

LW-6 LW-7 LW-8
HYDRAULIC BACKHOE
(CONFIGURATION OF 3-POINT HITCH)

OWNER'S MANUAL

PREFACE

Welcome you to use the backhoe manufactured in our factory .
Read all the manual instruction before you operate.It provides for you the most valid information.

BRIEF INTRODUCTIONS

LW-6、LW-7、LW-8 three-point hitch backhoe is an implement supplied with the roller tractor and the tracked crawler.It has many excellent characteristics such as facility loading and unloading,operation agility and etc.It's main functions are digging ditches,eliminating dirt.It's a desired ditching tool to bury cable,drain pipes and other engineering etc.in town or in country.

SAFETY REGULATION AND IMPORTANT CAUTION

Safety Regulation

1. make sure operate your backhoe following the safety regulations of the backhoe.
2. only the operator who has been specially trained on tractor and understand fully this manual can operate the backhoe.
3. For added stability,add additional front-end weight.
4. on traveling:
 - (1)To avoid a cave-in and swing ,be sure the boom,bucket staff and stabilizers are in the fully raised position and safety lock is in the safety lock position. Adjust the left and right safety chain .
 - (2)Be sure your tractor's left and right lower link is fitted with a pull and lock equipment.Raise your backhoe to proper position,and fixup the right and left lower link by adjusting the unit of stretching and lock . Otherwise the tractor may cause danger because the backhoe can't fixup with the tractor causing swing when traveling with the backhoe.
 - (3)To avoid the backhoe tipping or sliding,drive at safe low speeds

while turning or traveling with your backhoe on rough ground. To avoid the backhoe swinging, tight the stabilizers when traveling with the backhoe.

(4) When traveling with your backhoe, do not make sudden starts, stops or turn at high speeds. Do not exceed safe speed limits. Do not make sudden starts when climbing grades.

5. The backhoe largest work area doesn't permit person stands or obstacles exist.

6. To avoid the backhoe naturally dropping down, be sure the backhoe unfold on the ground.

Important Notices

1. Work with your backhoe without any load while first operating the backhoe or after it is repaired. Make sure operate at normal load after the unit is in proper condition.

2. Check all bolts and nuts. If they are loosen or tighten and replace before operating the backhoe.

3. Add the hydraulic oil and lubricatic oil if necessary. Check all hoses, seals, couplers. Don't operate your backhoe if any leaking exist.

4. To avoid sudden and quick reaction destroing the backhoe or tractor, never fast move control levers on the hydraulic valve to extreme position during swinging the backhoe, especially having filled the bucket, Gently moving the control levers is proper method only.

5. Don't begin digging operation before the stabilizers maintain firm contact with the ground. Adjust the stabilizers with staff if necessary, traveling with the backhoe be sure the stabilizers are in the fully raised position.

6. Remove the transport lock and the right and left chain before operating the backhoe.

7. The main relief valve and the branch relief valve of the hydraulic valve have been adjusted before the backhoe is out of the factory. Don't adjust

the hydraulic valve unless the engineer gives instruction.

8. To avoid escaping of pressured hydraulic oil, move the control levers in all deflections before disconnecting any hoses, steel lines or couplers, the oil will return to the sump of the tractor.

9. Don't transport your backhoe with the bucket fully raised and the stabilizers in the fully raised position.

10. When traveling with your backhoe, do not make sudden starts, stops or turn at high speeds. Do not exceed safe speed limits. Do not make sudden starts when climbing grades.

11. Watch overhead low hanging wires. Don't touch wires with any part of your backhoe. Keep your work area clear of obstacles at all times.

12. Before swinging the backhoe for any reason, make sure you have room to swing and that all persons are clear of the backhoe.

13. Be extra careful when working on hillsides and close to the ditches. It is always extremely dangerous to work in a position where the danger of tipping or sliding is possible.

14. Do not wear loose clothing while operating or working near the backhoe. Keep hair and clothing away from your work area.

15. Don't attempt any repairs, maintenance or adjustments of your backhoe while it is operating. Always turn off your tractor before making any repairs, maintenance and adjustments. Be sure the repair tools which are used, are designed by the tool manufacture for the specific task.

16. Keep all bolts, nuts and pin shafts tight. Replace any damaged, worn parts immediately. Make sure use replacement parts of equivalent strength and quality.

17. Loosen the stabilizers while the operation. Don't adjust the stabilizers or lower links until place down pressure on the stabilizers.

MAINTENANCE AND LUBRICATION

The warranty period is one year from the original date of purchase for parts and 6 months for labor. To verify the warranty period, you should keep

the sales slip or proof of purchase date.

This warranty doesn't cover damage caused by accident, misuse, or tampering with the product. A charge will be made for these repairs.

Failure to perform the routine maintenance procedures outlined below may cause your backhoe to operate improperly. Such operation could lead to personal injury. Your backhoe requires a few minutes of maintenance before each use. For your own safety, follow the procedures suggested below:

1. Remove all power from both the backhoe and the tractor while servicing the backhoe.
2. To avoid injury from escaping pressured hydraulic oil, move the control levers in all directions before disconnecting any hoses, steel lines, couplers.
3. Clear the suction line filter after the first 10 hours of operation.
4. Check all hardware and hoses in order to be sure they are secure. Check particularly the 3-point bolts, the lower link pins and locking pins, and the snap lock pins in the 3-point mounting top link. Check all retaining bolts in pins.
5. Check the hoses for cracks, cuts or leaks. If a hose is defective, replace it at once.
6. Check for any hoses that may be rubbing against sharps. If you find any such hoses, reposition them to a safer place or install protect nut.
7. Lubricate all zerks which need before operation and after working.
8. To avoid injury from escaping pressured hydraulic while disconnecting the backhoe oil line from a tractor, stop the engine.
9. Once the backhoe is removed, perform the recommended procedures below:

STORING FOR SHORT PERIODS

1. Coat all exposed cylinder shafts with grease or a corrosion preventive.
2. Install dirt caps on the quick couplers to prevent dirt contamination of the hydraulic oil system. Or if possible, connect the quick couplers together.

STORING AT THE END OF SEASON

1. -ditto-
2. Clean the unit of all mud and dirt, touch up the paint to prevent rust.
3. Store the backhoe in dry, protective place. Install dust caps on the quick couplers to prevent dirt contamination of the hydraulic system or connect them together.

AT THE START OF A SEASON

1. -ditto-
2. Check all hydraulic hoses and replace if necessary.
3. Tighten loose bolts and nuts.
4. Lubricate the moving parts.
5. Check the bucket teeth, sharpened and replaced if necessary.
6. If reuse the backhoe that is put out of operation for long time. Run the unit slowly and check the operating control system before starting to dig.

THE TECHNICAL PARAMETERS

1. The standard bucket capacity of the backhoe is 0.04m³. It is suitable to category II soil for digging engineering (It is suitable namely for light clay with the digging ratio resistant that is $K=0.6\sim 1.3\text{Kg/cm}^2$, soil detritus, turves and turf). Customers can choose a larger bucket or a less bucket according to the equality of the soil.
2. The backhoe parameters are shown in the attached chart entitled the parameters of the hydraulic backhoe
3. The hydraulic supplied with your backhoe has been designed to work at ambient temperature of 20°C. If overheat of the ambient temperature and bad cooling condition of hydraulic system are liable to cause the oil temperature of the backhoe hydraulic system so low that the working performance of the backhoe will lower, customers can take measures to keep temperature low or enlarge the reservoir.

ASSEMBLY

REFERENCE THE FIGURE OF ASSEMBLY AND HYDRAULIC OIL LINE SYSTEM OF THE YW03 HYDRARLIC BACKHOE

- a. Be sure your tractor's lower link is fitted with a pull and lock equipment. Otherwise, the tractor would tip and slip because the backhoe can't fixup with the tractor causing swing when traveling with the backhoe.
- b. Put the tractor's rear lifting arm to the lowest position when connecting the backhoe as the figure guidance, then adjust lock nut on the left and right lower link. Make sure the backhoe center connect and fixup with the tractor. Be sure transport and drive safely.
- c. Don't raise the backhoe until the 3 pin shafts connect the backhoe to the tractor.
- d. Replace the parts connecting backhoe to the tractor if necessary. Make sure the replacements have a strength rating equivalent to or greater than that of original parts.
- e. The backhoe valve must be compatible with the hydraulic system that will power it; Install a rear hydraulic pump on the tractor as suggestions to compose circuit of dependent hydraulic system. To avoid the hydraulic pump grinding, don't start tractor engine until the backhoe unit has been filled with oil or the hydraulic connections to the tractor has been made.
- f. Your backhoe unit has been filled with oil at the factory. The oil in the unit is compatible with most tractor manufacture's oil. Don't remove any control levers on the unit until after hydraulic connections to the tractor or the independent hydraulic system have been made.
- g. For many tractor systems exceed a flow rate specified for your backhoe, the flow may have to be adjusted by throttling the engine RPM down to obtain an acceptable flow rate. By adjusting the flow rate correctly, you will prevent sudden stock loads on the cylinders, hoses, etc. This results in a smooth operation would reduced maintenance costs and down time.

NAME ,NO.SPECIFICATIONS OF SERIES OF THE BACKHOE

**SERIES OF CIRCUIT OIL CYLINDER
SERIES OF THE CHANGEOVER VALVE
SERIES OF BUCKET,BOOM AND STABILIZERS
BACKHOE FAULTS AND REMEDIES**

Part No.	Name of part & Specifications
LW-7.07-305	Dust ring Fa35
LW-7.07--306	seal S55015d35
LW-7.07-307	YX ring on B33544
LW-7.07-308	O-Ring seal on 56*3.55
LW-7.07-309	O-Ring seal on 22.4 ×2.65
LW-7.07-310	O-Ring seal on 63×3.55
LW-7.07-311	seal KgD63

LIST OF SPARE PARTS SUPPLIED WITH THE BACKHOE

Part No.	Name of part & Specifications
LW-7.07-300	O-Ring seal on 12*1.9
LW-7.07-301	O-Ring seal on 20*2.4
LW-7.07-302	Semimetallic seal ring 18
LW-7.07-303	Semimetallic seal ring 22
LW-7.07-304	Bearin 8208

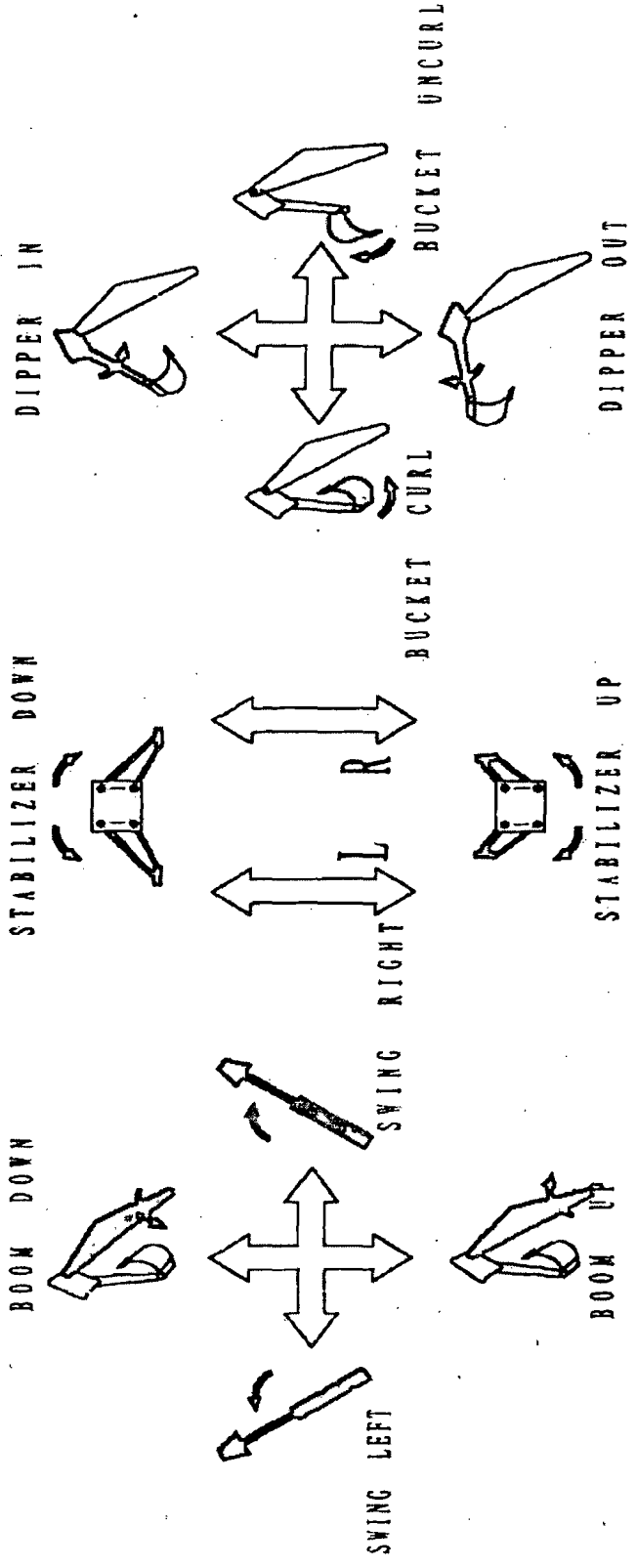
Part No.	Name of part & Specifications
LW-7.07-312	Dust ring Fa25
LW-7.07-313	seal S55013d25
LW-7.07-314	YX ring B32532
LW-7.07-315	O-Ring seal on 53*3.55
LW-7.07-316	O-Ring seal on 43.7*3.55
LW-7.07-317	O-Ring seal on 25*2.65
LW-7.07-318	

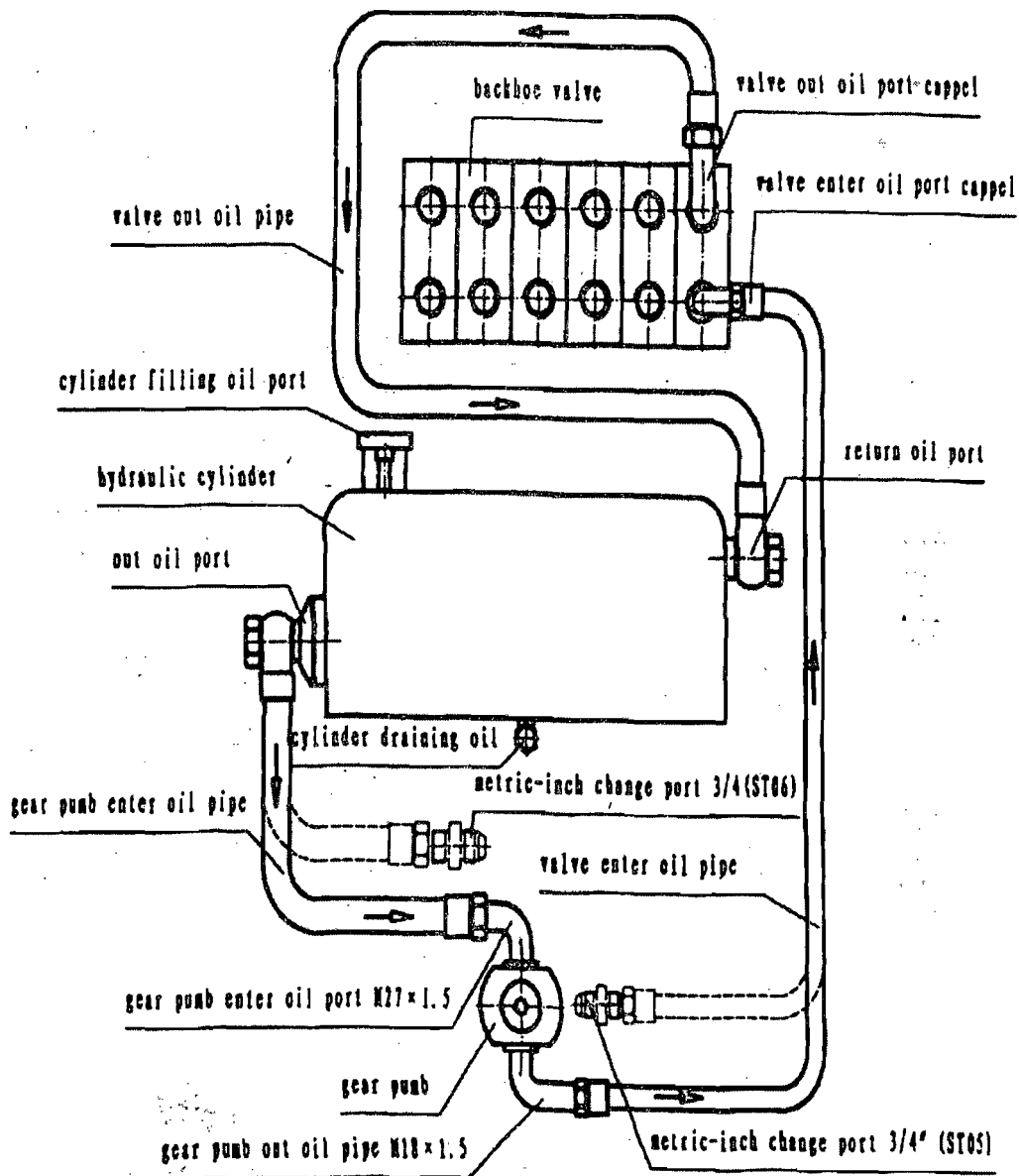
Part No.	Name of part & Specifications
LW-7.07-319	O-Ring seal on 9*1.8G
LW-7.07-320	O-Ring seal on 16*1.8G
LW-7.07-321	O-Ring seal on 17*2.65G
LW-7.07-322	O-Ring seal on 25*2.65G
LW-7.07-323	O-Ring seal on 11.2*1.8G
LW-7.07-324	O-Ring seal on 7.1*1.8G
LW-7.07-325	O-Ring seal on 19*1.8G
LW-7.07-326	O-Ring seal on 13.2*1.8G
LW-7.07-327	O-Ring seal on 23.6*2.65G
LW-7.07-328	O-Ring seal on 20*1.8G
LW-7.07-329	O-Ring seal on 5*1.8G
LW-7.07-330	O-Ring seal on 7*1.8G

PROBLEM	POSSIBLE CAUSE	POSSIBLE REMEDY
Backhoe can't operate	1,Low oil supply 2,Master valve stick	1,Add oil to proper position 2,Clean or repair master valve core
Sticking plungers	1,Excessively high oil temperature 2,Dirt in oil 3,Valve warped 4,High pressure in valve 5,Valve core bent 6,Spring damaged 7,Spring and cap in bad position 8, valve core cap full of oil	1,Eliminate restrict and filtering system 2,Changed oil or clean system 3,Replace valve plate 4,Check with gauge on inlet and cylinder lines 5,.Replace valve core 6,Replace parts 7Loosen the cap .Re-center and re-tighten 8,,Replace seals.
Leaking seals	1,Paint on or under seal 2,Excessive back pressure 3,Dirt under seal 4,Scored valve core 5,Loose seal plates 6,Cut or score seal	1,Clean and retighten sea 2,Open and enlarge oil to reservoir 3,Clean and retighten 4,Replace valve or section 5,Clean and retighten 6,Replace faulty parts
Uable to move plunger	1,Dirt in valve 2,Bind in linkage	1,Clean and flush out 2,Clean connecting lines

Part No.	Name of part & specifications	Quantity	Remark
LW-7.07-300	O-Ring Seal on 12×1.9	5	The backhoe fitting kit
LW-7.07-301	O-Ring Seal on 20×2.4	2	
LW-7.07-302	Semimetallic seal ring 18	1	
LW-7.07-303	Semimetallic seal ring 22	1	
ST01	change coupler I	2	Supplied with the export machine
ST02	change coupler II	2	Supplied with the export machine
ST03	change coupler III	2	Supplied with the export machine
The change over valve fitting kit		1	
The cylinder fitting kit		1	

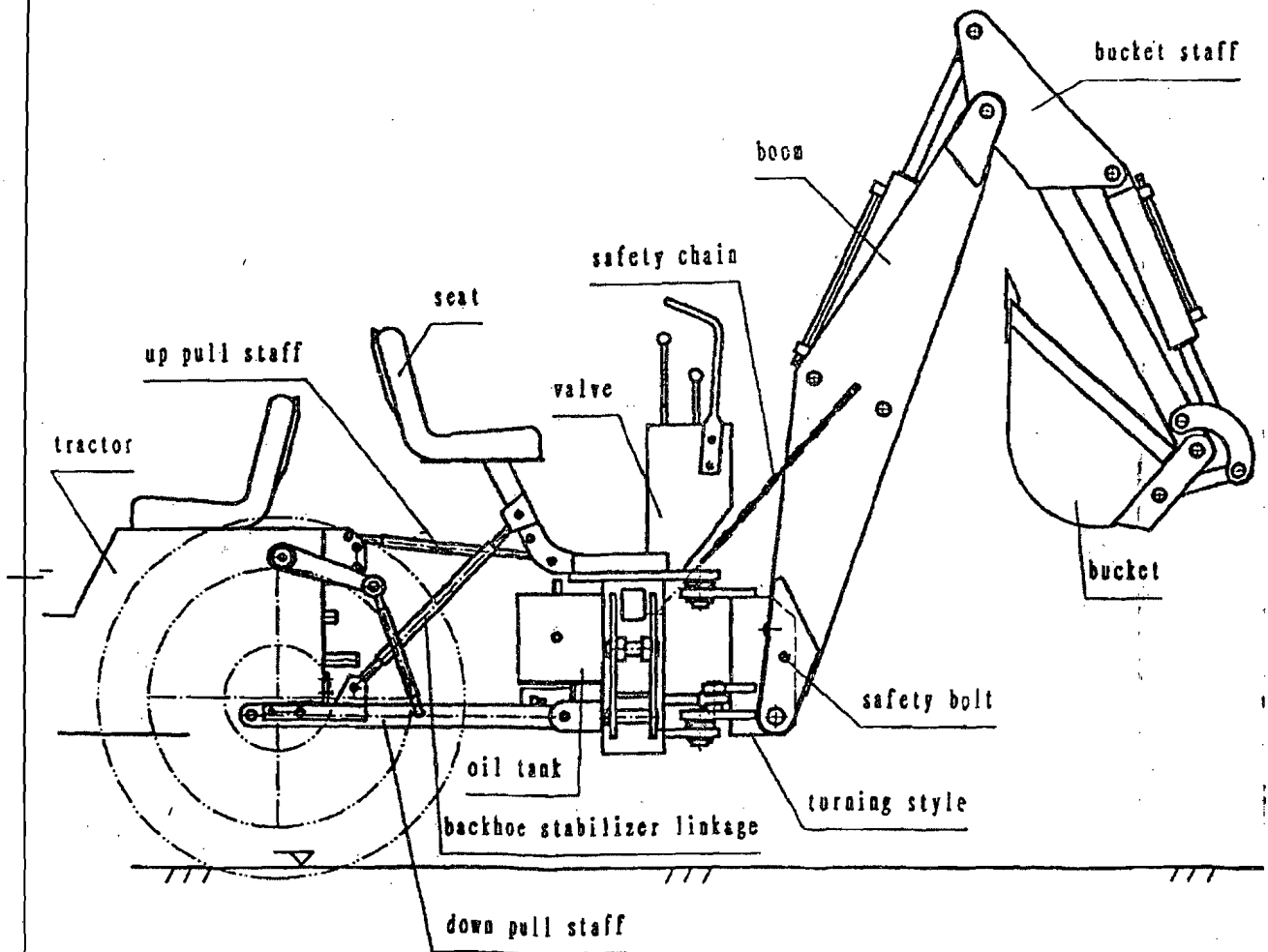
OPERATING EXCAVATOR





Explain: change metric to inch thread with the metric-inch change cappel as the broken line guidance, if the gear pump enter or out oil port cappel is inch thread.

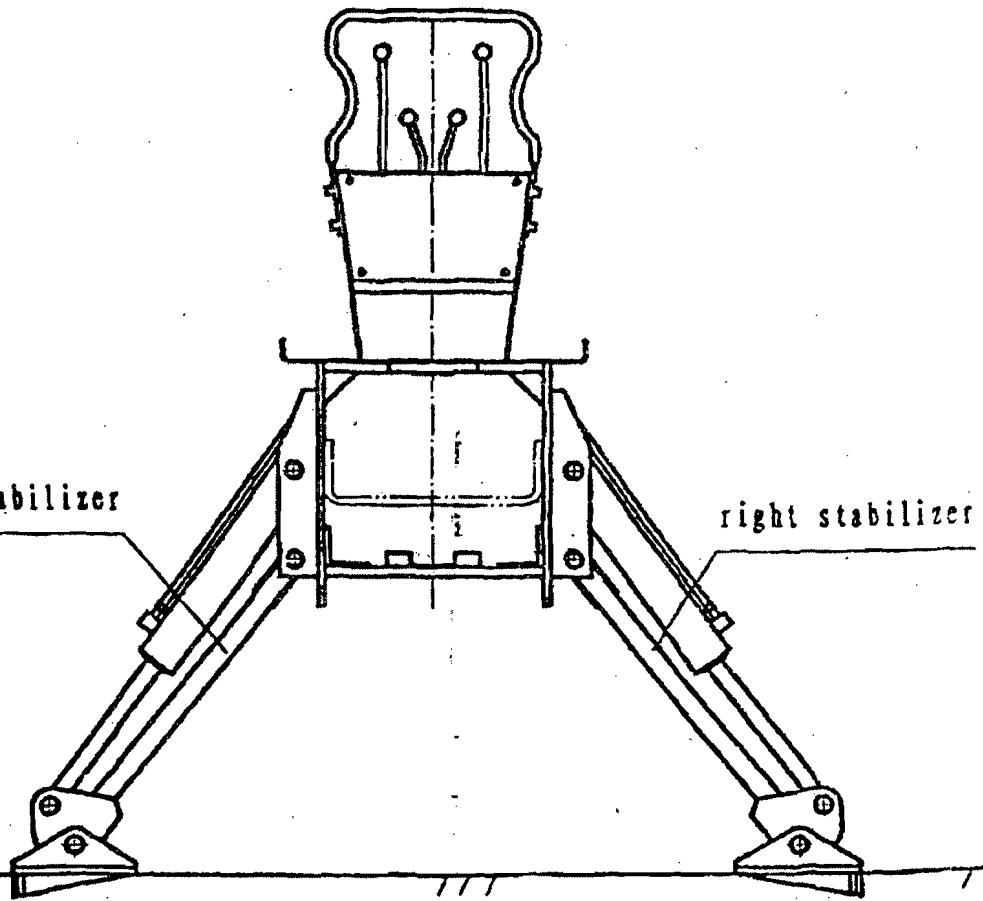
oil line figure a. Connection of the backhoe hydraulic system



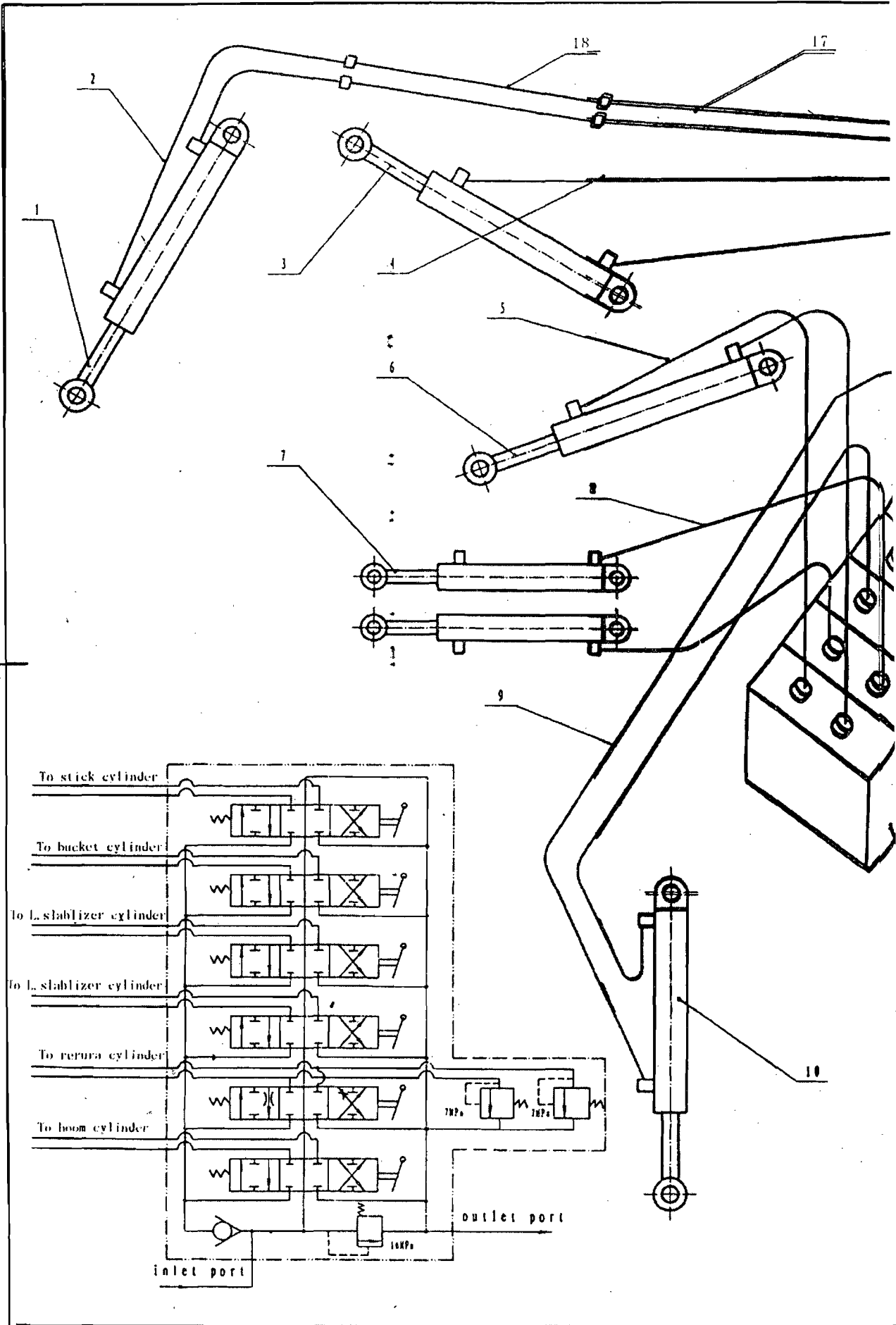
LW-6 EXCAVATOR

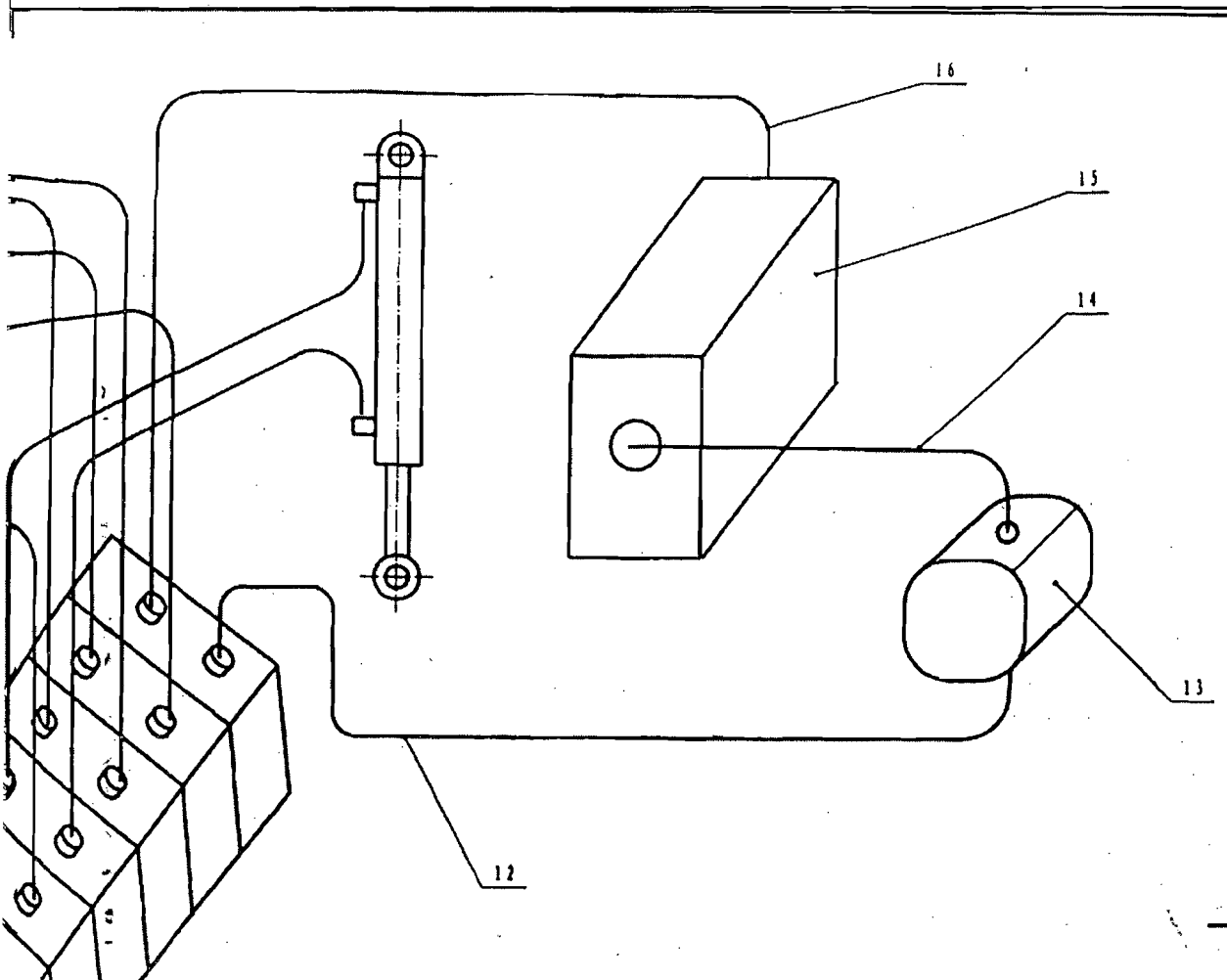
left stabilizer

right stabilizer



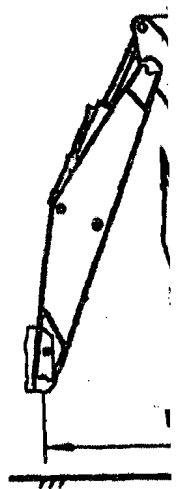
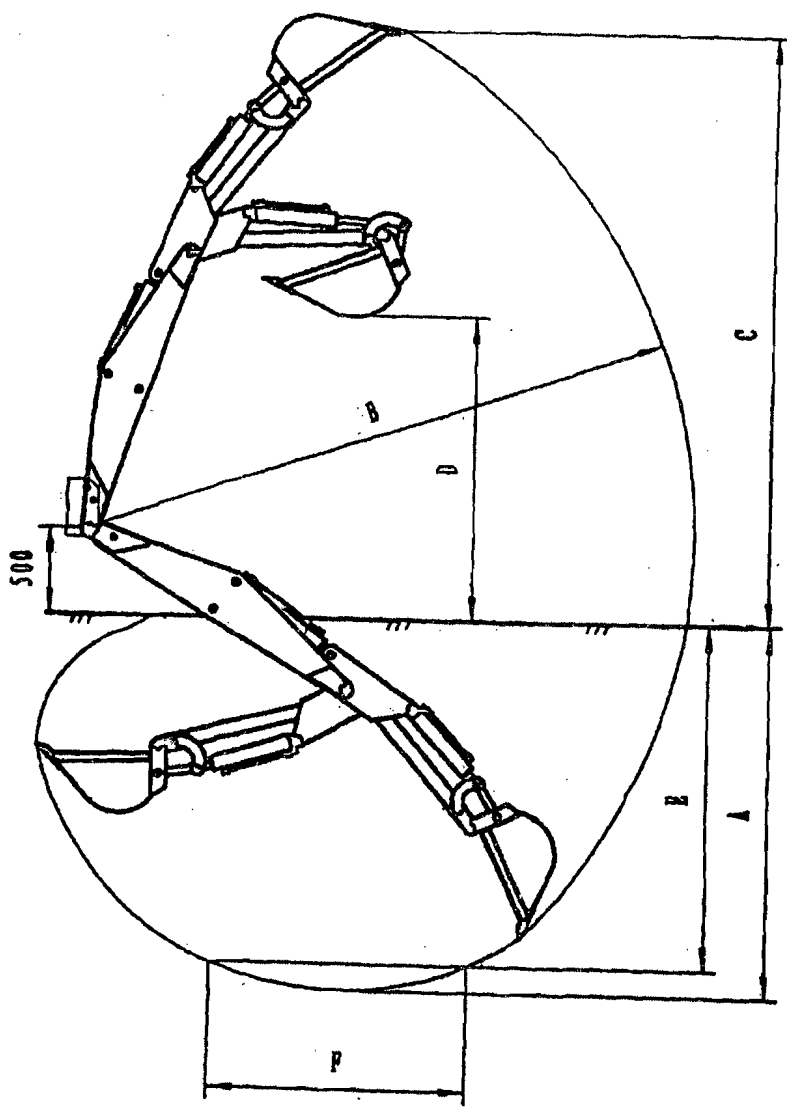
R ASSEMBLY





18	LW03.3	Steel hole	2				
17	W7	bucket hole(2)	2				
16	LW-7.07-101	outlet valve hole	1				
15		oil tank	1				
14	LW-7.07-100	inlet bump hole	1				
13		bump	1				
12	W6	outlet bump hole	1				
11	DF6(50)	valve	1				
10	LW-7.05-02	stabilizer cylinder	2				
9	W5	stabilizer hole	4				
8	W4	return hole	2				
7	LW04-21-00A	return cylinder	2				
6	LW03.2	boom cylinder	1				
5	W3	boom hole	2				
4	W2	stick hole	2				
3	LW-7.03-02	stick cylinder	1				
2	W1	bucket hole(1)	2				
1	LW-7.02-02	bucket cylinder	1				

序号	代号	名称	数量	材料	重量	备注
				HYDRAULIC OIL SYSTEM		
				LW-6.07		
				图样标记 重量 比例		
				共张 第张		
设计						
日期						

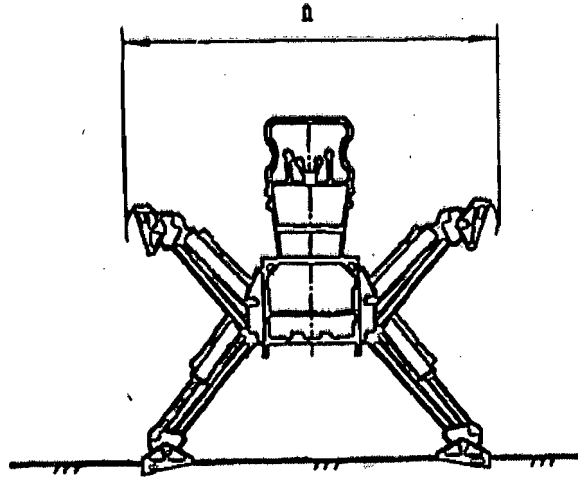
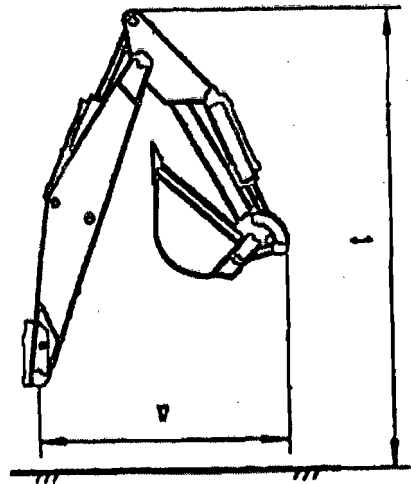


Specificatic

TYPE
A. digging depth max
B. reach ground level-swing
C. operating height
D. load over height
E. digging depth
(F. 1.41m flat bottom)
G. stabilizer width
H. swing angle
I. bucket rotation angle
J. bueket capacity
K. bucket width
L. shiping size tnxw

Bucket Size and Struck Cap.

Size (mm)	250	300	400	450	500	550
Cap. (m ³)	0.030	0.036	0.045	0.054	0.060	0.066



ication

	LW-6	LW-7	LW-8
max	1.85m	2.15m	2.64m
level-swing	2.8m	3.36m	3.93m
ht	2.5m	3.4m	3.51m
ht	1.4m	1.76m	2.0m
	1.6m	2.0m	2.5m
(bottom)	1.61m	1.41m	1.45m
th	1.8m	1.83m	1.83m
	140°	160°	140°
on angle	160°	160°	160°
y	0.036m ²	0.045m ²	0.045m ²
	300mm	400mm	400mm
nxw	2.3 × 1.86 × 0.89 (m)	2.36 × 1.96 × 1.27 (m)	2.5 × 1.96 × 1.41 (m)