

FRONT LOADER

OPERATION MANUAL

MADE IN CHINA

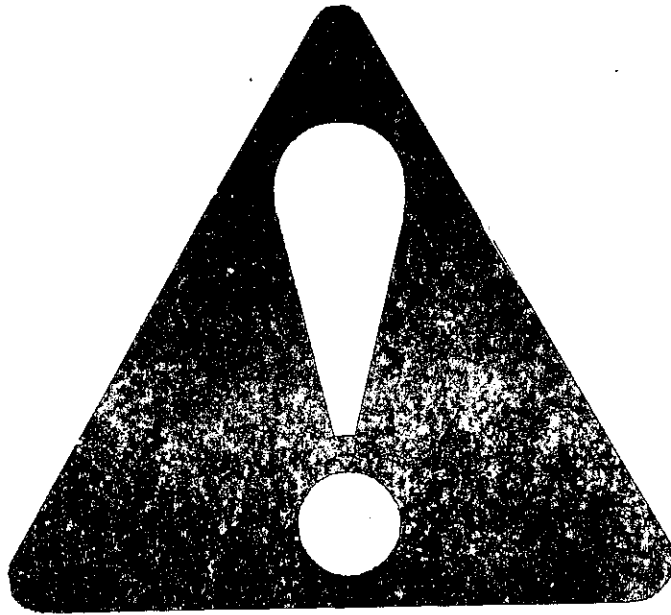
MOUNTING OF FRONT LOADER

- 1 . Support the main beam of front loader up to the horizontal positions of the left and right arm with supporting rod .
- 2 . Respectively mount the front supporting plates on the left and right sides of the front supporting seats , then tighten the bolts and nuts .
- 3 . Dismantle the left and right view covers of the tractor clutch , then respectively mount rear left and right supporting seats , and mount the connecting plate(which connects the rear left supporting seat and rear right supporting seat)under the clutch case , then respectively connect rear right supporting seat and left supporting seat , tighten bolts and nuts .
- 4 . Connect the hydraulic steering cylinder device on the rear left supporting seat and tighten them . Check whether the above mounting is complete and correct .
- 5 . Slowly drive the tractor between the left and right arms until the left and right arms can be respectively placed on the front left and right supporting plates . then remove supporting rod , then put it back to former place .
- 6 . Slowly drive the tractor to the connecting part of the left arm and right arm , then respectively into the connecting places of the left and right supporting seats .
- 7 . Insert connecting pin , lock locking clamp well and tightly screw the nut .
- 8 . Adjust the positioning holes well , mount the U fixing clamp plate , then tightly screw bolts and nuts to make the position of the left and right arms relative to the front supporting plate be fixed .
- 9 . Connect all the connectors of the oil route well and check whether the connectors are well connected and the capacity of hydraulic oil is in conformity with the requirements .
- 10 . Start the tractor at idle speed then at medium speed , and slowly operate the front loader , and check if there is oil leakage and other abnormal phenomenon , then enter normal working condition .

SAFETY ALERT SYMBOL

The symbol shown below is used to call your attention to instructions concerning your personal safety . Watch this symbol ! It points out important safety precautions , it means ----Attention !Become Alert ! Your Personal Safety Is Involved !

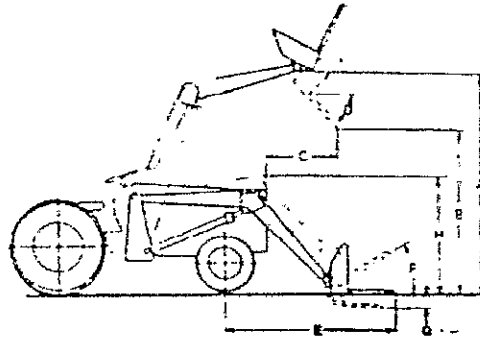
Read the message that follows and be alert to the possibility of personal injury or death .



WARNING

Anyone who will operate or work around a front-end loader shall first read this manual.

SPECIFICATIONS



ZL LOADER

Bucket Size.....	50"
Maximun Lift Height(A).....	98"
Clearance W/Bucket Dumped(B).....	80"
Reach at Maximun Height(C).....	16"
Maximun Dump Angle(D).....	45"
Reach W/Bucket on Ground(E).....	59"
Bucket Rollback(F).....	17"
Digging Depth.....	6"
Overall Height in Carry Position(H).....	61"
• Lift Capacity to Full Height.....	875Lbs
• Breakaway Capacity.....	2200Lbs
Hydraulic Control Valve Requirement.....	Two Spool Selective Control Valve Required for Loader and Hydraulic Controlled Bucket Cylinders
Lift Bucket and Cylinders.....	Double Acting
Bucket Control.....	Hydraulic Twin Cylinder
Standard Bucket.....	4 Ft .Material
Bucket Cylinder Size(Twin).....	2" Bore × 23" Stroke
Lift Cylinder Size.....	2" Bore × 23" Stroke
Approximate Weight W/4Ft . Bucket(Less Mounts).....	597 Lbs
• Raising Time.....	6.5 Seconds
• Lower Time.....	5.0 Seconds
• Bucket Dump Time.....	5.0 Seconds
• Bucket Rollback Time.....	4.0 Seconds
• Will vary depending tractor system capacity .	



**NEVER ATTEMPT FULL ROLLOVER IN RAISED POSITION
WITH BUCKET FULL .**



SAFETY

Improper use of a loader can cause serious injury or death . The following safety precautions , and those given on the tractor mount installation instructions , should be thoroughly understood before attempting to operate this machine .

BEFORE OPERATION:

Carefully study and understand this manual , the specific tractor mount instructions , and the attachment(s) manual(s).

Prior to operation , inspect the loader for system leaks and damaged , missing , or malfunctioning components in an effort to avoid the possibility of a dangerous failure involving structural members or hydraulic system components .

Be certain any repairs necessary are completed prior to loader operation .

Follow recommended maintenance procedures and precautions on page #13 .

Completely familiarize yourself and others involved with the operation of the hydraulic control valve before operating the loader .

Be certain all bystanders are clear of the machine and operating area prior to operation .

It may be necessary to add wheel ballast or rear weights as recommended by the tractor manufacturer to maintain stability of the machine , to prevent tipping or upset which could result in serious injury or death . See mounting instructions for specific information .

This loader is designed for farm type operations such as snow removal , barn and feedlot cleaning or light gardening and digging .It's design is NOT intended for commercial and /or industrial use .

DURING OPERATION:

Never operate the machine other than from the tractor operator's seat .

Be sure operating area is clear of others during machine operation .

Never lift , hoist , or carry humans in the bucket or on any portion of the loader or loader attachments . Failure to heed , may result in serious injury or death .

Transport the machine load at the slowest speed possible and with the loader boom at the lowest transport position to avoid tipping or upset , which may result in serious injury or death .

SAFETY CONTINUED



Be extremely careful when working on inclines or near loose fill , rocks , and holes , as they can cause tipping or upset which may result in serious injury or death .

Be certain to avoid overhead electrical wires when operating loader . Contact with power lines may cause serious injury or death .

Avoid sudden stops when lowering or lifting the loader boom to prevent loss of control over the machine and /or load , which may result in serious injury or death .

Use maximum ballast and the widest recommended wheel setting on your tractor when handling large shiftable loads .

Never attempt to ram with the bucket at high speed or full tractor power . Sudden impact may result in structural failure and possible serious injury or death .

Never adjust or perform maintenance on the loader or tractor with the unit in motion , or without power source locked out .

Never get under bucket or lift arms or reach through the lift arms or bucket linkage when the loader is in operation . Inadvertant movement may cause serious injury or death .

FOLLOWING OPERATION

Whenever machine is not in operation , lower the loader boom and set the tractor brakes , disengage drive , shut the engine off , and remove the ignition key before dismounting the tractor .

If loader is to be disengaged from tractor , be sure that loader is securely supported on a hard , level surface and that all stands are securely engaged . Be certain all connections between tractor and loader are free before disengaging .

TRANSPORTING

Use safety lights and SMV emblem in addition to whatever local codes require when equipment is being transported on the road or highway . Check with proper authorities for legal limitations .

Transport all loads at a slow and safe speed .

Carry the load as low as possible and maintain adequate visibility and good ground clearance at all times .

PERFORMING MAINTENANCE

Carefully review , understand , and follow the "maintenance" section in this owners manual before attempting to service loader .

SAFETY CONTINUED



PERFORMING MAINTENANCE CONTINUED

Lower the bucket or attachment to the ground , shut off tractor engine , and relieve pressure in the hydraulic system before adjusting , lubricating , or servicing the loader .

Escaping hydraulic oil under pressure can penetrate the skin . Never use body to check for hydraulic leaks . Use cardboard when checking for leaks . See figure #1 . Relieve hydraulic pressure before disconnecting any hydraulic line . Failure to heed will result in serious injury or death .

Before disconnecting hydraulic lines , lower the loader and attachments . Lock out the hydraulic supply and relieve all hydraulic pressure .

Replace any damaged or painted-over decals . See Page #7 & #3 for replacement decals .

REMEMBER

- 1 . Move Slowly !
- 2 . Always use care and common sense !
- 3 . Be careful for your own sake and for that of others .

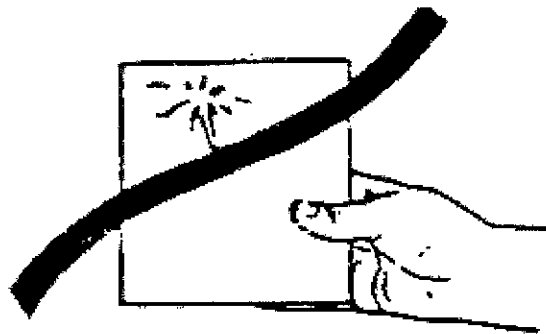


FIG . 1

ATTACHING THE LOADER



IMPORTANT:

Never attempt loader attachment on grades which are not reasonably level .

1 . Check to be sure that the top surface of both mounting shoes are free of bolts , screw or other obstructions .

2 . Drive the tractor slowly and carefully in between the loader arms only far enough to permit hook-up of the hydraulic system hoses .

3 . Once all hoses have been properly coupled , drive the tractor forward checking to insure that the bottom of each upright clears the mount shoes . It may be necessary to operate the lift cylinder control valve either up or down to provide alignment between the wrap arm clips and wrap arm brackets . Be certain that the wrap arm clip is fully seated .

4 . To allow the upright base to settle into the mount shoe , tip the bucket down slowly . After the upright contacts the shoe , engage the upright anchor bar into the rear of the shoe by driving the tractor ahead slowly .

5 . To secure the loader , install the #7420--3/4" diameter pins . Tighten the 3/4" diameter bolt on the front of the upright to draw the upright to the rear of the shoe .

6 . After both uprights are secured to the shoes , raise the loader slightly to disengage and store each of the two loader stands .

7 . Prior to operation , be certain to review all safety and operation information contained within this manual .

OPERATION



WARNING

Never allow anyone to operate the loader until they have carefully reviewed and understood this owner's manual .

FILLING THE BUCKET:

Approach and enter the pile with the bucket level .

Roll bucket back gradually as the loader moves through the pile .

RAISING THE BUCKET:



WARNING:

Make sure material in bucket cannot spill out on to tractor when loader boom is raised . Keep clear of overhead obstructions such as trees , limbs or power lines when raising the bucket .

Side cutting is the best method of reducing large stockpiles . If the sides of the pile are too high , use the loader to pull them down and reduce the possibility of slides .



WARNING:

Never attempt to operate the loader with someone near the loader frame or bucket .

DETACHING THE LOADER



IMPORTANT:

Never attempt loader detachment on grades which are not reasonably level .

1 . Raise loader frame slightly to permit loader stand stowage .

2 . Lower loader and tip bucket slightly forward to apply pressure to mount connection .

NOTE: This will prevent the loader from inadvertently rocking forward when the attachment screws are removed .

3 . Loosen the 3/4" bolt on the front of both uprights and remove the # 7420 -- 3/4" diameter locking pin .

4 . Carefully , and very slowly , back out far enough to permit separation of the upright anchor and wrap arm clips from the mounts . NOTE: Should the loader move when tractor is backed up , try rotating the bucket up or down .

5 . Before completely backing out , disconnect and store the loader system hydraulic hoses . It is important that the hoses be properly stored to keep the hose couplers as clean as possible .

IMPORTANT:

Never store the detached loader where insufficient soil-bearing capacity exists . Good firm clay or firmly packed dirt are sufficient , providing the area is dry . If you are unsure , use blocking under each stand foot to disperse the load . Failure to heed , may allow the loader to settle and prevent attachment at later date .

LOADER INSPECTION , LUBRICATION , AND MAINTENANCE

Lower the bucket to the ground , shut off tractor engine , and relieve the pressure in the hydraulic system before adjusting , lubricating , or servicing the loader .

Inspect all pins and grease fittings before each use and lubricate with heavy duty grease as indicated in this manual .

Periodically check all bolts for looseness and retorque if necessary .

Before storage , be certain all hydraulic cylinders are fully collapsed so that the rod will not be exposed to the elements or damaged .

Be certain hydraulic system remains sealed at all times to prevent includes of contaminants .

Check and maintain an adequate fluid level in the tractor reservoir prior to use .

Inspect all hydraulic system hoses and fittings . Replace prior to further operation if damaged .

WARNING:



Escaping hydraulic oil under pressure can penetrate the skin . Never use body to check for hydraulic leaks . Use cardboard when checking for leaks . See Figure #1 . Relieve hydraulic pressure before disconnecting any hydraulic line . Failure to heed will result in serious injury or death .

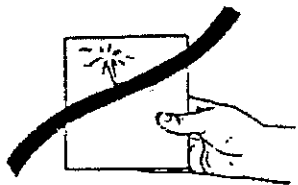
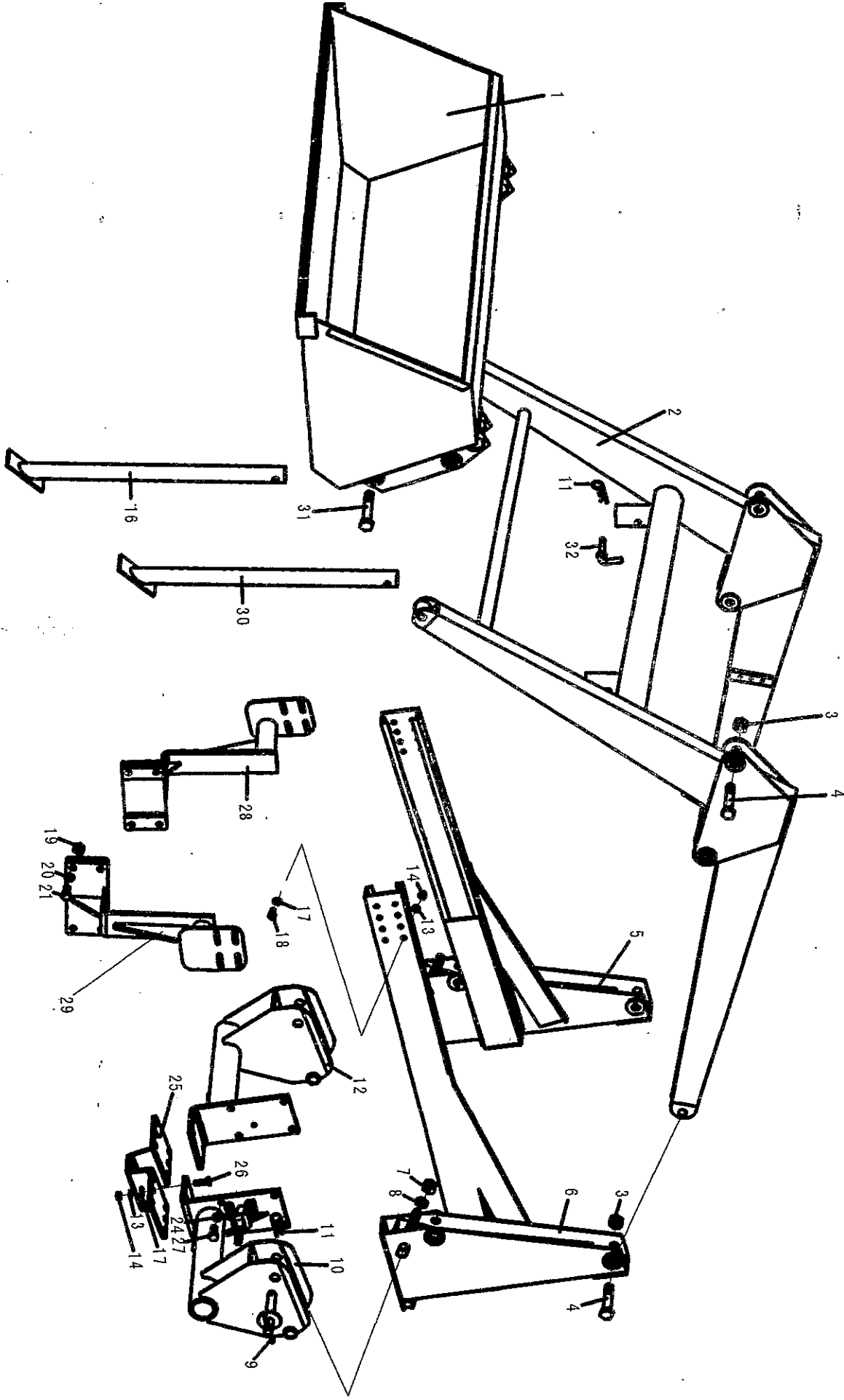


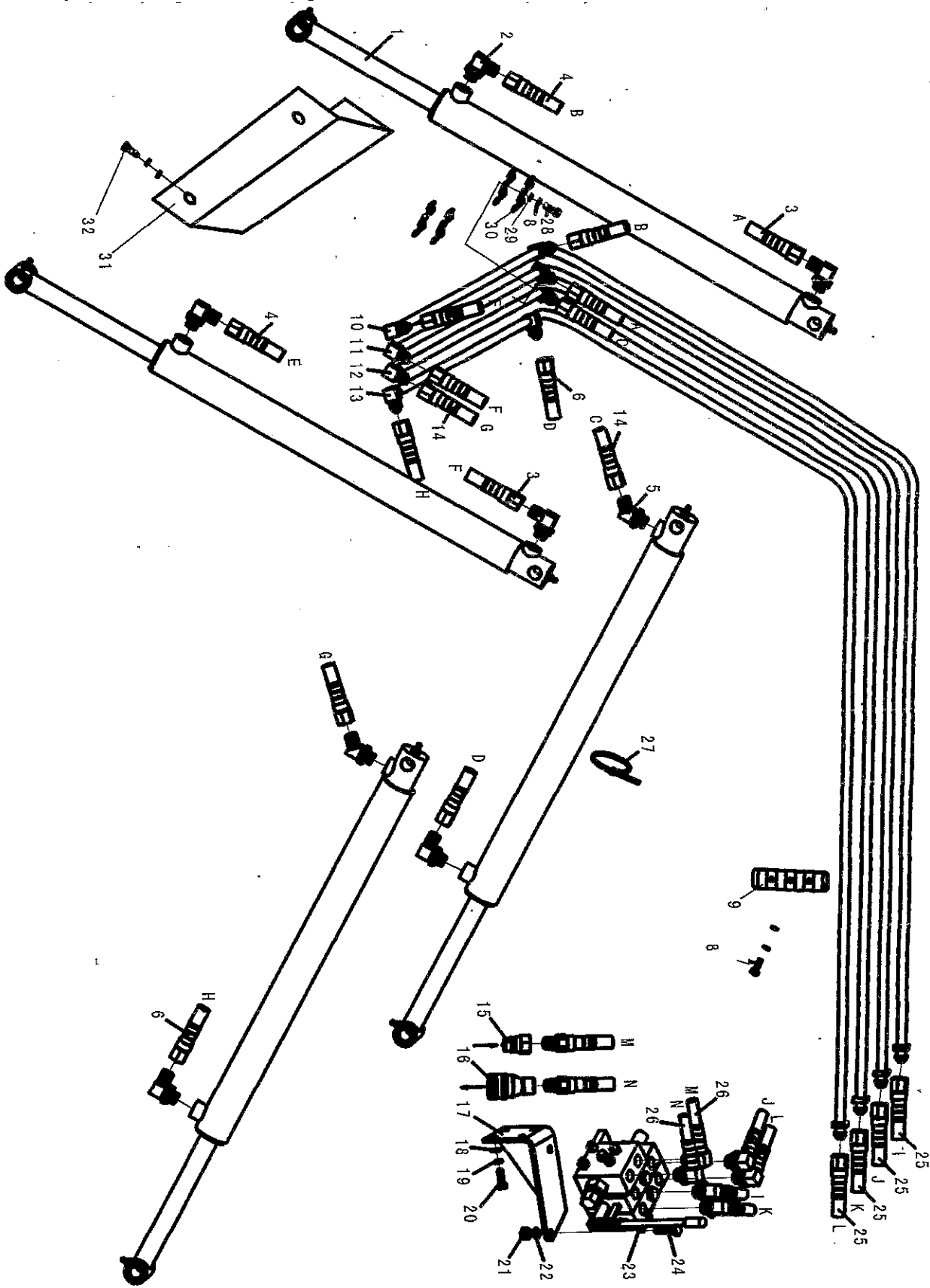
FIG.1



20Front Loader

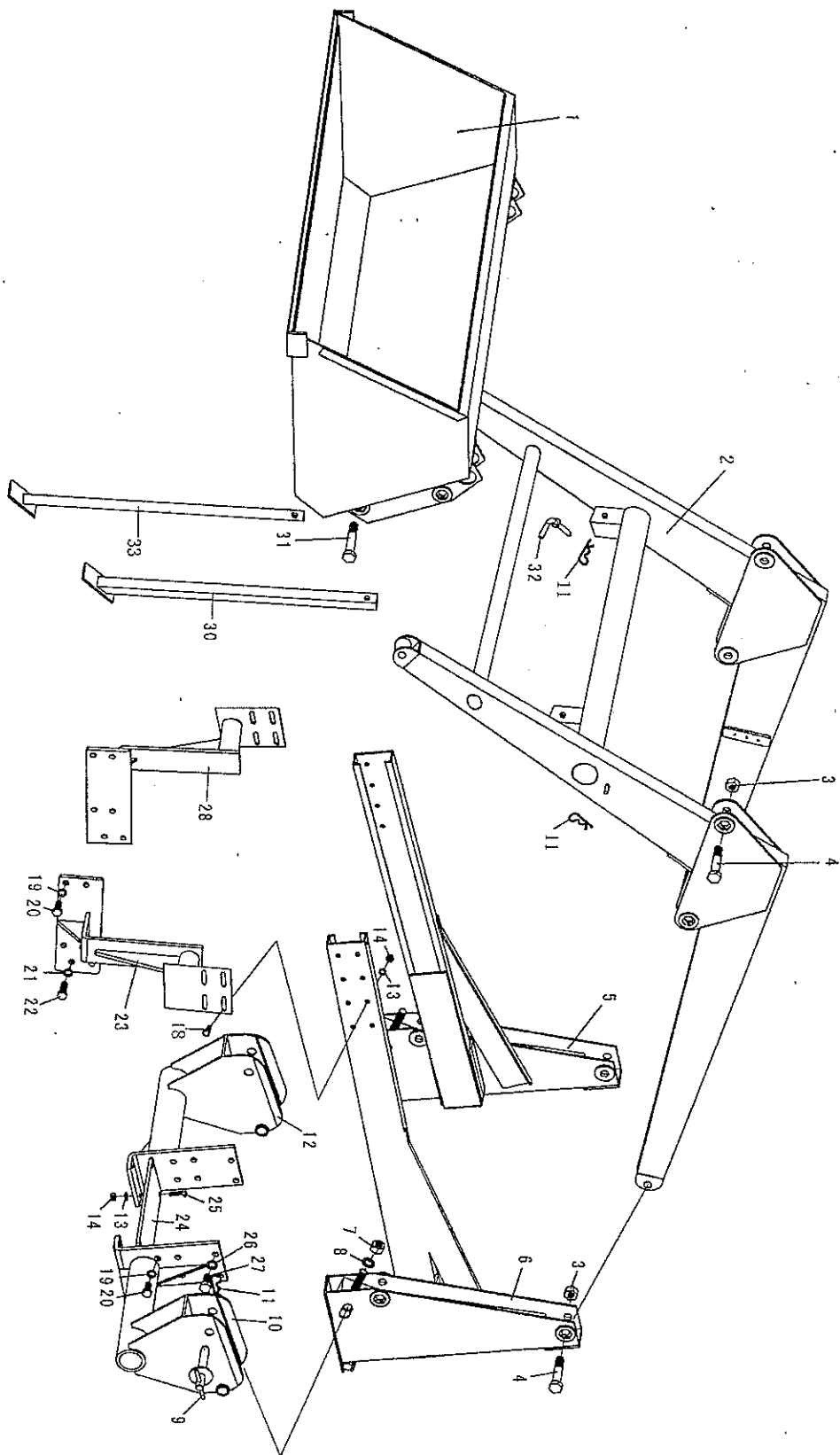
	Part No.	中文名称	Name	Qty.
1	ZL-20.011-1	斗体焊合件	Bucket	1
2	ZL-20.015-2	动臂焊合件	Arm	1
3	GB/T889-1986	螺母M20	Nut M20	12
4	ZL-20.105-1	联接销(II)	Connecting pin	8
5	ZL-20.020-1	右立柱支架焊合件	Right support	1
6	ZL-20.019-1	左立柱支架焊合件	left support	1
7	GB/T6170-1986	螺母M20	Nut M20	2
8	GB/T93-1987	垫圈20	Washer 20	2
9	ZL-20.025-1	锁紧销合件	Lock pin	2
10	ZL-20.017-6	左支撑焊合件	Left bracket	1
10*	ZL-20.017-5	左支撑焊合件	Left bracket	1
11	160.31.105	弹簧锁销	Spring	6
12	ZL-20.018-6	右支撑焊合件	Right bracket	1
12*	ZL-20.018-5	右支撑焊合件	Right bracket	1
13	GB/T93-1987	垫圈10	Washer 10	16
14	GB/T6170-1986	螺母M10	Nut M10	16
16	ZL-20.048	右支撑	Right Support	1
17	GB/T97.1-1985	垫圈10	Washer 10	16
18	GB/T5783-1986	螺栓M10×25	Bolt M10×25	8
19	GB/T6170-1986	螺母M12	Nut M12	8
20	GB/T93-1987	垫圈12	Washer 12	8
21	GB/T5783-1986	螺栓M12×45	Bolt M12×45	8
24	GB/T93-1987	垫圈14	Washer 14	8
25	ZL-20.039-1	连接板焊合件	Connecting plate	1
25*	ZL-20.102-2	连接板	Connecting plate	1
26	GB/T5783-1986	螺栓M10×35	Bolt M10×35	8
27	GB/T5783-1986	螺栓M14×40	Bolt M14×40	8
28	ZL-20.046-1	前左支撑焊合件	Front support	1
28*	ZL-20.046-2	前左支撑焊合件	Front support	1
29	ZL-20.045-1	前右支撑焊合件	Front support	1
29*	ZL-20.045-2	前右支撑焊合件	Front support	1
30	ZL-20.047	左支撑	Left Support	1
31	ZL-20.101	联接销(I)	Connecting pin	4
32	ZL-20.013-2	销子焊合件	Pin	2

备注(Notice):*为两缸机用(Used for two cyclider engine)



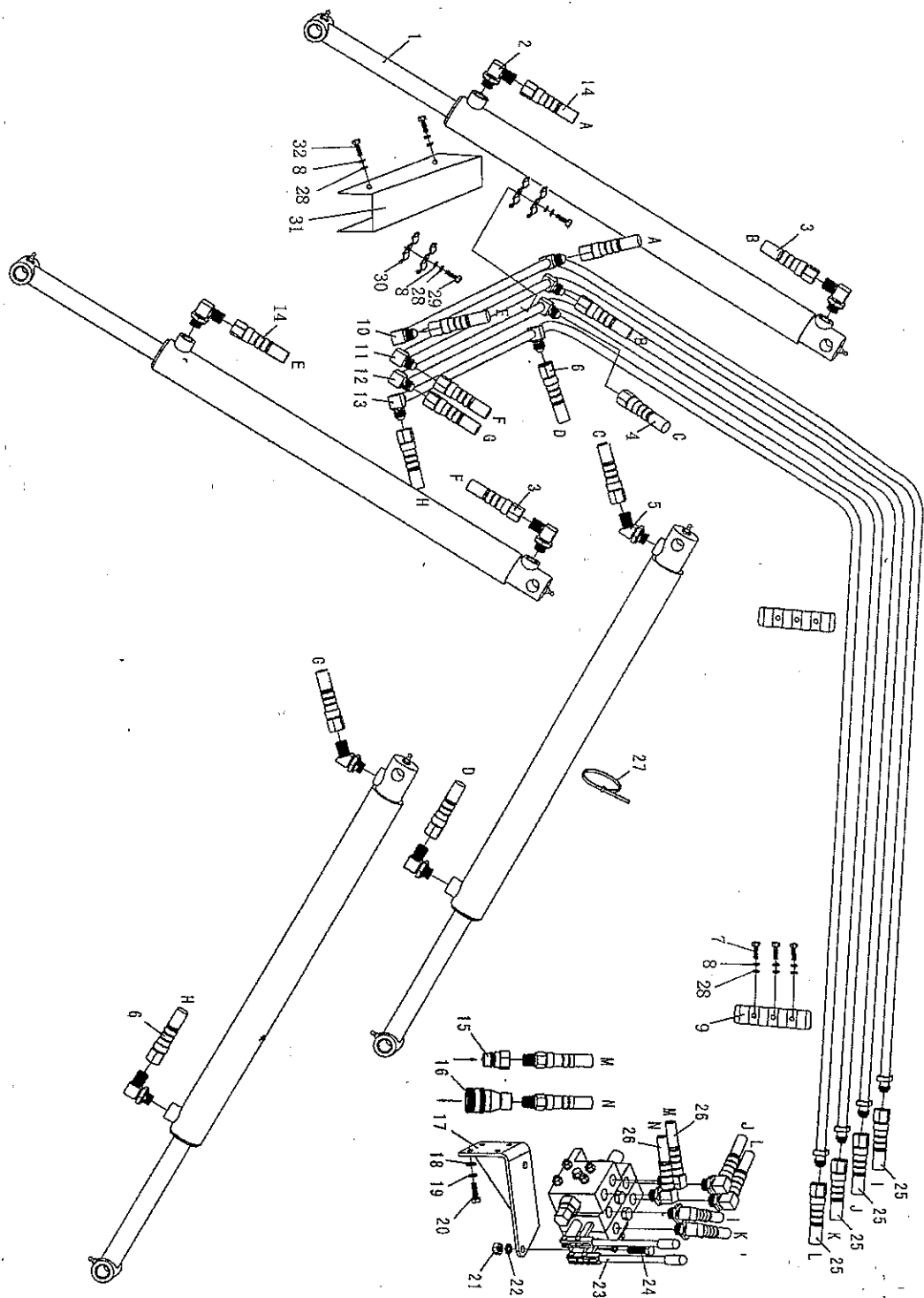
20Front Loader

	Part No.	中文名称	Name	Qty.
1	ZL-20.165	液压油缸	Hydraulic cylinder	4
2	ZL-20.027	直角弯头	Bent connector	6
3	ZL-20.028-1	翻转缸进出油软管	Intake hose	2
4	ZL-20.028-2	翻转缸进出油软管	Intake hose	2
5	ZL-20.030	45°弯头	Bent connector	2
6	ZL-20.031-1	举升缸出油软管	Delivery hose	2
7	GB/T5783-1986	螺栓M6×20	Bolt M6×20	7
8	GB/T93-1987	垫圈6	Washer 6	9
9	ZL-20.181	管卡	Clamp	1
10	ZL-20.033-2	翻斗缸回油管	Return pipe	1
11	ZL-20.032-2	翻斗缸进油管	Intake pipe	1
12	ZL-20.042-3	举升缸进油管	Intake pipe	1
13	ZL-20.034-3	举升缸回油管	Return pipe	1
14	ZL-20.029-1	举升缸进油软管	Intake hose	2
15		快换接头(凸)	Male connector	1
16		快换接头(凹)	Female connector	1
17	ZL-20.037-1	多路阀支架焊合件	Bracket	1
18	GB/T97.1-1985	垫圈8	Washer 8	4
19	GB/T93-1987	垫圈8	Washer 8	4
20	GB/T5783-1986	螺栓M8×25	Bolt M8×25	4
21	GB/T6170-1986	螺母M10	Nut M10	2
22	GB/T93-1987	垫圈10	Washer 10	2
23	DL-E10L	多路换向阀	Valve	1
24	GB/T5783-1986	螺栓M10×35	Bolt M6×35	2
25	ZL-20.035-1	操纵阀进出油软管	Oil hose	4
26	ZL-20.036-1	总进出油软管	General oil hose	2
27		塑料线扣	Knot	2
28	GB/T5783-1986	螺栓M6×40	Bolt M6×40	2
29	GB/T97.1-1985	垫圈6	Washer 6	9
30	ZL-20.181-1	管卡	Clamp	4
31	ZL-20.211	油管护罩	Protect	1
32	GB/T5783-1986	螺栓M6×12	Bolt M6×12	4



30Front loader				
	Part No.	中文名称	Name	Qty.
1	ZL-30.011	斗体焊合件	Bucket	1
2	ZL-30.015-1	动臂焊合件	Arm	1
3	GB/T889-1986	螺母 M20	Nut M20	12
4	ZL-20.105-1	联接销 (II)	Connecting pin	8
5	ZL-30.020-2	右立柱支架焊合件	Right support	1
6	ZL-30.019-2	左立柱支架焊合件	left support	1
7	GB/T6170-1986	螺母 M20	Nut M20	2
8	GB/T93-1987	垫圈 20	Washer 20	2
9	ZL-20.025-1	锁紧销合件	Lock pin	2
10	ZL-30.017-1	左支撑焊合件	Left bracket	1
10*	HW03.17 II .015-1	左支撑挂接焊合件	Left bracket	1
11	160.31.105	弹簧锁销	Spring	6
12	ZL-30.018-1	右支撑焊合件	Right bracket	1
12*	HW03.17 II .016-1	右支撑挂接焊合件	Right bracket	1
13	GB/T93-1987	垫圈 10	Washer 10	8
14	GB/T6170-1986	螺母 M10	Nut M10	8
18	GB/T5783-1986	螺栓 M10 × 25	Bolt M10 × 25	8
19	GB/T93-1987	垫圈 12	Washer 12	20
20	GB/T5783-1986	螺栓 M12 × 30	Bolt M12 × 30	16
21	GB/T93-1987	垫圈 14	Washer 14	4
22	GB/T5786-1986	螺栓 M14 × 1.5 × 55	Bolt M14 × 1.5 × 55	4
23	ZL-30.016-3	前左支撑焊合件	Front left support	1
24	ZL-30.186-1	连接板	Connecting plate	1
25	GB/T5783-1986	螺栓 M10 × 35	Bolt M10 × 35	4
26	GB/T93-1987	垫圈 16	Washer 16	4
27	GB/T5783-1986	螺栓 M16 × 35	Bolt M16 × 35	4
28	ZL-30.050-3	前右支撑焊合件	Front right support	1
30	ZL-30.052	左撑脚	Left Support	1
31	ZL-20.101	联接销 (I)	Connecting pin	4
32	ZL-20.013-1	销子焊合件	Pin	1
33	ZL-30.051	右撑脚	Right Support	1

备注 (Notice): * 为前装后挖用 (*Use for Front loader and Backhoe)



30 Front Loader

Part No.	中文名称	Name	Qty.
1 ZL-30.165	液压油缸	Hydraulic cylinder	4
2 ZL-20.027	直角弯头	Bent connector	6
3 ZL-20.028-1	翻转缸进出油软管	Intake hose	2
4 ZL-20.029-1	举升缸进油软管	Intake hose	2
5 ZL-20.030	45°弯头	Bent connector	2
6 ZL-30.031	举升缸出油软管	Delivery hose	2
7 GB/T5783-1986	螺栓M6×20	Bolt M6×20	6
8 GB/T93-1987	垫圈6	Washer 6	12
9 ZL-20.181	管卡	Clamp	2
10 ZL-30.033-1	翻斗缸回油管	Return pipe	1
11 ZL-30.032-1	翻斗缸进油管	Intake pipe	1
12 ZL-30.042-1	举升缸进油管	Intake pipe	1
13 ZL-30.034-1	举升缸回油管	Return pipe	1
14 ZL-30.028-1	翻转缸回油软管	Intake hose	2
15	快换接头(凸)	Male connector	1
16	快换接头(凹)	Female connector	1
17 ZL-20.037-1	多路阀支架焊合件	Bracket	1
18 GB/T97.1-1985	垫圈8	Washer 8	4
19 GB/T93-1987	垫圈8	Washer 8	4
20 GB/T5783-1986	螺栓M8×25	Bolt M8×25	4
21 GB/T6170-1986	螺母M10	Nut M10	2
22 GB/T93-1987	垫圈10	Washer 10	2
23 DL-E10L	多路换向阀	Valve	1
24 GB/T5783-1986	螺栓M10×35	Bolt M10×35	2
25 ZL-20.035-1	操纵阀进出油软管	Oil hose	4
26 ZL-20.036-1	总进出油软管	General oil hose	2
27	塑料线扣	Knot	2
28 GB/T97.1-1986	垫圈6	Washer 6	12
29 GB/T5783-1986	螺栓M6×40	Bolt M6×40	2
30 ZL-20.181-1	管卡	Clamp	4
31 ZL-30.195	油管护罩	Protect	1
32 GB/T5783-1986	螺栓M6×12	Bolt M6×12	4

