

Hydraulic Backhoe

OPERATION & MAINTENANCE MANUAL

Main Specifications of JW03 Hydraulic Backhoe

ITEMS	Specifications
Bucket capacity	0.03m ³ 1.05ft ³
Bucket width	0.3m
Overall dimensions(during transportation)	2.3X4.5X1.6m
Maximum digging depth E	1.8m
Maximum digging radius K	2.8m
Bucket rotating angle	160 ⁰
Discharging height B	2.5m
Extension width G (while supporting leg working)	1.8m
Weight	500kg

Tank capacity 89L

Fluid level

Full 6.25gal

Low 5.0gal

1. Specifications

Please see the enclosed specifications and diagram.

2. Mounting method

Please see the enclosed hydraulic system oil route diagram and connecting and mounting diagram.

3. Using safety rules and important matters needing attention.

1) Safety rules

- ① Must obey the using safety regulations of the tractor.
- ② During transportation ,first should tightly adjust the position limiting chain in order to avoid the backhoe from swinging right and left and dropping . During transportation while turing , should drive at a low speed in case the tractor turned over .

③ During working , within the utmost working rang of the backhoe,there should be no other persons or obstacles.

④ While stopping ,should extend the backhoe onto the ground in order to protect the backhoe from naturally dropping.

4. Important matters needing attention :

1) First should operate the backhoe idly ,then can work with load.

2) Often check on the bolts and nuts and other easily loose parts on connecting positions. If loose , must tightly screw them.

3) Fill in lubricating oil, hydraulic oil before using , and check the oil leakage , then start to work .

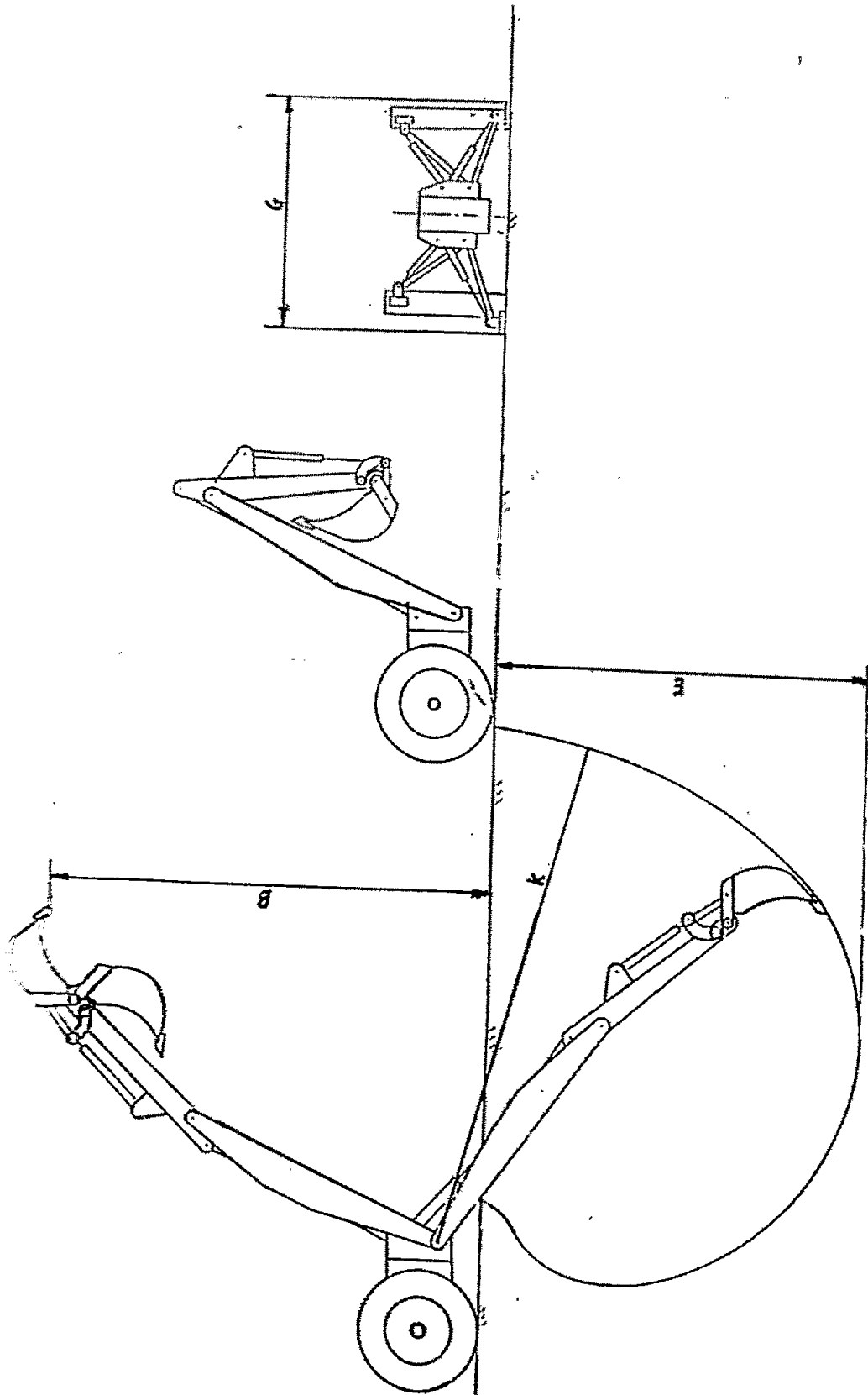
4) While operating the backhoe to turn round right and left , it is forbidden to suddenly push or pull the hydraulic valve operation rod to extreme position , especially when the backhoe is full of materials in case the great turing round inertia caused damages to the tractors or

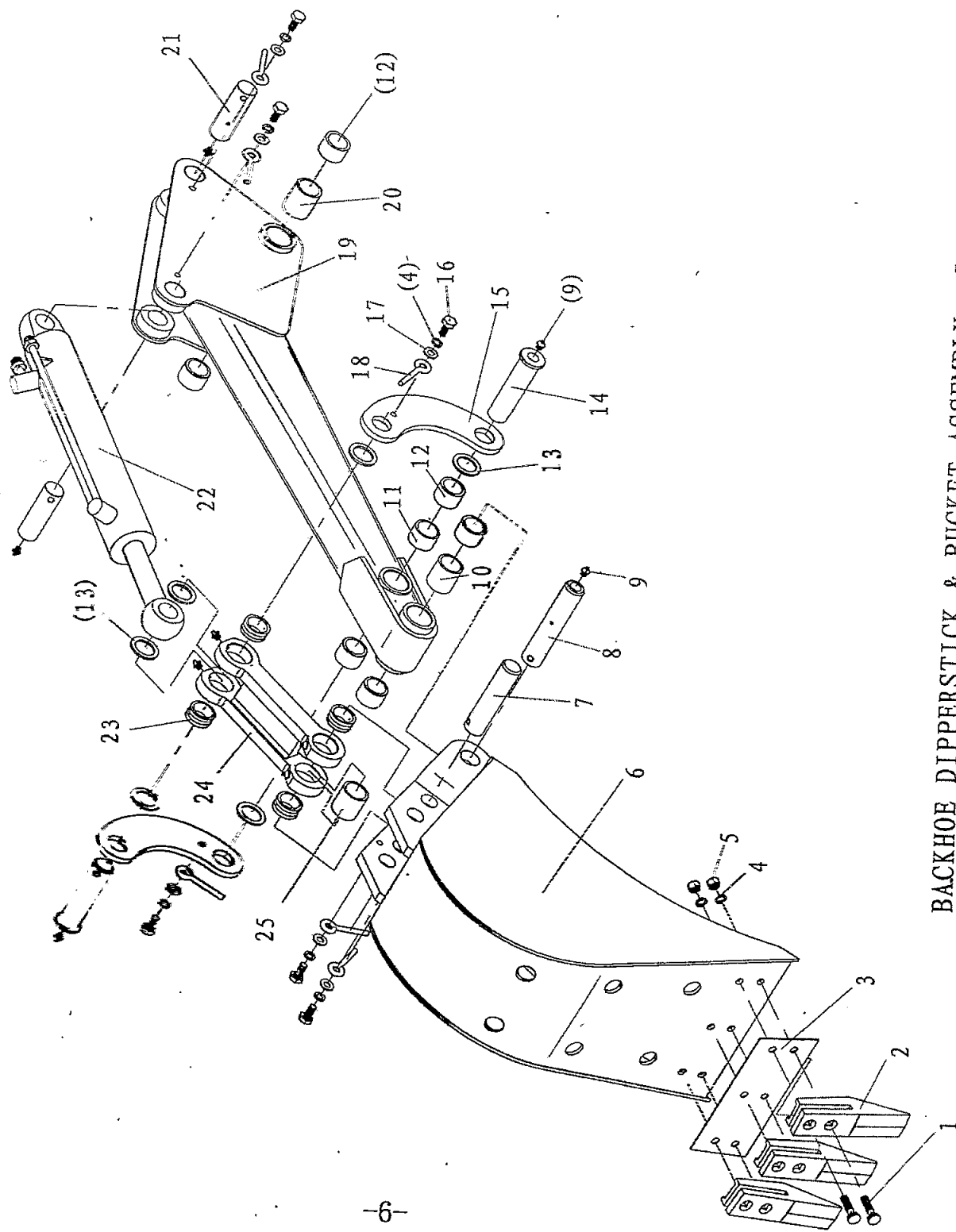
backhoe , while should slowly pull or push the operation rod to make the backhoe to turn round slowly .

5)It is forbidden to operate the backhoe while the left and right supporting legs are not laid down onto the supporting ground . If on concave puddle or soft earth , should insert hard wooden pieces under them . During transportation , hold the supporting legs together .

6)Before working , first dismantle the position limiting chain .

5.Main breakdowns and removal .

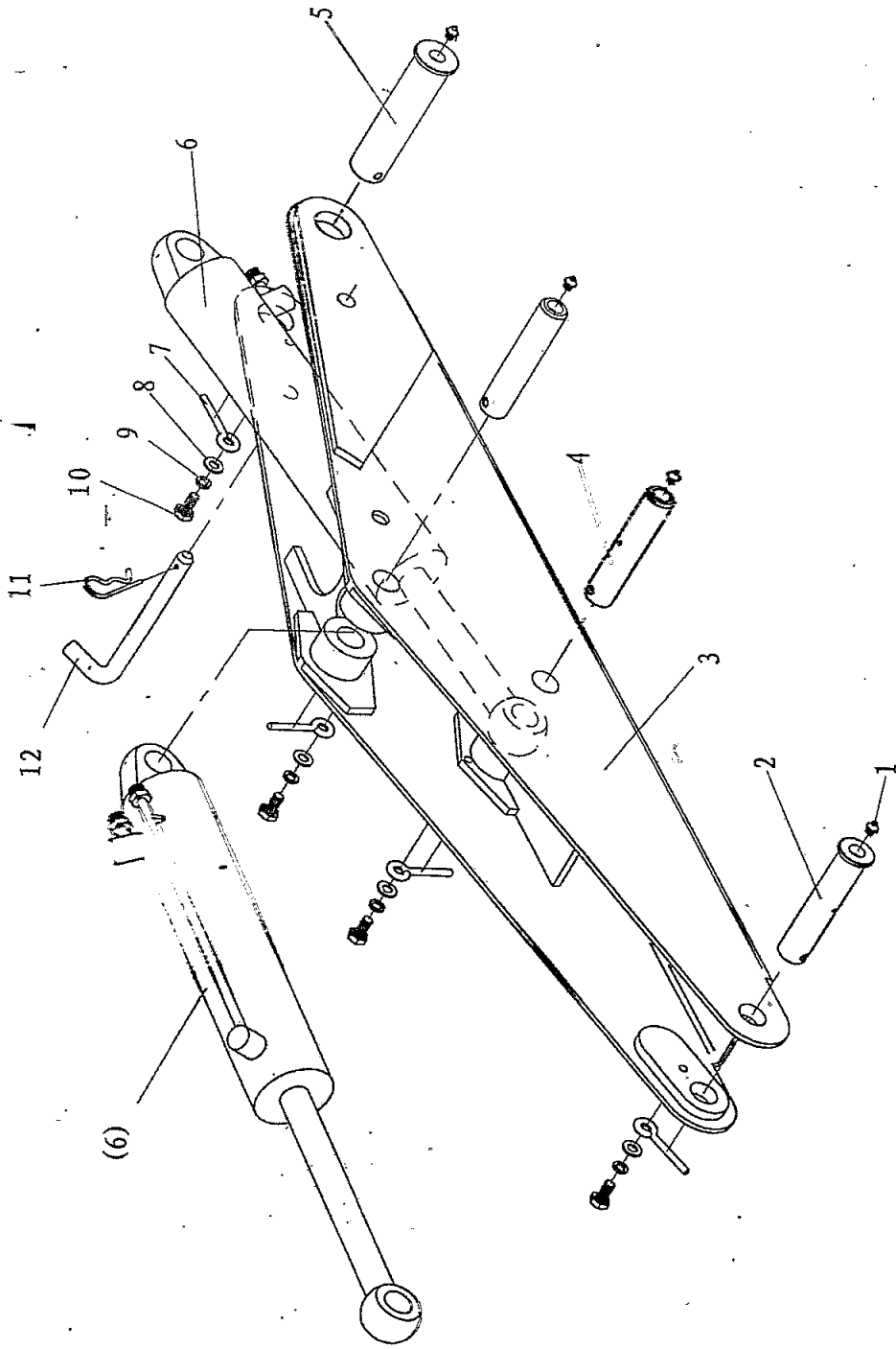




BACKHOE DIPPERSTICK & BUCKET ASSEMBLY. I

Backhoe Dipperstick Bucket Assembly

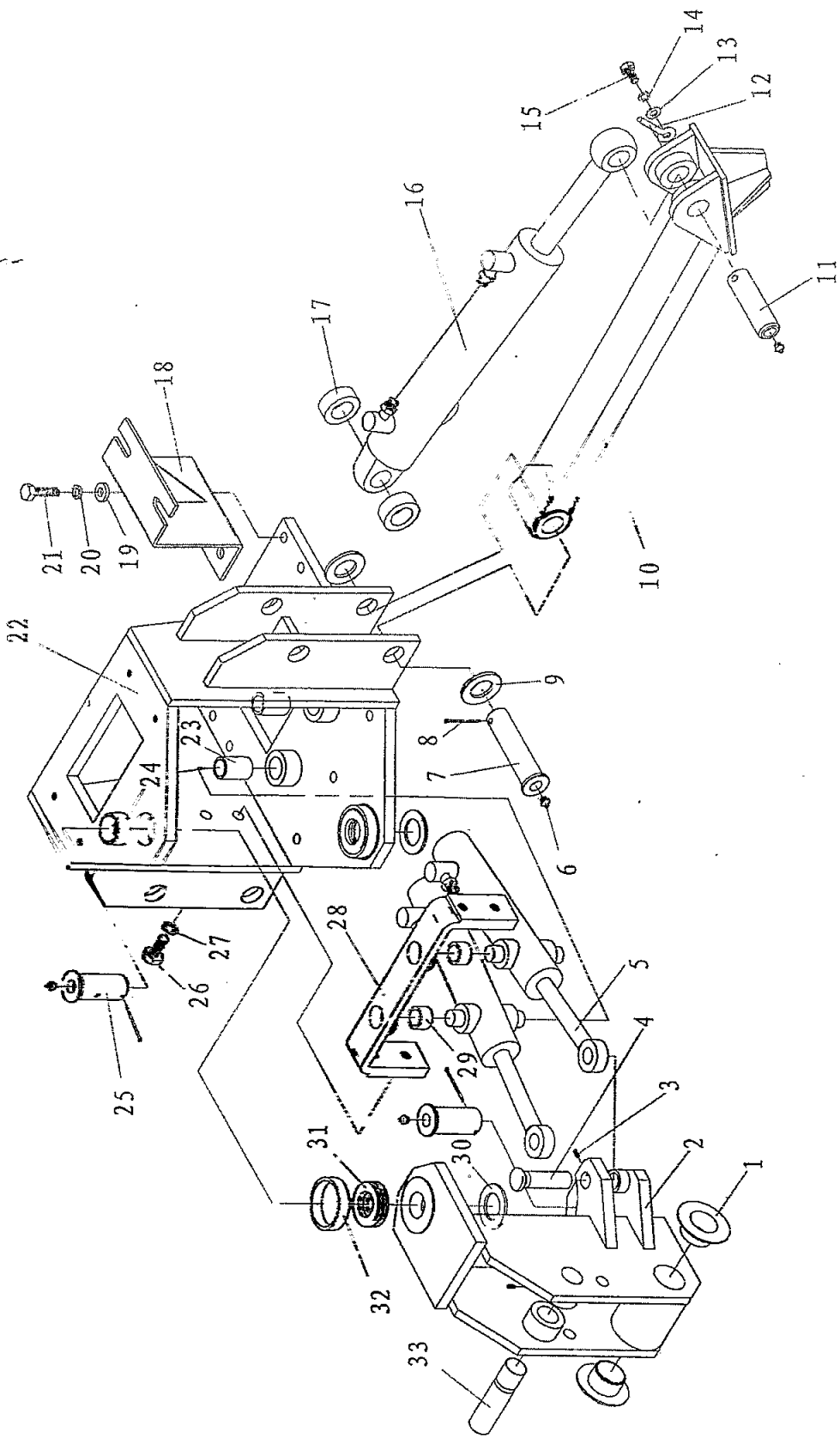
序号 Ser No.	图号 Parts No.	名称	Name of Parts	数量 Qty
1	GB/T10-1988	螺栓 M12 × 1.5 × 45-8.8	Bolt M12 × 1.5 × 45-8.8	6
2	WZ20-03-08-02	斗齿	Tooth	3
3	HW03.10.102	衬板	Lining plate	1
4	GB/T93-1987	垫圈 12	Washer 12	12
5	GB/T6171-1986	螺母 M12 × 1.5-8	Nut M12 × 1.5-8	6
6	HW03.10.010-1	斗体焊合件 (斗容 0.03m ³) 或	Bucket (Volume 0.03m ³) -	1
6	HW03.10.010-A	斗体焊合件 (斗容 0.04m ³)	or-	1
7	HW03.10.114	销轴	Bucket (Volume 0.04m ³)	1
8	HW03.10.115	销轴	Axis pin	1
9	GB/T 1152-1989	油杯 M6	Axis pin	9
10	HW03.11.103	隔套 I	Grease M6	1
11	HW03.11.106	隔套 II	Spacer I	1
12	HW03.11.104	衬套	Spacer II	6
13	HW03.10.302	隔圈 I	Bush	6
14	HW03.10.301	销轴	Spacer ring I	2
15	HW03.10.303-1	摇臂	Axis pin	2
16	GB/T5786-1986	螺栓 M12 × 1.5 × 25	Link arm	6
17	GB/T97.1-1985	垫圈 12	Bolt M12 × 1.5 × 25	6
18	HW03.10.116	固定销	Washer 12	6
19	HW03.11.011	斗杆焊合件	stop pin	1
20	HW03.11.112	隔套 III	Dipperstick assembly	1
21	HW03.11.113	销轴	Spacer III	2
22	SG1E63 × E-E	铲斗油缸	Axis pin	1
23	HW03.10.202	衬套	Bucket cylinder	4
24	HW03.10.012	连杆焊合件	Bush	1
25	HW03.10.201	挡尘套管	Bucket arm	1
			Dust pin	



BACKHOE BOOM ASSEMBLY II

Buckhoe Boom Assembly

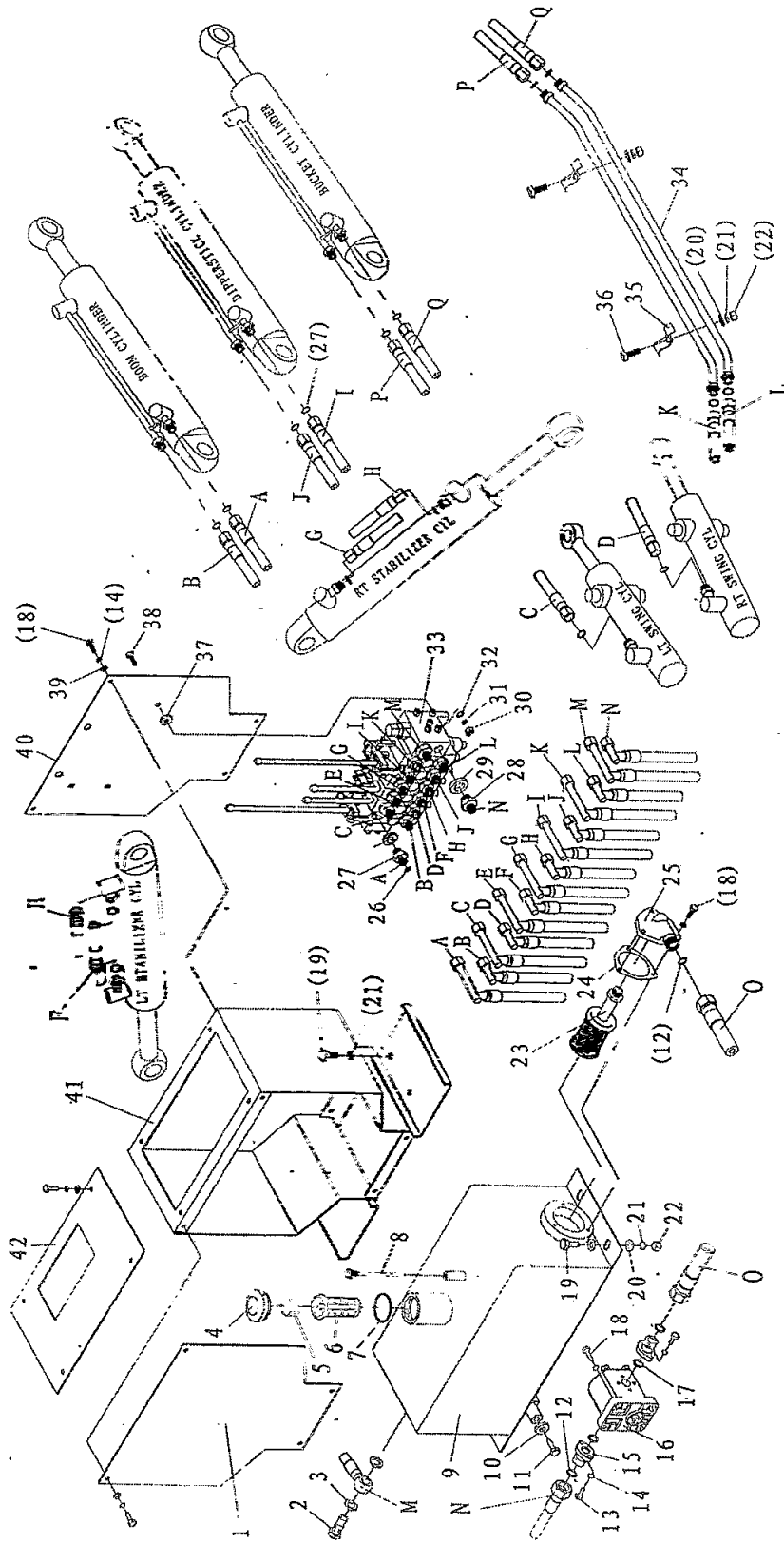
序号 Ser No.	图号 Parts No.	名称	Name of Parts	数量 Qty
1	GB/T1152-1989	油杯 M6	Grease M6	4
2	HW03.12.112	销轴	Axis pin	1
3	HW03.12.010	动臂焊合件	Boom weldment assembly	1
4	HW03.12.113	销轴	Axis pin	2
5	HW03.12.115	销轴	Axis pin	1
6	SG1E70 × 290E-E	斗杆、动臂油缸	Dipperstick & boom cylinder	2
7	HW03.10.116	固定销	Stop pin	4
8	GB/T97.1-1985	垫圈 12	Washer 12	4
9	GB/T93-1987	垫圈 12	Washer 12	4
10	GB/T5786-1986	螺栓 M12 × 1.5 × 25	Bolt M12 × 1.5 × 25	4
11	160.35.107	弹簧锁销	Lock pin	1
12	HW03.12.114	安全销	Safety pin	1



BACKHOE MAIN FRAME ASSEMBLY III

Backhoe Main Frame Assembly

序号 Ser No.	图号 Parts No.	名称	Name of Parts	数量 Qty
1	HW03.13.113	衬套	Bush	2
2	HW03.13.010-1	动臂座焊合件	Kingpost weldment assembly	1
3	GB/T 71-1985	螺钉 M6 × 14	Screw M6 × 14	3
4	HW03.13.112-1	轴	Shaft	2
5	SG1E50 × 180T-E	回转油缸	Swing cylinder	2
6	GB/T1152-1989	油杯 M6	Grease M6	8
7	HW03.14.111	销轴	Axis pin	4
8	GB/T91-1986	销 4 × 60	Pin 4 × 60	6
9	HW03.14.112	隔圈 IV	Spacer ring IV	8
10	HW03.16.010	支腿焊合件	Stabilizer weldment assembly	2
11	HW03.16.111	销轴	Axis pin	2
12	HW03.10.116	固定销	Stop pin	2
13	GB/T97.1-1985	垫圈 12	Washer 12	2
14	GB/T93-1987	垫圈 12	Washer 12	2
15	GB/T5786-1986	螺栓 M12 × 1.5 × 25	Bolt M12 × 1.5 × 25	2
16	SG1E63 × 260E-E	支腿油缸	Stabilizer cylinder	2
17	HW03.14.113	隔圈 V	Spacer ring V	4
18	HW03.15.020	油箱支架焊合件	Oil box bracket	2
19	GB/T97.1-1985	垫圈 14	Washer 14	9
20	GB/T93-1987	垫圈 14	Washer 14	9
21	GB/T5783-1986	螺栓 M14 × 50-8.8	Bolt M14 × 50-8.8	9
22	HW03.14.010	支撑座焊合件	Main frame assembly	1
23	HW03.14.109	衬套	Bush	2
24	HW03.14.110	衬套	Bush	2
25	HW03.13.115	销轴	Axis pin	2
26	GB/T93-1987	垫圈 16	Washer 16	4
27	GB/T5783-1986	螺栓 M16*30	Bolt M16 × 30	4
28	HW03.14.011	回转油缸支座焊合件	Swing cylinder bracket	1
29	HW03.14.204	衬套	Bush	2
30	HW03.13.116	隔圈 III	Spacer ring III	2
31	GB/T301-1995	滚动轴承 51208	Bearing 51208	2
32	HW03.13.117	轴承套	Sleeve	2
33	HW03.13.114	轴	Shaft	1



BACKHOE HYDRAULIC SYSTEM ASSEMBLY IV

Backhoe Hydraulic System Assembly

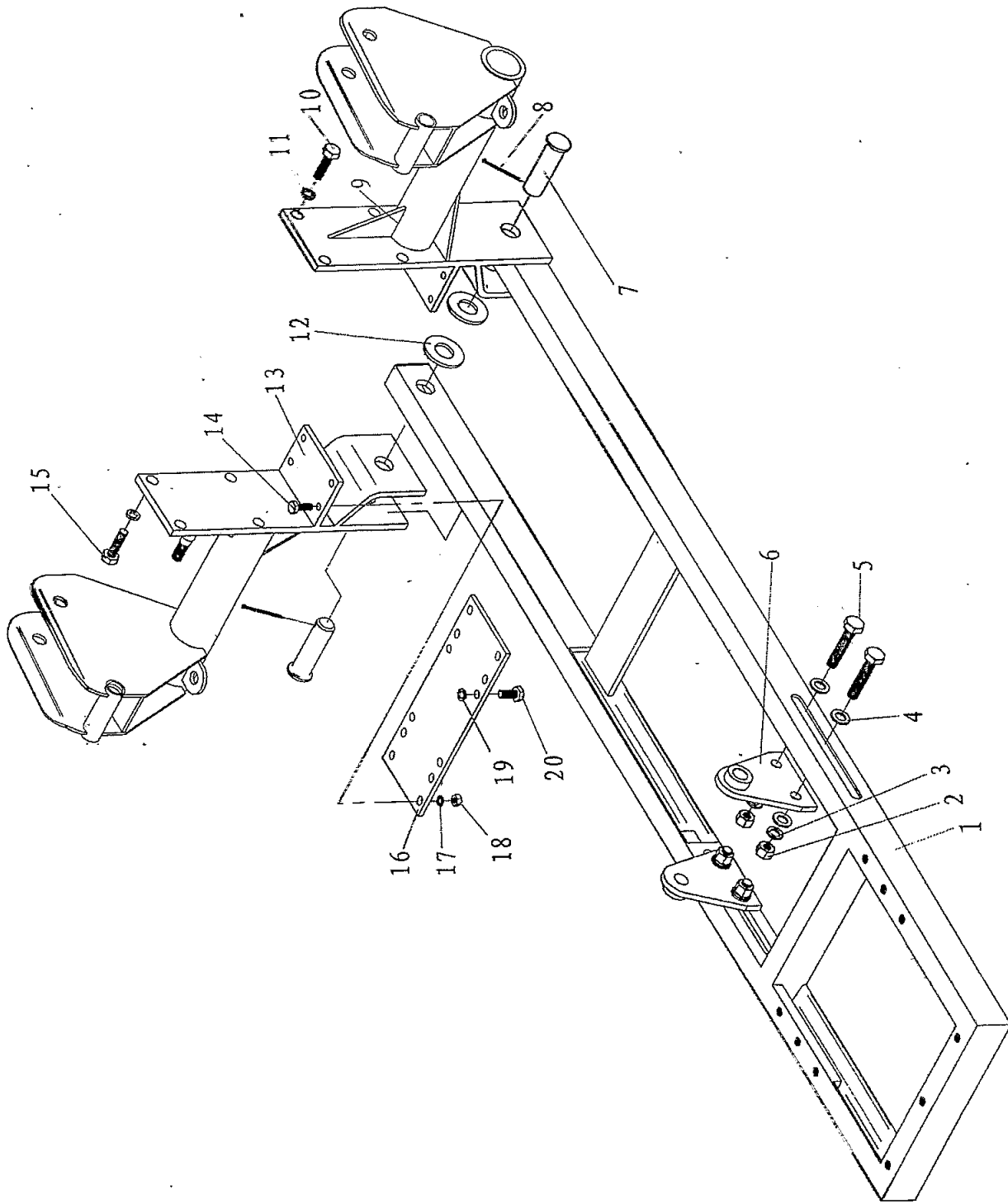
序号 Ser No.	图号 Parts No.	名称	Name of Parts	数量 Qty
1	HW03.15.214	后板	Rear plate	1
2	160.54.108	铰接螺栓	Hollow bolt	1
3		复合垫圈 18	Compound washer 18	14
4	HW03.15.014	加油盖铆合件	Cap	1
5	HW03.15.005	防尘海绵	Dust foam	1
6	160.50.015	滤网组件	Screen	1
7	HW03.15.109	滤网座	Seat	1
8	HW03.15.013	油尺焊合件	Dipsstick	1
9	HW03.15.012	油箱焊合件	Oil tank	1
10		复合垫圈 14	Compound washer 14	1
11	GB/T5786-1986	螺栓 M14 × 1.5 × 30	Bolt M14 × 1.5 × 30	1
12	GB3452.1-1992	O形密封圈 15 × 2.65	O-Ring 15 × 2.65	3
13	GB/T5783-1986	螺栓 M8 × 20	Bolt M8 × 20	4
14	GB/T93-1987	垫圈 8	Washer 8	23
15	DP184.54.131	进油管泵接头	Connector	2
16	CBN-E310-右	齿轮泵	Gear pump	1
17	GB3452.1-1992	O形密封圈 18 × 2.65	O-Ring 18 × 2.65	2
18	GB/T5783-1986	螺栓 M8 × 25	Bolt M8 × 25	19
19	GB/T5783-1986	螺栓 M12 × 30	Bolt M12 × 30	8
20	GB/T97.1-1985	垫圈 12	Washer 12	10
21	GB/T93-1987	垫圈 12	Washer 12	10
22	GB/T6170-1986	螺母 M12	Nut M12	6
23	160.54.013-1	吸油滤清器	Filter	1
24	160.54.110	纸垫	Gasket	1
25	HW03.15.114	吸油管接头	Connector	1
26	GB3452.1-1992	O形密封圈 7.5 × 2.65	O-Ring 7.5 × 2.65	30
27	HW03.15.121	进出油口接头	Connector	12
28	HW03.15.122	进回油管接头	Connector	2
29		复合垫圈 22	Compound washer 22	2
30	GB/T6170-1986	螺母 M10	Nut M10	3
31	GB/T93-1987	垫圈 10	Washer 10	3
32	GB/T97.1-1986	垫圈 10	Washer 10	3
33	DLS-10-03	多路阀总成	Valve	1
34	HW03.15.021	进出油管焊合件	Hose	2

Backhoe Hydraulic System Assembly

序号 Ser No.	图 号 Parts No.	名 称	Name of Parts	数量 Qty
35	HW03.12.116	管卡	Clamp	2
36	GB/T5783-1986	螺栓 M12 × 35	Bolt M12 × 35	2
37	HW03.15.215-1	垫圈	Washer	3
38	GB/T5783-1986	螺栓 M10 × 40	Bolt M10 × 40	3
39	GB/T97.1-1985	垫圈 8	Washer 8	12
40	HW03.15.213-1	前板	Front plate	1
41	HW03.15.019-2	阀座焊合件	Seat	1
42	HW03.15.212-1	盖板	Cover	1

Oil Pipe

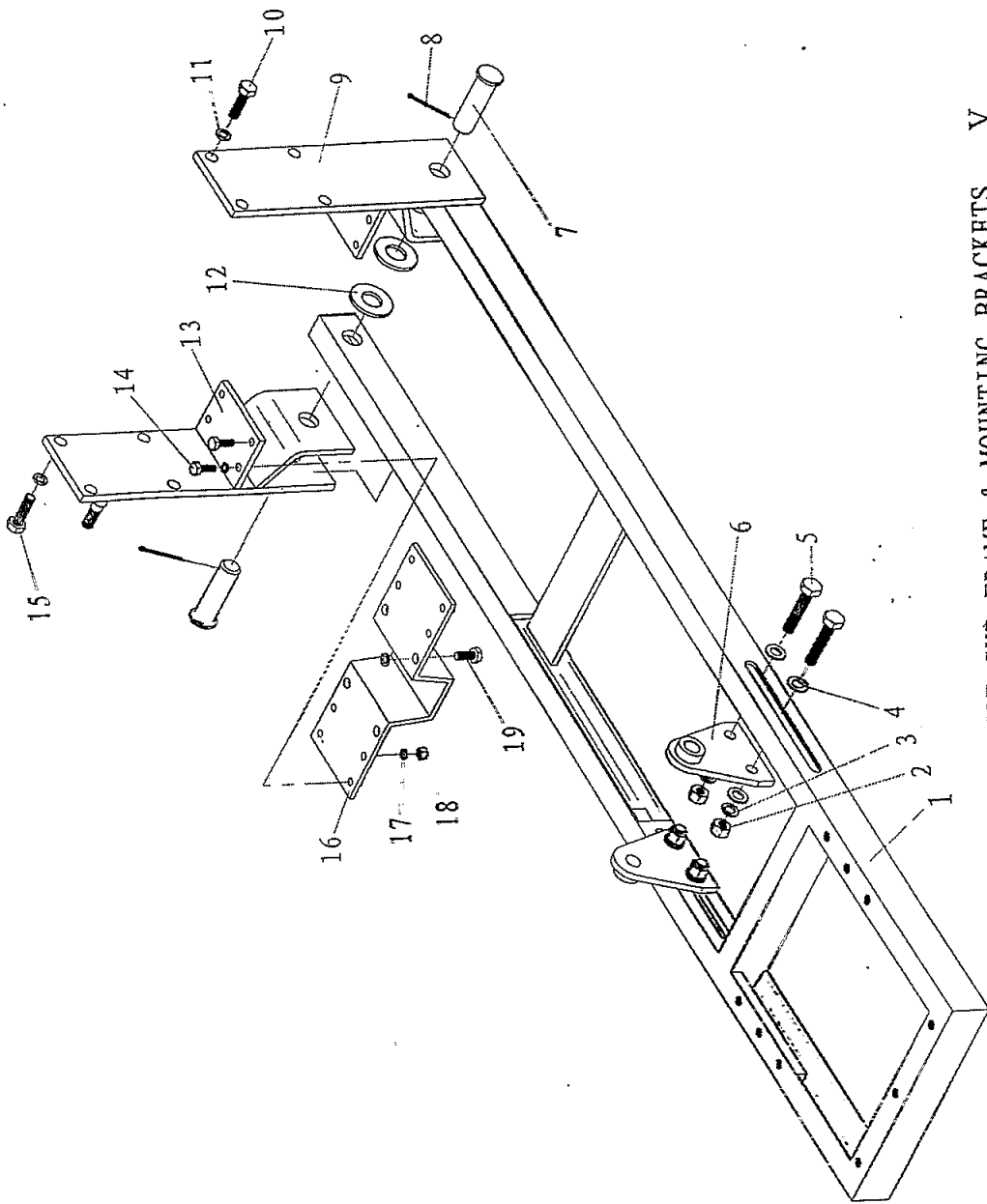
序号 Ser No.	图号 Parts No.	名称	Name of Parts	数量 Qty
A	HW03.15.028-1	动臂缸油管总成(甲) (1050)	Hose (1050)	1
B	HW03.15.029	动臂缸油管总成(乙) (1050)	Hose (1050)	1
C	HW03.15.025-1	支腿缸(甲)及回转缸油管总成(950)	Hose (950)	1
D	HW03.15.027-1	回转缸油管总成(950)	Hose (950)	1
E	HW03.15.032	铲斗缸油管总成(甲) (1250)	Hose (1250)	1
F	HW03.15.026-1	支腿缸(乙)及铲斗缸油管总成(1250)	Hose (1250)	1
G	HW03.15.032	铲斗缸油管总成(甲) (1250)	Hose (1250)	1
H	HW03.15.026-1	支腿缸(乙)及铲斗缸油管总成(1250)	Hose (1250)	1
I	HW03.15.030	斗杆缸油管总成(甲) (1700)	Hose (1700)	1
J	HW03.15.031	斗杆缸油管总成(乙) (1700)	Hose (1700)	1
K	HW03.15.032	铲斗缸油管总成(甲) (1250)	Hose (1250)	1
M	HW03.15.024-1	多路阀回油管总成(850)	Hose (850)	1
N	HW03.15.023-1	齿轮泵出油管总成(1100)	Hose (1100)	1
O	HW03.15.022-1	齿轮泵吸油管总成(400)	Hose (400)	1
P	HW03.15.033	铲斗缸油管总成(乙) (700)	Hose (700)	1
Q	HW03.15.033	铲斗缸油管总成(乙) (700)	Hose (700)	1



BACKHOE SUB-FRAME & MOUNTING BRACKETS V

Backhoe Sub-frame Mounting Brackets(2 cylinder,with front loader)

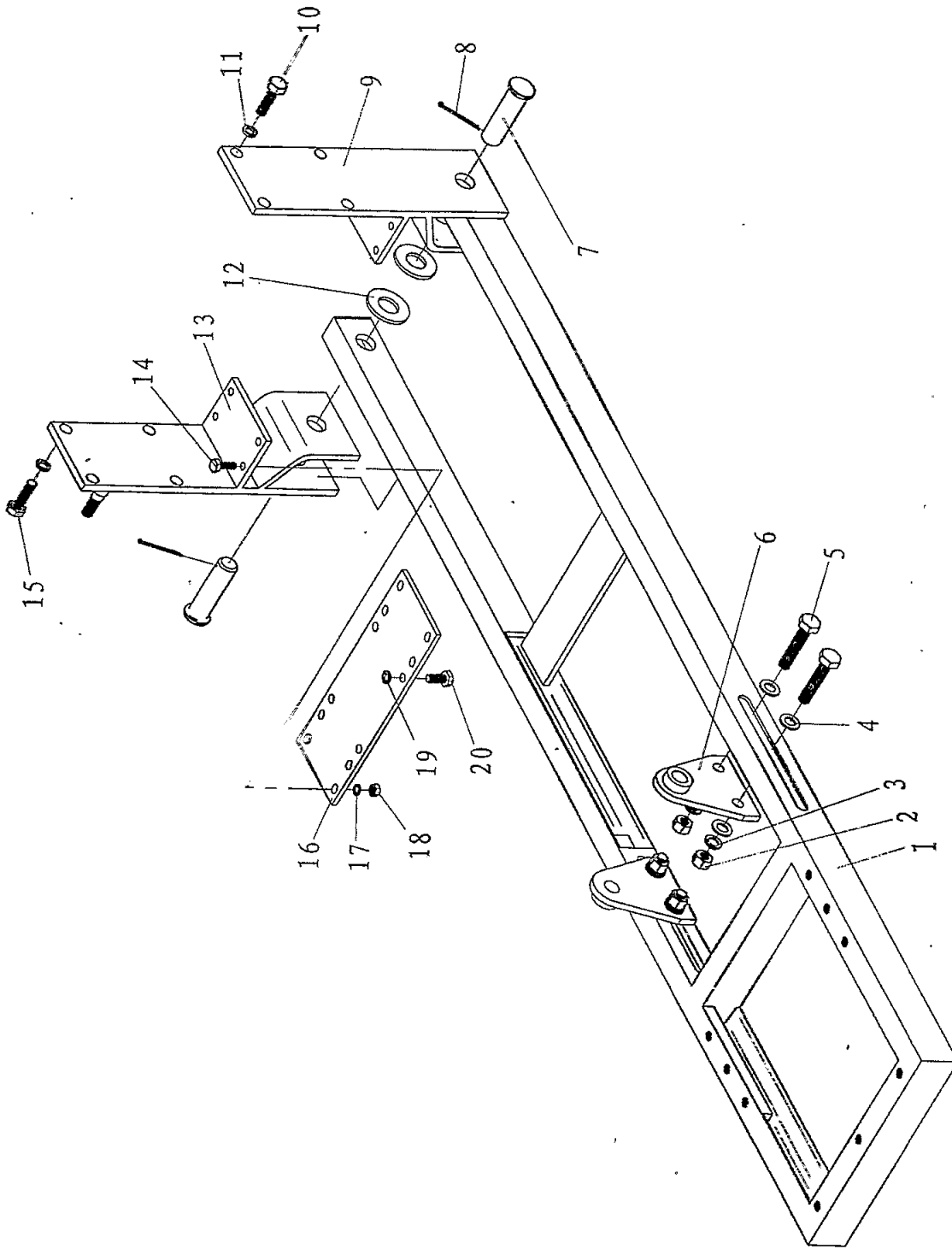
序号 Ser No.	图号 Parts No.	名称	Name of Parts	数量 Qty
1	HW03.17.011-1	机架焊合件	Backhoe sub-frame assembly	1
2	GB/T6170-1986	螺母 M16-8	Nut M16-8	4
3	GB/T93-1987	垫圈 16	Washer 16	4
4	GB/T97.1-1985	垫圈 16	Washer 16	4
5	GB/T5782-1986	螺栓 M16 × 80-8.8	Bolt M16 × 80-8.8	4
6	HW03.17.010	后挂接焊合件	Rear frame	2
7	HW03.17.213	销轴	Axis pin	2
8	GB/T91-1986	销 4 × 60	pin 4 × 60	2
9	HW03.17.015-1	左支撑挂接焊合件	Left frame	1
10	GB/T5783-1986	螺栓 M14 × 35-8.8	Bolt M14 × 35-8.8	6
11	GB/T93-1987	垫圈 14	Washer 14	8
12	HW03.17.212	垫圈	Washer	2
13	HW03.17.016-1	右支撑挂接焊合件	Right frame	1
14	GB/T5783-1986	螺栓 M10 × 30	Bolt M10 × 30	8
15	GB/T5783-1986	螺栓 M14 × 40-8.8	Bolt M14 × 40-8.8	2
16	ZL-20.102-2	连接板	Connecting plate	1
17	GB/T93-1987	垫圈 10	Washer 10	8
18	GB/T6170-1986	螺母 M10	Nut M10	8
19	GB/T93-1987	垫圈 12	Washer 12	4
20	GB/T5783-1986	螺栓 M12 × 25	Bolt M12 × 25	4



BACKHOE SUB-FRAME & MOUNTING BRACKETS V

Backhoe Sub-frame Mounting Brackets(3 cylinder)

序号 Ser No.	图号 Parts No.	名称	Name of Parts	数量 Qty
1	HW03.17.011-1	机架焊合件	Backhoe sub-frame assembly	1
2	GB/T6170-1986	螺母 M16-8	Nut M16-8	4
3	GB/T93-1987	垫圈 16	Washer 16	4
4	GB/T97.1-1985	垫圈 16	Washer 16	4
5	GB/T5782-1986	螺栓 M16 × 80-8.8	Bolt M16 × 80-8.8	4
6	HW03.17.010	后悬挂焊合件	Rear frame	2
7	HW03.17.213	销轴	Axis pin	2
8	GB/T91-1986	销 4 × 60	pin 4 × 60	2
9	HW03.17.012-B	左悬挂焊合件	Left frame	1
10	GB/T5783-1986	螺栓 M14 × 35-8.8	Bolt M14 × 35-8.8	6
11	GB/T93-1987	垫圈 14	Washer 14	12
12	HW03.17.212	垫圈	Washer	2
13	HW03.17.013-B	右悬挂焊合件	Right frame	1
14	GB/T5783-1986	螺栓 M10 × 30	Bolt M10 × 30	8
15	GB/T5783-1986	螺栓 M14 × 40-8.8	Bolt M14 × 40-8.8	2
16	HW03.17.014	连接板焊合件	Connecting plate	1
17	GB/T93-1987	垫圈 10	Washer 10	8
18	GB/T6170-1986	螺母 M10	Nut M10	4
19	GB/T5783-1986	螺栓 M14 × 30	Bolt M14 × 30	4

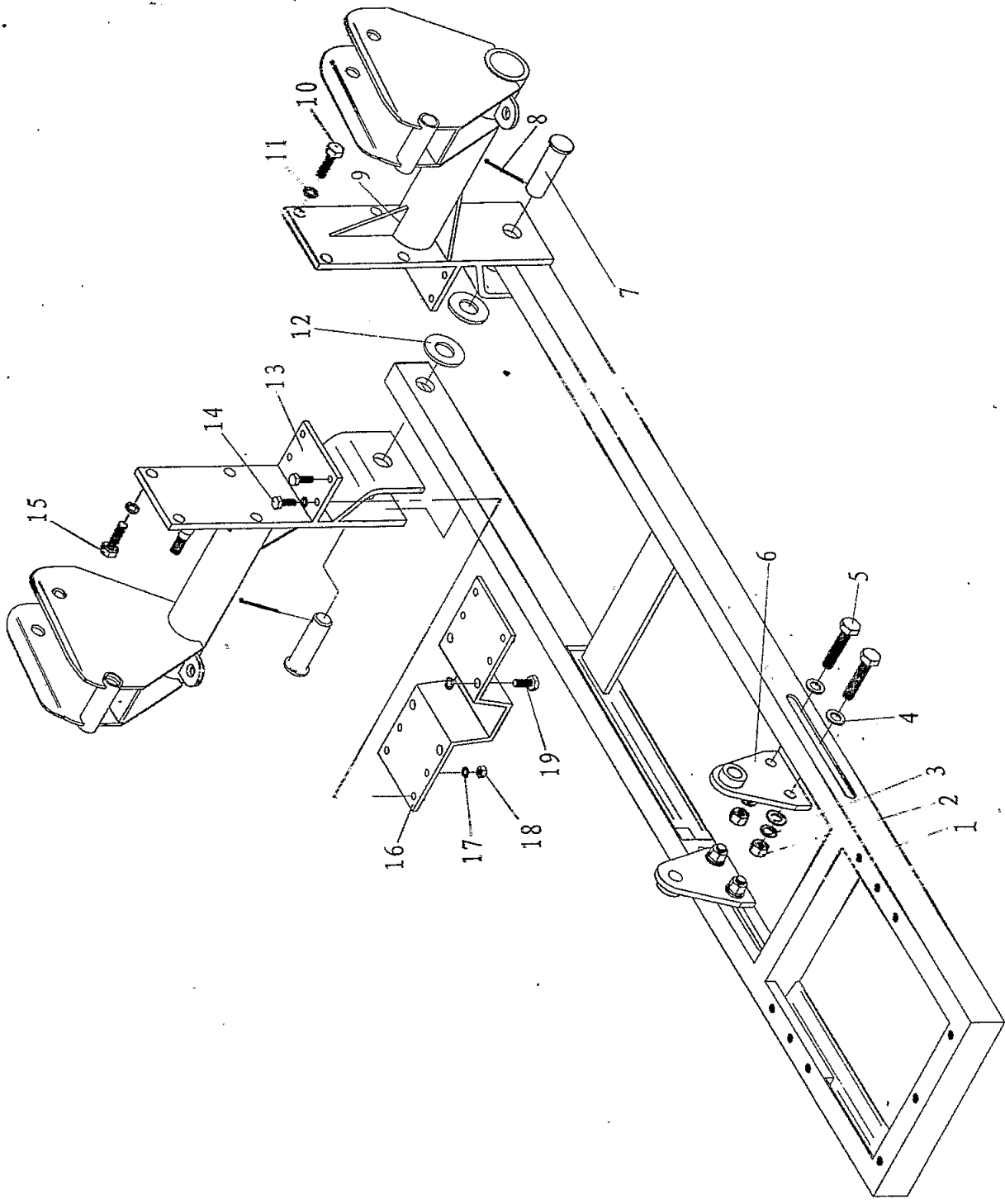


BACKHOE SUB-FRAME & MOUNTING BRACKETS V

12B

Backhoe Sub-frame Mounting Brackets(2 cylinder)

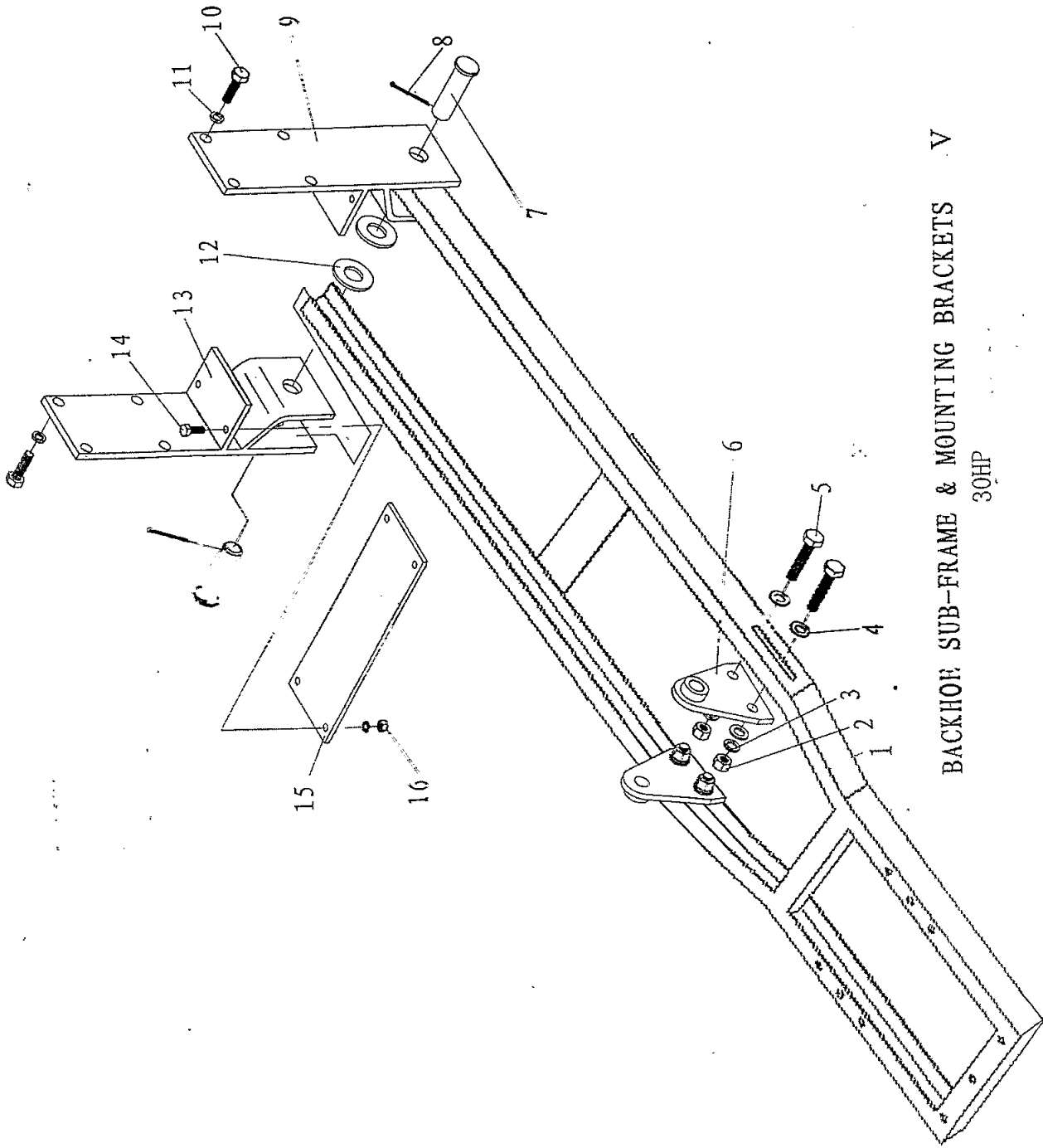
序号 Ser No.	图号 Parts No.	名称	Name of Parts	数量 Qty
1	HW03.17.011-1	机架焊合件	Backhoe sub-frame assembly	1
2	GB/T6170-1986	螺母 M16-8	Nut M16-8	4
3	GB/T93-1987	垫圈 16	Washer 16	4
4	GB/T97.1-1985	垫圈 16	Washer 16	4
5	GB/T5782-1986	螺栓 M16 × 80-8.8	Bolt M16 × 80-8.8	4
6	HW03.17.010	后挂接焊合件	Rear frame	2
7	HW03.17.213	销轴	Axis pin	2
8	GB/T91-1986	销 4 × 60	pin 4 × 60	2
9	HW03.17.012-1	左挂接焊合件	Left frame	1
10	GB/T5783-1986	螺栓 M14 × 35-8.8	Bolt M14 × 35-8.8	6
11	GB/T93-1987	垫圈 14	Washer 14	8
12	HW03.17.212	垫圈	Washer	2
13	HW03.17.013-1	右挂接焊合件	Right frame	1
14	GB/T5783-1986	螺栓 M10 × 30	Bolt M10 × 30	8
15	GB/T5783-1986	螺栓 M14 × 40-8.8	Bolt M14 × 40-8.8	2
16	ZL-20.102-2	连接板	Connecting plate	1
17	GB/T93-1987	垫圈 10	Washer 10	8
18	GB/T6170-1986	螺母 M10	Nut M10	8
19	GB/T93-1987	垫圈 12	Washer 12	4
20	GB/T5783-1986	螺栓 M12 × 25	Bolt M12 × 25	4



BACKHOE SUB-FRAME & MOUNTING BRACKETS V

Backhoe Sub-frame Mounting Brackets(3 cylinder,with front loader)

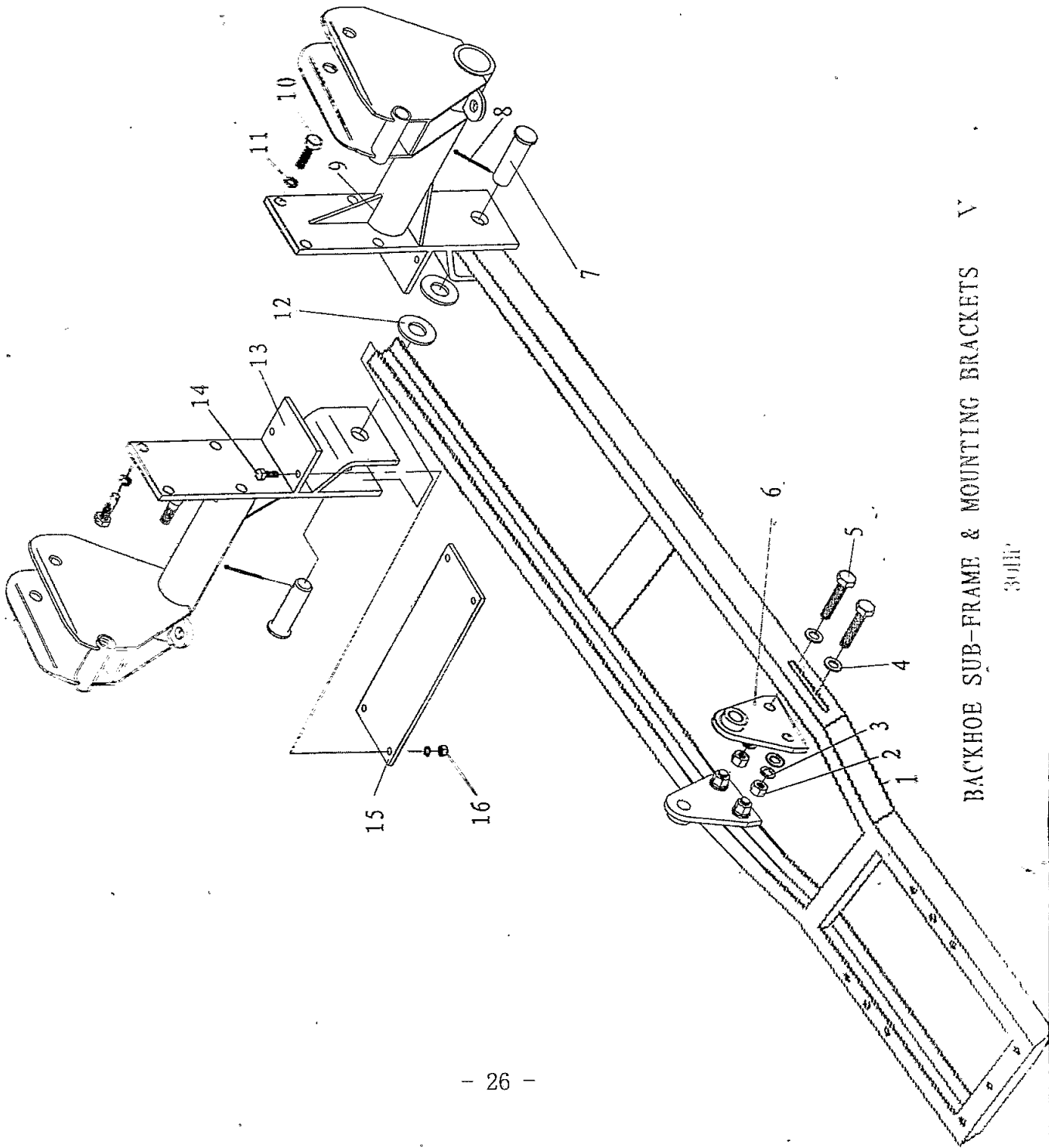
序号 Ser No.	图号 Parts No.	名称	Name of Parts	数量 Qty
1	HW03.17.011-1	机架焊合件	Backhoe sub-frame assembly	1
2	GB/T6170-1986	螺母 M16-8	Nut M16-8	4
3	GB/T93-1987	垫圈 16	Washer 16	4
4	GB/T97.1-1985	垫圈 16	Washer 16	4
5	GB/T5782-1986	螺栓 M16 × 80-8.8	Bolt M16 × 80-8.8	4
6	HW03.17.010	后挂接焊合件	Rear frame	2
7	HW03.17.213	销轴	Axis pin	2
8	GB/T91-1986	销 4 × 60	pin 4 × 60	2
9	HW03.17.015-B	左挂接焊合件	Left frame	1
10	GB/T5783-1986	螺栓 M14 × 35-8.8	Bolt M14 × 35-8.8	6
11	GB/T93-1987	垫圈 14	Washer 14	12
12	HW03.17.212	垫圈	Washer	2
13	HW03.17.016-B	右挂接焊合件	Right frame	1
14	GB/T5783-1986	螺栓 M10 × 30	Bolt M10 × 30	8
15	GB/T5783-1986	螺栓 M14 × 40-8.8	Bolt M14 × 40-8.8	2
16	HW03.17.014	连接板焊合件	Connecting plate	1
17	GB/T93-1987	垫圈 10	Washer 10	8
18	GB/T6170-1986	螺母 M10	Nut M10	4
19	GB/T5783-1986	螺栓 M14 × 30	Bolt M14 × 30	4



BACKHOE SUB-FRAME & MOUNTING BRACKETS V
30HP

Backhoe Sub-frame Mounting Brackets

序号 Ser No.	图号 Parts No.	名称	Name of Parts	数量 Qty
1	HW03.17IL011	机架焊合件	Backhoe sub-frame assembly	1
2	GB/T6170-1986	螺母 M16-8	Nut M16-8	4
3	GB/T93-1987	垫圈 16	Washer 16	4
4	GB/T97.1-1985	垫圈 16	Washer 16	8
5	GB/T5782-1986	螺栓 M16 × 80-8.8	Bolt M16 × 80-8.8	4
6	HW03.17IL010	后挂接焊合件	Rear frame	2
7	HW03.17.213	销轴	Axis pin	2
8	GB/T91-1986	销 4 × 60	pin 4 × 60	2
9	HW03.17IL013-1	左挂接焊合件	Left frame	1
10	GB/T5783-1986	螺栓 M12 × 30	Bolt M12 × 30	8
11	GB/T93-1987	垫圈 12	Washer 12	12
12	HW03.17.212	垫圈	Washer	2
13	HW03.17IL012-1	右挂接焊合件	Right frame	1
14	GB/T5783-1986	螺栓 M12 × 35	Bolt M12 × 35	4
15	HW03.17IL401	连接板	Connecting plate	1
16	GB/T6170-1986	螺母 M12	Nut M12	4



BACKHOE SUB-FRAME & MOUNTING BRACKETS V

300HP

Backhoe Sub-frame Mounting Brackets(with front loader)

序号 Ser No.	图号 Parts No.	名称	Name of Parts	数量 Qty
1	HW03.17II.011	机架焊合件	Backhoe sub-frame assembly	1
2	GB/T6170-1986	螺母 M16-8	Nut M16-8	4
3	GB/T93-1987	垫圈 16	Washer 16	4
4	GB/T97.1-1985	垫圈 16	Washer 16	8
5	GB/T5782-1986	螺栓 M16 × 80-8.8	Bolt M16 × 80-8.8	4
6	HW03.17II.010	后挂接焊合件	Rear frame	2
7	HW03.17.213	销轴	Axis pin	2
8	GB/T91-1986	销 4 × 60	pin 4 × 60	2
9	HW03.17II.016-1	左挂接焊合件	Left frame	1
10	GB/T5783-1986	螺栓 M12 × 30	Bolt M12 × 30	8
11	GB/T93-1987	垫圈 12	Washer 12	12
12	HW03.17.212	垫圈	Washer	2
13	HW03.17II.015-1	右挂接焊合件	Right frame	1
14	GB/T5783-1986	螺栓 M12 × 35	Bolt M12 × 35	4
15	HW03.17II.401	连接板	Connecting plate	1
16	GB/T6170-1986	螺母 M12	Nut M12	4