25 • 37 • 201	Planet gear	2
11	25 • 37 • 184	Washer, differential side gear	2
12	25 • 37 • 181	Differential side gear	2

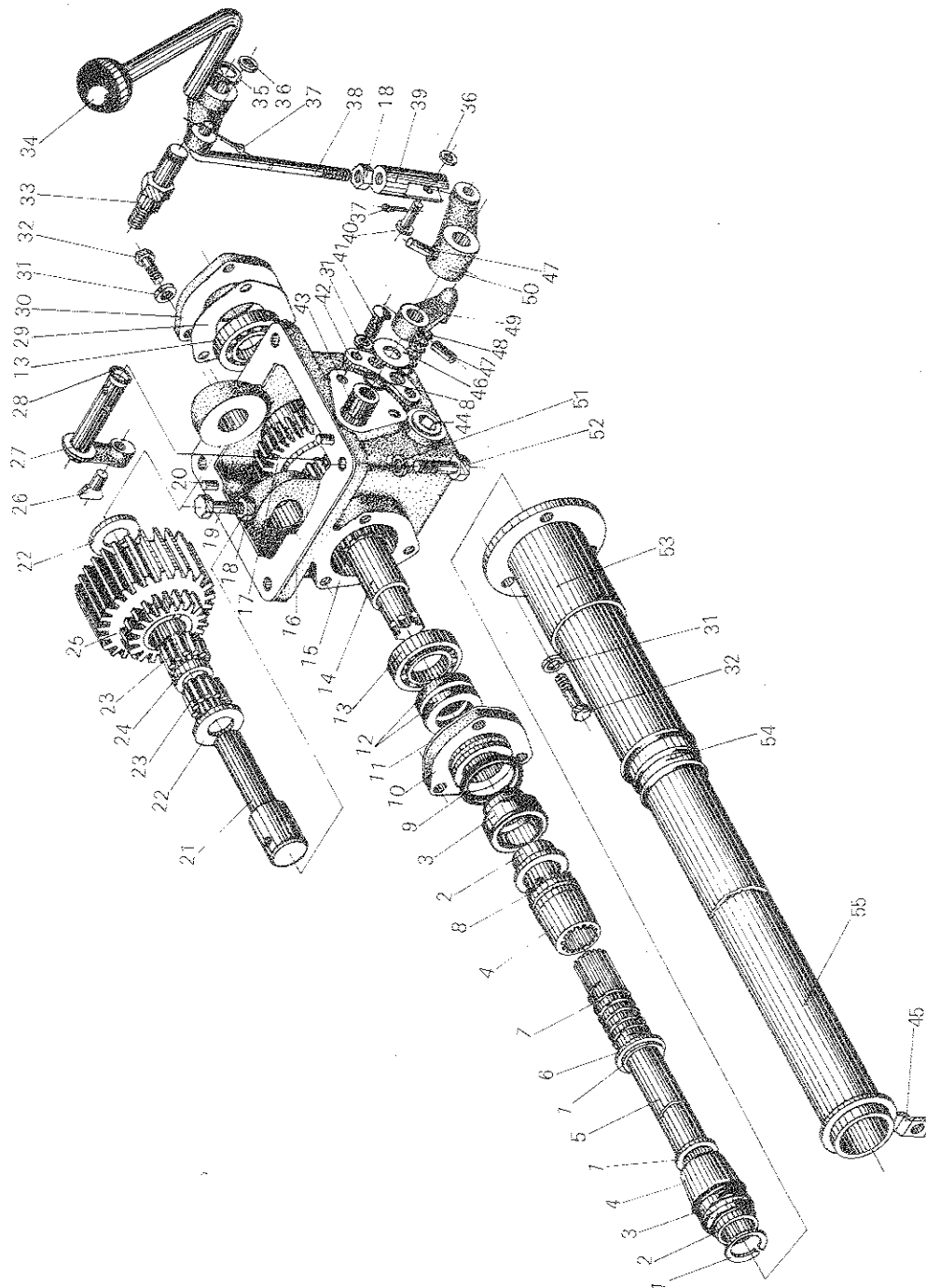
48. SN-254 FRONT DRIVING AXLE ASSY (D)

No.	Code	Name	Qty.
1	GB854-76	Washer 10	12
2	GB51-76	Nut M10	12
3	254·31·141	Washer	2
4	GB292-64	Bearing 46809	2
5	JB2600-80	Oil seal PD50×70×12	2
6	254·31·138	Front side transmission housing cover	2
7	GB93-76	Washer 10	32
8	GB21-76	Bolt M10×25	32
9	25·39·113	Bolt, hub	12
10	254·31·021	Front driving shaft weldment assy	2
11	25·39·114	Nut, hub	12
12	GB1152-76	Oil cup M6	2
13	254·31·140	Oil seal	2
14	254·31·135	Adjusting shim	several
	254·31·136	Adjusting shim	several
	254·31·137	Adjusting shim	several
15	GB1235-76	O-Ring 220×5.7	2
16	254·31·139	Hemicycle snap ring	4
17	254·31·142	Front side gear hub	2
18	254·31·144	Front side transmission driven gear I	2
19	254·31·163	Front side transmission housing (L. H.)	1
20	254·31·145	Adjusting shim	several
	254·31·146	Adjusting shim	several
	254·31·147	Adjusting shim	several
21	GB119-76	Pin D8×22	4
22	254·31·176	Front side transmission housing (R. H.)	1
23	254·31·143	Bolt, large bevel gear	12
24	Q137-59	Plug Z 1/2"	4
25	254·31·131	Adjusting shim	several
	254·31·132	Adjusting shim	several
	254·31·133	Adjusting shim	several
26	254·31·130	Front side transmission drive gear I	2
27	GB292-64	Bearing 46208	2
28	GB1235-76	O-Ring 95×3.1	2
29	254·31·134	Side transmission lower cover	2
30	GB93-76	Washer 8	12
31	GB30-76	Bolt M8×25	12
32	GB276-64	Bearing 207	2

50. SN-254 STEERING MECHANISM



51. SN-254 TRANSFER CASE ASSY



No.	Code	Name	Qty.
38	254 • 42 • 121	Pull rod	1
39	254 • 42 • 122	Adjusting fork pull rod	1
40	GB882—76	Pin A8×30	1
41	GB67—76	Screw M8×14	2
42	25 • 37 • 163	Retaining plate, release rod	1
43	25 • 37 • 127	Bush	1
44	Q137—59	Plug II—Z 1/2"	1
45	254 • 42 • 133	Pressure block	1
46	25 • 37 • 220	Washer	1
47	GB879—76	Pin 5×25	2
48	25 • 55 • 228	Retaining spring, lock shaft	1
49	25 • 37 • 186	Rocker release fork	1
50	254 • 42 • 120	Release arm	1
51	GB93—76	Washer 10	4
52	GB21—76	Bolt M10×40	4
53	254 • 42 • 012	Rear sleeve welding assy	1
54	25 • 55 • 162	Dustproof cover	1
55	254 • 42 • 011	Front sleeve welding assy	1