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MODEL: KHT9625

High Torque Casing Tong

MAINTENANCE AND OPERATION MANUAL

SAFETY CAUTION

1. Operators should read and understand this manual before operation.
2. Operators should wear protective clothing, hard hat and safety boots.
3. Tie the back guy according to the instructions.
4. Make sure to operate at the side of the tong opening.
5. Close the safety door in make-up/break-out operation.
6. Keep hands away from rotating parts.
7. Keep sundries out of the operation range.
8. Cut off the hydraulic source and move the tong off the wellhead during maintenance, changing dies or other parts.
9. Never use the power tong under over-pressure or over-torque conditions, otherwise the tubing will be damaged and so the planetary gear of the tong will be damaged.
10. Keep the tong turning center according to the center of tubing before make-up/break-out, otherwise the planetary gear of the tong would be damaged.
11. Don't dismantle or add parts to the tong.
12. Please adopt the original fitting parts made by TEDA.

If the manual is changed or revised later, we have no obligation to notify any person. If the pictures vary from the practicality, please accept the practicality.

1) Summary

KHT9625 Casing Power Tong is used to make up and break out for casing operation in oil fields, which is a kind of heavy set casing tong, suitable for Maximum casing pipe diameter 9 5/8", master、 backup tong are all use three-jaw clamp system, . It has greatly reduced the labor of worker, enhanced connection quality of thread and diminished accidents in inappropriate casing operation. **Features:**

(1) Opening type, convenient and prompt to enter and slide off the working position, with an integral tong head of great strength and rigidity.

(2) Master、 backup tong are all use three-jaw clamp system, ensure the minimum damage to the tube pillar. Two front jaw of master tong is swing type, rear type is roller climbing type, disassembling is very convenient, The design of best cutting diameter can ensure the reliable clamping and easy back climbing; the master tong is liquid push climbing three-jaw structure, which is simple, and reliable.

(3) Four gear speed used, wide range of speed adjustment, rated torque high (4) Brake belt assembly, easy to operate and convenient to maintain and replace.

(5) Open gear supporting structure, improving the strength and rigidity.

(6) The jaws are cast with precise technology, artistic and strong.

(7) With optional torque control system to display, record and control the make-up torque.

2) Technical parameters

(1) Application Range Master Tong: 2 7/8"--9 5/8"; Backup Tong: 27/8"--10 1/2"

(2) Opening of tong head(Master Tong) 10" (255 mm)

(3) Tong head speed High gear 65 RPM

(@40GPM / 150 LPM) Second high gear 28 RPM

Second low gear 16 RPM

Low gear 6.5 RPM

(4) Torque High gear 2700 ft.lb / 3600 N·m

(@2000PSI / 14 MPa) Second high gear 5900 ft.lb / 8000 N·m

Second low gear 11500 ft.lb / 15600 N·m

Low gear 25000 ft.lb / 34000 N·m

(5) Overall Dimension (L×W×H) 59"×31"×69" / 1500×790×1750 mm

(6) Weight Master Tong 1760 lb / 800 kg

Combined tong with Backup 2680 lb / 1220 kg

(7) Jaw specification : 9.63"(244.5mm) , 8.63"(219.1mm) , 7.63"(193.7mm) , 7"(177.8mm) , 6.63"(168.3mm),

5.5"(139.7mm), 4.5"(114.3mm), 3.5"(88.9mm) , 2.88"(73mm), 10.5"(266.7mm)

3) Installation

3.1.Hang the tongs

3.1.1. Fix the single pulley (3 ton) under beam of the crown block.

3.1.2. Get a wire rope (at least 1/2") through the pulley, with one end fixed on the base beam. The height of the tong should be at the same level as the average height of joint when making up and breaking out casing.

3.2.Level the tongs

The tongs must be leveled when hung up, or the gears will be easy to slide

Front and back level - adjust the two screws at the joint where the tongs are connected with their hanger.

Crosswise level - turn the screw rod at the top of the hanger.

3.3.Tie the back guy

The wire, at least 5/8", is connected with the ring of the oil tank at the end of the tongs, the other end fixed on the derrick or the drilling platform.

□The wire should be almost at the same level of the tongs, and be at an angle of 90°with the tong central line.

3.4.Filling oil into pulling cylinder

When the piston rod is pulled out long the height less than 1/4" (6.35mm) , oil must be filled. Use the hand oiling pump equipped with the tong to oil the torque cylinder until the hand of torque gauge acts.

3.5.Connect the pipes

High pressure oil hose NPT1 joint connects with high-pressure hose from the power station.

Low-pressure return hose NPT1 1/4" joint connects with low pressure hose from the power station. 4)

Operation

4.1.Requirements

4.1.1.The operator should know the tong structure and the properties.

4.1.2.we'll know the use of the handle of the hydraulic hand-reversing valve

Push the hand control valve of the master tong, the main gear will be rotated in "make up" direction; pull the hand control valve of the master tong, the main gear will be rotated in "break out" direction; Push the hand control valve of the backup tong, the backup tong clamped; pull the hand control valve of the backup tong, the backup tong loosed.

4.1.3.We'll know the handle of speed (see fig1)

4.1.4 . The operator should know the operation sequence and safety requirements.

4.1.5 . The operator should know the functions of the gauge.

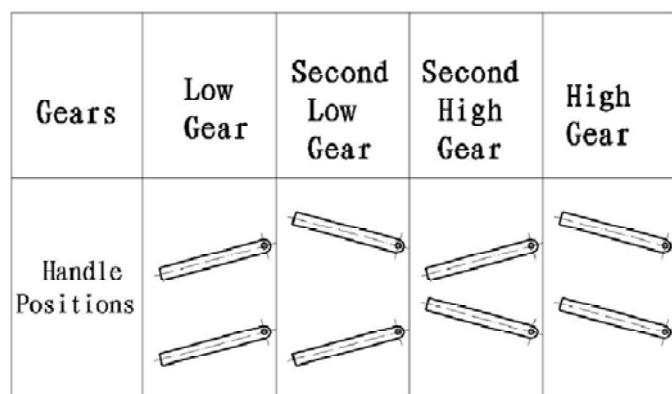


Fig 1

4.2.Tong operation

4.2.1. Be aware of jaw set、dies specifications: jaw set of master tong have 9 specification, each specification of jaw plate of master tong and backup tong has three jaw plates, consisting of two front jaw sets and one rear jaw set(see fig 2 and 3).Both two front jaw sets are the same, and can be installed onto the left side or the right side. Before installing the jaw set, it needs to check whether the dies is wear, clean or not, the screws for fixing the dies must be tightened.

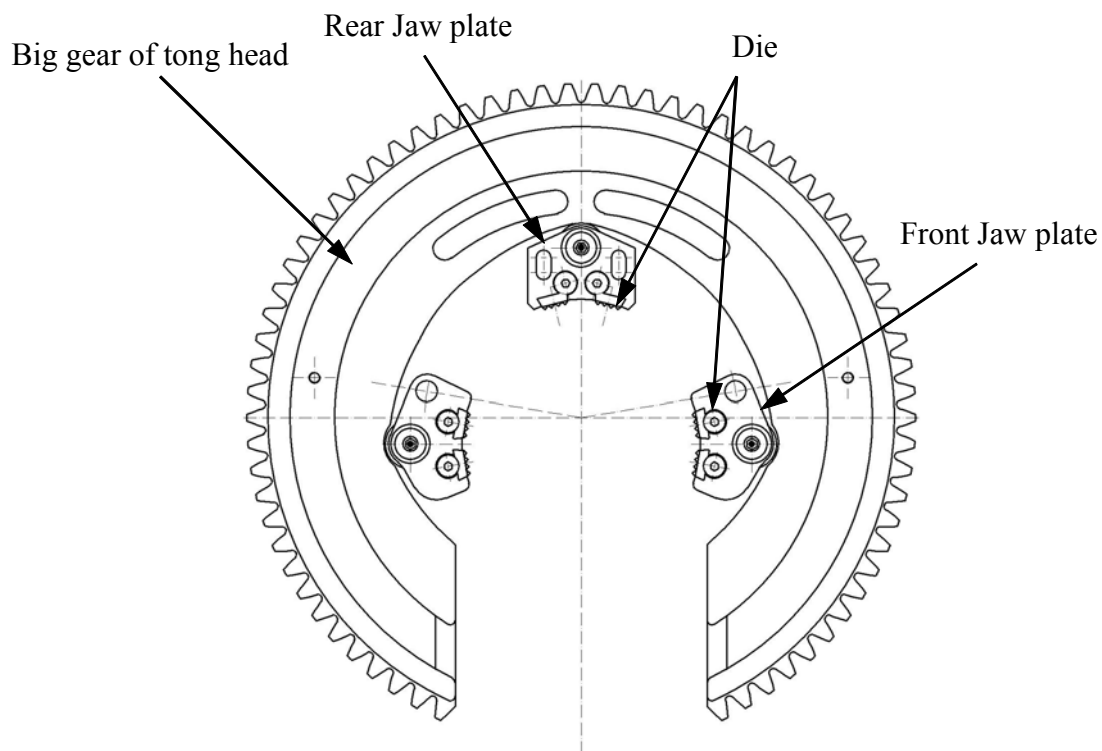


Fig 2 Master Tong head, Jaw Plate

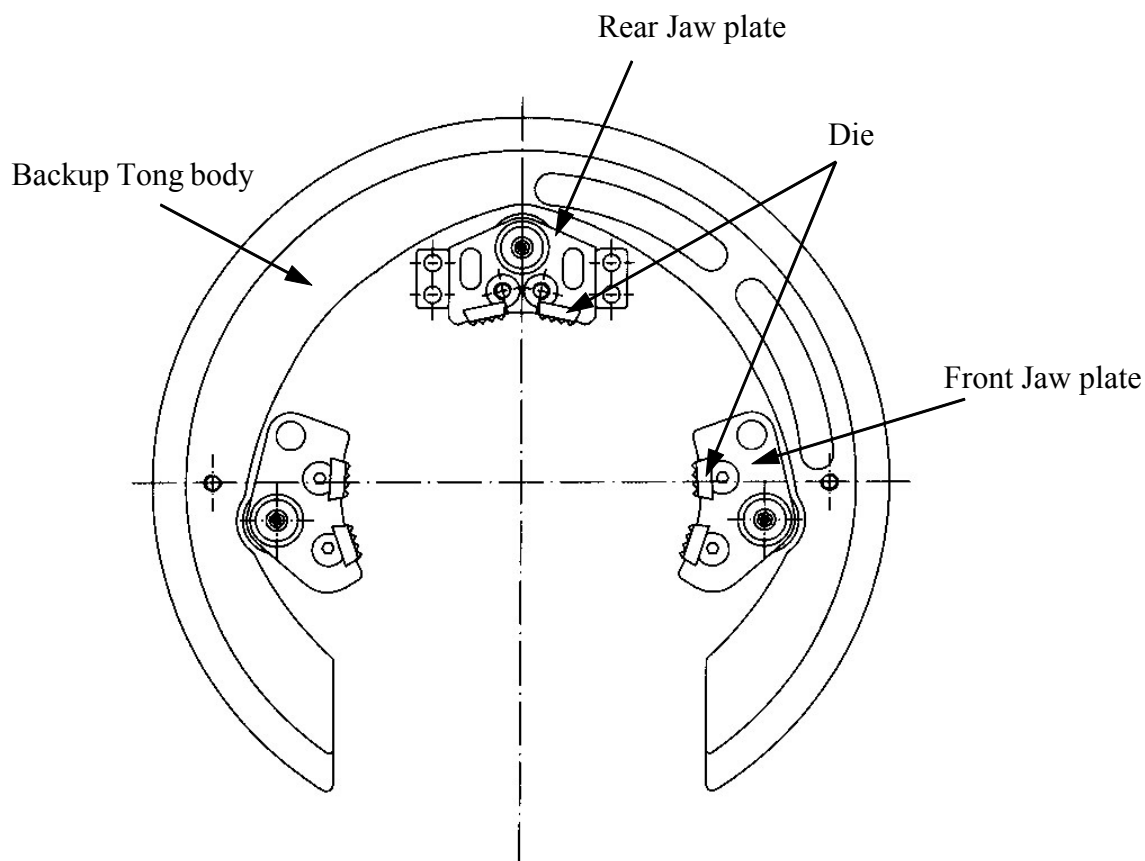


Fig 3 Backup Tong body, Jaw plate

4.2.2. JAW AND DIE SELECTION CHART (Table 1)

JAW/DIE SELECTION CHART		
JAW SIZE	3.88 (98.4mm) × 1.25 (31.8mm) × THICKNESS	BITING DIAMETER ±0.06 (1.5mm)
10.5 (266.7)	0.44 (11.1)	10.63 (269.9)
	0.50 (12.7)	10.5 (266.7)
	0.56 (14.3)	10.38 (263.5)
	0.63 (15.9)	10.25 (260.3)
	0.69 (17.5)	10.13 (257.1)
	0.75 (19.1)	10.00 (253.9)
	0.81 (20.6)	9.88 (250.9)
	0.88 (22.2)	9.75 (247.7)
	0.94 (23.8)	9.63 (244.5)
	1.00 (25.4)	9.50 (241.3)
	1.06 (27.0)	9.38 (238.1)
9.625 (244.5)	0.44 (11.1)	9.75 (247.7)
	0.50 (12.7)	9.63 (244.5)
	0.56 (14.3)	9.50 (241.3)
	0.63 (15.9)	9.38 (238.1)

	0.69 (17.5)	9.25 (235.0)
	0.75 (19.1)	9.13 (231.8)
	0.81 (20.6)	9.00 (228.6)
	0.88 (22.2)	8.88 (225.4)
	0.94 (23.8)	8.75 (222.3)
	1.00 (25.4)	8.63 (219.1)
	1.06 (27.0)	8.50 (215.9)
8.625 (219.1)	0.44 (11.1)	8.75 (222.3)
	0.50 (12.7)	8.63 (219.1)
	0.56 (14.3)	8.50 (215.9)
	0.63 (15.9)	8.38 (212.7)
	0.69 (17.5)	8.25 (209.6)
	0.75 (19.1)	8.13 (206.4)
	0.81 (20.6)	8.00 (203.2)
	0.88 (22.2)	7.88 (200.0)
	0.94 (23.8)	7.75 (196.9)
	1.00 (25.4)	7.63 (193.7)
	1.06 (27.0)	7.50 (190.5)
7.625 (193.7)	0.44 (11.1)	7.75 (196.9)
	0.50 (12.7)	7.63 (193.7)
	0.56 (14.3)	7.50 (190.5)
	0.63 (15.9)	7.38 (187.3)
	0.69 (17.5)	7.25 (184.2)
	0.75 (19.1)	7.13 (181.0)
	0.81 (20.6)	7.00 (177.8)
	0.88 (22.2)	6.88 (174.6)
	0.94 (23.8)	6.75 (171.5)
	1.00 (25.4)	6.63 (168.3)
	1.06 (27.0)	6.50 (165.1)
7 (177.8)	0.44 (11.1)	7.13 (181.0)
	0.50 (12.7)	7.00 (177.8)
	0.56 (14.3)	6.88 (174.6)
	0.63 (15.9)	6.75 (171.5)
	0.69 (17.5)	6.63 (168.3)
	0.75 (19.1)	6.50 (165.1)
	0.81 (20.6)	6.38 (161.9)
	0.88 (22.2)	6.25 (158.8)
	0.94 (23.8)	6.13 (155.6)
	1.00 (25.4)	6.00 (152.4)
	1.06 (27.0)	5.88 (149.2)

6.625 (168.3)	0.44 (11.1)	6.75 (171.5)
	0.50 (12.7)	6.63 (168.3)
	0.56 (14.3)	6.50 (165.1)
	0.63 (15.9)	6.38 (161.9)
	0.69 (17.5)	6.25 (158.8)
	0.75 (19.1)	6.13 (155.6)
	0.81 (20.6)	6.00 (152.4)
	0.88 (22.2)	5.88 (149.2)
	0.94 (23.8)	5.75 (146.1)
	1.00 (25.4)	5.63 (142.9)
	1.06 (27.0)	5.50 (139.7)
5.5 (139.7)	0.44 (11.1)	5.63 (142.9)
	0.50 (12.7)	5.50 (139.7)
	0.56 (14.3)	5.38 (136.5)
	0.63 (15.9)	5.25 (133.4)
	0.69 (17.5)	5.13 (130.2)
	0.75 (19.1)	5.00 (127.0)
	0.81 (20.6)	4.88 (123.8)
	0.88 (22.2)	4.75 (120.7)
	0.94 (23.8)	4.63 (117.5)
	1.00 (25.4)	4.50 (114.3)
	1.06 (27.0)	4.38 (111.1)
4.5 (114.3)	0.44 (11.1)	4.63 (117.5)
	0.50 (12.7)	4.50 (114.3)
	0.56 (14.3)	4.38 (111.1)
	0.63 (15.9)	4.25 (108.0)
	0.69 (17.5)	4.13 (104.8)
	0.75 (19.1)	4.00 (101.6)
	0.81 (20.6)	3.88 (98.4)
	0.88 (22.2)	3.75 (95.3)
	0.94 (23.8)	3.63 (92.1)
	1.00 (25.4)	3.50 (88.9)
	1.06 (27.0)	3.38 (85.7)
3.5 (88.9)	0.44 (11.1)	3.63 (92.1)
	0.50 (12.7)	3.50 (88.9)
	0.56 (14.3)	3.38 (85.7)
	0.63 (15.9)	3.25 (82.6)
	0.69 (17.5)	3.13 (79.4)
	0.75 (19.1)	3.00 (76.2)

	0.81 (20.6)	2.88 (73.0)
	0.88 (22.2)	2.75 (69.9)
	0.94 (23.8)	2.63 (66.7)
	1.00 (25.4)	2.50 (63.5)
	1.06 (27.0)	2.38 (60.3)
2.785 (73)	0.44 (11.1)	2.91 (73.9)
	0.50 (12.7)	2.79 (70.7)
	0.56 (14.3)	2.66 (67.6)
	0.63 (15.9)	2.54 (64.4)
	0.69 (17.5)	2.41 (61.2)
	0.75 (19.1)	2.29 (58.0)
	0.81 (20.6)	2.16 (54.9)
	0.88 (22.2)	2.04 (51.7)
	0.94 (23.8)	1.91 (48.5)
	1.00 (25.4)	1.79 (45.3)
	1.06 (27.0)	1.66 (42.2)

4.2.3. Make the shifting handle of the gear shifting mechanism (Upper and lower) on neutral position

4.2.4. Start the hydraulic power station

4.2.5. Push or pull the handle of the hydraulic hand-reversing valve, and you will hear the hydraulic motor while the tong head notched gear remains still.

4.2.6. Set the handle of the speed changer gas valve at high or low gear. Push or pull the handle of the hydraulic reversing valve, and the notched gear turns smoothly in forward and reverse direction. Attention : Changing gear is not allowed during operation.

4.3. Working process

4.3.1. Align the gear's notch with the jaw rack's notch.

4.3.2. Set the reverse shaft into "make up " or "break out" hole, and adjust the brake band.

4.3.3. Align the gear notch with the case notch.

4.3.4. Draw open the safety door, push the tongs to working position and close the door.

4.3.5. Making up a、 Set the handle of speed change at high gear, push the handle of backup tong reversing valve, backup

tong clamp tubular column, then loosen the handle of the backup tong reversing valve, the

Handle return to original position; push the handle of master tong reversing valve, Jaws clamp the casing tightly and drive the casing rotate in “make up” direction with big gear of tong head. Watch the torque gauge at the same time. When the reading can't reach the request, it must change second high gear, second low gear or lower gear .Then push the handle of master tong reversing valve again, Jaws clamp the casing tightly and drive the casing rotate in “make up” direction with big gear of tong head, Watch the torque gauge at the same time, when the reading is up to need, the handle return to mid position.

b、 Pull the handle of backup tong reversing valve, backup tong loosen tubular column;

Then pull the handle of mater tong reversing valve, according to the proficiency of operator and the position of notched gear, the operator should choose low gear, Jaws loose, The rotary gear turns in “break out” position. When it aligns with the case notch, set the handle of hydraulic reverse valve at mid position.

c、 Open the safety door and draw back the tong. That is one make-up.

4.3.6. Breaking out a、 Set the handle of the speed shift at second high gear、 second low gear or low gear position, push the handle of backup tong reversing valve , backup tong clamp tubular column, loosen the handle of the backup tong reversing valve, the handle return to mid position; Pull the handle of the master tong reversing valve, Jaws clamp the casing tightly and drive the casing rotate in “beak out” direction and the casing turns slowly in the direction to break out.

b、 When the casing turns to a certain angle it can turn at high gear, set the handle of the reversing gas valve at high gear position, Jaws clamp the casing tightly and then the casing turns at high speed in the direction to break out.

c、 when the break out is over, pull the handle of backup tong reversing gas valve, the backup tong loose the tubular column; then push the handle of the master tong reversing gas valve, the operator may choose a proper position for the handle of the speed shift gas valve according to his own proficiency and the gear notch position. Jaw loose tubular column, When the gear notch and the case notch are aligned, set the handle of the hydraulic reversing valve in the middle position.

d、 Open the safety door, and slide the tong off the casing. A break-out is done.

4.4.Matters needing attention

4.4.1. The power station must be shut down when dismounting the jaws, in case of accident.

4.4.2. Make sure the power tong is properly leveled

4.4.3. Ensure that all tong hydraulic hoses are correctly connected 4.4.4.

Pay attention to the specification of the jaws when installing.

4.4.5. Changing gear is not allowed during operation.

4.4.6. Only when the safety door is shut down, the gear notch can start turning, in case of damage to the operators.

4.4.7. Check the lifting rope and tail rope for safe reliability.

4.4.8. Adjust the Relief valve of the hydraulic power station above 2000PSI(14MPa),the pressure regulating handle will be deadlocked.

4.4.9. When the tong is operating above 20,000ft.lb,ensure that both idler drive gears are engaged with the main gear.

5) Care and Maintenance

(1). Establish system of personal responsibility.

(2). Add oil to alemite fitting and sliding surface before everytime use.

(3). Before use, turn once according to Chapter4, Step2.

(4). Clean up after use; add butter to the tong head in case of rusting.

(5). When not in use, the tongs should be stored far away from the drill floor, coat with butter to the exposed part of the tongs, the storage place should be clean and dry.

(6). The oil inlet and outlet should be sealed off when moving.

(7). After ten well operations are finished, it needs overhaul.

6) Trouble shooting (Table 2)

Trouble	Causes	Remedy
The head doesn't turn	1. No pressure from hydraulic station. 2.Damage of the hydraulic reversing valve. 3. Gear changing system fails.	1. Check the station. Add pressure. 2. Replace the valve. 3. Repair

No neutral gear	1. Damage of hand-reversing valve. 2. Damage of dial fork	1 Change a new valve 2. Repair the fork.
Speed is not enough	1. Low pressure or low flow from the power station. 2. Bad leakage loss hand-reversing valve.	1. Check the station pressure. 2. Replace the motor or hand-reversing valve.
Head slide	1. Disagreement of the sizes of the jaws and casing. 2. Tongs not be leveled. 3. Dies worn out. 4. Die notch filled with oil dirt. 5. Brake band too loose or worn out. 6. Jaw roller failure to turn.	1. Change the jaws. 2. Level the tongs. 3. Change the dies. 4. Get rid of it with a wire brush. 5. Adjust or change the band. 6. Check the roller or oil and repair the pin shaft.
Torque valve less than rated	1. Low pressure from the hydraulic power station or its insufficient oil discharge. 2. Function failure of the hydraulic motor or of the reversing valve. 3. Insufficient oil in the torque cylinder or the sealing ring worn out. 4. Torque gauge failure.	1. Deal with it according to the instruction of hydraulic power station. 2. Repair or change it. 3. Fill in oil or change the ring. 4. Repair or change the torque gauge.

7) Figures and detailed part tables

- 7.1. General assembly (Fig4, Table3)
- 7.2. Master tong assembly (Fig5, Table4)
- 7.3. Tong head assembly (Fig6, Table5)
- 7.4. Tong shell with accessory(1) (Fig7, Table6)
- 7.5. Tong shell with accessory(2) (Fig8, Table7)
- 7.6. Master transmission gear (Fig9, Table8)
- 7.7. Safety door assembly (Fig10, Table9)
- 7.8. Shifting assembly (Upper) (Fig11, Table10)
- 7.9. Torque testing system of master tong (Fig12, Table11)
- 7.10. Hydraulic combination valve and tube (Fig13, Table12)
- 7.11. Hydraulic valve bank (five connection valve) (Fig14, Table13)
- 7.12. Quick exchange adaptor adaptor(2 1/8-12UN) (Fig15, Table14)
- 7.13. Quick exchange adaptor adaptor(1 7/8-12UN) (Fig16, Table15)
- 7.14. Bend adaptor(1 5/16-12UN) (Fig17, Table16)

- 7.15. Bend adaptor(9/16-18UNF) (Fig18, Table17)
- 7.16. Bend adaptor(NPT1 1/4-1 5/8-12UN) (Fig19, Table18)
- 7.17. Bend adaptor(NPT1-1 5/16-12UN) (Fig20, Table19)
- 7.18. Suspension Bar (Fig21, Table20)
- 7.19. Hydraulic spring suspending device (Fig22, Table21)
- 7.20. Backup Tong assembly (Fig23, Table22)
- 7.21. Backup Tong Transmission assembly (Fig24, Table23)
- 7.22. Clamping cylinder assembly (Fig25, Table24)
- 7.23. Lifting Chain assembly (Fig26, Table25)
- 7.34 Backup Tong Safety door assembly (Fig27, Table26)
- 7.25. Front guide pole assembly (Fig28, Table27)
- 7.26. Front guide poleAssembly (Fig29, Table28)
- 7.1. General assembly (Fig4, Table3)

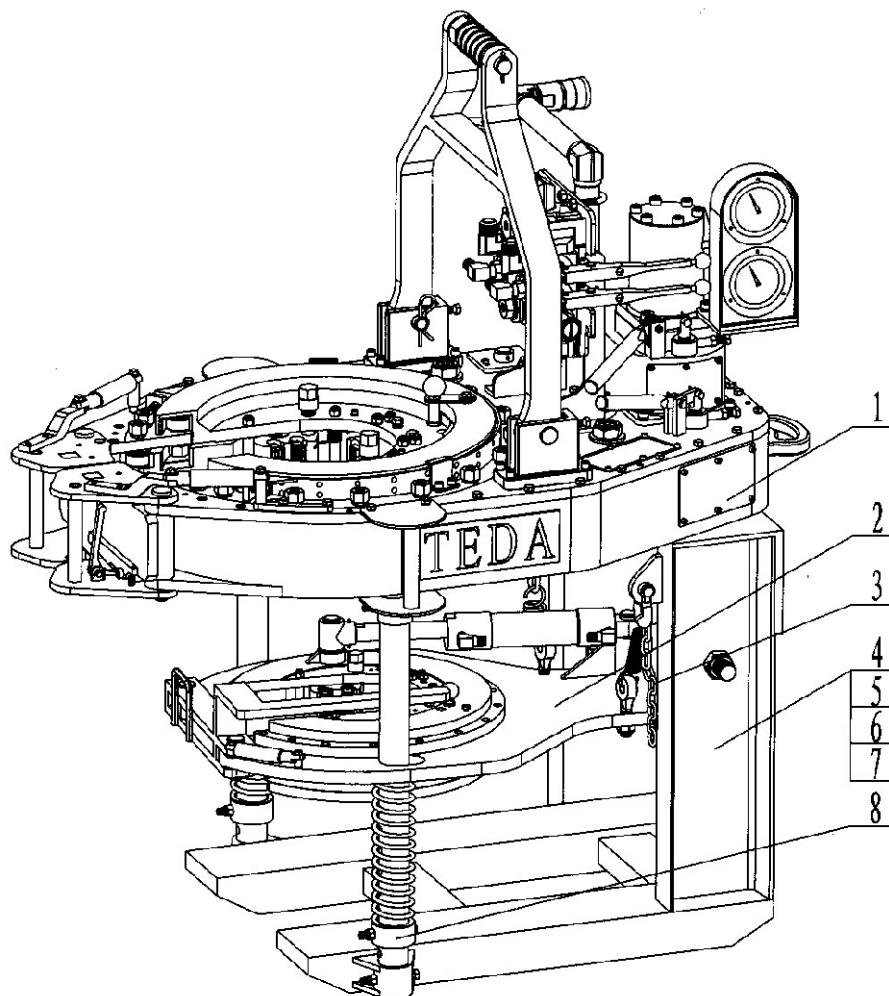


Fig 4

Table 3 General Assembly

Item	P/ N	Drawing No.	Description	Qty
1	KHT9625-01	KHT9625.1	Master Tong	1
2	KHT9625-02A	KHT9625.2(2)	Backup Tong	1
3	KHT9625-03A	KHT9625.3(2)	Lift chain assembly	2
4	KHT9625-04	KHT9625.4	Rear Support seat	1
5	KHT9625-101		Hexagon Socket Head Screw 1/2"×1 1/2"	6
6	KHT9625-102		Hexagon Socket Head Screw 1/2"×2 1/4"	2
7	KHT9625-103		Spring Washer 1/2"	8
8	KHT9625-05	KHT9625.5	Front guide pole assembly	2

7.2. Master tong assembly (Fig5, Table4)

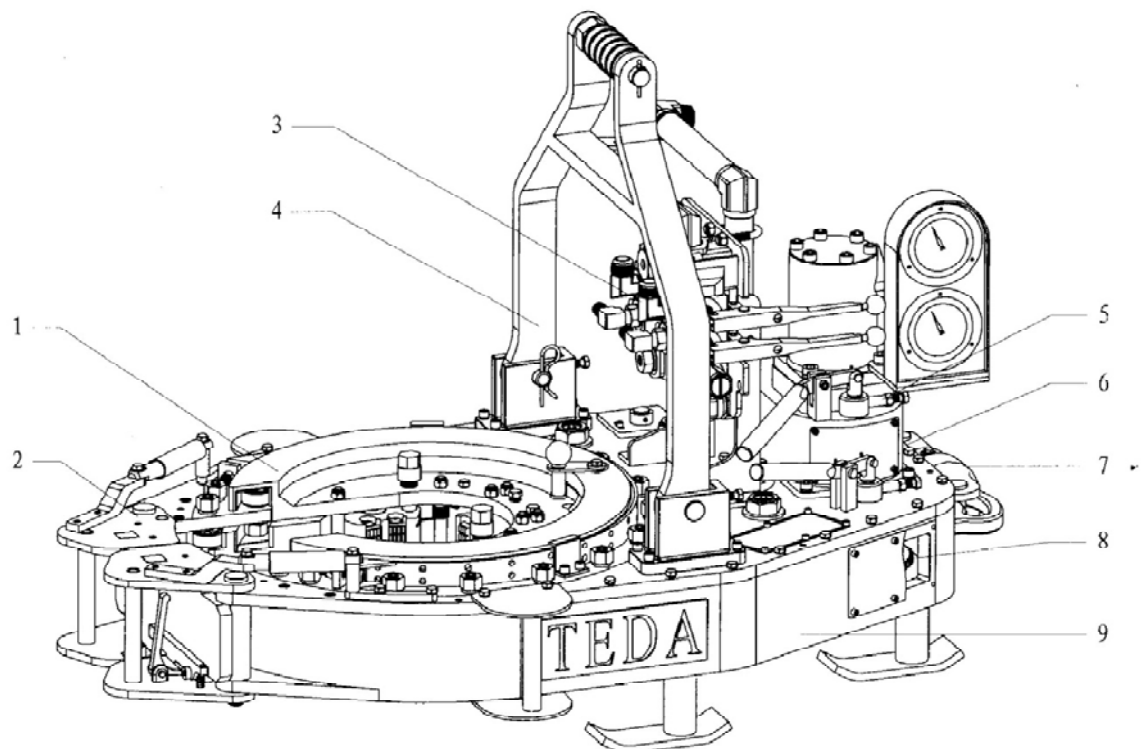


Fig 5

Table 4 Master Tong assembly

Item	P/ N	Drawing No.	Description	Qty
1	KHT9625-06	KHT9625.1.1	Tong Head assembly	1
2	KHT9625-07	KHT9625.1.10	Safety Door assembly	1
3	KHT9625-08	KHT9625.1.9	Hydraulic valve and pipeline	1
4	KHT9625-09	KHT9625.1.16	Suspension Bar assembly	1
5	KHT9625-10	KHT9625.1.14	Gear shifting assembly (Upper)	1
6	KHT9625-11		Tong Shell with accessory (2)	1
7	KHT9625-50	KHT9625.1.18	Master 扭矩测试总成	1
8	KHT9625-12		Master Transmission gear	1
9	KHT9625-13		Tong Shell with accessory (1)	1

7.3. Tong head assembly (**Fig6, Table5**)

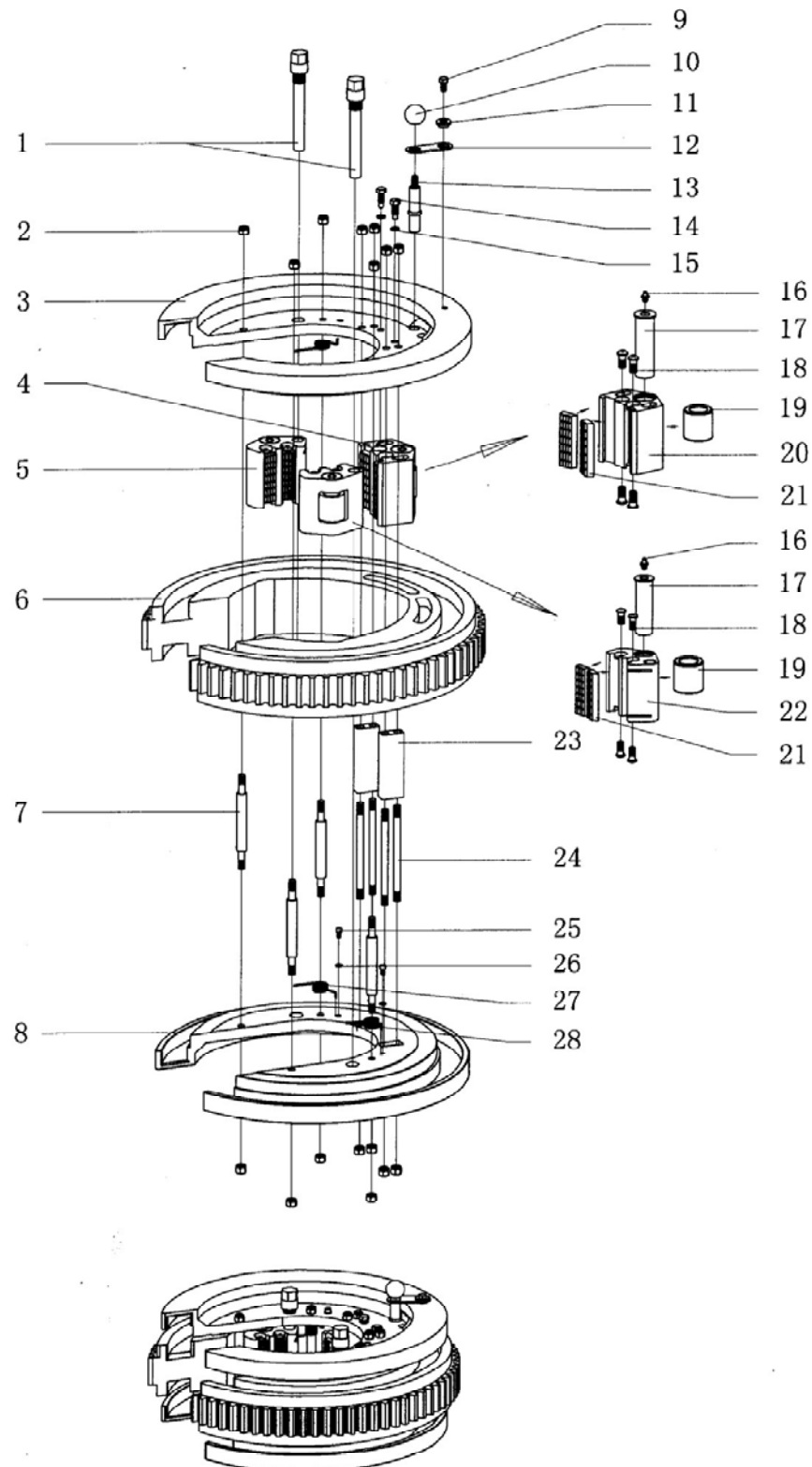


Fig 6

Table 5 Tong head assembly

Item	P/ N	Drawing No.	Description	Qty
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1	KHT9625-104	KHT9625.1.1-4	Jaw set bolt	2
2	KHT9625-105		Hex Lock nut 1/2"	16
3	KHT9625-106	KHT9625.1.1-1	Upper jaw set frame	1
4	KHT9625-14	KHT9625.1.1.2 (1) ~ (9)	Rear jaw set assembly	Each1
5	KHT9625-15	KHT9625.1.1.1 (1) ~ (9)	Front jaw set assembly	Each2
6	KHT9625-107	KHT9625.1.1-2	Open gear	1
7	KHT9625-108	KHT9625.1.1-9	Support worm	4
8	KHT9625-109	KHT9625.1.1-3	Lower jaw set frame	1
9	KHT9625-110		Hexagon Head Bolt 1/2"×3/4"	1
10	KHT9625-111	TQ340/35Y.1.5.2-05	Handle Ball	1
11	KHT9625-112	TQ340/35Y.1.5.2-04	Shaft sleeve	1
12	KHT9625-113	KHT9625.1.1-6	Connection Plate	1
13	KHT9625-114	TQ340/35Y.1.5.2-02	Bolt	1
14	KHT9625-115	KHT9625.1.1-10	Limiting bolt	2
15	KHT9625-103		Spring washer 1/2"	2
16	KHT9625-116	GB/T1152	Oil Cup M6×1	3
17	KHT9625-117	KHT9625.1.1.1-3	Roller shaft	3
18	KHT9625-118		Hexagon Socket Head Screw 1/2"×1"	12
19	KHT9625-119	KHT9625.1.1.1-4	Roller	3
20	KHT9625-120	KHT9625.1.1.1-1 (1)	Front jaw set 1 (9 5/8")	Each2
	KHT9625-121	KHT9625.1.1.1-1 (2)	Front jaw set 2 (8 5/8")	Each2
	KHT9625-122	KHT9625.1.1.1-1 (3)	Front jaw set 3 (7 5/8")	Each2
	KHT9625-123	KHT9625.1.1.1-1 (4)	Front jaw set 4 (6 5/8")	Each2
	KHT9625-124	KHT9625.1.1.1-1 (5)	Front jaw set 5 (5 1/2")	Each2
	KHT9625-125	KHT9625.1.1.1-1 (6)	Front jaw set 6 (4 1/2")	Each2
	KHT9625-126	KHT9625.1.1.1-1 (7)	Front jaw set 7 (3 1/2")	Each2
	KHT9625-127	KHT9625.1.1.1-1 (8)	Front jaw set 8 (2 7/8")	Each2

	KHT9625-128	KHT9625.1.1.1-1 (9)	Front jaw set 9 (7")	Each2
	KHT9625-172	KHT9625.1.1.1-1 (10)	Front jaw set 9 (5")	Each2

Item	P/ N	Drawing No.	Description	Qty
21	KHT9625-129	KHT9625.1.1.1-2 (1)	Die1 (7/16")	Each6
	KHT9625-130	KHT9625.1.1.1-2 (2)	Die2 (1/2")	Each6
	KHT9625-131	KHT9625.1.1.1-2 (3)	Die3 (9/16")	Each6
	KHT9625-132	KHT9625.1.1.1-2 (4)	Die4 (5/8")	Each6
	KHT9625-133	KHT9625.1.1.1-2 (5)	Die5 (11/16")	Each6
	KHT9625-134	KHT9625.1.1.1-2 (6)	Die6 (3/4")	Each6
	KHT9625-135	KHT9625.1.1.1-2 (7)	Die7 (13/16")	Each6
	KHT9625-136	KHT9625.1.1.1-2 (8)	Die8 (7/8")	Each6
	KHT9625-137	KHT9625.1.1.1-2 (9)	Die9 (15/16")	Each6
	KHT9625-138	KHT9625.1.1.1-2 (10)	Die10 (1")	Each6
	KHT9625-139	KHT9625.1.1.1-2 (11)	Die11 (1 1/16")	Each6
22	KHT9625-140	KHT9625.1.1.2-1 (1)	Rear jaw set 1 (9 5/8")	Each1
	KHT9625-141	KHT9625.1.1.2-1 (2)	Rear jaw set 2 (8 5/8")	Each1
	KHT9625-142	KHT9625.1.1.2-1 (3)	Rear jaw set 3 (7 5/8")	Each1
	KHT9625-143	KHT9625.1.1.2-1 (4)	Rear jaw set 4 (6 5/8")	Each1
	KHT9625-144	KHT9625.1.1.2-1 (5)	Rear jaw set 5 (5 1/2")	Each1
	KHT9625-145	KHT9625.1.1.2-1 (6)	Rear jaw set 6 (4 1/2")	Each1
	KHT9625-146	KHT9625.1.1.2-1 (7)	Rear jaw set 7 (3 1/2")	Each1
	KHT9625-147	KHT9625.1.1.2-1 (8)	Rear jaw set 8 (2 7/8")	Each1
	KHT9625-148	KHT9625.1.1.2-1 (9)	Rear jaw set 9 (7")	Each1
	KHT9625-173	KHT9625.1.1.2-1 (10)	Rear jaw set 9 (5")	Each1

23	KHT9625-149	KHT9625.1.1-8	Limiting Plate	2
24	KHT9625-150	KHT9625.1.1-5	Doublescrew	4
25	KHT9625-151		Hexagon Socket Head Screw 5/16" \times 1/2"	4
26	KHT9625-152	GB/T95	Flat washer8	4
27	KHT9625-153	KHT9625.1.1-7	Torsional spring(Right)	2
28	KHT9625-154	KHT9625.1.1-11	Torsional spring(Left)	2

7.4. Tong shell with accessory(1) (Fig7, Table6)

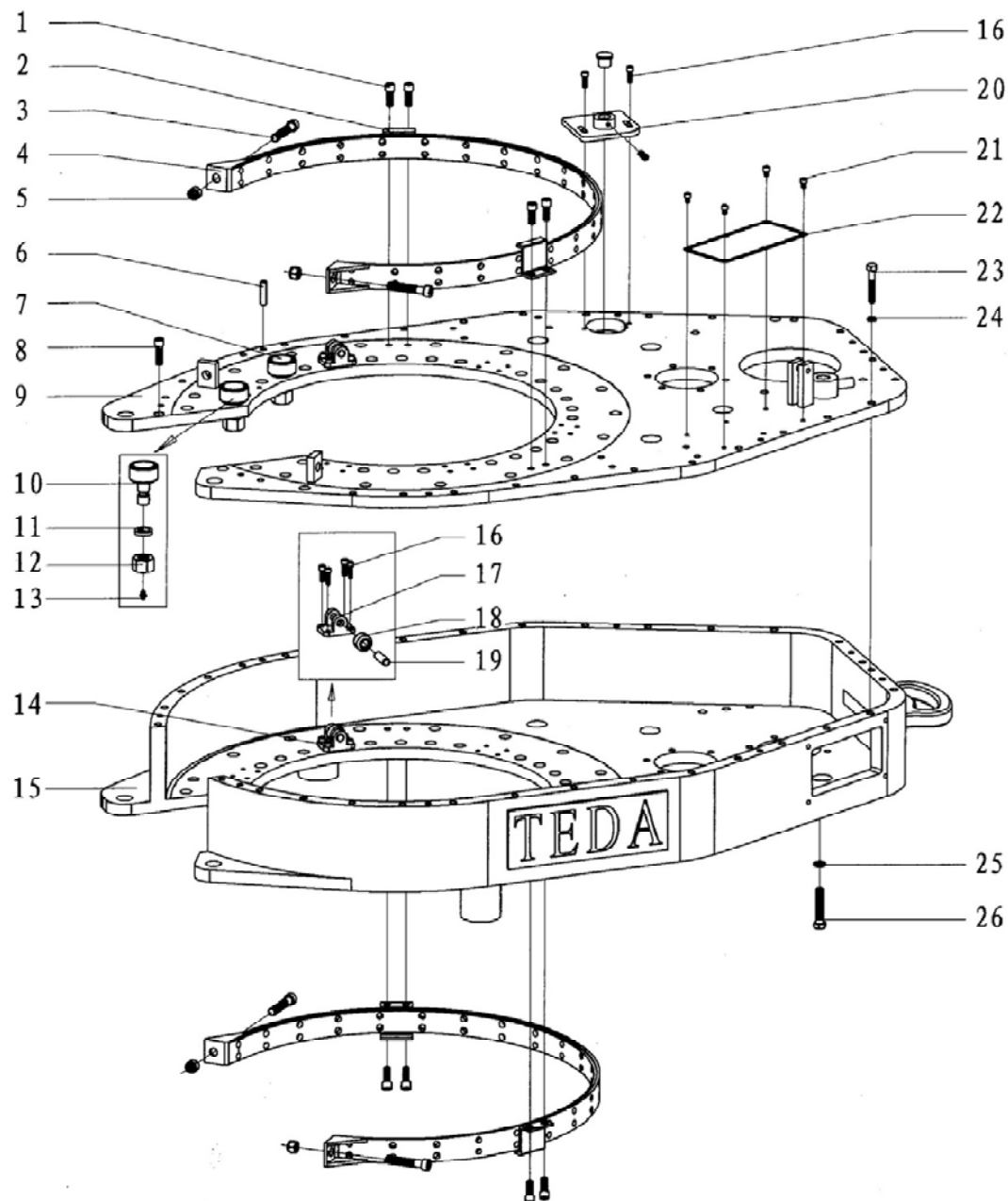


Fig 7

Table 6 Tong shell with accessory(1)

Item	P/ N	Drawing No.	Description	Qty
1	KHT9625-155		Hexagon Socket Head Screw 3/8"×1/2"	8
2	KHT9625-156	TQ340/35Y.1.3-02	Brake Belt Block	4
3	KHT9625-157		Hexagon Socket Head Screw 1/2"×2 1/2"	4

4	KHT9625-16	KHT9625.1.15.1	Brake belt	2
5	KHT9625-105		Lock Nut1/2"	4
6	KHT9625-158	KHT9625.1.2-9	Locating Pin	16
7	KHT9625-17	KHT9625.1.11	Centralizing Roller assembly	77
8	KHT9625-159		Hexagon Socket Head Screw 3/8"×1 1/4"	8
9	KHT9625-160	KHT9625.1.2-1	Panel	1
10	KHT9625-18	KHT9625.1.11.1	Centralizing Roller	77
11	KHT9625-161	GB/T93	Spring washer18	77
12	KHT9625-162	GB/T6171	Hexagon Nut M18×1.5	77
13	KHT9625-116	GB/T1152	Oil Cup M6×1	77
14	KHT9625-19	KHT9625.1.12	Support roller assembly	12
15	KHT9625-20		Shell	1
16	KHT9625-163		Hexagon Socket Head Screw 1/4"×3/4"	50
17	KHT9625-164	TQ340/35YA.1.4.4-1	Support seat	12
18	KHT9625-165	XYQ12.Z-48	Roller	12
19	KHT9625-166	TQ340/35YA.1.4.4-2	Pin shaft	12
20	KHT9625-21	KJD9625.16	Measure gear seat	1
21	KHT9625-167		Hexagon Socket Head Screw 1/4"×5/16"	6
22	KHT9625-168	KHT9625.1.2-8	Name board	1
23	KHT9625-169		Hexagon Head Bolt 3/8"×1 3/4"	51
24	KHT9625-170		Spring washer3/8"	51
25	KHT9625-103		Spring washer1/2"	2
26	KHT9625-171		Hexagon Head Bolt 1/2"×2 1/4"	2

7.5. Tong shell with accessory(2) (Fig8. Table7)

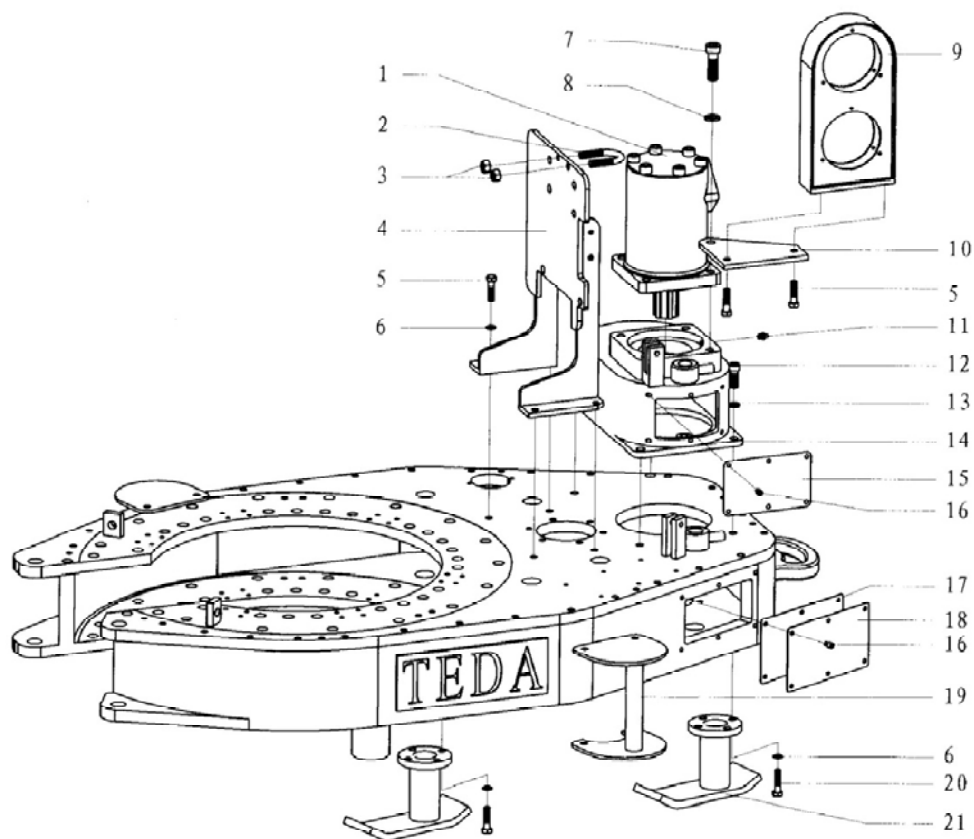


Fig 8

Table 7 Tong shell with accessory(2)

Item	P/ N	Drawing No.	Description	Qty
1	KHT9625-22		6K-625Hydraulic Motor (Hose connection)	1
2	KHT9625-180	KJD9625-5	U- type Bolt	1
3	KHT9625-181		Lock Nut3/8"	2
4	KHT9625-23	KJD9625.14 (3)	Valve Connection Plate assembly	1
5	KHT9625-182		Hexagon Socket Head Screw 3/8"×1"	6
6	KHT9625-170		Spring washer3/8"	20
7	KHT9625-185		Hexagon Socket Head Screw 5/8"×2"	4
8	KHT9625-186		Spring washer5/8"	4

Item	P/ N	Drawing No.	Description	Qty
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9	KHT9625-24	KJD9625.11	Pressure gage seat	1
10	KHT9625-187	KJD9625-4	Fixed Plate	1
11	KHT9625-188		Oil CupNPT1/8"	1
12	KHT9625-189		Hexagon Socket Head Screw 1/2"×1 1/4"	4
13	KHT9625-103		Spring washer1/2"	4
14	KHT9625-25	KHT9625.1.7.1	Small tank board	1
15	KHT9625-190	KHT9625.1.7-1	Baffle	1
16	KHT9625-167		Hexagon Socket Head Screw 1/4"×5/16"	12
17	KHT9625-191	KHT9625.1.2-11	Baffle	1
18	KHT9625-192	KHT9625.1.2-11	Gear nameplate	1
19	KHT9625-184	KHT9625.1.2.1	Handle	2
20	KHT9625-193		Hexagon Socket Head Screw 3/8"×1 1/8"	16
21	KHT9625-194	TQ245.7	Support foot	4

7.6. Master transmission gear (Fig9, Table8)

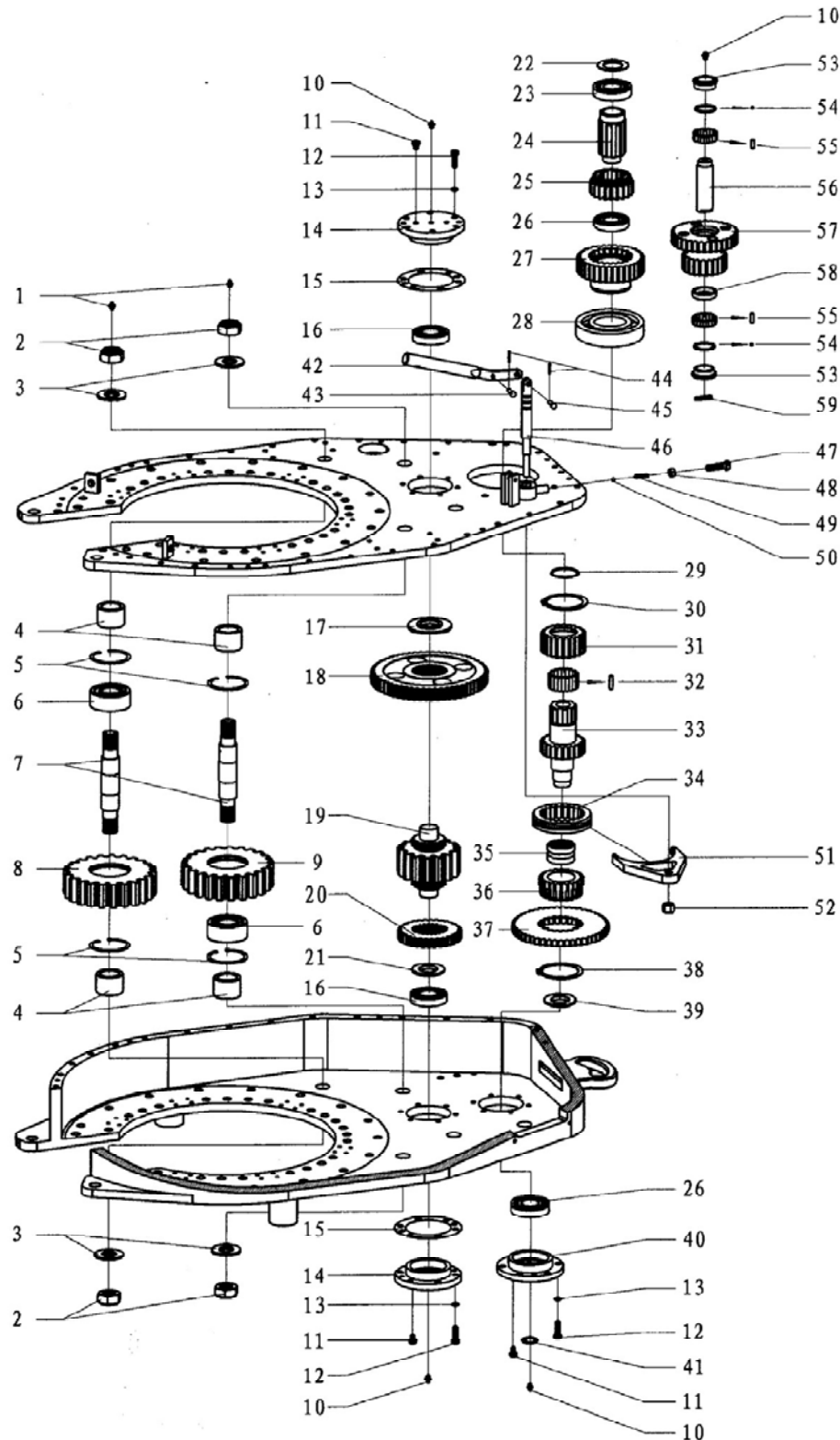


Fig 9

Table 8 Master transmission gear

Item	P/ N	Drawing No.	Description	Qty
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1	KHT9625-116	GB/T1152	Oil Cup M6×1	4
2	KHT9625-200		Hex locknut 1 1/4-7UNC	8
3	KHT9625-201	KHT9625.1.3-1	Washer	8
4	KHT9625-202	KHT9625.1.3-3	Lining ring	8
5	KHT9625-203	GB/T893.1	Hole purpose Elastic Retaining Ring 90	8
6	KHT9625-204	GB/T296	Double row angular contact ball bearing 3308	4
7	KHT9625-205	KHT9625.1.3-2	Small Idle Gear shaft	4
8	KHT9625-206	KHT9625.1.3-4	Small Idle Gear	2
9	KHT9625-207	KHT9625.1.4-1	Big Idle Gear	2
10	KHT9625-186		Oil cup NPT 1/8"	4
11	KHT9625-208		Hex Head Bolt 3/8"×1/2"	6
12	KHT9625-209		Hex Head Bolt 3/8"×1 1/4"	18
13	KHT9625-170		Spring washer 3/8"	18
14	KHT9625-210	KHT9625.1.5-1	Bearing Cover	2
15	KHT9625-211	KHT9625.1.5-2	Adjusting spacer	2
16	KHT9625-212	GB/T283	Cylindrical Roller Bearing NJ208E	2
17	KHT9625-213	KHT9625.1.5-7	Washer	1
18	KHT9625-214	KHT9625.1.5-3	Big gear	1
19	KHT9625-215	KHT9625.1.5-4	Gear shaft	1
20	KHT9625-216	KHT9625.1.5-5	Small gear	1
21	KHT9625-217	KHT9625.1.5-6	Support Plate	1
22	KHT9625-218	XYQ12.Z-23	Spacer	1
23	KHT9625-219	GB/T276	Ball Bearing 111	1
24	KHT9625-220	KHT9625.1.6-1	Splined Shaft	1
25	KHT9625-221	KHT9625.1.6-2	Shifting gear (upper)	1
26	KHT9625-222	GB/T276	Ball Bearing 208	2
27	KHT9625-223	KHT9625.1.6-3	Master axle gear	1
28	KHT9625-224	GB/T276	Ball Bearing 218	1

Item	P/ N	Drawing No.	Description	Qty
29	KHT9625-225	GB/T895.2	Axle-Purpose Wire Retaining Ring 60	1
30	KHT9625-226	GB/T893.1	Circlip for Shaft 90	1
31	KHT9625-227	KHT9625.1.6-4	Clutch gear (Upper)	1
32	KHT9625-228	GB/T309	Needle Roller $\phi 5 \times 29.8$	41
33	KHT9625-229	KHT9625.1.6-5	Master shaft	1
34	KHT9625-230	KHT9625.1.6-6	Inner Gear Sleeve	1
35	KHT9625-231	GB/T5801	Needle roller bearing NK50/35	1
36	KHT9625-232	KHT9625.1.6-7	Small clutch gear	1
37	KHT9625-233	KHT9625.1.6-8	Big clutch gear	1
38	KHT9625-234	GB/T893.1	Circlip for Shaft 95	1
39	KHT9625-235	KHT9625.1.6-9	Support plate	1
40	KHT9625-236	KHT9625.1.6-10	Bearing Cover	1
41	KHT9625-237	GB/T3452	O-ring 35.5×3.55	1
42	KHT9625-238	TQ245.8-1	Control Lever	1
43	KHT9625-239	GB882-86	Pin shaftB8 \times 35	1
44	KHT9625-240	GB91-86	Cotter Pin2.5 \times 12	2
45	KHT9625-241	GB882-86	Pin shaftB8 \times 28	1
46	KHT9625-242	KHT9625.1.13-1	Shifting Fork Axle (Lower)	1
47	KHT9625-243		Hexagon Head Bolt 1/2" \times 1 3/4"	1
48	KHT9625-244		Hex nut1/2"	1

49	KHT9625-245	TQ245.8-2	Locating spring	1
50	KHT9625-246		Steel ball 5/16"	1
51	KHT9625-247	KHT9625.1.13-2	Shifting Fork (Lower)	1
52	KHT9625-248		Lock Nut5/8"	1
53	KHT9625-249	XYQ12.Z-27A	Support ring (2)	2
54	KHT9625-250	GB/T308	Steel Ballφ6	56
55	KHT9625-251		Cylindrical Roller 10×25	28
56	KHT9625-252	KHT9625.1.8-1	Axle	1
57	KHT9625-253	KHT9625.1.8-2	Duplex Gear	1
58	KHT9625-254	XYQ12.Z-29	Space Ring	1
59	KHT9625-255	XYQ12.Z-45	Locating plate	1

7.7. Safety door assembly (Fig10, Table9)

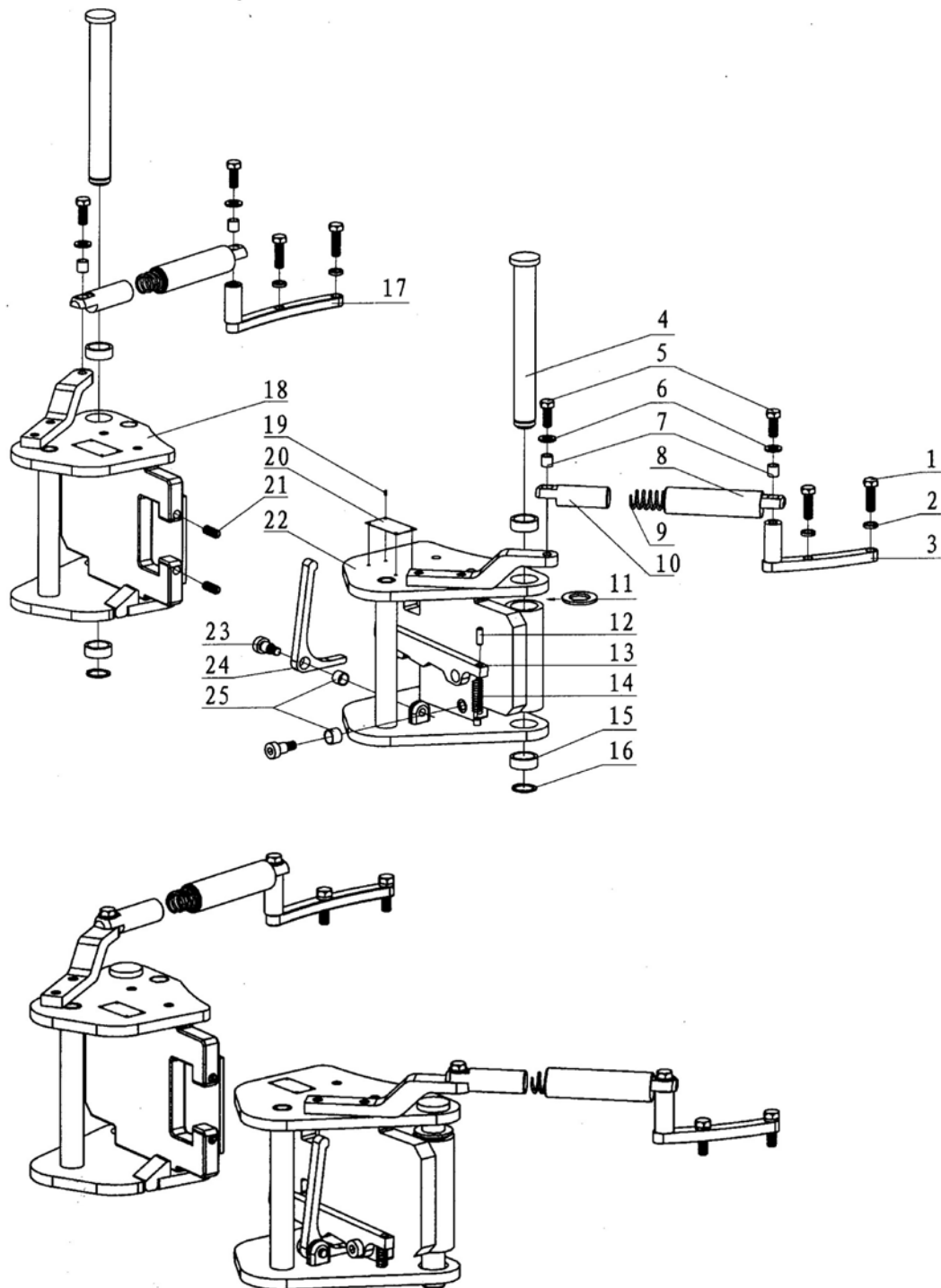


Fig 10

Table 9 Safety door assembly

Item	P/ N	Drawing No.	Description	Qty
1	KHT9625-260		Hexagon Head Bolt 3/8"×1 3/8"	4

2	KHT9625-170		Spring washer 3/8"	8
3	KHT9625-26	KHT9625.1.10.4	Socket Extension (2)	1
4	KHT9625-261	KHT9625.1.10-1	Pin shaft	2
5	KHT9625-262		Hexagon Head Bolt 3/8"×1"	4
6	KHT9625-263		Flat washer10	4
7	KHT9625-264	TQ245.13-1	Sleeve (1)	4
8	KHT9625-265	TQ245.13.2-1	Sleeve	2
9	KHT9625-266	TQ245.13.2-2	Spring	2
10	KHT9625-267	TQ245.13.2-3	Sleeve rod	2
11	KHT9625-268	TQ245.13-4	Copper Washer	2
12	KHT9625-269	GB/T879	Pin8×20	1
13	KHT9625-270	TQ245.13-6	Door Bolt	1
14	KHT9625-271	TQ245.13-7	Spring	1
15	KHT9625-272	TQ245.13-3	Sleeve (2)	4
16	KHT9625-273	GB/T894.1	Circlip for Shaft 25	2
17	KHT9625-27	KHT9625.1.10.1	Socket Extension (1)	1
18	KHT9625-28	KHT9625.1.10.2	Safety door (Left)	1
19	KHT9625-274	GB/T872	Rivit4×5	8
20	KHT9625-275	KJD9625.15-1	Warning sign	2
21	KHT9625-276		Slotted sit screws with flat point 3/8"×1"	2
22	KHT9625-29	KHT9625.1.10.3	Safety door (right)	1
23	KHT9625-277	KJD9625.15-2	Turning Axle	2
24	KHT9625-278	TQ245.13-9	Handlebar	1
25	KHT9625-279	TQ245.13-8	Sleeve (3)	2

7.8. Shifting assembly (Upper) (Fig11, Table10)

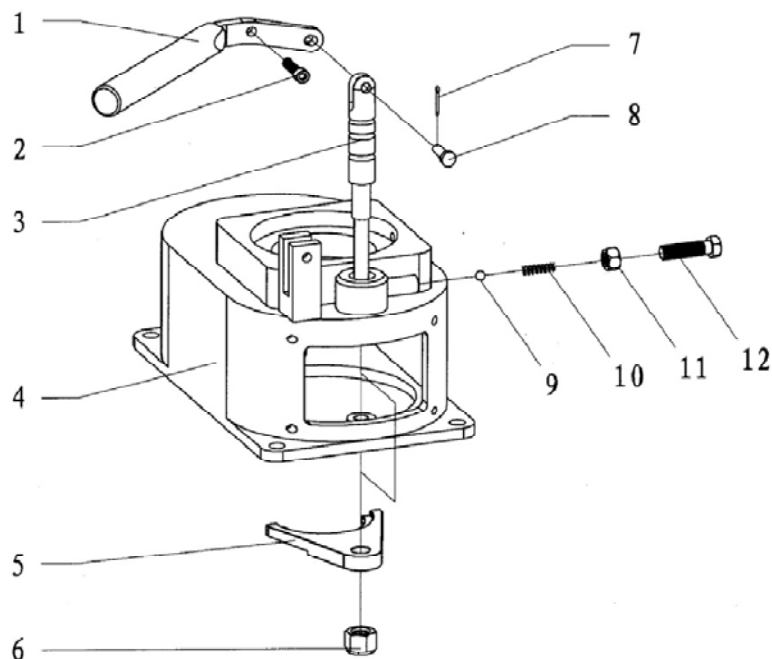


Fig 11

Table 10 Shifting assembly (Upper)

Item	P/ N	Drawing No.	Description	Qty
1	KHT9625-290	KHT9625.1.14-1	Control Lever	1
2	KHT9625-291		Hexagon Socket Head Screw 5/16"×1 1/4"	1
3	KHT9625-292	KHT9625.1.14-2	Shifting Fork Axle (Upper)	1
4	KHT9625-30	KHT9625.1.7.1	Small tan box	1
5	KHT9625-293	KHT9625.1.14-3	Shifting Fork (上)	1
6	KHT9625-248		Lock nut5/8"	1
7	KHT9625-240	GB91-86	Cotter Pin2.5×12	1
8	KHT9625-241	GB882-86	Pin shaftB8×28	1
9	KHT9625-246		Steel ball5/16"	1
10	KHT9625-245	TQ245.8-2	Locating spring	1

11	KHT9625-244		Hex nut 1/2"	1
12	KHT9625-243		Hexagon Head Bolt 1/2"×1 3/4"	1

7.9. Torque testing system of master tong (Fig12, Table11)

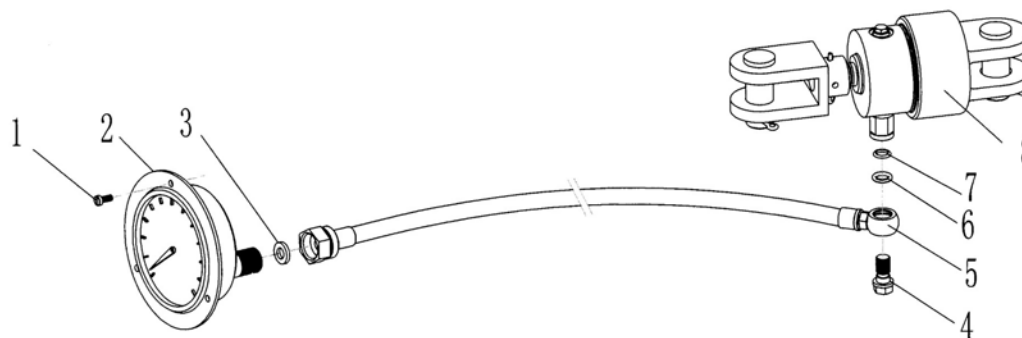


Fig 12

Table 11 Torque testing system of master tong

Item	P/ N	Drawing No.	Description	Qty
1	KHT9625-294	GB/T56	Slotted cheese head screw M5×16	3
2	KHT9625-295		Torque gauge YN100ZT(0-50KN.m)	1
3	KHT9625-296		Tetrafluoroethylene washer	1
4	KHT9625-297	XYQ12.Z-40.02	Oil Passing Bolt	1
5	KHT9625-298	JB/ZQ4427	Hose adapter 6I-750	1
6	KHT9625-314		Shim (Φ 20×Φ 14×3)	1
7	KHT9625-299	GB1235	O Ring 18×2.4	2
8	KHT9625-51	KD13375.1.12.1	Tension cylinder	1

7.10. Hydraulic combination valve and tube (Fig13, Table12)

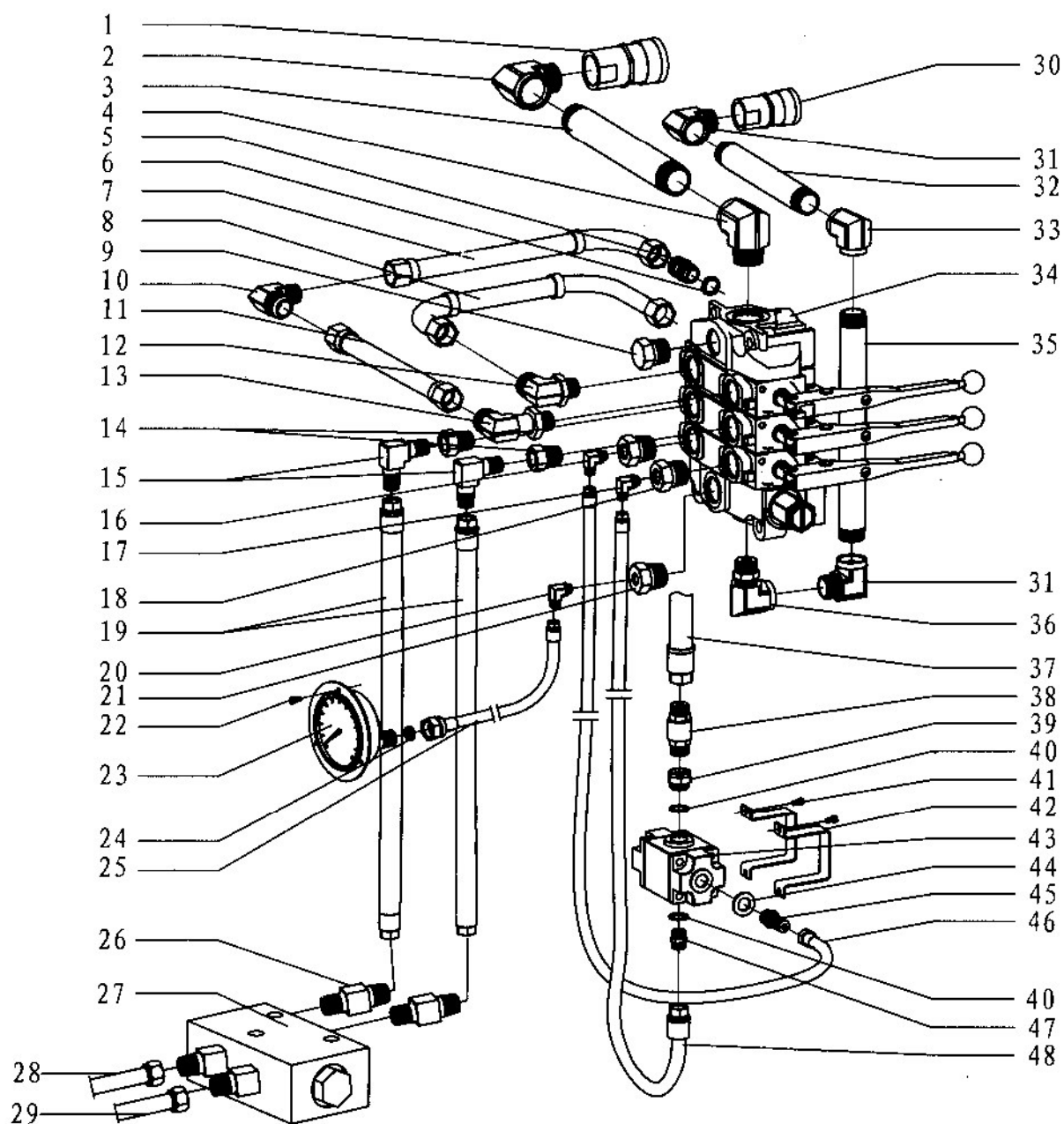


Fig 13

Table12 Hydraulic combination valve and tube

Item	P/ N	Drawing No.	Description	Qty
1	KHT9625-31	KJD9625.18.3	Quick exchange adaptor(2 1/8-12UN)	1
2	KHT9625-300	KJD9625.18-7	Bend adaptor(NPT1 1/4)	1
3	KHT9625-301	KJD9625.18-6	Tube (NPT1 1/4)	1
4	KHT9625-302	KJD9625.18.5	Bend adaptor(NPT1 1/4 -1 5/8-12UN)	1
5	KHT9625-320	TQ508/70Y.10.8-2	Adaptor(1 5/16-12UN)	2

6	KHT9625-306	GB1235-76	O Ring 35×3.1	5
7	KHT9625-321		Hose 1(1 5/16-12UN)	1
8	KHT9625-322		Hose 2(1 5/16-12UN)	1
9	KHT9625-323	TQ508/70Y.10-13	Adaptor(1 5/16-12UN)	1
10	KHT9625-324	TQ508/70Y.10.8.4	Bend adaptor(1 5/16-12UN)	1
11	KHT9625-325		Hose 3(1 5/16-12UN)	1
12	KHT9625-32	KJD9625.18.2	Bend adaptor(1 5/16-12UN)	1
13	KHT9625-326	TQ508/70Y.10.6	Adaptor(1 5/16-12UN)	1
14	KHT9625-308	KJD9625.18-2(2)	Adaptor(1 5/16-12UN -NPT1/2)	2
15	KHT9625-309	KJD9625.18-3	Right angle adaptor(NPT1/2-3/4-16UNF)	2
16	KHT9625-327	TQ508/70Y.10.10	Adaptor(7/16-20UNF)	1
17	KHT9625-328	TQ508/70Y.10.9 (2)	Adaptor(3/4-16UNF)	1
18	KHT9625-329	TQ508/70Y.10-10	Adaptor(1 5/16-12UN)	2
19	KHT9625-311		Hose 10 II -1400(3/4-16UNF)	2
20	KHT9625-34	KJD9625.18.1	Bend Adaptor(9/16-18UNF)	1
21	KHT9625-319	KJD9625.18-1(2)	Adaptor(1 5/16-12UN -9/16UNF)	1
22	KHT9625-313	GB/T818	Bolt M5×8	3
23	KHT9625-315		GuageY-100ZT(0-3600PSI)	1
24	KHT9625-314		PTFE Washer	1
25	KHT9625-312		Hose 8 II -850(M20×1.5-9/16UNF)	1
26	KHT9625-532	YG-45	Adaptor(M18×1.5-3/4UNF)	4
27	KHT9625-533		lock valve	1
28	KHT9625-534		Hose 10 II -350 (3/4-16UNF)	1
29	KHT9625-535		Hose 10 II -300(3/4-16UNF)	1
30	KHT9625-35	KJD9625.18.4	Quick exchange adaptor (1 7/8-12UN)	1
31	KHT9625-316	KJD9625.18-8	Bend adaptor(NPT1)	2

32	KHT9625-317	KJD9625.18-9	Tube (NPT1)	2
33	KHT9625-318	KJD9625.18-10	Bend adaptor(NPT1)	1
34	KHT9625-33C	DL(1).0C	Hydraulic combination valve assembly (five)	1
35	KHT9625-317 B	KJD9625.18-9(2)	Tube (NPT1)	2
36	KHT9625-36	KJD9625.18.6	Bend adaptor(1 5/16-12UN-NPT1)	1
37	KHT9625-520		Hose 10 II -2500(M24×1.5-3/4UNF)	1
38	KHT9625-521		Quick exchange adaptor (M24×1.5)	1
39	KHT9625-522	YG-58	Adaptor(M22×1.5- M24×1.5)	1
40	KHT9625-523	GB/T3452	O Ring 22.4×2.65	2
41	KHT9625-524		Hexagon Head Bolt 1/4"-20UNC×1/2"	2
42	KHT9625-525	KHT9625.1.9-1	Secure Clip	2
43	KHT9625-526	A1Y-Ha10	Pilot Operated Check Valve	1
44	KHT9625-527		Copper Washer 20×14×2	1
45	KHT9625-528	YG-36	Adaptor(M14×1.5-7/16UNF)	1
46	KHT9625-529		Hose 6 II -600(7/16UNF)	1
47	KHT9625-530	YG-57	Adaptor(M22×1.5-3/4UNF)	1
48	KHT9625-531		Hose 10 II -600(M22×1.5-3/4UNF)	1

7.11. Hydraulic valve bank (five connection valve) (Fig14, Table13)

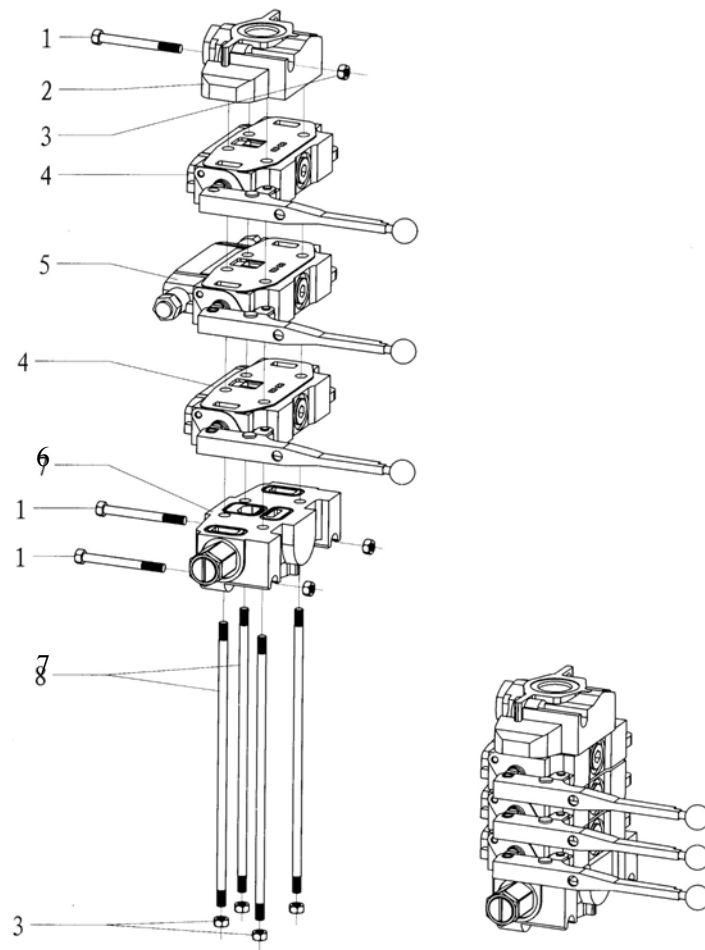


Fig 14

Table 13 Detailed table for Hydraulic valve bank (five connection valve)

Item	P/ N	Drawing No.	Description	Qty
1	KHT9625-330		Hex head bolt 1/2"UNC×4 1/2"	3
2	KHT9625-37		Connection board assembly	1
3	KHT9625-331		Nylon nut 1/2"	7
4	KHT9625-38		Hand control valve assembly (Y)	2
5	KHT9625-39		Hand control valve assembly (O)	1
6	KHT9625-40		Overflow valve assembly	1
7	KHT9625-332		Bolt 1/2"UNC	4

7.12. Quick exchange adaptor adaptor(2 1/8-12UN) (Fig15, Table14)

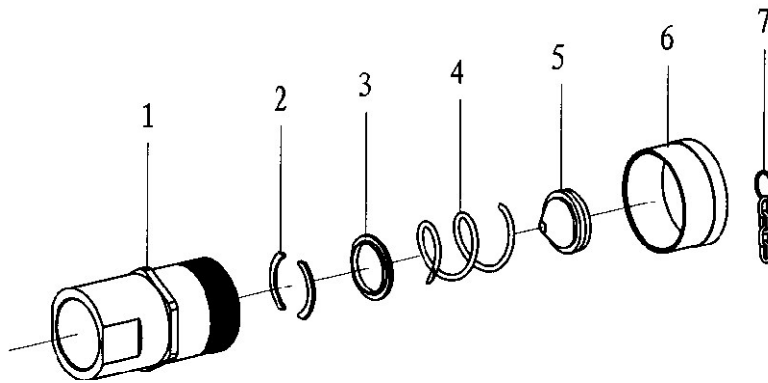


Fig 15

Table 14 Quick exchange adaptor adaptor(2 1/8-12UN)

Item	P/ N	Drawing No.	Description	Qty
1	KHT9625-340	KJD9625.18.3-2	Adaptor body	1
2	KHT9625-341	KJD9625.18.3-5	Clip	2
3	KHT9625-342	KJD9625.18.3-4	Washer	1
4	KHT9625-343	KJD9625.18.3-3	Spring	1
5	KHT9625-344	KJD9625.18.3.1	Core	1
6	KHT9625-345	KJD9625.18.3-1	End cover	1
7	KHT9625-346	KJD9625.18.3.2	Combination chain	1

7.13. Quick exchange adaptor adaptor(1 7/8-12UN) (Fig16, Table15)

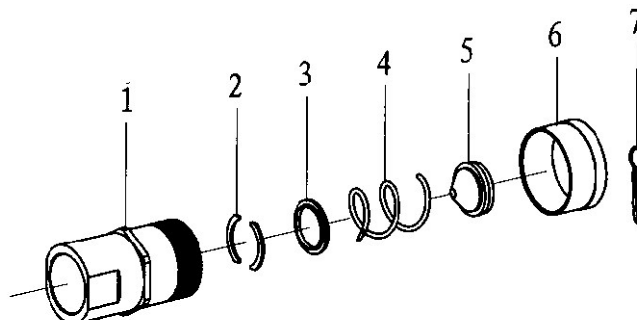


Fig 16

Table 15 Quick exchange adaptor adaptor(1 7/8-12UN)

Item	P/ N	Drawing No.	Description	Qty
------	------	-------------	-------------	-----

1	KHT9625-350	KJD9625.18.4-2	Adaptor body	1
2	KHT9625-351	KJD9625.18.4-5	Clip	2
3	KHT9625-352	KJD9625.18.4-4	Washer	1
4	KHT9625-353	KJD9625.18.4-3	Spring	1
5	KHT9625-354	KJD9625.18.4.1	Core	1
6	KHT9625-355	KJD9625.18.4-1	End cover	1
7	KHT9625-356	KJD9625.18.4.2	Combination chain	1

7.14. Bend adaptor(1 5/16-12UN) (Fig 17, Table16)

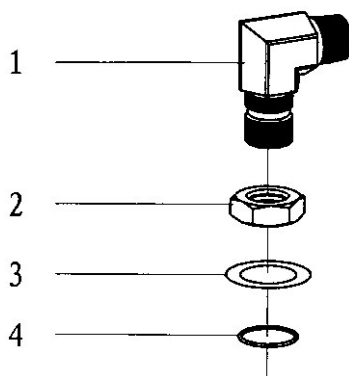


Fig 17

Table 16 Bend adaptor(1 5/16-12UN)

Item	P/ N	Drawing No.	Description	Qty
1	KHT9625-360	KJD9625.18.2-1	Bend adaptor(1 5/16-12UN)	1
2	KHT9625-361	KJD9625.18.2-2	Nut 1 5/16	1
3	KHT9625-362		WasherΦ44.5×Φ30.5×1.5	1
4	KHT9625-363	GB1235-76	O Ring 35×3.1	1

7.15. Bend adaptor(9/16-18UNF) (Fig18, Table17)

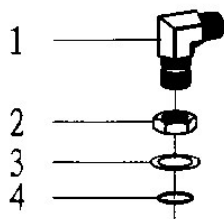


Fig 18

Table 17 Bend adaptor(9/16-18UNF)

Item	P/ N	Drawing No.	Description	Qty
1	KHT9625-370	KJD9625.18.1-1	Bend adaptor(9/16-18UNF)	1
2	KHT9625-371	KJD9625.18.1-2	Nut 9/16	1
3	KHT9625-372		WasherΦ20.3×Φ12.7×1	1
4	KHT9625-373	GB1235-76	O Ring 16×2.4	1

7.16. Bend adaptor(NPT1 1/4-1 5/8-12UN) (Fig19, Table18)

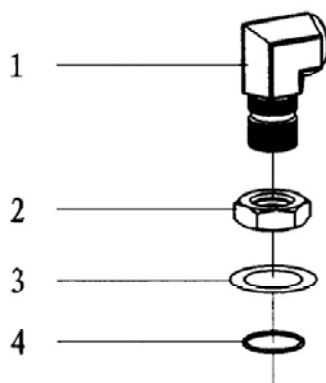


Fig 19

Table 18 Bend adaptor(NPT1 1/4-1 5/8-12UN)

Item	P/ N	Drawing No.	Description	Qty
1	KHT9625-380	KJD9625.18.5-1	Bend adaptor(NPT1 1/4-1 5/8-12UN)	1
2	KHT9625-381	KJD9625.18.5-2	Nut 1 5/8	1
3	KHT9625-382		WasherΦ55×Φ38.5×1.5	1
4	KHT9625-383	GB1235-76	O Ring 45×3.1	1

7.17. Bend adaptor(NPT1-1 5/16-12UN) (Fig20,

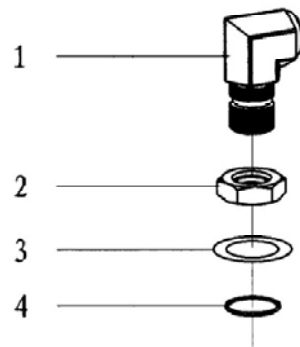


Table19)
20

Fig

Table 19 Bend adaptor(NPT1-1 5/16-12UN)

Item	P/ N	Drawing No.	Description	Qty
1	KHT9625-390	KJD9625.18.6-1	Bend adaptor(NPT1-1 5/16-12UN)	1
2	KHT9625-391	KJD9625.18.6-2	Nut 1 5/16	1
3	KHT9625-392		WasherΦ44.5×Φ30.5×1.5	1
4	KHT9625-393	GB1235-76	O Ring 35×3.1	1

7.18. Suspension Bar (Fig21, Table20)

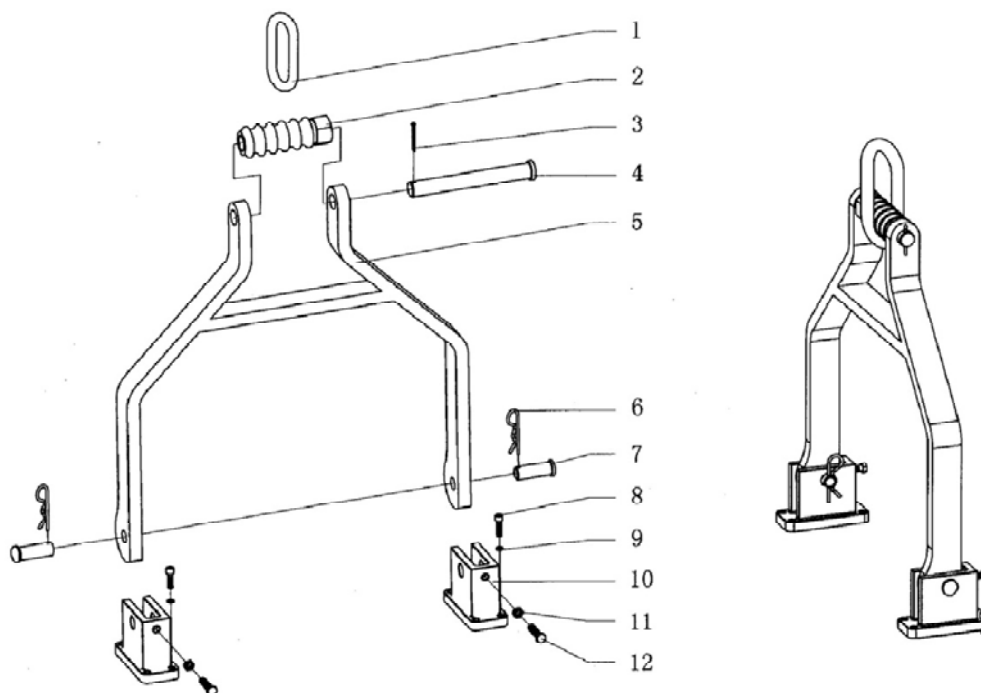


Fig 21

Table 20 Suspension Bar assembly

Item	P/ N	Drawing No.	Description	Qty
1	KHT9625-400		Steel wire rope (5T)	1
2	KHT9625-401	TQ245.15(2)-1	Spiral rod	1
3	KHT9625-402	GB/T91	Cotter Pin6×45	1
4	KHT9625-403	TQ245.15(2)-2	Pin shaft‘	1
5	KHT9625-404	KHT9625.1.16.1	Suspension Bar	1
6	KHT9625-405	TQ245-2	Snap Spring	2
7	KHT9625-406	GB/T882	Pin shaftB25×70	2
8	KHT9625-407		Hexagon Socket Head Screw 3/8"×1 1/2"	8
9	KHT9625-170		Spring washer3/8"	8
10	KHT9625-408	KHT9625.1.16-1	Suspension seat	2

11	KHT9625-244		Hex-thin nut1/2"	2
12	KHT9625-409		Hexagon Head Bolt 1/2"×2"	2

7.19. Hydraulic spring suspending device (Fig22, Table21)

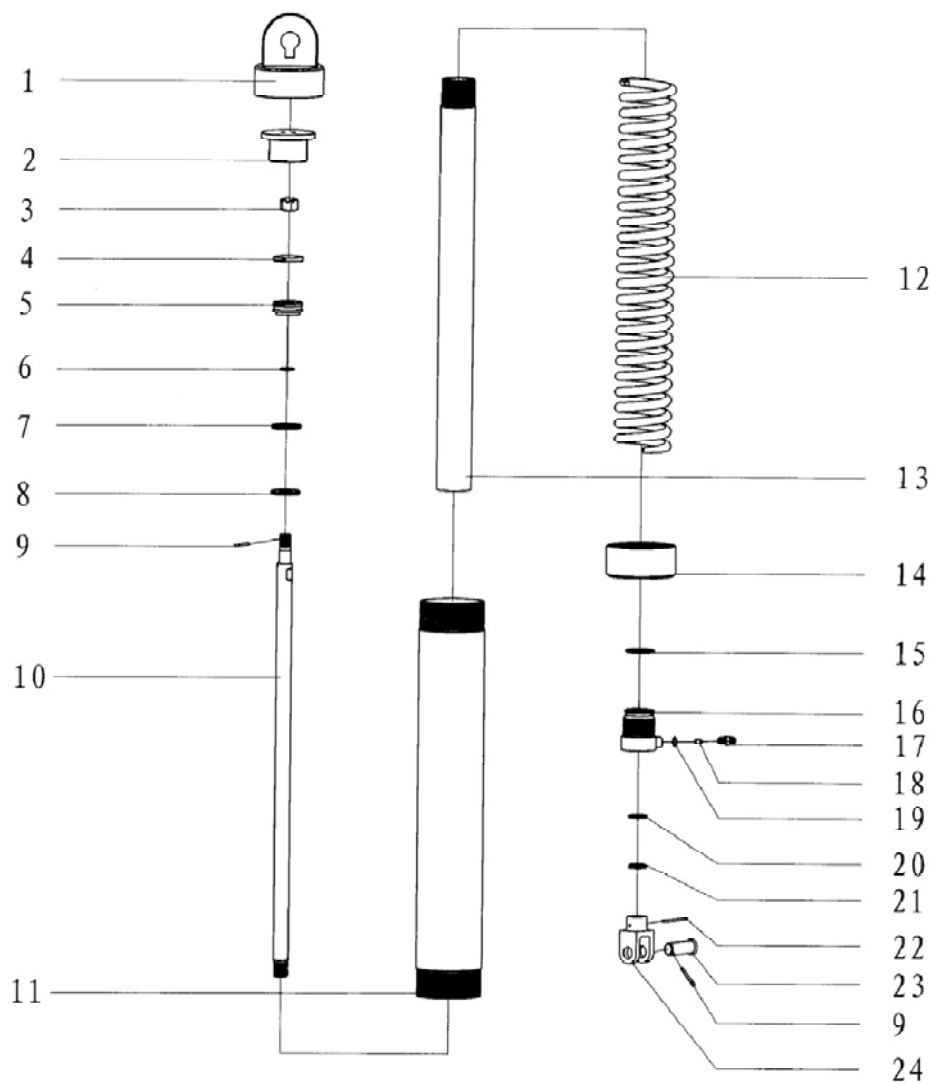


Fig 22 Hydraulic spring suspending device (KHT9625-52)

Table 21 Hydraulic spring suspending device

Item	P/ N	Drawing No.	Description	Qty
1	KHT9625-540	KHT9625.1.17.2	Bucket end joint	1
2	KHT9625-541	KHT9625.1.17-8	Cylinder end joint2	1
3	KHT9625-542	GB/T6178	Slotted NutM30	1

4	KHT9625-543	GB/T15242.2	SD 0800C- II A	1
5	KHT9625-544	KHT9625.1.17-7	Piston	1
6	KHT9625-545	GB/T3452.1	O-Ring32.5×3.55	1
7	KHT9625-546	GB/T10708.1	Y-RingY80×65×9.5	1
8	KHT9625-547	KHT9625.1.17-6	Check Ring	1
9	KHT9625-548	GB/T91	Cotter pin6.3×50	2
10	KHT9625-549	KHT9625.1.17-5	Piston Rod	1
11	KHT9625-550 (2)	KHT9625.1.17-3 (2)	Bucket body	1
12	KHT9625-551(2)	KHT9625.1.17-2 (2)	Spring	1
13	KHT9625-552	KHT9625.1.17-4	Cylinder body	1
14	KHT9625-553	KHT9625.1.17-1	Cylinder cover	1
15	KHT9625-554	GB/T3452.1	O-Ring 69×5.3	1
16	KHT9625-555	KHT9625.1.17.1	Cylinder end joint 1	1
17	KHT9625-556	YG-54	Joint(M18×1.5-3/4UNF)	1
18	KHT9625-557	XYQ12.YD-01.3	Throttle spool	1
19	KHT9625-558	GB1235	O-Ring 24×2.4	1
20	KHT9625-559	GB/T10708.1	Y-RingY40×50×6.3	1
21	KHT9625-560	GB/T10708.3	Dustproof RingFA40×48×5	1
22	KHT9625-561	GB/T91	Cotter pin 6.3×80	1
23	KHT9625-562	GB/T882	Pin shaft 32×90	1
24	KHT9625-563	TQ340/35YA.1.16-1	Suspended head	1

7.20. Backup Tong assembly (Fig23, Table22)

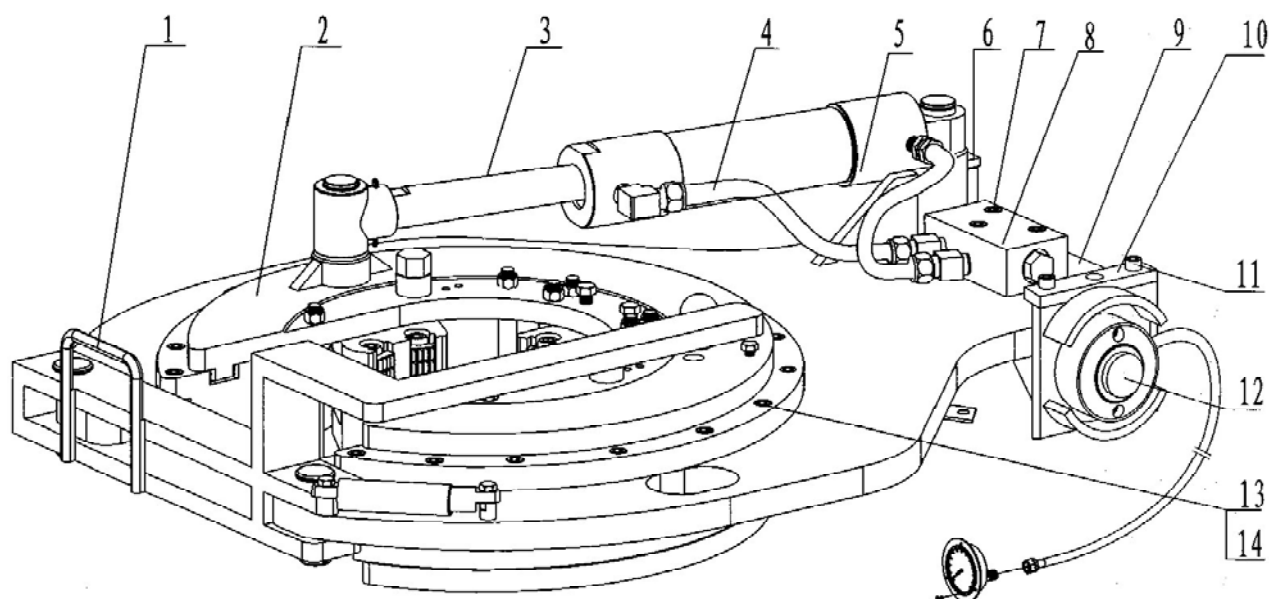


Fig 23

Table 22 Backup Tong assembly

Item	P/ N	Drawing No.	Description	Qty
1	KHT9625-60	KHT9625.2 (2) .5	Backup Tong Safety door assembly	1
2	KHT9625-61	KHT9625.2 (2) .1	Backup Tong head assembly	1
3	KHT9625-62	KHT9625.2 (2) .3	Transmission assembly	1
4	KHT9625-534		Hose 10 II -350 (3/4-16UNF)	1
5	KHT9625-535		Hose 10 II -300(3/4-16UNF)	1
6	KHT9625-63	KHT5500.2.9	Limit seat	1
7	KHT9625-570		Hexagon Socket Head Screw 1/2"×2"	3
8	KHT9625-533		Hydraulic Lock	1
9	KHT9625-64	KHT9625.2 (2) .2	Backup Tong	1
10	KHT9625-65	KHT5500.2.8	Torque cylinder connected seat	1
11	KHT9625-421		Hexagon Socket Head Screw 5/16"×3/4"	4
12	KHT9625-66		Torque testing assembly	1
13	KHT9625-510		Hexagon Socket Head Screw 5/8"×2 1/4 "	17
14	KHT9625-186		Spring washer 5/8"	17

7.21. Backup Tong Transmission assembly (Fig24, Table23)

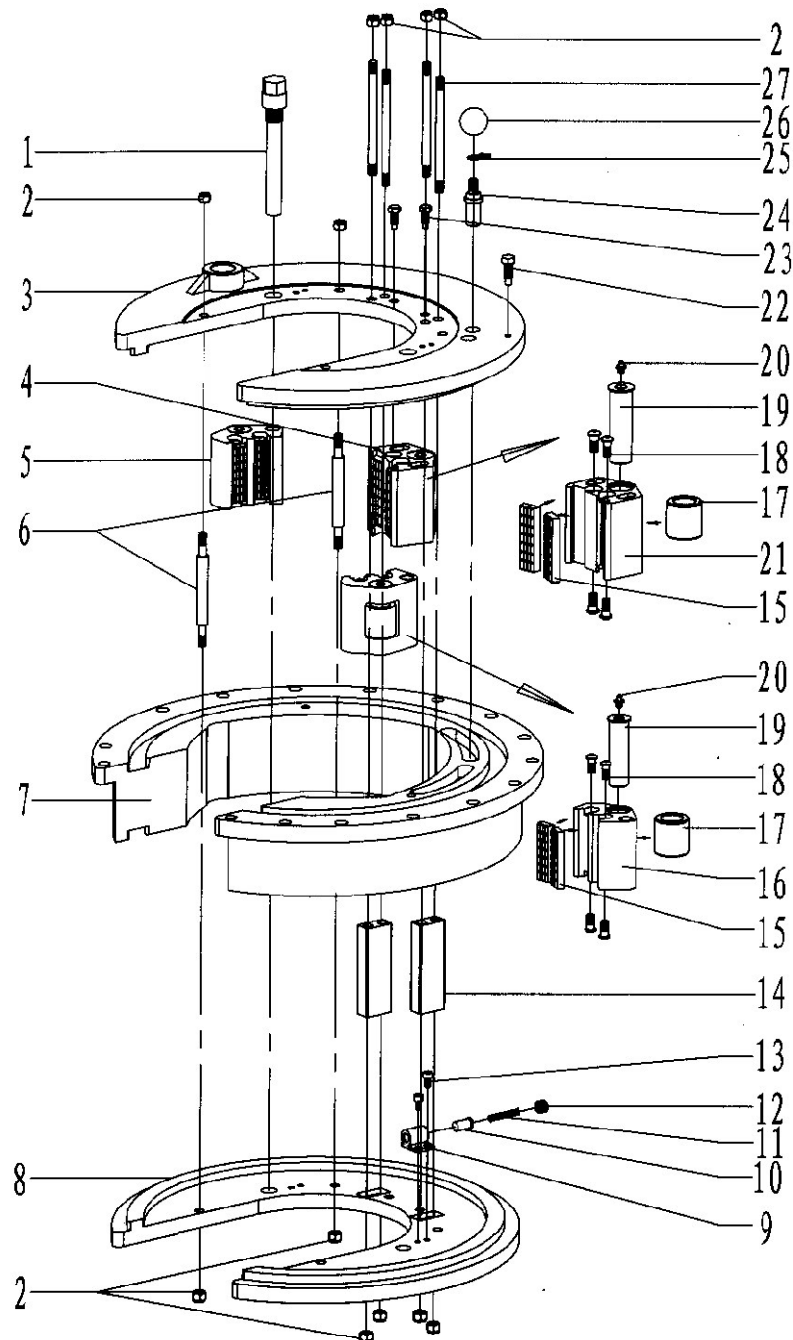


Fig 24

Table 23 Backup Tong Transmission assembly

Item	P/ N	Drawing No.	Description	Qty
1	KHT9625-104	KHT9625.1.1-4	Jaw set bolt	2
2	KHT9625-105		Hex Lock nut 1/2"	16

3	KHT9625-600	KHT9625.2 (2) .1-1	Upper jaw set frame	1
4	KHT9625-43(2)	KHT9625.2 (2) .1.2(1-11)	Rear jaw set assembly	Each1
5	KHT9625-44(2)	KHT9625.2 (2) .1.1(1-11)	Front jaw set assembly	Each2
6	KHT9625-117	KHT9625.1.1-5	Support screw	4
7	KHT9625-41(2)	KHT9625.2 (2) .1-2	Ramp body	1
8	KHT9625-601	KHT9625.2 (2) .1-3	Lower jaw set frame	1
9	KHT9625-602	KHT9625.2 (2) .1.3-2	Spring plate	4
10	KHT9625-603	KHT9625.2 (2) .1.3-1	Spring sliding sleeve	4
11	KHT9625-604	KHT5500.1.1-8B	Spring($\Phi 1.6 \times \Phi 9 \times 51.5$)	4
12	KHT9625-605	KHT5500.1.1-13B	leveling screw	4
13	KHT9625-151		Hexagon Socket Head Screw5/16"×1/2"	8
14	KHT9625-149	KHT9625.1.1-8	Limiting Plate	2
15	KHT9625-129	KHT9625.1.1.1-2(1)	Die1 (7/16")	Each6
	KHT9625-130	KHT9625.1.1.1-2(2)	Die2 (1/2")	Each6
	KHT9625-131	KHT9625.1.1.1-2(3)	Die3 (9/16")	Each6
	KHT9625-132	KHT9625.1.1.1-2(4)	Die4 (5/8")	Each6
	KHT9625-133	KHT9625.1.1.1-2(5)	Die5 (11/16")	Each6
	KHT9625-134	KHT9625.1.1.1-2(6)	Die6 (3/4")	Each6
	KHT9625-135	KHT9625.1.1.1-2(7)	Die7 (13/16")	Each6
	KHT9625-136	KHT9625.1.1.1-2(8)	Die8 (7/8")	Each6
	KHT9625-137	KHT9625.1.1.1-2(9)	Die9 (15/16")	Each6
	KHT9625-138	KHT9625.1.1.1-2(10)	Die10 (1")	Each6
	KHT9625-139	KHT9625.1.1.1-2(11)	Die11 (1 1/16")	Each6

Item	P/ N	Drawing No.	Description	Qty
16	KHT625-606	KHT9625.2 (2) .1.1-1(1)	Front Jaw set1(10 1/2)	Each2
	KHT625-607	KHT9625.2 (2) .1.1-1(2)	Front Jaw set2(9 5/8)	Each2
	KHT625-608	KHT9625.2 (2) .1.1-1(3)	Front Jaw set3(8 5/8)	Each2
	KHT625-609	KHT9625.2 (2) .1.1-1(4)	Front Jaw set4(7 5/8)	Each2
	KHT625-610	KHT9625.2 (2) .1.1-1(5)	Front Jaw set5(7)	Each2
	KHT625-611	KHT9625.2 (2) .1.1-1(6)	Front Jaw set6(6 5/8)	Each2

	KHT625-612	KHT9625.2 (2) .1.1-1(7)	Front Jaw set7(5 1/2)	Each2
	KHT625-613	KHT9625.2 (2) .1.1-1(8)	Front Jaw set8(5)	Each2
	KHT625-614	KHT9625.2 (2) .1.1-1(9)	Front Jaw set9 (4 1/2)	Each2
	KHT625-615	KHT9625.2 (2) .1.1-1(10)	Front Jaw set10(3 1/2)	Each2
	KHT625-616	KHT9625.2 (2) .1.1-1(11)	Front Jaw set11(2 7/8)	Each2
17	KHT9625-119	KHT9625.1.1.1-4	Roller	3
18	KHT625-118		Hexagon Socket Head Screw 1/2"×1"	12
19	KHT9625-117	KHT9625.1.1.1-3	Roller shaft	3
20	KHT9625-116	GB/T1152	Oil Cup M6×1	3
21	KHT9625-617	KHT9625.2 (2) .1.2-1(1)	Rear jaw set1(10 1/2)	Each1
	KHT9625-618	KHT9625.2 (2) .1.2-1(2)	Rear jaw set2(9 5/8)	Each1
	KHT9625-619	KHT9625.2 (2) .1.2-1(3)	Rear jaw set3(8 5/8)	Each1
	KHT9625-620	KHT9625.2 (2) .1.2-1(4)	Rear jaw set4(7 5/8)	Each1
	KHT9625-621	KHT9625.2 (2) .1.2-1(5)	Rear jaw set5(7)	Each1
	KHT9625-622	KHT9625.2 (2) .1.2-1(6)	Rear jaw set6(6 5/8)	Each1
	KHT9625-623	KHT9625.2 (2) .1.2-1(7)	Rear jaw set7(5 1/2)	Each1
	KHT9625-624	KHT9625.2 (2) .1.2-1(8)	Rear jaw set8(5)	Each1
	KHT9625-625	KHT9625.2 (2) .1.2-1(9)	Rear jaw set9(4 1/2)	Each1
	KHT9625-626	KHT9625.2 (2) .1.2-1(10)	Rear jaw set10(3 1/2)	Each1
	KHT9625-627	KHT9625.2 (2) .1.2-1(11)	Rear jaw set11(2 7/8)	Each1
22	KHT9625-208		Hexagon Head Bolt3/8"×1/2"	1
23	KHT9625-115	KHT9625.1.1-10	Limiting bolt	2
24	KHT9625-628	KHT9625.2 (2) .1-4	Bolt	1
25	KHT9625-629	KJD9625.2.1-7	Combination chain	1
26	KHT9625-111	TQ340/35Y.1.5.2-05	Handle Ball	1
27	KHT9625-150	KHT9625.1.1-9	Double worm	4

7.22. Clamping cylinder assembly (Fig25, Table24)

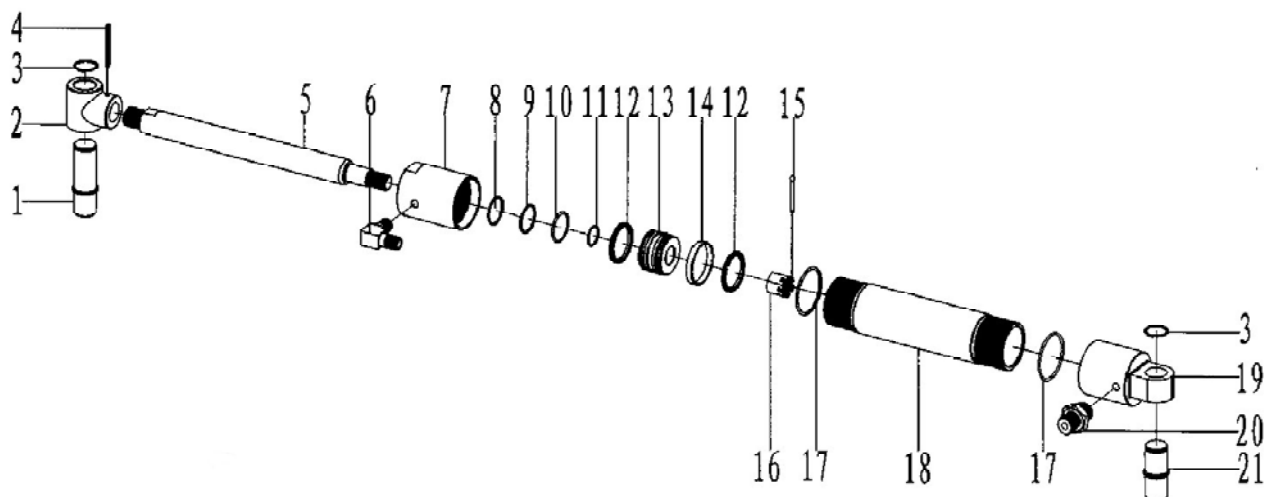


Fig 25

Table 24 Clamping cylinder assembly

Item	P/ N	Drawing No.	Description	Qty
1	KHT9625-650	KHT9625.2 (2) .3-1	Pin shaft(1)	1
2	KHT9625-651	KHT9625.2 (2) .3-2	Rod adaptor	1
3	KHT9625-652	GB/T894.1	Retaining rings for shafts35	1
4	KHT9625-653	GB/T91	Cotter pin5×65	1
5	KHT9625-654	KHT9625.2 (2) .3-3	Piston rod	1
6	KHT9625-655	KJD9625.18-3	Right angle adaptor(NPT1/2)	1
7	KHT9625-656	KHT9625.2 (2) .3-4	Cylinder end adaptor(1)	1
8	KHT9625-657	GB/T10708.3	Seal FA48×40×5	1
9	KHT9625-658	GB/T3452.1	Retainer ringA40.5×45.5×1.5	1
10	KHT9625-659	GB/T3452.1	O-Ring41.2×3.55	1
11	KHT9625-660	GB/T3452.1	O-Ring28×2.65	1
12	KHT9625-661	GB/T10708.1	Y O-RingY63×53×6.3	2
13	KHT9625-662	KHT9625.2 (2) .3-6	Piston	1
14	KHT9625-663	GB/T15242.2	Support Ring SD 0630C- II A	1
15	KHT9625-664	GB/T91	Cotter pin5×40	1
16	KHT9625-665	GB/T6178	Nut M24	1
17	KHT9625-666	GB/T3452.1	O-Ring69×3.55	2
18	KHT9625-667	KHT9625.2 (2) .3-5	Oil Cylinder	1
19	KHT9625-668	KHT9625.2 (2) .3-7	Cylinder end adaptor(2)	1
20	KHT9625-669	YG-53	Adaptor(NPT1/2-3/4-16UNF)	1
21	KHT9625-670	KHT9625.2 (2) .3-8	Pin shaft(2)	1

7.23. Lifting Chain Assembly (Fig26, Table25)

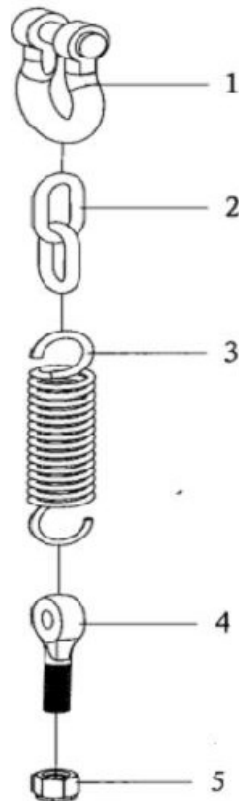


Fig 26

Table 25 Lifting Chain Assembly

Item	P/ N	Drawing No.	Description	Qty
1	KHT9625-500	GB/T8112	Shackle M-BX5 (φ12)	2
2	KHT9625-501	JB/T8108.2	Chainφ8 (L=600)	2
3	KHT9625-502	KHT9625.3-1	Tension Spring	2
4	KHT9625-503	KHT5500.3-2	Eyebolt	2
5	KHT9625-504		Hexagon check nut 1/2"	2

7.24 Backup Tong Safety door assembly (Fig27, Table26)

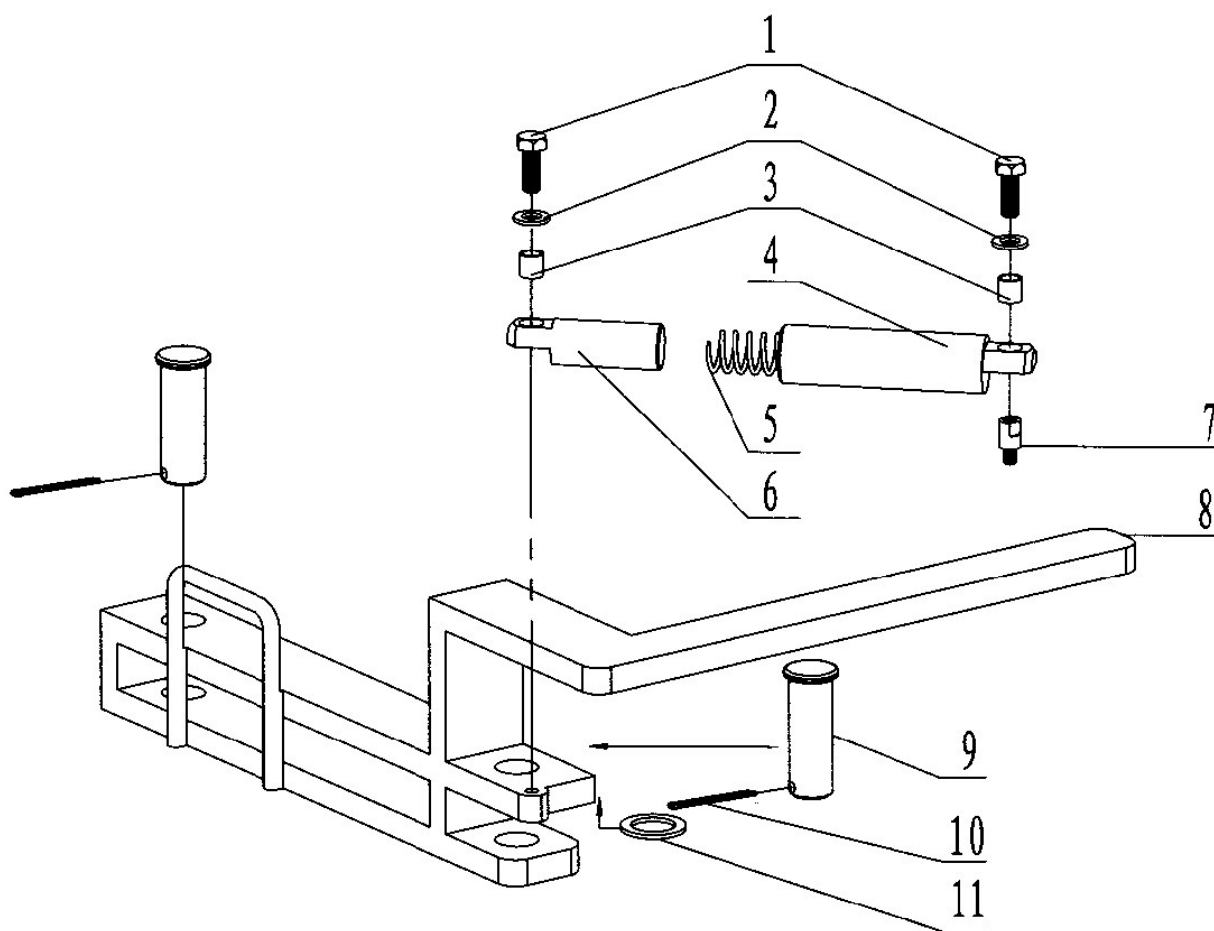


Fig 27

Table 26 Backup Tong Safety door assembly

Item	P/ N	Drawing No.	Description	Qty
1	KHT9625-262		Hexagon Socket Head Screw3/8"×1 "	2
2	KHT9625-263	GB/T845	Flat washer10	2
3	KHT9625-264	TQ245.13-1	Sleeve (1)	2
4	KHT9625-265	TQ245.13.2-1	Sleeve	1
5	KHT9625-266	TQ245.13.2-2	Spring	1
6	KHT9625-267	TQ245.13.2-3	Sleeve rod	1
7	KHT9625-570	KHT9625.2 (2) .4-1	support	1
8	KHT9625-571	KHT9625.2 (2) .5.1	Safety door	1
9	KHT9625-572	GB/T882	Pin shaft32×90	2
10	KHT9625-573	GB/T91	Cotter Pin6.3×50	2
11	KHT9625-574	KHT9625.2 (2) .5-1	Circlip for Shaft	1

7.25. Front guide poleAssembly (Fig28, Table27)

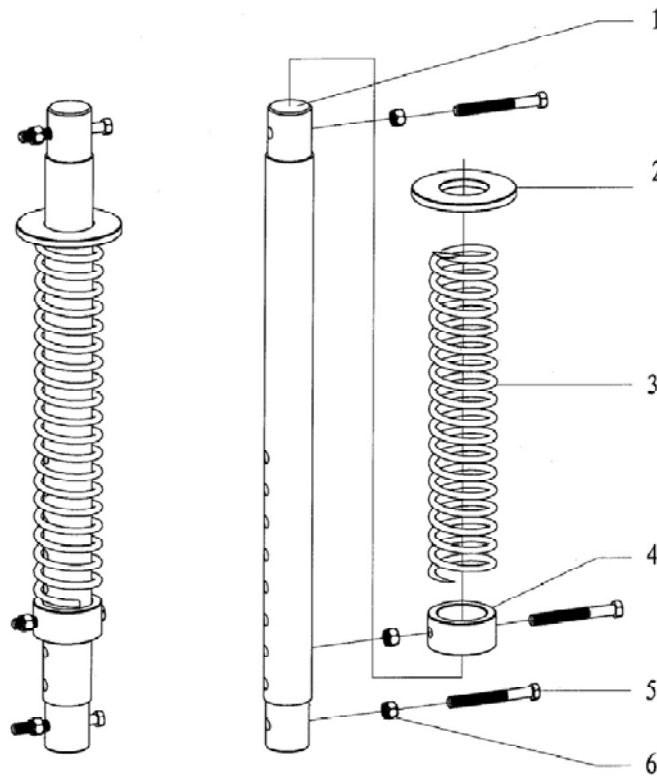


Fig 28

Table 27 Front guide pole Assembly

Item	P/ N	Drawing No.	Description	Qty
1	KHT9625-510	KHT9625.5-1	Front guide pole	1
2	KHT9625-511	KJD9625.Q-2	Washer	1
3	KHT9625-512	KHT9625.5-2	Spring of Front guide pole	1
4	KHT9625-513	KJD9625.Q -4	Stationary Bushing	1
5	KHT9625-514		Hex Bolt 1/2"×4"	3
6	KHT9625-105		Hex Locknut 1/2"	3

7.26. Torque testing assembly (Fig29, Table28)

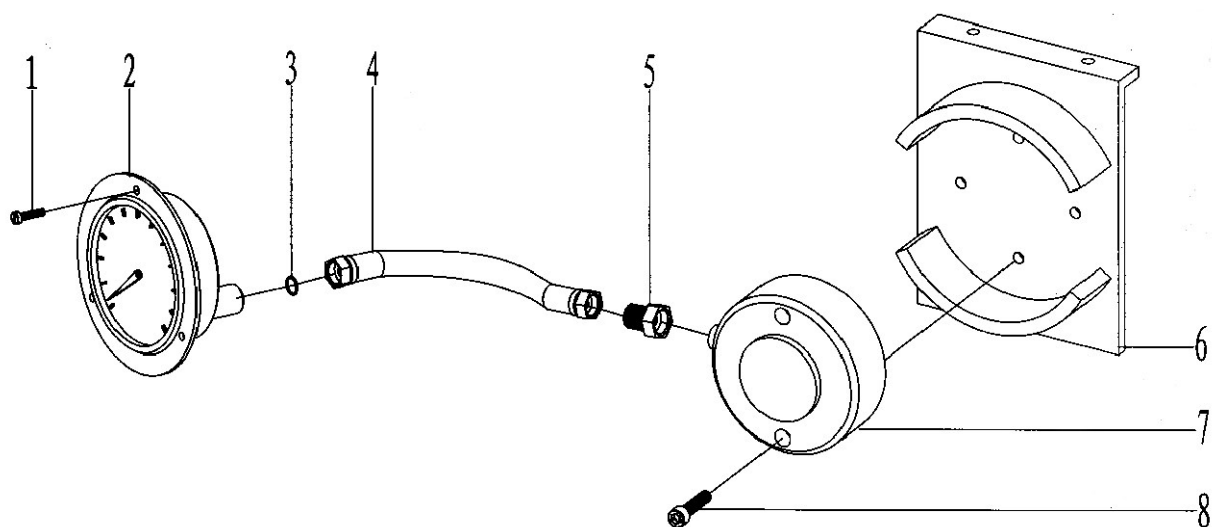


Fig 29

Table 28 Torque testing assembly

Item	P/ N	Drawing No.	Description	Qty
1	KHT9625-294	GB/T56	Slotted cheese head screw M5×16	3
2	KHT9625-295		Torque gaugeYN100ZT(0-50KN.m)	1
3	KHT9625-296		Teflon washer	1
4	KHT9625-701		Hose 6 II -1500	1
5	KHT9625-702	YG-52	Adaptor()	1
6	KHT9625-65	KHT5500.2.8	Torque cylinder connected seat	1
7	KHT9625-703		Pressure cylinder	1
8	KHT9625-704		Hexagon Socket Head Screw5/16"×2 "	2

8) Table of Quick-wearing or Spare Parts (recommended for the one-year storage of one tong, actual figures may vary according to the purchase period and the optional pieces.) (**Table 27**)

Item	P/ N	Drawing No.	Description	Qty
------	------	-------------	-------------	-----

1	KHT9625-104	KHT9625.1.1-4	Jaw set bolt	2
2	KHT9625-114	TQ340/35Y.1.5.2-04	Bolt	1
3	KHT9625-117	KHT9625.1.1.1-3	Roller shaft	6
4	KHT9625-119	KHT9625.1.1.1-4	Roller	6
5	KHT9625-130	KHT9625.1.1.1-2 (2)	Die2 (1/2")	100
6	KHT9625-16	KHT9625.1.15.1	Brake belt	2
7	KHT9625-17	KHT9625.1.11	Centralizing Roller assembly	77
8	KHT9625-19	KHT9625.1.12	Support roller assembly	12
9	KHT9625-306	GB1235-76	O Ring 35×3.1	5
10	KHT9625-628	KHT9625.2 (2) .1-4	Bolt	1
11	KHT9625-657	GB/T10708.3	Seal FA48×40×5	1
12	KHT9625-658	GB/T3452.1	Retainer ringA40.5×45.5×1.5	1
13	KHT9625-659	GB/T3452.1	O-Ring41.2×3.55	1
14	KHT9625-660	GB/T3452.1	O-Ring28×2.65	1
15	KHT9625-661	GB/T10708.1	Y O-RingY63×53×6.3	2
16	KHT9625-663	GB/T15242.2	Support Ring SD 0630C- II A	1
17	KHT9625-666	GB/T3452.1	O-Ring69×3.55	2

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