



MODEL XQ114/9 HYDRAULIC POWER TONG

PARTS **OPERATION MANUAL**




BIG RIG SUPPLY CO., LTD.

Safety Instruction and Legend Description


Safety Instruction

- Operators must read and know this manual well.
- Operators must wear work uniform, safety shoes, safety helmet, safety gloves, etc.
- Tie the back guy according to the instruction. Don't tie it in the wrong direction.
- Operation at the side of tong body opening.
- Don't touch the running parts with hands when the tong is running.
- Don't touch the running parts with hands when the tong is running.
- Keep sundries out of the working area.
- The pump should be off or the hydraulic tong power shut down as maintaining or hanging the jaw plates, die seats or tong dies.
- Over-pressure and over-torque are forbidden.
- Don't add or dismount any parts to the tong.

Legend Description

 Serious Warning

 Warning

 Recommendation or Suggestion

 Safety first, standard operation problems may occur if bugs are not rid of.

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1. Summary

Model XQ114/9(4 1/2") hydraulic power tong is an open type power tong for the making up and breaking out of tubing in well services. This product has the following features:

- 1.1 The tong is made up of master tong and backup tong, the master tong has a high and low gear train, the tong is compact, light and efficient.
- 1.2 The master tong and backup hydraulics operate on valve banks independent of each other.
- 1.3 There is an evident speed :high speed at top grade and large torque at low grade.
- 1.4 The tong has incorporated a new system of disc brake to hold the jaws to connection more effectively.
- 1.5 Makeup and breakout are made easy with a simple turn to the reset knob on the tong and backup.
- 1.6 The backup has been supplied with quick coupling hoses and connections for quick and easy installation for jobs where you need a backup and the backup can be removed in seconds for jobs that a backup is not required.

2. SEPCIFICATION

2.1 Application tubing range:	60mm -114mm	(2 3/8"-4 1/2")
2.2 High gear rated torque:	1.6 kN m	(1180 ft lbs)
2.3 Low gear rated torque:	9 kN m	(6637 ft lbs)
2.4 High gear max rotation speed:	80rpm	
2.5 Low gear max rotation speed:	14 rpm	
2.6 Opening of tong head:	118mm	(4.6")
2.7 Overall dimension (L×W×H):	930×572×650mm	(36.6"×22.5"×25.6")
2.8 Weight:	330kg	(727 lbs)
2.9 Rated system pressure:	12MPa	(1740 PSI)
2.10 Max oil supply:	100L/min	(26GPM)

3. INSTALLATION

3.1 Examination before installation

- Examine the power tong, if damage by transportation should be maintain.
- Examine the fastener, if loose tightened.

3.2 Hanging

Connect lift with tong hanging rod(XQ9-30) and hang the tong on the derrick of workover rig. The hanging height is proper when the backup tong could rightly grip the tubing collar(see Fig.1).

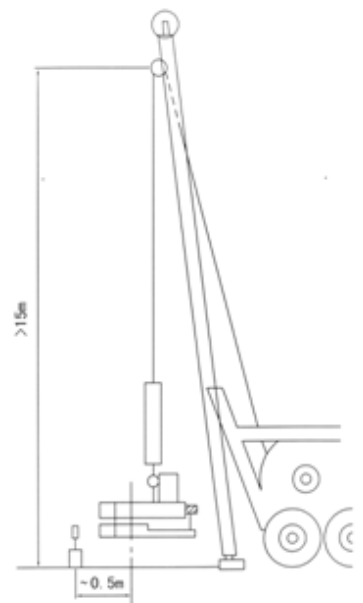


Fig.1



- The hanging point is 15 m above ground.
- Under free hanging, power tong head's center is about 0.5m above the well center.
- Adjust the extend end of suspender face down, when installing the casket.



3.3 Level

Adjust the screw (XQ9-31) on the tong hanger to level the tong and backup, this should be done to ensure proper gripping of the jaws (see Fig.5).

3.4 Back guy

Tie one end of back guy on derrick and the other end on back guide seat (XQ9-57) of power tong, back guy should be capable of bearing a load of 20 kN, when power tong is in make up position, the back guy should be at right angle to the tong and on the opposite side of operator who operates the control handles (see Fig.2), this insures a safe operation.

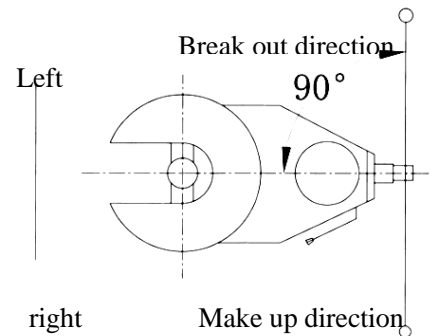


Fig.2

3.5 Pressure hoses

Connect hoses from the hydraulic power source to the control valve bank of the power tong. The inlet and the outlet hoses can't be misconnected.

4. OPERATION

4.1 Make up

After aligning the opening tong head with the backup, turn the reset knobs of each (XQ9-136) and (XQ9-243) switch the arrow to point the direction of make-up. Locate the tong and backup on to the tubing. The backup should be engaged to lock onto the tubing first.

Once the backup jaws have been locked on, commence make up with the tong. After the tubing is made up, reverse rotation of the tong to align the opening of the tong with the tubing. Once this is accomplished, reverse the backup to align the opening of the backup to the tubing. The tong can be moved off the tubing. Confirm proper make up torques required from your tubing supplier.

4.2 Break out

Aligning the opening tong head with the backup, turn the reset knobs of each (XQ9-136) and (XQ9-243) and switch them to point the direction of break out, then push it towards the tubing. Making the jaws of the tong and the backup line up squarely on tubing. Engage the backup first locking onto the tubing. Commence break out with the tong. Initial break out should always be done in low gear range. Once break out is accomplished. The joint may be spun off in high gear. To come off the couplings reverse the rotation of the tong and backup slowly to align the opening of the tong and backup to the tubing. The tong can now be removed off the tubing.



- Don't disassemble hydraulic pipe at a high pressure, otherwise, accidents may occur and the equipment may be damaged.
- Don't approach the running part of hydraulic power tong by your body or clothes.
- Only operators are allowed to approach hydraulic tong to avoid trouble caused by turning the operating lever.



- The temperature of the hydraulic oil should not be over 65°C. Over heating can make hydraulic system seal fail to work and slow down the running speed of tong.



4.3 Replacing jaws

Tong and backup insert jaws slide into the tong heads easily. Between opening sides of master tong and back tong, limit screw (XQ9-82),(XQ9-83) shall be set to prevent jaws out of position when in operation. In case of taking jaw out, activate master tong or back tong to expose limit screw, loose limit screw (XQ9-82) or (XQ9-83), take out or load jaws from the master tong or back tong opening place. Specification of jaws shall comply with gripper pipe.

4.4 Replacing die

Use screwdriver to knock out die stop pin (XQ9-96), then tack out die. The tong die have two kinds. One die is large arc, and another die is small arc. Back of the die mark the available size, the big arc die is available to clamp the tubing size 89~141(3 1/2"~4 1/2"); the small arc die is available to clamp the tubing size 60~78(2 7/8"~3").

4.5 Shift Gear Control

Manipulate hand control valve (XQ9-16), press fork axle gear (XQ9-105, it is top gear, manipulate hand control valve, up fork axle gear, now it is low speed gear. Gear shift operation must be carried out under low speed to avoid any damage to transmission gear.

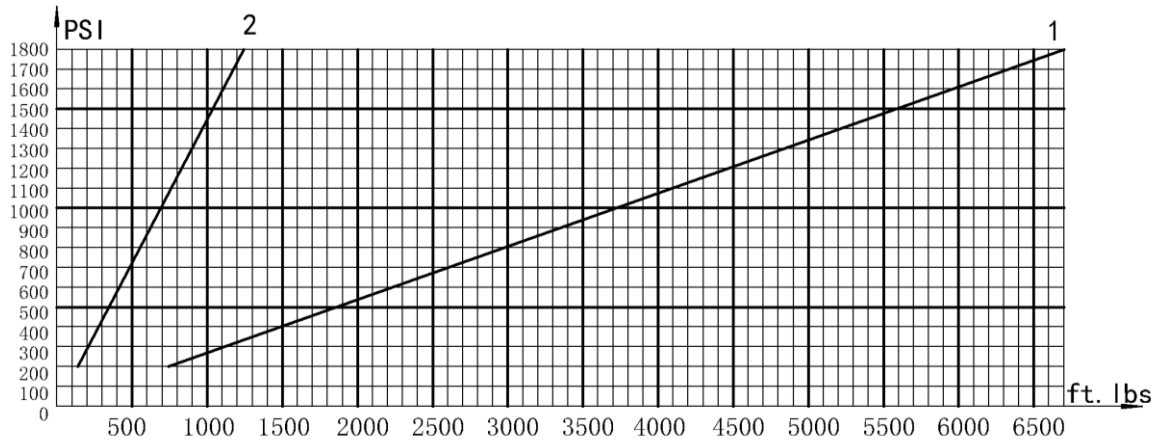
5. MAINTENANCE & LUBRICATION

To ensure the operation is reliable, users should establish normal maintenance program. Observe the following suggestions, normal maintenance and lubrication will prolong the service life and ensure the safety of the operators.

- After every transportation, it is necessary to wash master tong and backup tong with kerosene or diesel oil and inject grease to oil cups of machine body, jaw set and jaw set bracket on master tong and backup tong, the surface of open gears.
- Use kerosene or diesel oil clean master tong and backup tong after clean the tong. Then grease every moving parts before operating the power tong.
- After clean tong head, grease jaw, jaw set and opening gear.
- After every use, clear water and oil dust in tong immediately and keep the equipment clean.
- After every use in well service, it is necessary to inject lubricating grease to every rotary pin shaft.
- Do not use vapor to clear tong in case the inner part loses oil or water enters into the inner part which may cause damage to parts.
- The temperature of hydraulic oil should not be over 65°C. The over heat will make the seal of hydraulic pressure system out of order.
- Hydraulic oil must be kept clean and filter must be cleaned regularly. If the hydraulic oil has been dirty, it must be changed without delay.



8.Connection between pressure and torque



9.Figures and parts list

NO.	Description	Figure and table number
9.1	Assembly	Figure 5, Table1
9.2	Master tong	Figure 6, Table2
9.3	Shell and accessory	Figure 7, Table3
9.4	Tong head assembly	Figure8, Table4
9.5	Gear shifting assembly	Figure 9, Table5
9.6	Backing and centralizing mechanism	Figure10, Table6
9.7	Transmission and parts list	Figure 11, Table7
9.8	Safety door assembly	Figure 12, Table8
9.9	Backup tong	Figure 13, Table9
9.10	Backup tong head assembly	Figure14, Table10
9.11	Backup tong tail	Figure 15, Table11
9.12	Hand control valve	Figure 16, Table12
9.13	Front guide pole assembly	Figure 17, Table13
9.14	Rear guide pole assembly	Figure 18, Table14
9.15	Hydraulic lifting bucket	Figure 19, Table15
9.16	Lifting bucket valve	Figure 20, Table16
9.17	Spring lifting bucket	Figure 21, Table17



- When purchasing parts, customers can purchase assembly instead of purchasing single parts by yourself.
- Example: one master tong jaw set assembly consists of one master tong jaw set ,one roller, one roller shaft, two die's retaining pins, two springs, two set screws with cone point M10×10 and two dies.

9.1 Assembly and parts list (Fig 5, Table 1)

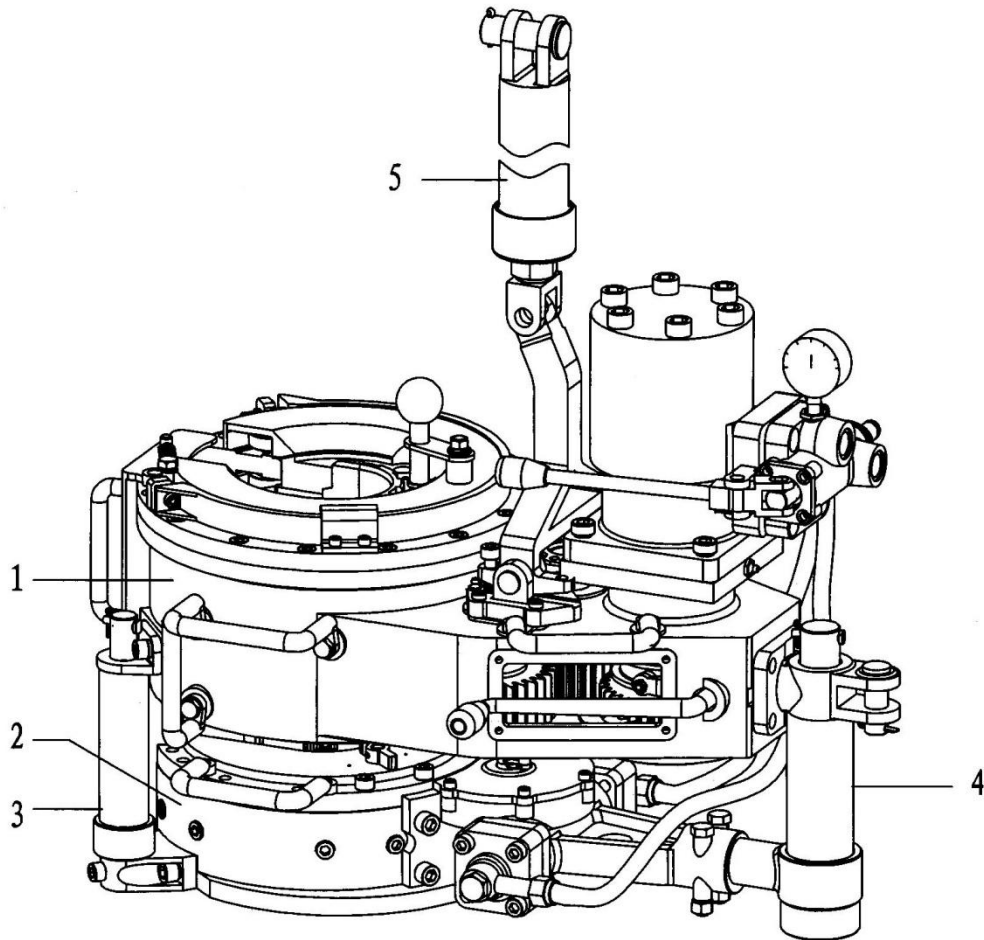


Fig 5

Table 1 Assembly parts list

NO.	P/N	Parts number	Description	Qty.
1	XQ9-1	XQ9.Z.0	Master tong	1
2	XQ9-2	XQ9.B.0	Backup tong	1
3	XQ9-3	XQ12.QD-00	Front guide pole assembly	2
4	XQ9-4	XQ12.HD.0	Rear guide pole assembly	1
5	XQ9-5	XYQ12.YD-01.0	Hydraulic Bucket Assembly	1

9.2 Master tong and parts list (Fig 6, Table 2)

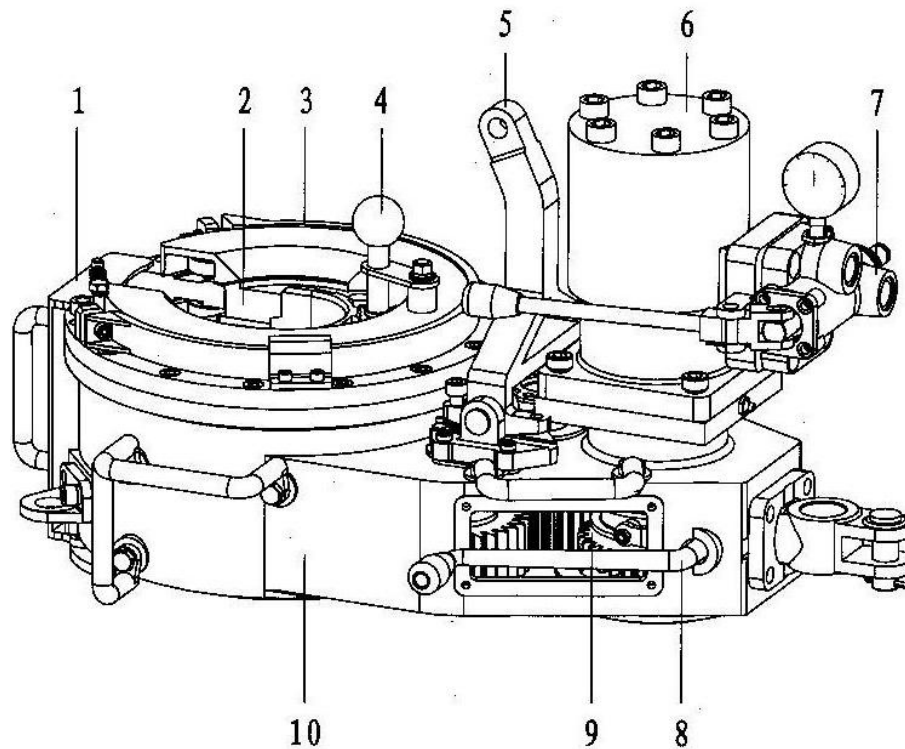


Fig 6

Table 2 Master tong parts list

NO.	P/N	Parts number	Description	Qty.
1	XQ9-10	XQ9.Z.3	Single safety door assembly	1
2	XQ9-11	XQ9.Z.1	Tong head assembly	1
3	XQ9-12	XQ9.Z.4	Brake spring assembly	1
4	XQ9-13		Braking and centralizing mechanism	1
5	XQ9-14		Hanger assembly	1
6	XQ9-15		Hydraulic motor assembly	1
7	XQ9-16		Hand control valve	1
8	XQ9-17	XQ9.Z.2	Shifting gear assembly	1
9	XQ9-18		Transmission mechanism asselmbly	1
10	XQ9-19		shell	1

9.3 Shell and accessory and parts list (Fig 7, Table 3)

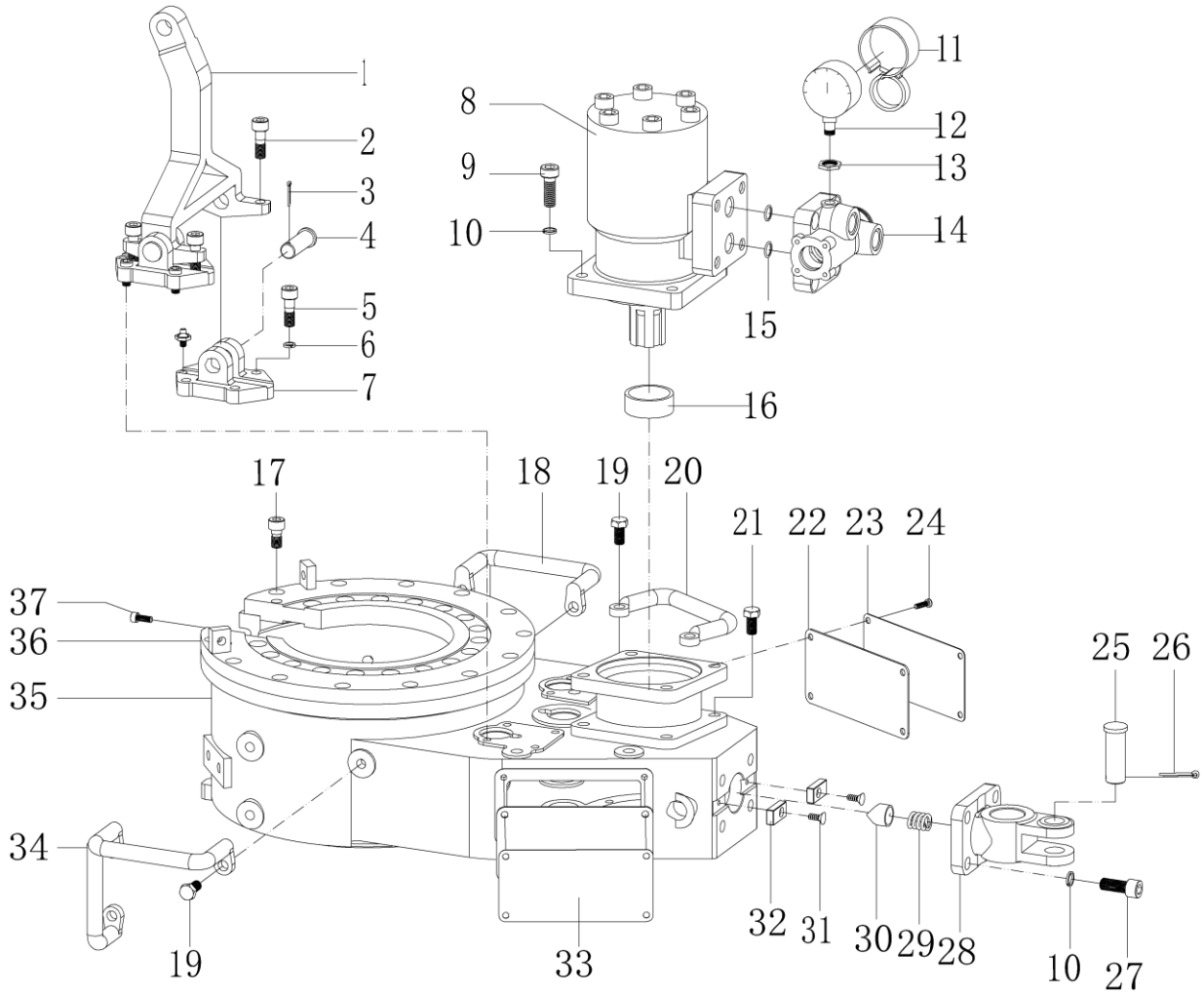


Fig 7



Table 3 Shell and accessory parts list

NO.	P/N	Parts number	Description	Qty.
1	XQ9-30	XQ9.Z-8	Hanger rod	1
2	XQ9-31	XYQ12.Z-65	Top Screw	4
3	XQ9-32	GB/T91	Cotter pin 3×20	2
4	XQ9-33	XYQ12.Z-63	Suspension Pin Axle	2
5	XQ9-34	GB/T70	Hexagon socket head cap screw M8×20-8.8	8
6	XQ9-35	GB/T93	Standard spring washer 8	8
7	XQ9-36	XQ9.Z-7	Suspension seat	2
8	XQ9-37		Cycloid hydraulic motor BM4-500	1
9	XQ9-38	GB/T70	Hexagon socket head cap screw M12×40-8.8	4
10	XQ9-39	GB/T93	Standard spring washer 12	8
11	XQ9-40	BZ.0A	Pressure gage cover assembly	1
12	XQ9-41		Pressure gage 0-16MPa	1
13	XQ9-42		Hexagon nut M14×1.5	1
14	XQ9-43	XYQ3B.Z.5	Valve body	1
15	XQ9-44	GB1235-76	O-ring 18×2.4	2
16	XQ9-45	XQ6B.Z-57	Motor sleeve	1
17	XQ9-46	GB/T70	Hexagon socket head cap screw M10×25-8.8	15
18	XQ9-47	XYQ6B.Z.4	Front handle assembly(RH)	1
19	XQ9-48	GB/T5782	Hexagon bolt M10×20	10
20	XQ9-49	XYQ3C.Z-37	Real handle	2
21	XQ9-50	GB/T5782	Hexagon bolt M12×20	4
22	XQ9-51	XYQ6B.Z-31	Bottom cover	2
23	XQ9-52	XQ9.Z-13	Name plate	1
24	XQ9-53	GB/T65	Slotted cheese head screw M6×10-4.8	8
25	XQ9-54	XYQ12.Z-62	Guy Pin	1
26	XQ9-55	GB/T91	Cotter pin 5×35	1
27	XQ9-56	GB/T70	Hexagon socket head cap screw M12×30-8.8	4
28	XQ9-57	XYQ12.Z-54	Tail Seat	1
29	XQ9-58	XYQ3C.Z-21	Spring	1
30	XQ9-59	XYQ6B.Z-17	Slider	1
31	XQ9-60	GB/T819	Slotted countersunk head screws M5×15-4.8	2
32	XQ9-61	XYQ12.Z-58	flat Key	2
33	XQ9-62	XQ9.Z-15	Pressure and torque corresponding plate	1
34	XQ9-63	XYQ6B.Z.3	Front handle assembly (LH)	1
35	XQ9-64	XQ9.Z-1	Shell	1
36	XQ9-65	XQ9.Z-13	Tong head cover	1
37	XQ9-66	GB/T70	Hexagon socket head cap screw M6×10-8.8	2

9.4 Tong head assembly and parts list (Fig 8, Table 4)

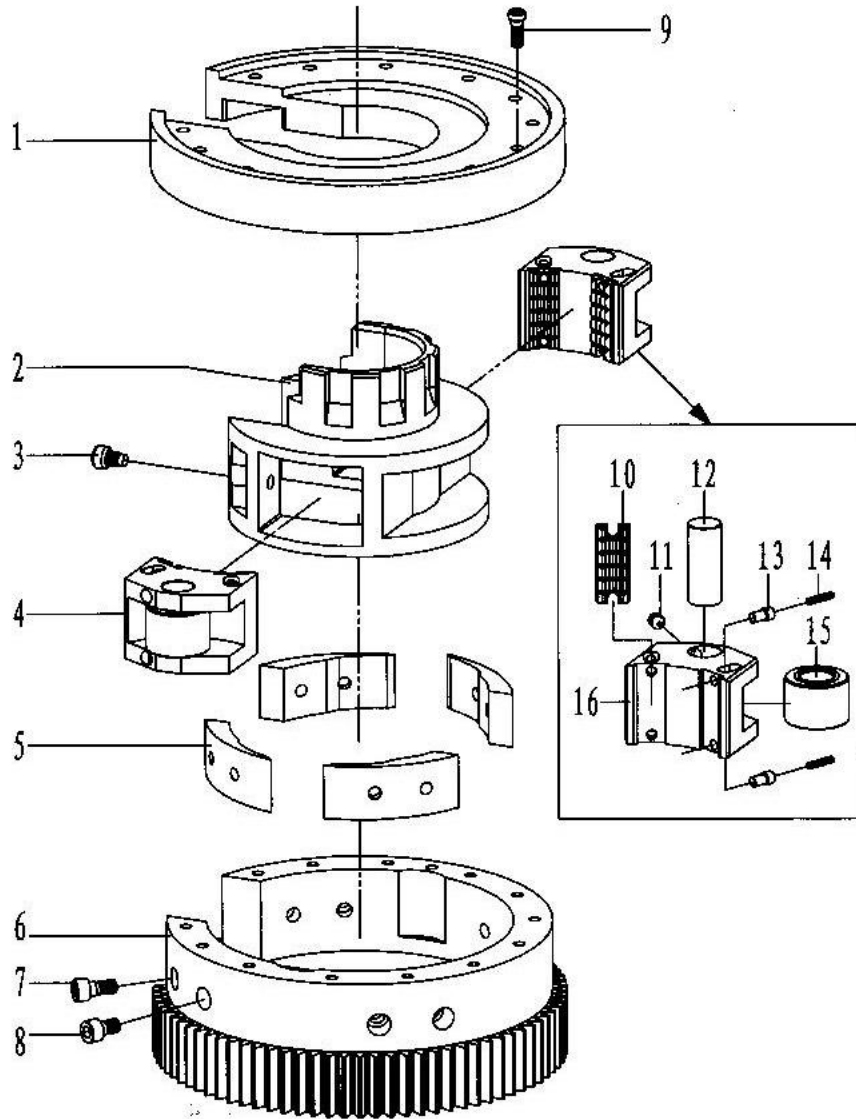


Fig 8



Table 4 Tong head assembly parts list

NO.	P/N	Parts number	Description	Qty.
1	XQ9-80	XQ9.Z.1-1	Open gear cover	1
2	XQ9-81	XQ9.Z.1-4	Jaw set bracket	1
3	XQ9-82	XYQ6B.Z-32	Retaining pin M12×35	2
4	XQ9-83		Jaw set assembly 2 3/8(60)	2
	XQ9-84		Jaw set assembly 2 7/8(73)	2
	XQ9-85		Jaw set assembly 3 1/2(89)	2
	XQ9-86		Jaw set assembly 4 1/2(114)	2
5	XQ9-88	XQ9.Z.1-3	Ramp	4
6	XQ9-89	XQ9.Z.1-2	Open gear	1
7	XQ9-90	GB/T70	Hexagon socket head cap screw M8×35-8.8	4
8	XQ9-91	GB/T70	Hexagon socket head cap screw M10×20-8.8	4
9	XQ9-46	GB/T70	Hexagon socket head cap screw M10×25-8.8	19
10	XQ9-92	XQ6B.Z-37 (1)	Die (60-78)	8
	XQ9-93	XQ6B.Z-37 (2)	Die (89-141)	8
11	XQ9-94	GB/T78	slotted cone pointed set screw M10×10	4
12	XQ9-95	XQ9.Z.1-5	Roller shaft	4
13	XQ9-96	XYQ6B.Z-38	Die retaining pin	16
14	XQ9-97	XYQ3B.Z.1-18	Spring	16
15	XQ9-98	XQ9.Z.1-6	Jaw set roller	4
16	XQ9-99	XQ9.Z.1-7(1)	Jaw set (1) 2 3/8(60)	2
	XQ9-100	XQ9.Z.1-7(2)	Jaw set (2) 2 7/8(73)	2
	XQ9-101	XQ9.Z.1-7(3)	Jaw set (3) 3 1/2(89)	2
	XQ9-102	XQ9.Z.1-7(4)	Jaw set (4) 4 1/2(114)	2

9.5 Gear shifting assembly(Fig.9,Table 5)

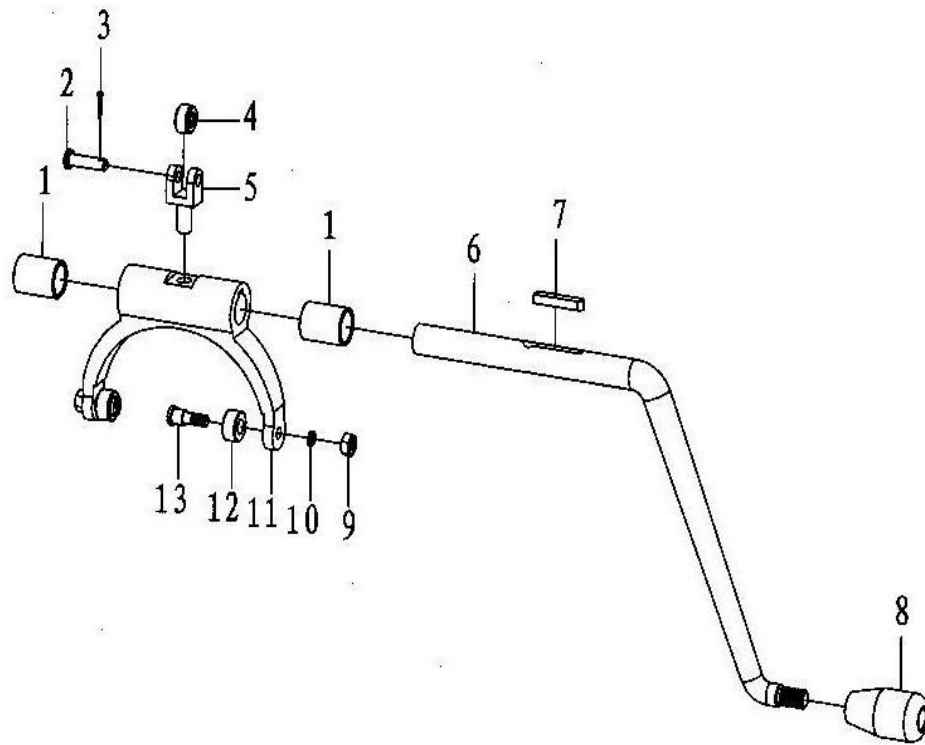


Fig 9

Table 5 Gear shifting assembly

NO.	P/N	Parts number	Description	Qty.
1	XQ9-110	XQ9.Z.2-1	Shaft sleeve	2
2	XQ9-101	XYQ3B.Z.6-4	Roller shaft	1
3	XQ9-102	GB/T91	Cotter pin 2×10	1
4	XQ9-103	XYQ3B.Z.6-3	Roller seat	1
5	XQ9-104	XYQ3B.Z.6-5	Roller	1
6	XQ9-105	XQ9.Z.2-2	Shift fork shaft	1
7	XQ9-106	XYQ3B.Z.6-6	Key	1
8	XQ9-107	XYQ3B.Z.5-10	Ball knob	1
9	XQ9-108	GB/T6170	Hexagon thin nut M8	2
10	XQ9-109	GB/T93	Standard spring washer 8	2
11	XQ9-110	XYQ6B.Z-45	Shift fork	1
12	XQ9-111	XYQ6B.Z-44	Roller sleeve	2
13	XQ9-112	XYQ6B.Z-47	Small shaft	2

9.6 Backing and centralizing mechanism and parts list(Fig.10,Table 6)

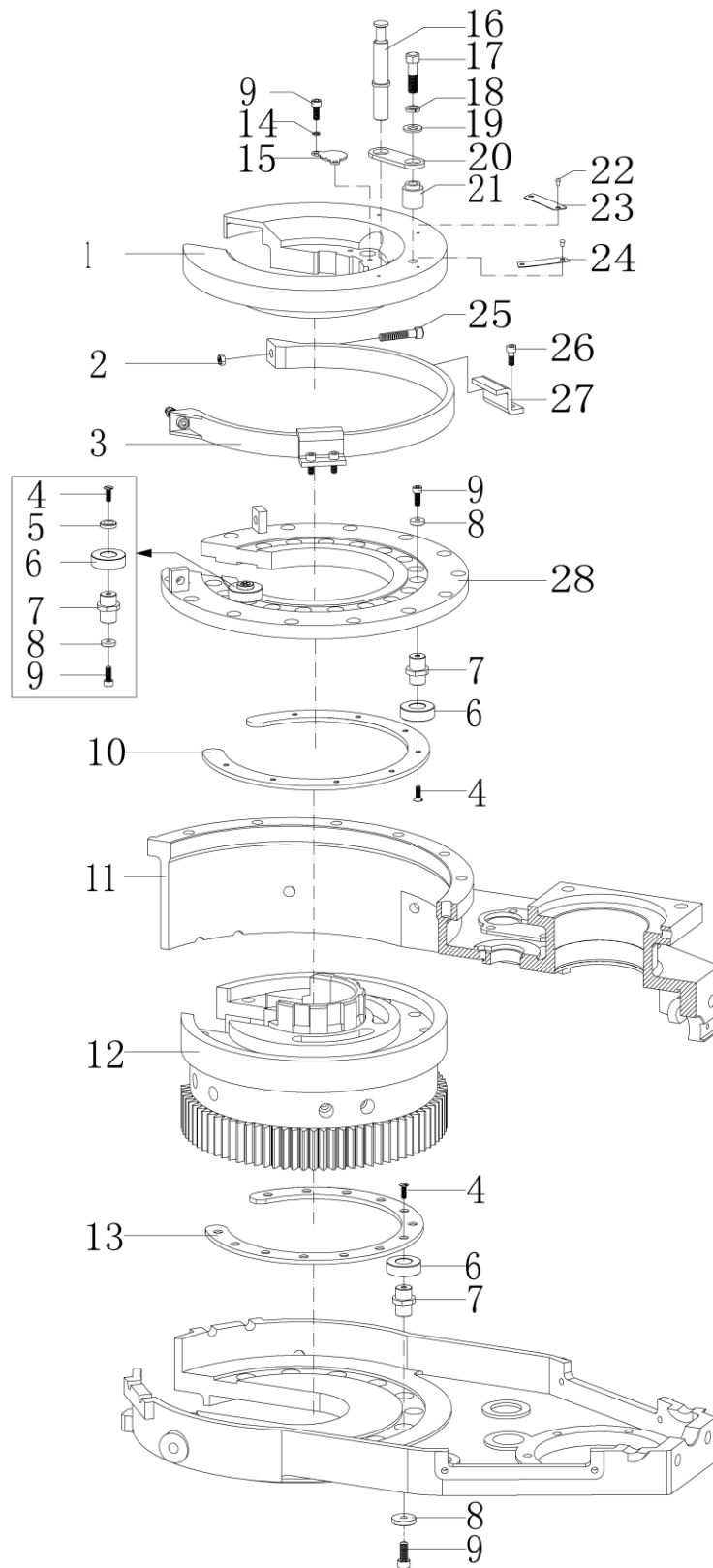


Fig 10



Table 6 Backing and centralizing mechanism parts list

NO.	P/N	Parts number	Description	Qty.
1	XQ9-120	XQ9.Z-14	Braking plate	1
2	XQ9-108	GB/T41	Hexagon nut M8	4
3	XQ9-122	XQ9.Z.4.1	Brake spring	1
4	XQ9-124	GB/T819	Cross recessed countersunk flat head screw M5×10-4.8	25
5	XQ9-125	GB/T891	Bolt fastening shaft end ring B18	17
6	XQ9-126	XYQ3B.Z-1	Roller	34
7	XQ9-127	XYQ3C.Z-4	Centralizing roller shaft	19
8	XQ9-128	GB/T892	Bolt fastening shaft end ring B16	34
9	XQ9-129	GB/T70	Hexagon socket head cap screw M5×16	27
10	XQ9-130	XQ9.Z-12	support plate	1
11	XQ9-131	XQ9.Z-1	Shell	1
12	XQ9-132	XQ9.Z.1	Tong head assembly	1
13	XQ9-133	XQ9.Z-2	support plate	1
14	XQ9-134	GB/T93	Standard spring washer 5	2
15	XQ9-135	XQ4.5.Z.5 (2)	Cover plate	1
16	XQ9-136	XQ4.5.Z-18	Reversing shaft	1
17	XQ9-137	GB/T5782	Hexagon bolt M10×35-8.8	1
18	XQ9-138	GB/T93	Standard spring washer 10	1
19	XQ9-139	GB/T95	Flat washer 10	1
20	XQ9-140	XQ9.Z-10	Connecting plate	1
21	XQ9-141	XQ9.Z-11	Axle sleeve	1
22	XQ9-142	GB/T827	rivet 3×5	4
23	XQ9-143	ZQ203/100-01.05-08 (1B)	Up button indicator	1
24	XQ9-144	ZQ203/100-01.05-08 (1B)	Shackle signs	1
25	XQ9-145	GB/T70	Hexagon socket head cap screw M8×60	2
26	XQ9-146	GB/T70	Hexagon socket head cap screw M6×16	4
27	XQ9-147	XQ9.Z.4-1	Spacing ring	1
28	XQ9-148	XQ9.Z-9	Tong head cover	1

9.7 Transmission and parts list(Fig.11,Table 7)

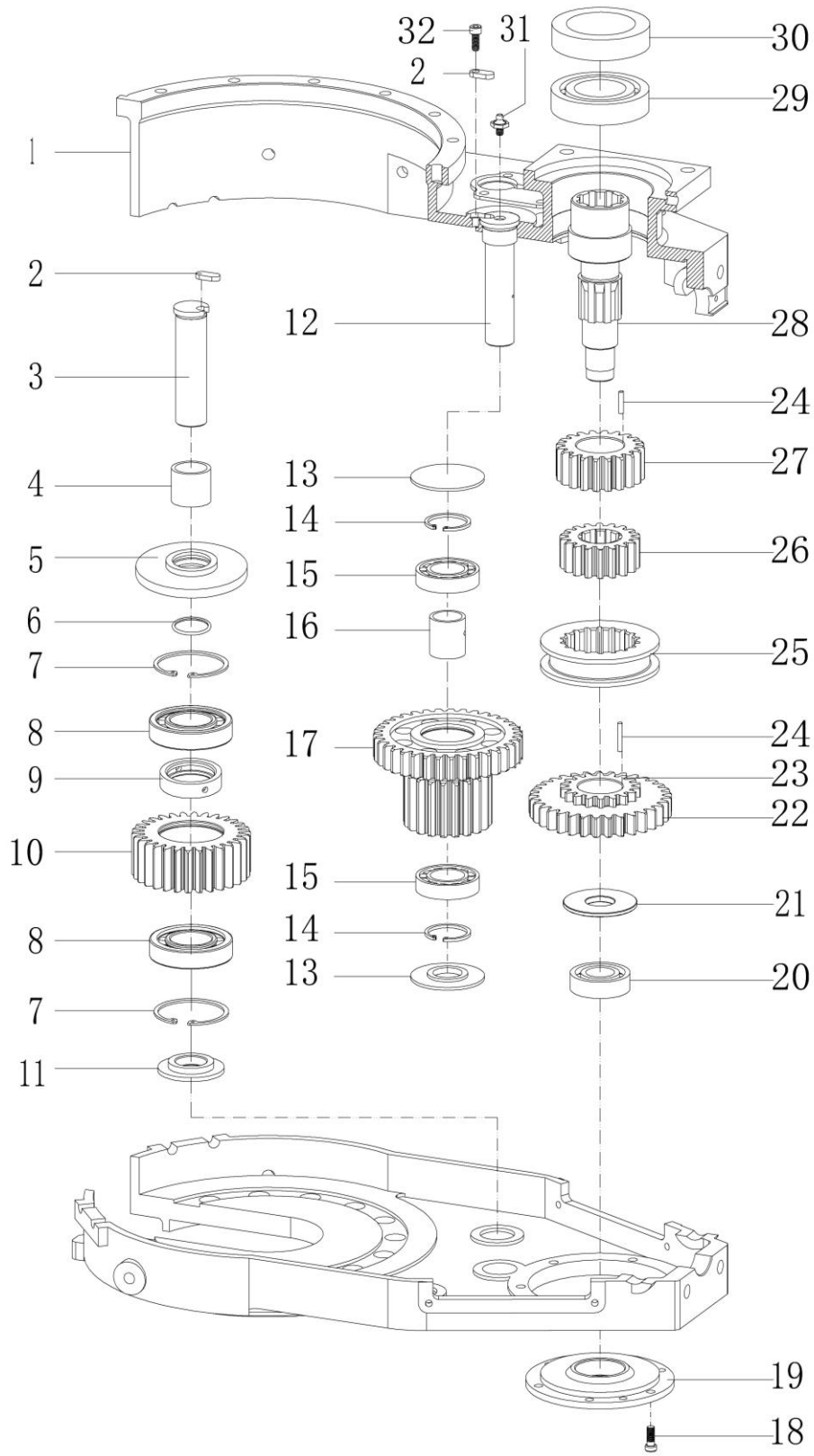


Fig 11



Table 7 Transmission parts list

NO.	P/N	Parts number	Description	Qty.
1	XQ9-64	XQ9.Z-1	Shell	1
2	XQ9-160	XYQ6B.Z-20	Position	2
3	XQ9-161	XYQ6B.Z-48	Idle gear shaft	2
4	XQ9-162	XYQ6B.Z-49	Sleeve	2
5	XQ9-163	XYQ6B.Z-50	Waterproof cover	4
6	XQ9-164	GB1235	O-ring 36×3.5	2
7	XQ9-165	GB/T893.1	Circlip for hole 72	4
8	XQ9-166	GB/T283	Cylindrical roller bearing NJ2306	4
9	XQ9-167	XYQ6B.Z-51	Retainer	1
10	XQ9-168	XQ9.Z-17	Idle gear	2
11	XQ9-169	XYQ6B.Z-52	Subplate	2
12	XQ9-170	XYQ6B.Z-6	Duplex gear shaft	1
13	XQ9-171	XYQ6B.Z-12	Support ting	2
14	XQ9-172	GB/T893.1	Circlip for hole 62	2
15	XQ9-173	GB/T283	Cylindrical roller bearing NJ2206	2
16	XQ9-174	XYQ6B.Z-7	Retainer	1
17	XQ9-175	XQ9.Z-3	Duplex gear	1
18	XQ9--34	GB/T70	Hexagon socket head cap screw M8×20-8.8	6
19	XQ9-176	XQ9.Z-5	Bottom cover	1
20	XQ9-177	GB/T276	Deep groove ball bearing 6305	1
21	XQ9-178	XYQ6B.Z-14	Support plate	1
22	XQ9-179	XQ9.Z-4	Clutch pinion	1
23	XQ9-180	XQ9.Z-6	Clutch pinion	1
24	XQ9-181	GB/T309	Roller 4×25.8	55
25	XQ9-182	XQ6B.Z-9	Inner gear sleeve	1
26	XQ9-183	XQ6B.Z-10	Spline gear	1
27	XQ9-184	XQ6B.Z-8	Gear shifting gear	1
28	XQ9-185	XQ6B.Z-55	Power input shaft	1
29	XQ9-186	GB/T276	Deep groove ball bearing 6310	1
30	XQ9-187	XQ6B.Z-57	Motor lining	1
31	XQ9-188	JB/T7940.1	Straight hydraulic grease nipple M8×1	1
32	XQ9-146	GB/T70	Hexagon socket head cap screw M6×16-8.8	1

9.8 Safety door assembly and parts list (Fig.12,Table8)

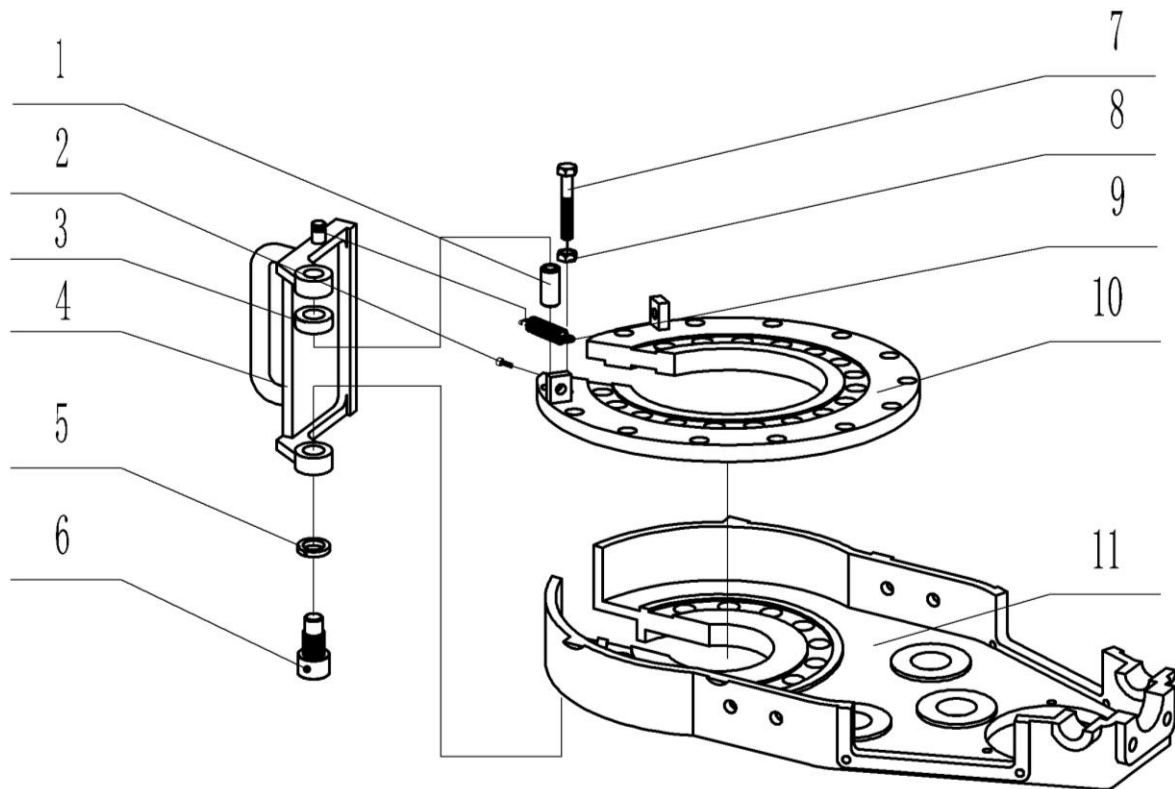


Fig 12

Table 8 Safety door assembly parts list

NO.	P/N	Parts number	Description	Qty.
1	XQ9-200	XQ9.Z.3-2	Rotation shaft	1
2	XQ9-66	GB/ T 70.1	Hexagon socket head cap screw M6×10-8.8	1
3	XQ9-202	XQ9.Z.3-1	Washer	1
4	XQ9-203	XQ9.Z.3.1	Safety door body	1
5	XQ9-204	GB93	Standard spring washer 14	1
6	XQ9-205	XYQ6B.Z-66 (2A)	Rotation shaft	1
7	XQ9-206	GB/T5782	Hexagon bolt M10×55-8.8	1
8	XQ9-207	GB/T41	Hexagon thin nut M10	1
9	XQ9-208	XYQ6B.Z.5(1)-5	Washer (Φ2.5×Φ15×65)	1
10	XQ9-148	XQ9.Z-9	Tong head cover	1
11	XQ9-131	XQ9.Z-1	Shell	1



9.9 Backup tong and parts list(Fig.13,Table9)

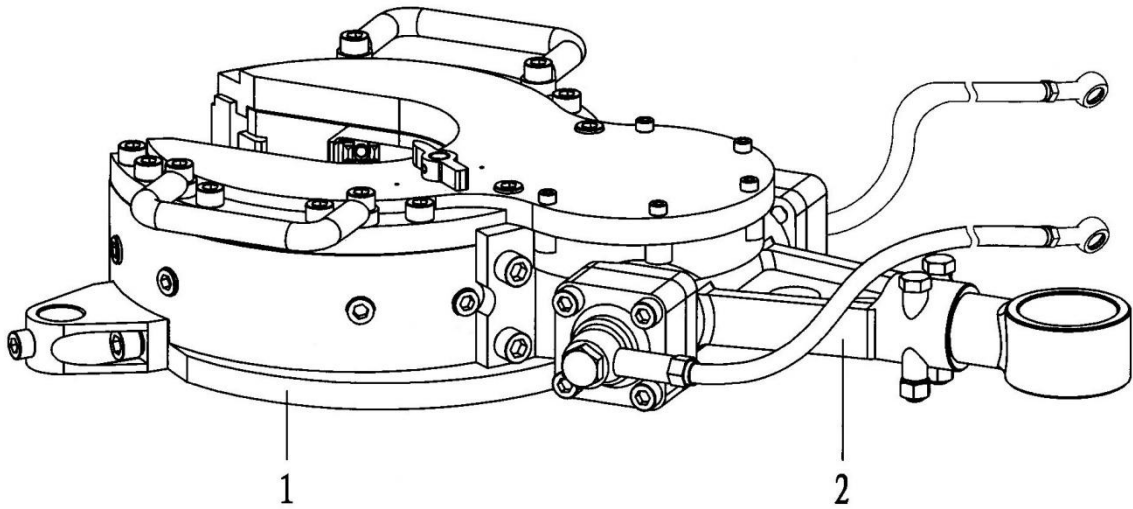


Fig 13

Table 9 Backup tong parts list

NO.	P/N	Parts number	Description	Qty.
1	XQ9-215		Backup tong head	1
2	XQ9-216		Backup tong tail	1

9.10 Backup tong head assembly and parts list(Fig.14,Table10)

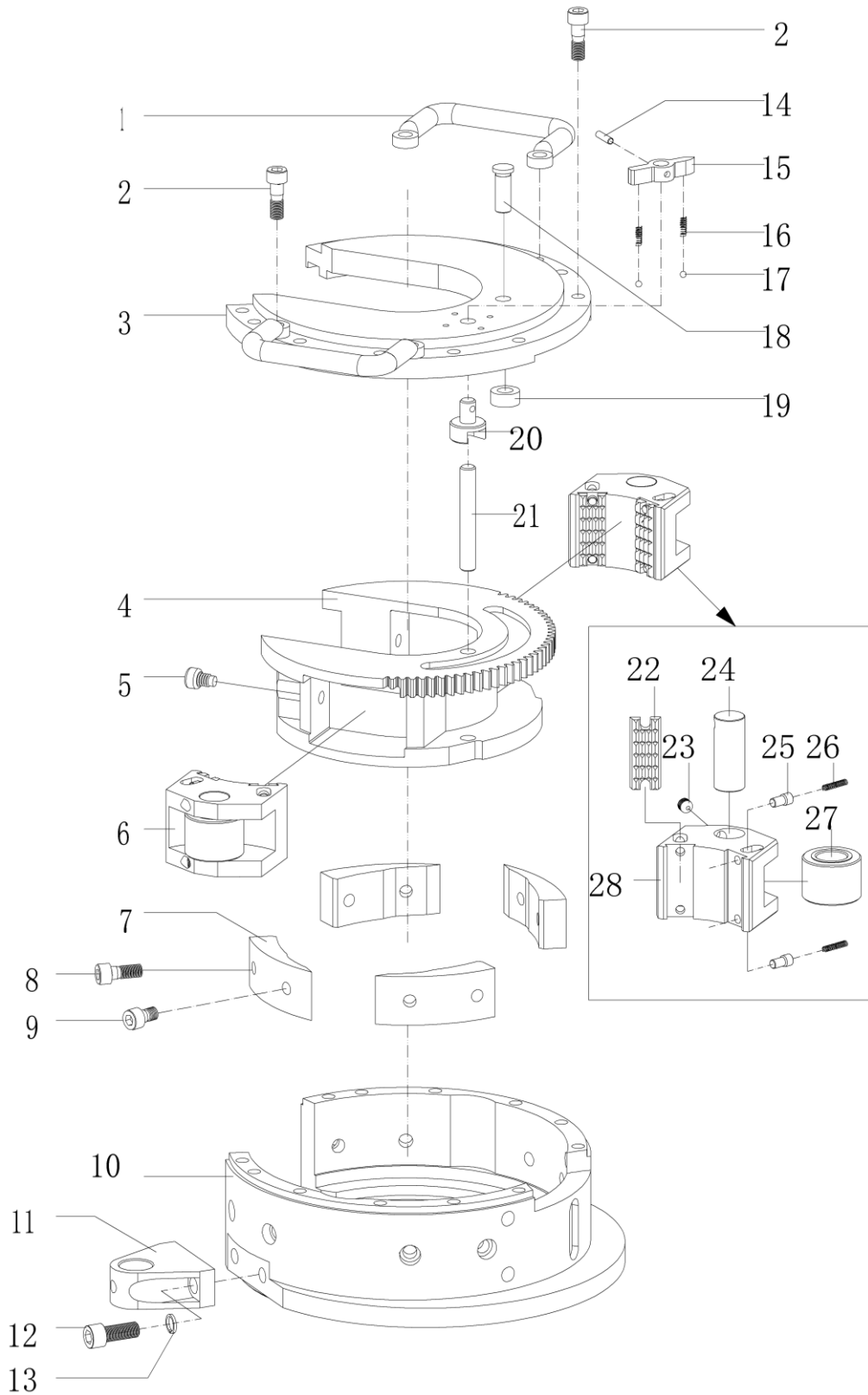


Fig 14



Table 10 Backup tong head assembly parts list

NO.	P/N	Parts number	Description	Qty.
1	XQ9-225	XYQ1.8.Z-24	Tong head handle	2
2	XQ9-226	GB/T70	Hexagon socket head cap screw M10×30-8.8	20
3	XQ9-227	XYQ6B.B-1	Tong head cover	1
4	XQ9-228	XYQ6B.B-5	Backup tong jaw set bracket	1
5	XQ9-82	XYQ6B.Z-32	Retaining screw	2
6	XQ9-229		Jaw set assembly (1) 2 3/8(70-73)	2
	XQ9-230		Jaw set assembly (2) 2 3/8(75-78)	2
	XQ9-231		Jaw set assembly (3) 2 7/8(89-93)	2
	XQ9-232		Jaw set assembly (4) 3 1/2(108-114)	2
	XQ9-233		Jaw set assembly (5) 4 1/2(132-141)	2
7	XQ9-235	XQ6B.B-13	Ramp	4
8	XQ9-91	GB/T70	Hexagon socket head cap screw M10×20-8.8	6
9	XQ9-237	GB/T70	Hexagon socket head cap screw M10×16-8.8	6
10	XQ9-238	XQ9.B-1	Backup tong head body	1
11	XQ9-239	XQ9.B-4	Backup tong front guide pole seat	2
12	XQ9-39	GB/T93	Standard spring washer 12	6
13	XQ9-56	GB/T70	Hexagon socket head cap screw M12×30-8.8	4
14	XQ9-242	GB/T119	Cylindrical pin 5×18	1
15	XQ9-243	XYQ6B.B-3	Backup tong reset knob shaft	1
16	XQ9-244	XYQ3B.B-20	Spring	2
17	XQ9-245	GB/T308	Steel wireΦ5	2
18	XQ9-246	XYQ6B.B-25	centralizing shaft	1
19	XQ9-247	XYQ6B.B-26	Centralizing roller	1
20	XQ9-248	XYQ3B.B-2	Backup tong reset knob shaft	1
21	XQ9-249	XYQ6B.B-4	Retaining pin	1
22	XQ9-92	XQ6B.Z-37(1)	Die (1)60-78	8
	XQ9-93	XQ6B.Z-37(2)	Die (2)89-141	8
23	XQ9-252	GB/T71	Slotted set screws with cone point M6×10	4
24	XQ9-95	XYQ9.Z.1-5	Roller shaft	2
25	XQ9-96	XYQ6B.Z-38	Die's retaining pin	8
26	XQ9-97	XYQ3B.Z.1-18	Spring	8
27	XQ9-98	XQ9.Z.1-6	Jaw set roller	4
28	XQ9-257	XQ9.B-6(1)	Jaw set (1) 2 3/8 (70-73)	2
	XQ9-258	XQ9.B-6(2)	Jaw set (2) 2 3/8 (75-78)	2
	XQ9-259	XQ9.B-6(3)	Jaw set (3) 2 7/8 (89-93)	2
	XQ9-260	XQ9.B-6(4)	Jaw set (4) 3 1/2 (108-114)	2
	XQ9-261	XQ9.B-6(5)	Jaw set (5) 4 1/2 (132-141)	2

9.11 Backup tong tail and parts list (Fig 15, Table 11)

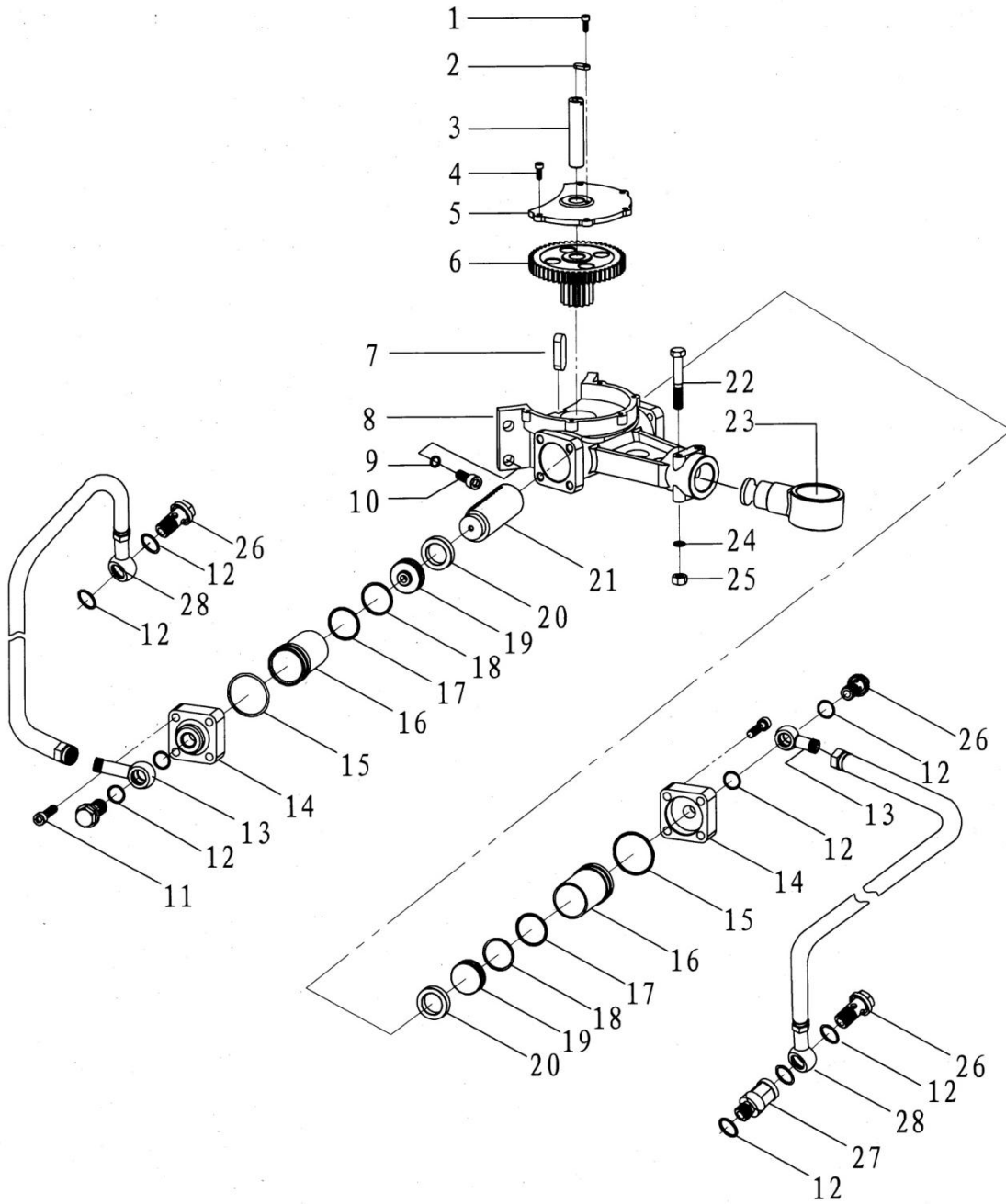


Fig 15



Table 11 Backup tong tail parts list

NO.	P/N	Parts number	Description	Qty.
1	XQ9-146	GB/T70.1	Hexagon socket head cap screw M6×16-8.8	1
2	XQ9-160	XYQ6B.Z-20	Locating plate	1
3	XQ9-272	XYQ6B.B-7	Rotation shaft	1
4	XQ9-273	GB/T70.1	Hexagon socket head cap screw M6×20-8.8	5
5	XQ9-274	XYQ6B.B-9	Gear cover	1
6	XQ9-275	XYQ6B.B-8	Duplex gear	1
7	XQ9-276	GB/T1096	Parallel key 16×10×56	1
8	XQ9-277	XQ9.B-2	Tong tail cylinder	1
9	XQ9-278	GB/T93	Standard spring washer16	4
10	XQ9-279	GB/T70.1	Hexagon socket head cap screw M16×40-8.8	4
11	XQ9-226	GB/T70.1	Hexagon socket head cap screw M10×30-8.8	8
12	XQ9-281	GB1235-76	O-ring 22×2.4	9
13	XQ9-282	XYQ3B.B-11	Adapter(2)	2
14	XQ9-283	XYQ6B.B-16B	Oil cylinder cover	2
15	XQ9-284	GB1235-76	O-ring55×3.1	2
16	XQ9-285	XYQ6B.B-15C	Cylinder cover	2
17	XQ9-286	GB1235-76	O-ring 40×3.1	2
18	XQ9-287	GB1235-76	Retaining ringA40×1.5	2
19	XQ9-288	XYQ3C.B-23B	Plunger	2
20	XQ9-289	XYQ3C.B-25	Support ring	2
21	XQ9-290	XYQ6B.B-17C	Rack plunger	1
22	XQ9-291	GB/T5782	Hexagon bolt M12×80-8.8	2
23	XQ9-292	XQ9.B-3	Tong tail seat	1
24	XQ9-39	GB/T93	Standard spring washer 12	2
25	XQ9-294	GB/T6170	Hexagon nut M12	2
26	XQ9-295	XYQ3B.B-9 (1)	Oil passing bolt	4
27	XQ9-296	XYQ3B.B-12	Longer adapter	1
28	XQ9-297	GB/T9065.1	Hose 8 II -650(M18×1.5/Φ18ball)	2

9.12 Hand control valve and parts list(Fig.16,Table12)

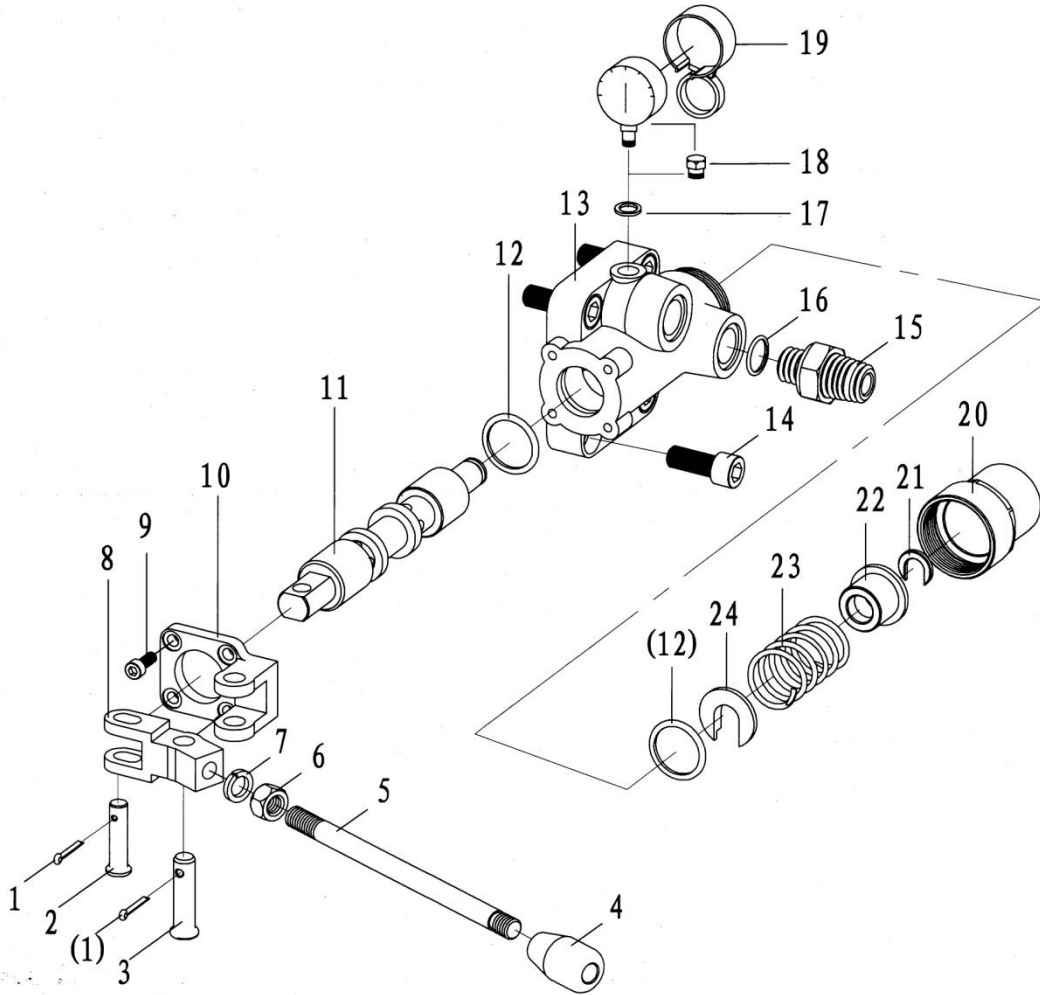


Fig 16



Table 12 Table9 Hand control valve and parts list

NO.	P/N	Parts number	Description	Qty.
1	XQ9-316	GB/T91	Cotter pin3.2×20	2
2	XQ9-317	GB/T882	Pin shaft B10×40	1
3	XQ9-318	GB/T882	Pin shaft B12×45	1
4	XQ9-322	XYQ3C.Z.5-10	Ball knob	1
5	XQ9-321	XYQ3C.Z.5-9	Control lever	1
6	XQ9-294	GB/T6170	Hexagon nut M12	1
7	XQ9-319	GB/T93	Standard spring washer 12	1
8	XQ9-315	XYQ3C.Z.5-8	Shifting fork	1
9	XQ9-146	GB/T70.1	Hexagon socket head cap screw M6×16	4
10	XQ9-313	XYQ3C.Z.5-7	Supporting seat	1
11	XQ9-312	XYQ3C.Z.5.1	Combination valve core	1
12	XQ9-164	GB1235-76	O-ring 36×3.5	2
13	XQ9-310	XYQ3C.Z.5-1	Valve body	1
14	XQ9-328	GB/T70.1	Hexagon socket head cap screw M12×35	4
15	XQ9-327	XYQ3B.Z-12	Tail connector	2
16	XQ9-326	GB1235-76	O-ring 26×2.4	2
17	XQ9-325		Copper washer14×2	1
18	XQ9-323	XYQ3C.Z.5-12	Hex head plug	1
	XQ9-324		Pressure gage Φ60, 0~16MPa	
19	XQ9-329	BZ.0A	Pressure gage cover assembly	1
20	XQ9-311	XYQ3C.Z.5-2	Valve tail seat	1
21	XQ9-330	XYQ3C.Z.5-6	Restricting ring	1
22	XQ9-331	XYQ3C.Z.5-5	Spring seat(2)	1
23	XQ9-332	XYQ3C.Z.5-4	Spring	1
24	XQ9-333	XYQ3C.Z.5-3	Spring seat(1)	1

9.13 Front guide pole assembly(Fig17,Table 13)

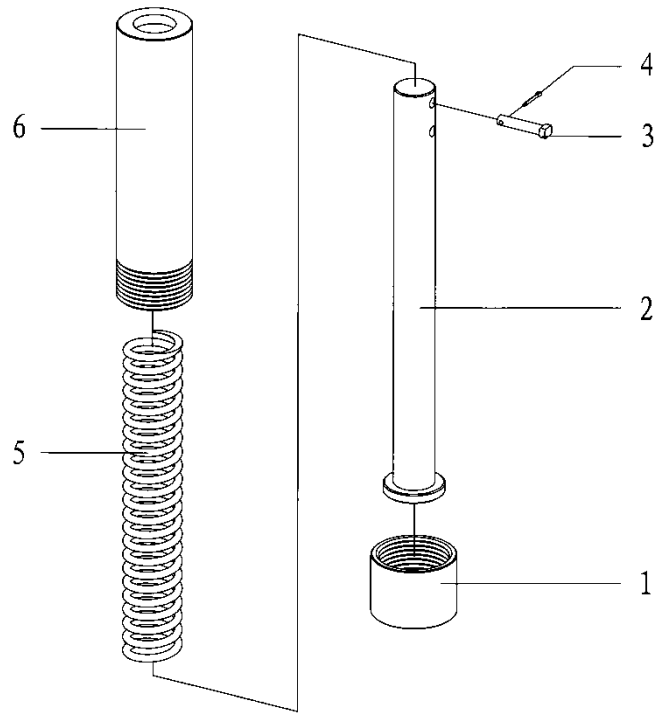


Fig 17

Table 13 Front guide pole assembly detail list

NO.	P/N	Parts number	Description	Qty.
1	XQ9-340	XYQ12.QD-01	Front guide pole seat	2
2	XQ9-341	XYQ12.QD-03 (1)	Front guide pole	2
3	XQ9-342	XYQ12.QD-05	Pin shaft	2
4	XQ9-343	GB/T91	Cotter pin 2.5×20	2
5	XQ9-344	XYQ12.QD-04	Front guide pole spring	2
6	XQ9-345	XYQ12.QD-02	Front guide pole outer barrel	2

9.14 Rear guide pole assembly(Fig18,Table 14)

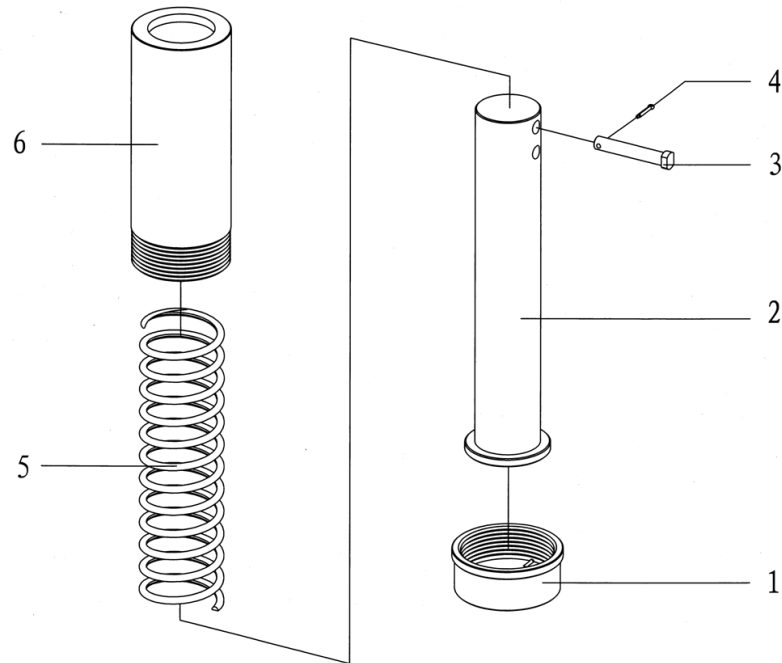


Fig.18

Table14 Rear guide pole assembly detail list

NO.	P/N	Parts number	Description	Qty.
1	XQ9-350	XYQ12.HD-01	Rear guide pole seat	1
2	XQ9-351	XYQ12.HD-03(1C)	Rear guide pole	1
3	XQ9-352	XYQ12.HD-05	Pin shaft	1
4	XQ9-32	GB/T91	Cotter pin3.2×20	1
5	XQ9-354	XYQ12.HD-06A	Spring of rear guide pole	1
6	XQ9-355	XYQ12.HD-02	Rear guide pole outer barrel	1

9.15 Hydraulic lifting bucket(Fig.19,Table 15)

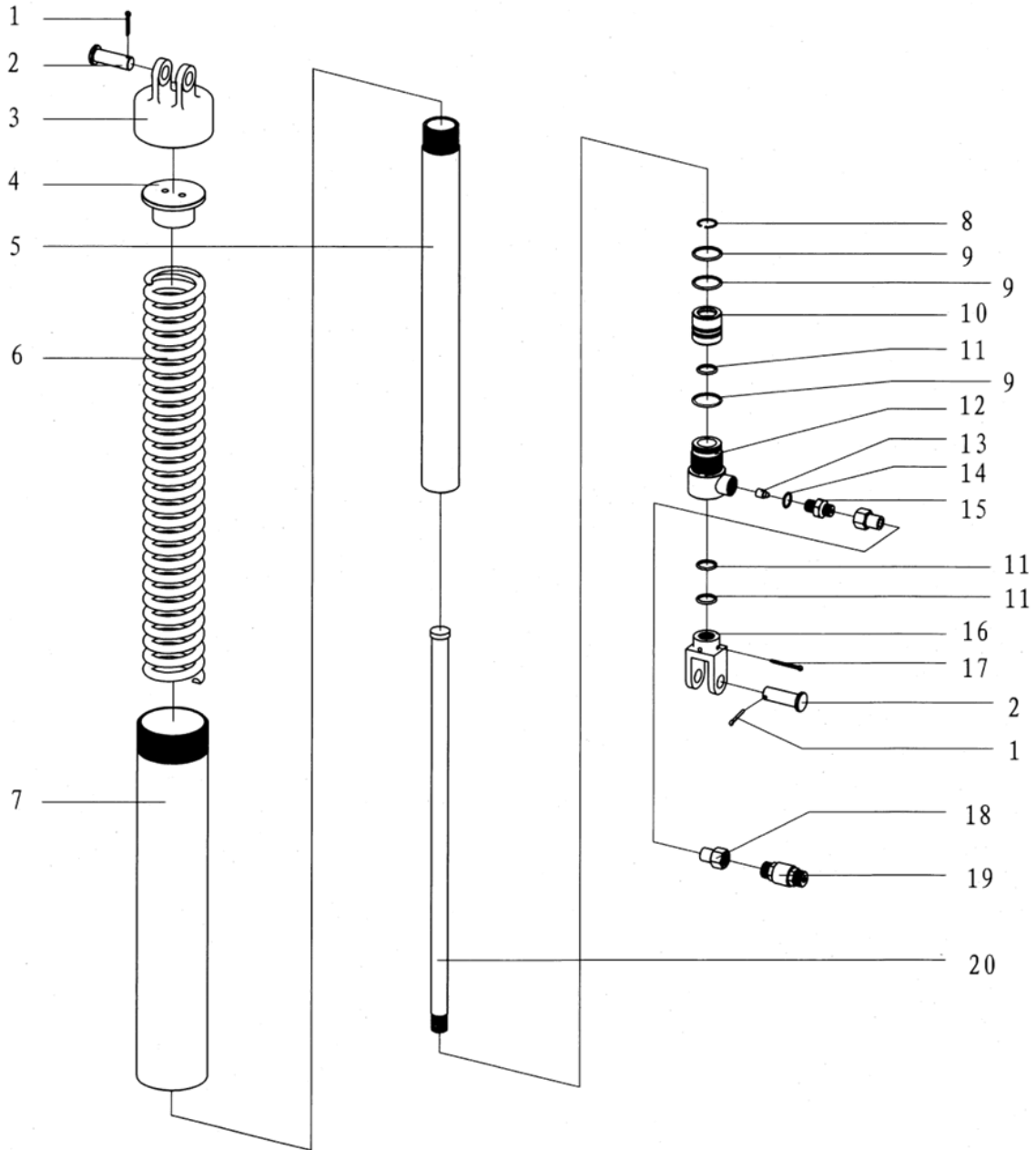


Fig 19



Table15 Hydraulic lifting bucket

NO.	P/N	Parts number	Description	Qty.
1	XQ9-360	GB/T91	Cotter pin5×30	2
2	XQ9-361	GB/T882	Pin shaft B20×65	2
3	XQ9-362	XYQ12.YD-01.11	Lifting bucket end joint	1
4	XQ9-363	XYQ12.YD-01.9	Cylinder end joint	1
5	XQ9-364	XYQ12.YD-01.7	Cylinder body	1
6	XQ9-365	XYQ12.YD-01.6	Spring	1
7	XQ9-366	XYQ12.YD-01.5	Bucket body	1
8	XQ9-367	GB/T893.1	Circlip for hole30	1
9	XQ9-368	GB1235-76	O-ring 45×3.5	3
10	XQ9-369	XYQ12.YD-01.10	Piston	1
11	XQ9-370	GB1235-76	O-ring 32×3.5	3
12	XQ9-371	XYQ12.YD-01.4	Cylinder end joint	1
13	XQ9-372	XYQ12.YD-01.3	Throttle valve core	1
14	XQ9-373	GB1235-76	O-ring 24×2.4	1
15	XQ9-374	XYQ12.YD-01.2	Connector	1
16	XQ9-375	Q12.YD-01.1	Suspension head	1
17	XQ9-376	GB/T91	Cotter pin 5×50	1
18	XQ9-377	JB/ZQ4424	Hose connection 6 II -1100	1
19	XQ9-378	JB/ZQ4078	Quick coupling M24×1.5	1
20	XQ9-379	XYQ12.YD-01.8	Piston rod	1

9.16 Lifting bucket valve(Fig.20,Table 16)

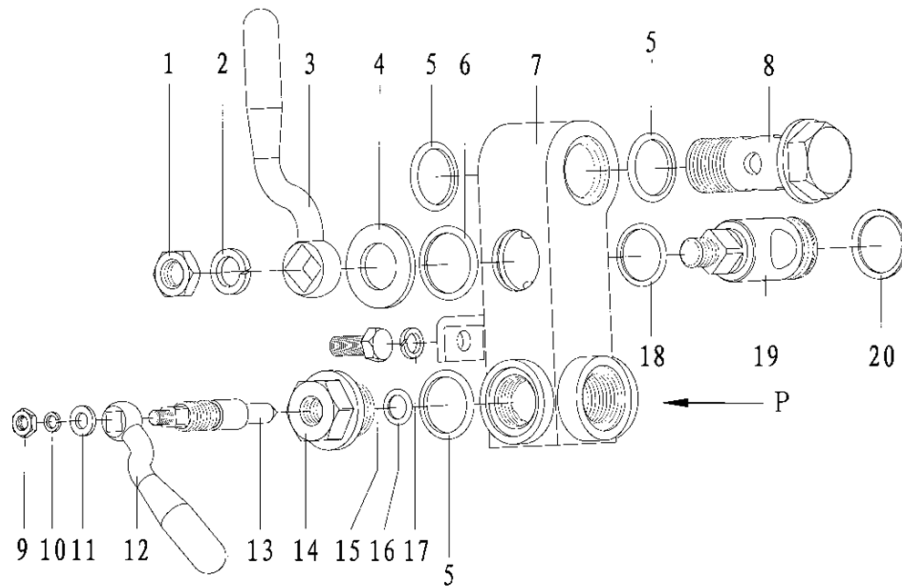


Fig 20

Table 16 Lifting bucket valve detail list

NO.	P/N	Parts number	Description	Qty.
1	XQ9-390	GB/T6172	Hexagon thin nut M12	1
2	XQ9-39	GB/T93	Standard spring washer 12	1
3	XQ9-392	XYQ12.YD-02.1	Handle	1
4	XQ9-393	GB/T97.1	Flat washer 18	1
5	XQ9-394	GB1235-76	O-ring 28×3.1	3
6	XQ9-395	GB1235-76	O-ring 30×3.1	1
7	XQ9-396	XYQ12.YD-02.4	Valve main body	1
8	XQ9-397	XYQ12.YD-02.5	Oil passage bolt	1
9	XQ9-398	GB/T6172	Hexagon thin nut M6	1
10	XQ9-399	GB/T93	Standard spring washer 6	1
11	XQ9-400	GB/T97.1	Flat washer 6	1
12	XQ9-401	XYQ12.YD-02.8	Handle	1
13	XQ9-402	XYQ12.YD-02.3	Valve core (2)	1
14	XQ9-403	XYQ12.YD-02.7	Valve cap	1
15	XQ9-404	GB/T5781	Hexagon bolt M8×20	1
16	XQ9-405	GB1235-76	O-ring 16×2.4	1
17	XQ9-406	GB/T93	Standard spring washer 8	1
18	XQ9-407	GB1235-76	O-ring 25×2.4	1
19	XQ9-408	XYQ12.YD-02.2	Valve core (1)	1
20	XQ9-409	GB/T894.1	Circlip for shaft 25	1

9.17 Spring lifting bucket(Fig.21,Table 17)

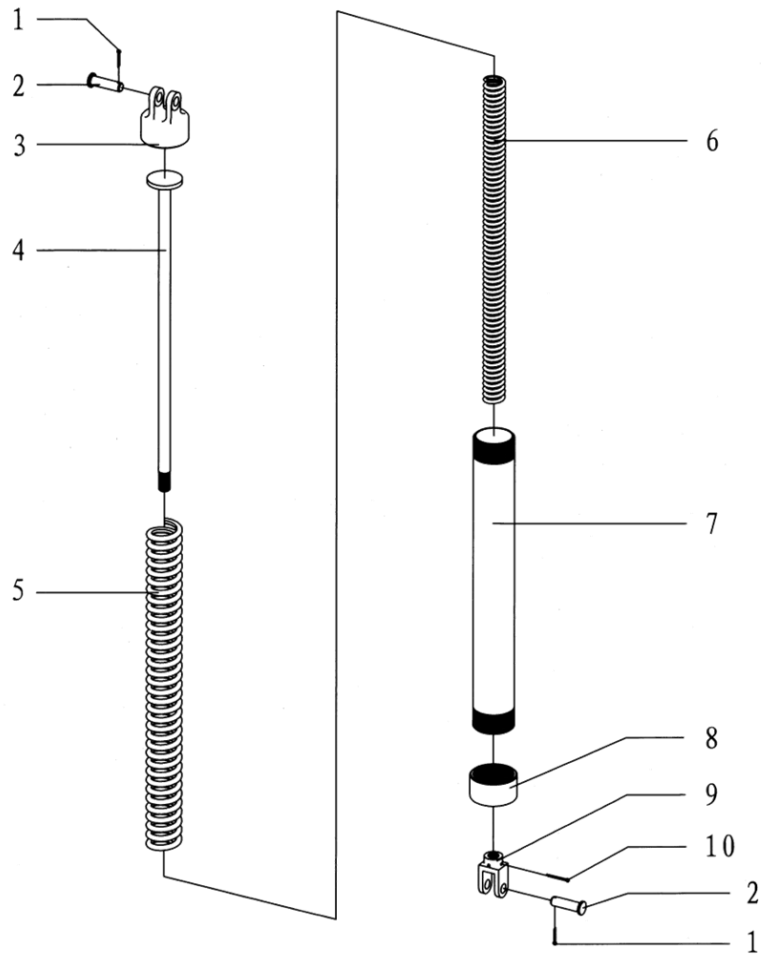


Fig 21

Table17 Spring lifting bucket detail list

NO.	P/N	Parts number	Description	Qty.
1	XQ9-360	GB/T91	Cotter pin 5×30	2
2	XQ9-421	GB/T882	Pin shaft B20×70	2
3	XQ9-422	XYQ12.TD-05	Connector	1
4	XQ9-423	XYQ12.TD.1	Center rod	1
5	XQ9-424	XYQ12.TD-03	Spring	1
6	XQ9-425	XYQ12.TD-06	Vice spring	1
7	XQ9-426	XYQ12.TD-04	Working bucket	1
8	XQ9-427	XYQ12.TD-02	End cover	1
9	XQ9-428	XYQ12.YD-01.1	Suspension head	1
10	XQ9-376	GB/T91	Cotter pin 5×50	1



10. Wearing Parts

NO.	P/N	Parts number	Description	Qty.
1	XQ9-44	GB1235-76	O-ring 18×2.4	2
2	XQ9-188	GB/T1152	Straight hydraulic grease nipple M8×1	1
3	XQ9-82	XYQ6B.Z-32	Retaining pin M12×35	2
4	XQ9-92	XQ6B.Z-37(1)	Die (1)	8
5	XQ9-93	XQ6B.Z-37(2)	Die (2)	8
6	XQ9-95	XQ9.Z.1-5	Roller shaft	4
7	XQ9-96	XYQ6B.Z-38	Die retaining pin	16
8	XQ9-98	XQ9.Z.1-6	Jaw set roller	4
9	XQ9-126	XYQ3C-1	Roller	34
10	XQ9-127	XYQ3C-4	Centralizing roller shaft	19
11	XQ9-130	XQ9.Z-14	support plate	1
12	XQ9-133	XQ9.Z-2	support plate	1
13	XQ9-136	XQ4.5.Z-18	Reversing shaft	1
14	XQ9-122	XQ9.Z.4.1	Brake spring	1
15	XQ9-164	GB1235	O-ring 36×3.5	2
16	XQ9-137	GB/T309	Hexagon bolt M10×35-8.8	55
17	XQ9-281	GB1235-76	O-ring 22×2.4	2
18	XQ9-284	GB1235-76	O-ring 55×3.1	2
19	XQ9-286	GB1235-76	O-ring 40×3.1	2
20	XQ9-287	GB1235-76	Retaining ringA40×1.5	2
21	XQ9-164	GB1235-76	O-ring 36×3.5	2
22	XQ9-326	GB1235-76	O-ring 26×2.4	2
23	XQ9-368	GB1235	O-ring 45×3.5	3
24	XQ9-370	GB1235	O-ring 32×3.5	3
25	XQ9-373	GB1235	O-ring 24×2.4	1



11.Trucking, Storage and After Service

11.1 Trucking

When you move hydraulic power tong, you should move it smoothly and keep it from wet, and don't put it upside to downside and also keep it from damage. When it is lifted, use steel wire rope with the diameter 12mm or bigger, and to keep it in balance. Don't incline and swing it too much, to keep it from attacking other things avoiding damaged.

11.2 Storage

XYQ3C hydraulic power tong should be placed in where is no sunshine, prevent rain, wet proof, good airing and the environment temperature below 45 0c. Don't storage it in a muddy place or outdoors. Protect oil inlet and outlet well to prevent some sundries in. The storage period is general one year for new hydraulic power tong. It can be used after one-year storage but all the sealing parts and hoses must be changed.

11.3 Unpacking

Check the appearance of hydraulic power tong and check and accept it as packing list.