



Instruction Manual for Mobile Self-Loading Concrete Mixer Truck

移动式自装料搅拌车说明书



第一章 用途、性能及注意事项

Chapter one: Usage, performance and precautions

路通混凝土自动上料搅拌机已注册国家五项专利，广泛应用于建筑行业。能大大提高工作效率。该产品装有液压电子称，在上料时对石子、沙子能够精确计量，自动定

量上水，使混凝土配比更标准。该产品是结合现有混凝土运输车和搅拌站功能为一体的设备。可自动上料、计量、搅拌到卸料，实现运输和现场施工作业。

LUTON GROUP Mobile Self-loading Concrete Mixer has gained five national patents and is widely used in the construction industry, greatly improving working efficiency. The product could be equipped with electronic weighing device upon request, which can accurately measure cement, stone and sand during the feeding process, and automatically quantify the water to make the concrete ratio more standard. This product is a combination of concrete mixer, concrete mixer truck and wheel loader together. It can feed, measure, mix and discharge by itself, realizing material transportation and on-site work together. It is just like your mobile concrete mixing plant !

混凝土自动上料搅拌车具有设计合理、结构紧凑、操纵灵活、维修方便等优点。

Mobile Self-loading Concrete Mixer is characterized by reasonable design, compact structure, flexible operation and convenient maintenance etc.

注意事项 Precautions

严禁超载！超载将导致不可预见的安全事故的发生。

驾驶员及有关人员在使用搅拌车之前，必须认真仔细地阅读使用维护说明书或操作维护保养手册，按规定的事项去做。否则会带来严重后果和不必要的损失。

驾驶员穿戴应符合安全要求，并穿戴必要的防护设施。

在作业区域范围较小或危险区域，必须在其范围内或危险点设置警告标志。

绝对严禁驾驶员酒后或过度疲劳驾驶作业。

进入搅拌罐或进行检查之前，必须在驾驶方向盘上贴警示标签并断开电池电源。

要在搅拌车停稳之后，在有蹬梯扶手的地方上下搅拌车。切勿在搅拌车作业或行走时跳上跳下。

维修搅拌车需要举臂时，必须把举起的动臂垫牢，在维修没完成情况下，动臂绝对不会落下。

在搅拌车行驶前，收起延伸料槽并用挂钩固定牢靠。卸料槽固定在行驶位置并锁紧手柄。

行驶时应时刻牢记搅拌车重心高且装满混凝土的搅拌罐旋转时向右偏心。车辆向左转弯时应比向右转时更当心，在运输混凝土时严禁搅拌罐转速超过10转/分钟。

严禁靠近旋转的搅拌罐运动部件，严禁手接触旋转的滚轮及传动轴。

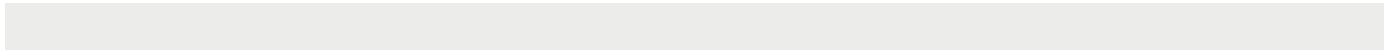
1. Overload prohibited! Overload may lead to unpredictable accidents.
2. Driver and relevant personnel shall carefully read the Maintenance Manual or the Operation and Maintenance Manual before use and strictly follow the instructions during usage. Or serious consequence and unnecessary losses may occur.
3. The wear of driver shall conform to safety requirement, plus protective clothing required.
4. Warning signs shall be set within or at dangerous points in a narrow operation area or a hazardous area.
5. Drunk driving or over-fatigue driving is absolutely forbidden.
6. Stick the warning sign to the steering wheel and cut off power and battery supply before entering or checking the mixing drum.
7. Get on or off the mixer truck through staircase with handrail after the truck completely stops. Jumping on and off the mixer truck when it is in operation or movement is forbidden.
8. Cushion the lifting arm firmly when arm lifting is required in maintenance to ensure this arm will not fall before the maintenance finishes.
9. Put down the extended chute and fix it firmly to the hook before the mixer truck moves. The discharge chute shall be fixed to the driving position and locked to the handle.
10. Keep in mind during the driving that the mixer truck has a high center of gravity, which shifts to the right when the mixing drum rotates with a full load of concrete. When a turning is performed, shall be more careful when the truck turn left , the maximum rotation speed of the mixing drum loaded with concrete shall be less than 10rpm.
11. During working, all the people shall keep far away from the rotating parts of the mixing drum and prohibited to touch the rotating roller and transmission shaft.

第二章 整机主要参数

Chapter II Performance and Parameters

主要参数 Performance and Parameters			
Items	LT-6.5	LT-5.5	LT-4.0
整车参数 Parameter			
外形尺寸 Dimension (L×W×H)	8450*3050*4830	8450*3100*4580	7640*2870*4750
轴距 Wheelbase (mm)	2850	3350	2480
整机质量 Total Weight (kg)	12520	11200	9000
驱动形式 Drive Form	变矩器Torque converter		
最高车速 Max. Speed (km/h)	40	42	35
最大爬坡能力 Max. Grade-Ability (°)	30	30	30
最小转弯半径 Mini turning radius (mm)	4800	6200	48
最小离地间隙 Mini Ground Clearance(mm)	350	380	330
发动机 Engine			
型号 Model	6105 WEICHAI DEUTZ brand	FAW XICHAI 6110 supercharged	YUCHAI 4108 Turbo-charged
额定功率 Rated Power	92-110	92-110	91
变速箱 Gearbox			
型号 Model	ZL-428 Power Shift Transmission	ZL-428 Power Shift Transmission	ZL-430 Power Shift Transmission
档位 Gear	4x4	4x4	4x4
常用油加注量 Total Oil Filling Volume			
燃油箱 Fuel Tank (L)	370	180	230
液压系统总容量 Total Hydraulic System Capacity (L)	278	180	170
机油 Engine oil (L)	16	16	16
液压系统Hydraulic System			
减速机Reducer	KY100-5C-J	KY100-5C-J	KY100-5C-J
泵 Pump	INTERPUMP	INTERPUMP	CBGQ2040/2080
马达 Motor	USA SUNNY 63	USA SUNNY 56	USA SUNNY 56

LT-6.5		LT-5.5		LT-4.0	
供水系统 Water Supply System					
水箱容积 (L) Water Tank		1465	860	660	
供水方式 Water Supply		时间继电器 Time Relay			
搅拌和卸载 Mixing and unloading					
搅拌罐几何容量 Mixing Tank Volume (L)		9000L	7800L	6000L	
搅拌罐转速 (r/min) Drum Rotation Speed		16.5	20	17	
混凝土产量 (立方米、罐) Concrete Capacity(m³/batch)		6.5	5.5	4.0	



主要参数 Parameter				
	LT-3.5	LT-2.6	LT-1.8	LT-1.2
整车参数 Parameter				
外形尺寸 Dimension (L×W×H)	7830*2680*4170	7860*2750*4100	7300*2650*3750	6400*2550*3300
轴距 Wheelbase (mm)	2900	2800	2600	2300
整机质量 Total Weight (kg)	7500	6500	6500	4185
驱动形式 Drive Form	变矩器 Torque converter			
最高车速 Max.Speed (km/h)	30	30	30	30
最大爬坡能力 Max..grade-ability (°)	30	30	30	30
最小转弯半径 Mini Turning Radius (mm)	5300	5300	5300	4700
最小离地间隙 Mini Ground Clearance(mm)	380	380	380	280
发动机 Engine				
型号Model	Yuchai4105 supercharged	Yuchai 4102 supercharged	Yuchai 4102 supercharged	Yunnei 490 supercharged
额定功率 (kW) Rated Power	92	78	78	55
变速箱 Gear Box				
型号Model	ZL-280 Power Shift Transmission	ZL-280 Power Shift Transmission	ZL-280 Power Shift Transmission	ZL-280 Power Shift Transmission
档位 Gear	4x4	4x4	4x4	4x4

	LT-3.5	LT-2.6	LT-1.8	LT-1.2
常用油加注量 Total Oil Filling Volume(L)				
燃油箱 (L) Fuel Tank	75	75	75	63
液压系统总容量 Total Hydraulic System Capacity (L)	75	75	75	63
机油 Engine Oil (L)	16	16	16	16
液压系统 Hydraulic System				
减速机 Reducer	KY100-5C-J	KY100-4-C	KY100-4-C	KY100-4-C
泵 Pump	CBGQ2040/2080	CBGQ2050/2032	CBGQ50/32	CBGQ50/32
马达 Motor	USA SUNNY 56	BN5-125	BN5-125	BN5-125
供水系统 Water Supply				
水箱容积 (L) Water Tank	620	500	500	400
供水方式 Water Supply	时间继电器 Time relay			
搅拌和卸载 Mixing and Unloading				
搅拌罐几何容量Mixing tank volume (L)	4740L	3580L	3580L	1700L
搅拌罐转速 (r/min) Drum rotation speed	13-20	13	13	13
混凝土产量 (立方米、罐) Concrete capacity(m3/batch)	3.5	2.6	1.8	1.2



第三章 搅拌车的主要组成及功能

Chapter II Main Composition and Function of Mixer

混凝土自动上料搅拌车是一种适用于小型和中型工程建设，集自动上料、搅拌、运输、自动卸料于一体的混凝土搅拌运输车。采用大功率柴油发动机，液力变矩器，保证行走与搅拌同时工作所需动力。主要结构由：行走底盘、发动机、液力变矩器、前后四驱桥、上料装置、进料斗、卸料斗、加长卸料斗、机架、搅拌罐、搅拌专用行星减速机、液压系统、电控系统、自动上水系统等组成，其特征如下：

Self loading concrete mixer truck is suitable for small and middle-scale construction and integrates automatic feeding, mixing, transportation and automatic unloading. Adopt high-power diesel engine and hydraulic torque converter to ensure the power required for walking and mixing at the same time.

The main structure consists of: walking chassis, engine, hydraulic torque converter, front and rear four-wheel drive axles, feeding device, feeding hopper, unloading hopper, extended unloading hopper, frame, mixing tank, special planetary reducer for mixing, hydraulic system, It is composed of electronic control system, automatic water supply system, etc. Its characteristics are as follows:

① 行走系统由发动机通过液力变矩器、前后传动轴到前后桥。采用液压转向四驱形式，大大减小转弯半径，更适于工地上工作，特别是狭小空间施工。采用液力变矩器减少对发动机的冲击、延长了发动机的寿命。行走采用无极变速电控阀，方便操控。

The walking system consists of the engine through the torque converter, the front and rear drive shafts to the front and rear axles. The hydraulic steering four-wheel drive is adopted, which greatly reduces the turning radius and is more suitable for work on construction sites, especially for construction in narrow spaces. The torque converter is used to reduce the impact on the engine and prolong the life of the engine. Walking adopts sleepless variable speed electric control valve, which is convenient to control.

② 液压系统5-6方采用恒功率变量柱塞泵，1.2-4方采用齿轮泵，减少发动机的功率损耗。

The 5-6 side of the hydraulic system adopts a constant power variable piston pump, and the 1.2-4m3 adopts a gear pump to reduce the power loss of the engine.

③ 搅拌罐的旋转由液压马达通过专用行星减速机带动，行星减速机的输出轴可以实现一定角度的摆动，以满足恶劣路况下搅拌罐的跳动。搅拌车的搅拌罐加有控速阀，能够精确控制搅拌罐搅拌转速。

The rotation of the mixing tank is driven by a hydraulic motor through a special planetary reducer, and the output shaft of the planetary reducer can swing at a certain angle to meet the beating of the mixing tank under bad road conditions. The mixing tank of the mixer truck is equipped with a speed control valve, which can precisely control the mixing speed of the mixing tank.

④ 干料上料，按照设计好的配比由铲臂、动臂油缸、铲斗铲料后，电子称重，自动上料。进料斗倾斜安装，确保进料流畅。用于出料的卸料槽可以旋转并通过锁紧机构固定在适当的位置。用于加长卸料槽长度的延伸料槽可折叠并放置于其固定位置，并用挂钩固定在卸料槽上。

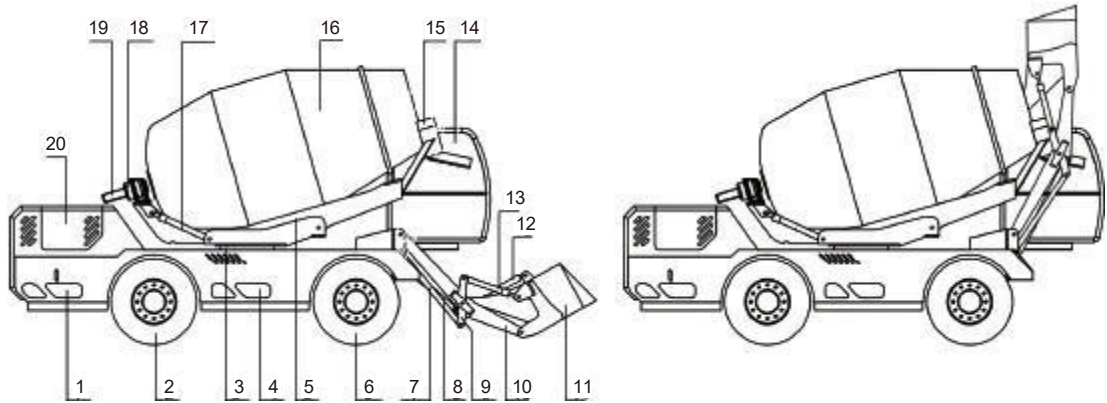
For dry material feeding, according to the designed ratio, the shovel arm, boom cylinder and bucket shovel material, electronic weighing, and automatic feeding. The feeding hopper is installed inclined to ensure smooth feeding. The discharge chute for discharge can be rotated and held in place by a locking mechanism. The extension chute for extending the length of the discharge chute can be folded and placed in its fixed position and fastened to the discharge chute with hooks.

⑤ 进水系统带有定量自吸泵，由定量控制器设定实现自动定量进水。

The water inlet system is equipped with a quantitative self-priming pump, which is set by the quantitative controller to realize automatic quantitative water intake.

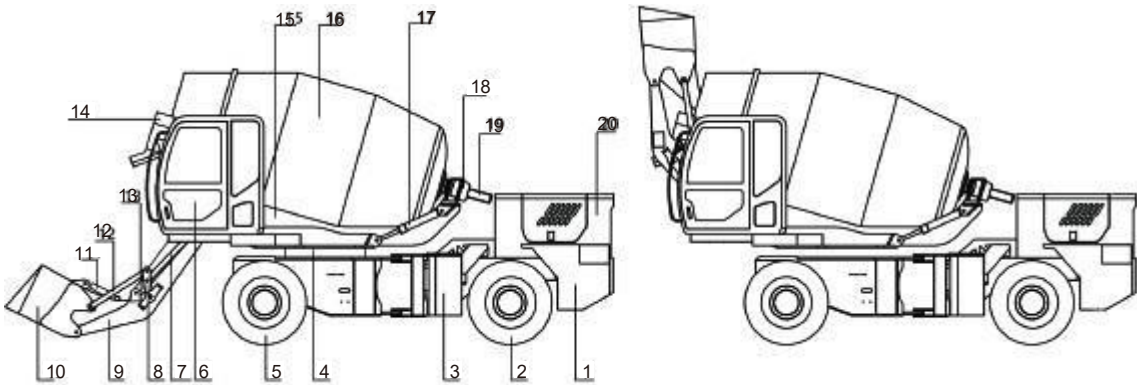
⑥ 搅拌罐通过三点固定和支撑在底架上，前端与固定在底架上的齿轮箱输出法兰联接，该法兰可以改变倾斜角度。搅拌罐通过焊接的轨道支撑在内有锥形轴承的2 个滚轮上。进料、搅拌和出料由压制成型的叶片系统来完成。搅拌罐正向旋转为进料、混凝土搅拌；反向旋转，在螺旋叶片的推动下、混凝土由出料口出料。

The mixing tank is fixed and supported on the base frame by three points, and the front end is connected with the output flange of the gear box fixed on the base frame, and the flange can change the inclination angle. The mixing tank is supported by welded rails on 2 rollers with inner tapered bearings. Feeding, stirring and discharging are done by a press-formed blade system. The mixing tank rotates in the forward direction for feeding and mixing the concrete; in the reverse rotation, the concrete is discharged from the discharge port under the push of the screwblade.



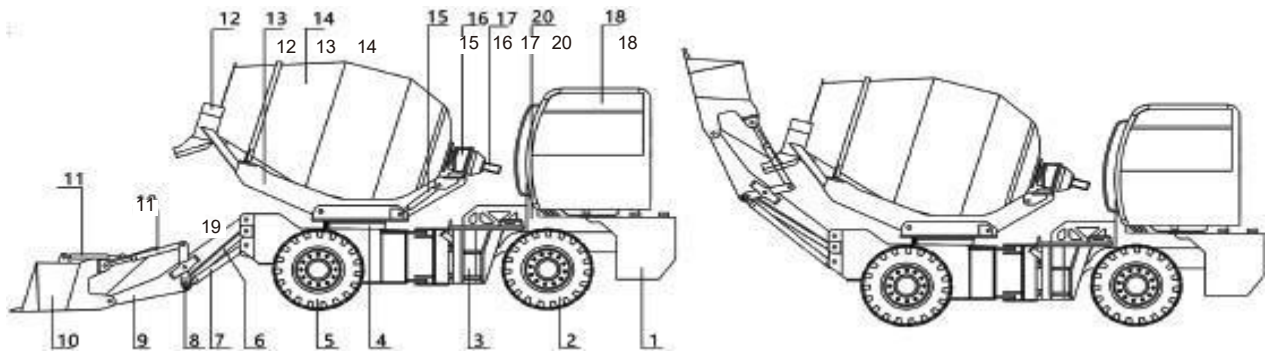
4方6.5方示意图 Schematic Diagram of 4m3/ 6 5m3 mixer

1	液压油箱（左）柴油箱（右） Hydraulic Tank (Left) Diesel Tank (Right)	7	拉杆 Tie Rod	14	驾驶室 Cab	
		8	大臂起升油缸 Boom Lift Cylinder	15	出料漏斗 Discharge Funnel	
2	后驱动轮 Rear Drive Wheel	9	连臂 Jib	16	搅拌罐 Mixing Tank	
3	转盘 Turntable	10	大臂 Big Arm	17	起升搅拌罐油缸 Lifting Mixing Tank Oil Tank	
4	水箱 Water Tank	11	料斗 Hopper	18	搅拌罐减速机 Mixing Tank Reducer	
5	托罐臂 Tank Arm	12	料斗闸门油缸 Hopper Gate Cylinder			
6	前驱动轮Front Drive Wheel	13	收放料斗油缸 Retracting And Unwinding Hopper Cylinder	19	液压马达 Hydraulic Motor	20 机罩 Hood



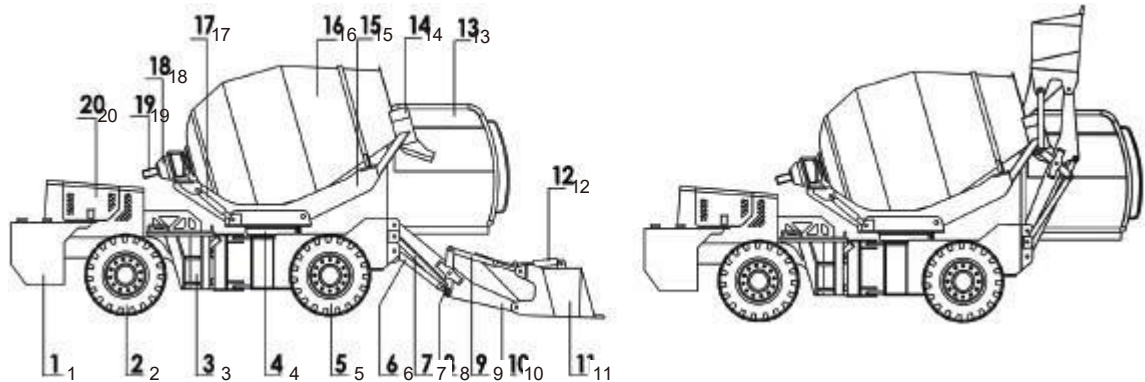
3.5方 5.5方示意图 Schematic diagram of 3.5m3/ 5m3

1	水箱 Water tank	7	拉杆 Tie rod	14	出料漏斗 Discharge funnel	
2	后驱动轮 Rear drive wheel	8	连臂 Jib	15	托罐臂 Tank Arm	
3	液压油箱（左）柴油箱（右） Hydraulic tank (left) Diesel tank (right)	9	大臂 Big arm	16	搅拌罐 Mixing tank	
		10	料斗 Hopper	17	托罐臂起升油缸 Tank Arm Lifting Cylinder	
4	转盘 Turntable	11	料斗闸门油缸 Hopper gate cylinder	18	搅拌罐减速机 Mixing tank reducer	
5	前驱动轮 Front drive wheel	12	料斗收斗油缸 Hopper Receiving Cylinder			
6	驾驶室 Cab	13	大臂起升油缸 Boom lift cylinder	19	液压马达 Hydraulic motor	20 机罩 Hood



3.5方双向示意图 Bidirectional Diagram of 3.5m3 mixer

1	水箱 Water Tank	7	大臂起升油缸 Boom Lift Cylinder	14	搅拌罐 Mixing Drum
2	后驱动轮 Rear Drive Wheel	8	连臂 Connecting Arm	15	托罐臂起升油缸 Tank Support Arm
3	后驱动轮 柴油油箱（右） 液压油箱（左） Diesel Tank (Right) Hydraulic Oil Tank (Left)	9	大臂 Lever Arm	16	搅拌罐减速机 Mixing Drum Gearbox
		10	料斗 Hopper	17	液压马达 Hydraulic Motor
4	转盘 Rotary Disc	11	料斗闸门油缸 Hopper Gate Cylinder	18	驾驶室 Cab
5	前驱动轮 Front Drive Wheel	12	出料漏斗 Unloading Bunker	19	料斗收斗油缸 Retractable Hopper Cylinder



2.6/1.8/3.5方车示意图 Schematic Diagram of 2.6m3/1.8m3/3.5m3 Mixer

1	水箱 Water Tank	7	拉杆 Tie Rod	14	出料漏斗 Unloading Bunker
2	后驱动轮 Rear Drive Wheel	8	连臂 Connecting Arm	15	托罐臂 Tank Arm
3	后驱动轮 柴油油箱（右） 液压油箱（左） Diesel Tank (Right) Hydraulic Oil Tank (Left)	9	收斗油缸 Retractable Hopper Cylinder	16	搅拌罐Mixing Drum
		10	大臂 Lever Arm	17	托罐臂起升油缸 Tank Support Arm
4	转盘 Rotary Disc	11	料斗 Hopper	18	搅拌罐减速机 Mixing Drum Gearbox
5	前驱动轮 Front Drive Wheel	12	料斗闸门油缸 Hopper Gate Cylinder	19	液压马达 Hydraulic Motor
6	大臂起升油缸 Boom Lift Cylinder	13	驾驶室 Cab	20	机罩 Machine Cover

第四章 搅拌车操作方法

Chapter IV Mixer Operation Method

在操作之前，操作者必须仔细阅读手册，尤其是安全细节和所有的提醒、警告，并要熟悉工作中的常用手势。

The operator must carefully read the manual, especially the safety details and all cautions, warnings before operation and be farillar with common hand signals. .

搅拌机的重要搅拌机操作的重要步骤 Important procedures for operation of mixer:

①工作前先检查水箱是否有水，没有需要先用水泵抽水加满；查看柴油箱的油位，是否能保证使用；检查液压油箱油位；查看轮胎是否损伤、气压表正常、螺栓是否松动等。确认上水阀在开启状态，洗车水阀在关闭状态，洗车水桶放气开关关闭状态。在各润滑部位加注润滑油。

Before operation, check the water tank and fill it with water through pump in case of no water; check the oil level of diesel tank for normal operation; check the ail level of hydraulic oil tank; check whether the tire is free from damage, barometer is normal and the bolt is loosened. In addition, check that the water inlet valve is open, truck wash water valve is close and the air relief switch of truck wash bucket is close. And add lubricating oil at each location to be lubricated.

② 发动车前在启动或关闭发动机前，确保各控制手柄处于中间位置，确认后发动搅拌车。

Before starting the vehicle, before starting or shutting down the engine, make sure that each control handle is in the middle position, and then start up the mixer after confirmation.

③ 发动后检查工作台仪表是否正常，当气压表达到4MPa时，其他仪表正常后，可踩下刹车踏板，挂低档，松开断气刹，搅拌车开始行走。

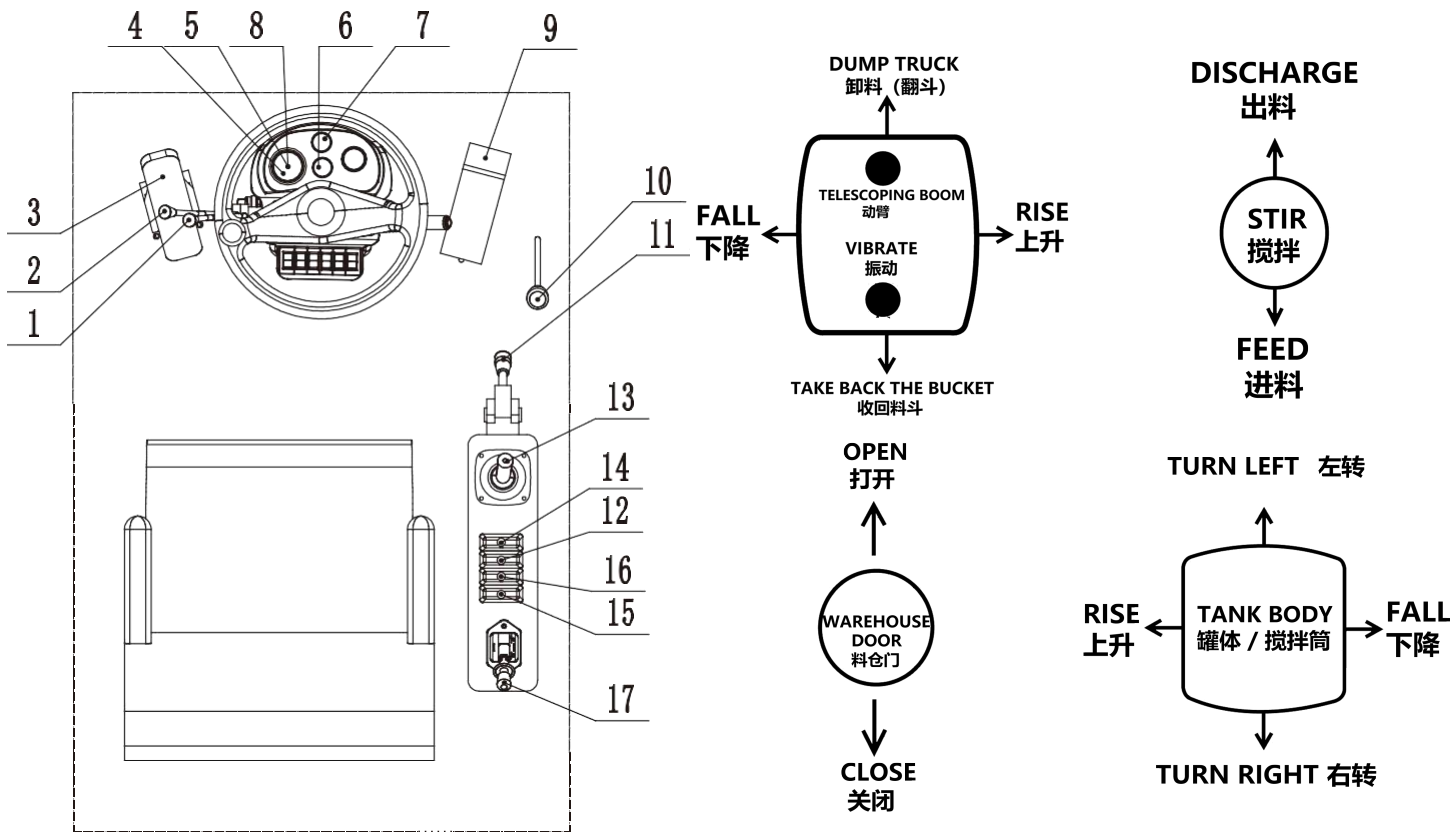
After starting up, check whether the instruments on the workbench are normal. When the air pressure reaches 4MPa, and other instruments are normal, you can step on the brake pedal, switch to a low gear, release the air brake, and the mixer truck starts to walk.

④ 首先把搅拌罐控制杆推至开启位置，打开搅拌罐的搅拌模式；然后打开上水定量控制器上水；打开电子称控制器，开始上料，推动铲斗举升大臂控制手柄将大臂放到最低，斗子放平铲料、收斗、举升大臂、称重，称重后继续上升，铲斗仓口对准进料口后，开启仓门卸料，卸料后关闭仓门，进行下次上料。当称重累计超出要求重量时，超出部分打开仓门卸掉，然后再上到进料口卸料。直到水泥、沙石达到规定重量。加料过程中搅拌罐一直慢速转动，加好料后，提高搅拌速度，待搅拌均匀后，到需要位置卸料。将加长卸料斗接到卸料斗上，搅拌罐控制杆扳到卸料位置（搅拌罐反转），卸料完毕，收好加长卸料斗。重复操作继续工作。

First move the mixing tank control lever to the open position to turn on the mixing tank mixing mode, then turn on the quantitative water supply controller to supply water, turn on the electronic scale controller and start loading. Push the control handle of the bucket to lift the boom and lower the boom to the lowest level. The bucket is leveled and shoveled, the bucket is retracted, the boom is lifted, and the boom is weighed. After weighing, it continues to rise. After the bucket opening is aligned with the feed opening, Open the warehouse door to unload the material, close the warehouse door after unloading, and proceed to the next feeding. When the total weight exceeds the required weight, the excess part is opened for unloading and then unloaded at the feed port. Until the cement and sandstone reach the specified weight. During the feeding process, the agitation tank continues to rotate at a low speed. After adding materials, increase the mixing speed. After the mixing becomes even, unload the materials to the required position. Connect the extended unloading hopper to the unloading hopper, move the mixing tank control lever to the dumping position (reverse rotation of the mixing tank) and complete the unloading. Retry the operation to continue working.

⑤ 每日工作完成后需要清洗搅拌罐，以防水泥干结，造成罐内容量减小。操作步骤：打开上水阀，加水进罐后，空转数分钟，然后高速将水卸出。彻底清洗车外部并将加长卸料斗固定好。停好搅拌车，拉 手刹、关电子称、熄火。

After completing daily work, the mixing tank must be cleaned to prevent the cement from drying out and reducing the content of the tank. Operation steps: Open the water supply valve, add water to the tank, let it work for a few minutes, and then drain the water at high speed. Thoroughly clean the outside of the truck and secure the extended hopper. Stop the mixer, pull the handbrake, turn off the electronic scale and turn it off.



1. 行驶档位器：控制前进和后退
Drive gear: controls forward and reverse
2. 车速档位器：控制前进和后退车速
Speed gears: control forward and reverse vehicle speed
3. 行车制动踏板：车辆在行驶过程中制动
Service brake pedal: the vehicle brakes while driving
4. 水温显示;变矩器油温
water temperature display; torque converter oil temperature
5. 燃油液位显示
Fuel level display
6. 变矩器压力显示
Torque converter pressure display
7. 制动气压显示
Brake pressure display
8. 充电指示; 工作时间
Charging indication; working time

9. 油门踏板：控制发动机转速
Accelerator pedal; controls engine speed
10. 空载车速档位器：控制前进和后退车速
No-load speed gear: controls forward and reverse vehicle speed
11. 手油门控制手柄
Hand throttle control handle
12. 封盖动作控制手柄
capping action control handle
13. 动臂和铲斗动作控制手柄
Boom and Bucket Action Control Handles
14. 270度回转控制手柄
270 degree rotary control handle
15. 搅拌罐正反转控制手柄：正转时进料，反转时出料
Control handle for forward and reverse rotation of the mixing tank: feeding in forward rotation and discharging in reverse rotation
16. 搅拌罐尾部升降控制手柄
Lift and lower control handle at the rear of the mixing tank

第五章 搅拌车的保养与维修

Chapter V Maintenance and Repair

在搅拌机设计中已充分考虑了操作人员及其他工作人员的安全。但安全仍依赖于正确的工作、定期的检查和及时的维护保养。

The safety of operators and other workers has been fully considered in the design of the mixer. But safety still depends on proper operation, regular checks and timely maintenance.

常准备工作 Daily Preparations

搅拌机启动前检查如下项目Check the following before starting the machine:

- ① 每日查看搅拌机，检查是否有齿轮油泄露、软管腐蚀、液压油泄露、滚轮或卸装置破坏或故障等问题。检查卸料槽是否正确固定。检查液压油箱中液压油油位，不足时加液压油；检查齿轮箱中齿轮油油位，不足时加齿轮油；滚轮一表面涂抹黄油；滚轮轴承—加注黄油；上料、卸料机构—加注黄油；调整轨道保护带并清理轨道；水箱—加满水并确保处于卸压状态；在混凝土容易粘附的搅拌机外外表上喷涂一层柴油和水蜡混合液或近似溶液，这样有利于防止混凝土粘附，便于清洗。

每日操作结束后应清洗搅拌机。

Check the mixer daily for gear oil leaks, hose corrosion, hydraulic oil leaks, wheel or unloader damage or failure. Make sure the discharge chute is installed correctly.

Check the hydraulic oil level in the hydraulic tank, add hydraulic oil if there is not enough, check the gear oil level in the gearbox, add gear oil when there is not enough; Fill in oil, adjust the track protection belt and clean the track, water tank - fill with water and make sure it is in the state of pressure release, spray a layer of diesel fuel and water wax mixture or similar solution outside the mixer where concrete is easy to stick, which is helpful to prevent Concrete glued for easy cleaning. The agitator

Must be cleaned after the end of daily work.

- ② 搅拌机停放一夜，即使气候较暖，油温也会降低，因此在每天使用前必须先预热以下，直至液压油油温上升。暖气候发动机怠速预热3-5分钟；寒冷气候，发动机怠速预热10-15分钟。定期维护保养，按期更换液压油与齿轮油。

When the truck is parked at night, even if the climate is warm, the oil temperature will also drop, so you should warm up before use until the temperature of the hydraulic oil rises. In warm weather, the engine warms up for 3-5 minutes at idle, and in cold weather, the engine warms up for 10-15 minutes. regular maintenance and replacement of hydraulic oil and transmission oil according to the schedule.

保养周期 Maintenance Period

注意：首期使用达 50-100小时时更换滤清器芯，否则液压系统将不予以质量担保。

Note: Replace the filter core if the first phase is used for 50-100 hours, otherwise the hydraulic system will not be guaranteed.

①首期保养：初期使用 50-100小时后 First service: 50-100 hours after initial use

A1、排放干净液压油箱中原有脏液压油，并用新油冲洗一遍，再用新液压油加满。 Drain the original dirty hydraulic oil from the clean hydraulic tank, flush it with new oil and fill it with new hydraulic oil. A2、更换滤清器滤芯 Replace filter element

A3、检查并加紧以下螺栓 Check and tighten the following bolts:

1. 齿轮箱固定螺栓 Fixed bolt of gearbox
2. 齿轮箱与罐体连接螺栓Connecting bolt between gearbox and drum
3. 罐体与大架固定螺栓 Fixed bolt of drum and large frame
4. 传动轴连接螺栓 Connecting bolt of transmission shaft
5. 泵固定螺栓 Pump mounting bolts
6. 水罐底座固定螺栓 Fixed bolt of water tank base

② 日检 Daily check

检查液压油是否清洁和油位是否超过油位计的中间位置，不足时加油。注意：当油温底时不宜加太满。
Check that the hydraulic oil is clean and that the oil level is above the middle of the oil level gauge. Add hydraulic oil when it is insufficient. Note: when oil temperature is low, it should not be too full.

③ 50小时或周检 50 hours or weekly check

检查液压油箱中液压油油位，确保超过油位计中位，不足时加油；给滚轮和轨道加注黄油。
Check the hydraulic oil level in the hydraulic tank to make sure it is above the middle level on the oil level gauge. When it is not enough, add oil; add grease to the rollers and rails.

④ 200小时或月检 200 hours or monthly check

检查50小时的保养事项 Check the maintenance details for 50 hours:用低压黄油枪给传动轴加黄油，给万向节加黄油直至油从四周渗出，给传动花键上黄油，直至渗出。
Use a low pressure grease gun to add oil to the drive shaft, add grease to the universal joint until oil seeps out of the environment, and add grease to the drive spline until it seeps out.

齿轮箱固定螺栓 – Gearbox mounting bolts	传动轴连接螺栓 – Drive shaft connecting bolts
齿轮箱与罐体连接螺栓 – Gearbox and tank mounting bolts	泵固定螺栓 – Pump mounting bolts
水罐底座固定螺栓 – Water tank base bolts	罐体与大架固定螺栓 – Tank and main frame fixing bolts

⑤ 500小时或季检 500 hours or quarterly check

检查保养200小时的项目 Check 200 hours service details:

更换滤芯Replace the filter element in the hydraulic tank.
更换液压油，每操作500小时或6个月后，排放、冲洗并加满液压油箱。
Change hydraulic oil. Drain, flush and top up the hydraulic tank after every 500 or 6 months of operation.

搅拌车的检查与调整 Check and Adjustment

本搅拌车在出厂前各部位均已调整至最佳状态，客户在使用新机时无需调整。待工作一段时间后一些部位可作适当的调整，具体调整方法如下：

Before leaving the factory, the mixer has been adjusted to the best condition, and the customer does not need to adjust it when using a new machine. Some parts may adjust after being used for a certain period of time. The specific adjustment methods are as follows:

①发动机：详见柴油机说明书Engine: See diesel engine manual for details

② 离合器 Clutch:

离合器踏板自由行程的调整 Clutch pedal free stroke adjustment

为了确保离合器在传递动力时不打滑，离合器分离轴承和分离杆之间应保持一定的间隙。就离合器踏板而言，自由行程距离应为25-30mm。在操作过程中，由于摩擦片的磨损，分离杆与分离轴承之间的间隙会逐渐减小甚至消失。因此，必须定期检查和调整踏板的自由行程。
To ensure that the clutch does not slip during power transfer, a certain amount of clearance must be maintained between the release between the clutch release bearing and the release lever. As for the clutch pedal, the clearance should be 25-30 mm. During operation, the clearance between the release lever and the release bearing will gradually decrease or even disappear due to wear of the friction plate. Therefore, the pedal free play should be regularly checked and adjusted.

自由行程的调整是通过改变离合器杆的长度，延长离合器杆，行程减小，缩短离合器杆，行程增大来实现的。
Adjust the freewheel by changing the length of the clutch lever. Lengthen the clutch lever, the travel is reduced. Shorten the clutch lever, the travel is increased.
离合器分离杆位置的调整 Adjusting the position of the clutch release lever
离合器两个分离杆的端面应在同一平面上，且彼此之间的差异不应超过0.15 mm。通过转动调整螺栓进行调整。

The ends of the two clutch release levers must be in the same plane and must not differ from each other by more than 0.15 mm. Adjust by turning the adjusting bolt.

③ 传动轴 Drive shaft:

搅拌车有六个万向节，万向节十字轴上有注油嘴，每工作150小时应注润滑油脂
The mixer has six universal joints and there is a grease nipple on the cross shaft of the universal joint. Lubrication must be applied every 150 hours of operation.

④ 驱动桥 Drive axle:

主、被动齿轮已按接触区标准进行选配，因此，可长期使用不应进行调整，只有在更换损坏零件或因零件磨损而移动时，方需进行调整。调整时应注意以下几项：
The driven gear has already been selected according to the standards of the contact area. Therefore, they cannot be regulated for long term use. Adjustments should only be made when replacing damaged parts or moving parts due to wear. Pay attention to the following points when adjusting:

(1) 主动齿轮的轴承间隙：由主动齿轮上的轴承内圈背后的垫座来调整，调整后应该没有间隙而又能自由转动
Pinion bearing clearance: This is adjusted by a support behind the inner bearing race on the pinion. After adjustment, there should be no gap and it can be rotated freely.

主、被动齿轮的齿侧间隙：在主动齿轮的法兰盘半径45mm的周围上测时，其位移（弧长）应在0.2-0.4mm之间
Clearance on the sides of the drive and passive gears: when measured near the area of action within a radius of 45 mm from the drive gear flange, the offset (arc length) should be between 0.2 and 0.4 mm.
每行驶100小时后，检查驱动桥油面，正确的油面高度为不低于加油口下缘10mm，否则要添加。每行驶300小时后,应更换齿轮油,本机应加 18号双曲线齿轮油。
After every 100 hours of driving, check the oil level in the drive axle. The correct oil level should be at least 10mm below the lower edge of the fuel fill hole, otherwise it must be added. Gear oil should be changed every 300 hours of driving. No. 18 hyperbolic gear oil should be added to this machine.
每行驶100小时后，应更换一次轮壳轴承润滑脂，调整轴承预紧度到合适为止。
After every 100 hours of driving, the wheel bearing must be lubricated and the bearing preload adjusted to the appropriate level.

⑤ 制动系统 Brake system:

本机制动采用液压制动系统，制动踏板全程160mm，自由行程为 8-10mm，当发现制动踏板太低时应检查：
The brake of this machine adopts hydraulic braking system. The brake pedal has a total travel of 160mm and a free play of 8-10mm. When the brake pedal is too low, check:

- (1)管道是否漏油。Check the pipe for oil leakage.
- (2) 蹄片与鼓的间隙是否过大。Check whether the clearance between the brake shoe and drum is too large.
- (3)管路中是否有空气。Check the line for air existence.

每工作200小时，应检查制动蹄片的磨损。当蹄片磨损到使踏板行程过大时，必须调整蹄片和鼓之间的间隙，其过程如下：
Every 200 hours of operation, check the brake pads for wear. When the shoe is put on, to make the pedal stroke too large, the clearance between the last and the drum must be adjusted. The following processes

- (1) 顶起需调整的车轮 Raise the wheel for adjustment.
- (2) 在制动底板的背面找到偏心轮螺栓，转动偏心轮螺栓，直到蹄片与鼓接触，然后放松偏心轮螺栓，直到车轮自由转动并且蹄片与鼓不再磨擦时为止
Locate the eccentric bolt on the back of the brake shoe and turn the eccentric bolt until the shoe contacts the drum. Then loosen the eccentric bolt until the wheel is free to turn and the shoe and drum no longer rub.
- (3) 在更换制动液以及贮油壶干底后添加新制动液时，需要将制动管路及泵中空气放净。其方法如下：
When changing the brake fluid or adding new brake fluid after the oil reservoir has dried out, air must be bled from the brake pipe and brake pump. The method is as follows:
 - (1) 将制动踏板连续地踏下数次，松开放气阀，放出管内空气，旋紧气阀，松开制动踏板。如此重复数次，直到油路内空气排完为止
Depress the brake pedal several times continuously, loosen the air vent, bleed the air inside the pipe, tighten the air valve and release the brake pedal. Repeat this several times until the air in the oil passage is depleted.
 - (2) 放气过程中要随着贮油壶油面降低而不断添加制动液，不能让贮油壶干底，全部放气完毕后，应把制动液加足。制动踏板的自由行程由制动总泵推杆来调整
During the deflation process, brake fluid should be added continuously while the oil level in the oil storage tank goes down. The oil storage tank must not dry out. After deflation is completed, brake fluid should be added. The brake pedal free play is controlled by the push rod of the main brake pump.

⑥ 工作装置液压系统 Work Equipment Hydraulic System:

工作装置液压系统是由齿轮泵、多路换向阀、优先阀、举升臂油缸、翻斗油缸、转向油缸、工作油箱及油管等组成。压力油从齿轮泵经优先阀、多路换向阀，通过操纵 相应的滑阀把油液输送到各油缸。工作装置不工作时，油液经多路换向阀的中间油道回油箱。

The hydraulic system of the working device is composed of a gear pump, a multi-way reversing valve, a priority valve, a lift arm cylinder, a dump cylinder, a steering cylinder, a working oil tank and an oil pipe. The pressure oil is transported to each oil cylinder from the gear pump through the priority valve and the multi-way reversing valve, and by operating the corresponding spool valve. When the working device is not working, the oil returns to the oil tank through the intermediate oil passage of the multi-way reversing valve.

搅拌机电器设备Electrical Equipment of Mixer Truck

自动上料搅拌机电器系统采用直流电压24伏，负极接地制

The electrical system of the automatic feeding mixer adopts a DC voltage of 24 volts and the negative electrode is grounded.

① 蓄电池 Battery

蓄电池功用上是发动机起动时，供电给起动电动机；当发动机正常工作时，若发电机的电压低于蓄电池的电压时，则供电给用电设备；若发电机的电压高于蓄电池 的电压时，则发电机向蓄电池充电，以储存一部分电能。

The function of the battery is to supply power to the starter motor when the engine is started; when the engine is working normally, if the voltage of the generator is lower than the voltage of the battery, it will supply power to the electrical equipment; if the voltage of the generator is higher than the voltage of the battery, The generator charges the battery to store some of the electrical energy.

在使用中应注意Pay attention when using it:

- (1) 经常保持充电状态，如长期不用，每月最少应充电一次。
Always keep the charging state, if it is not used for a long time, it should be charged at least once a month.
- (2) 经常检查电解液液面高度，液面应高出极板10~15毫米，不足时可添加蒸馏水。如确因电解液漏洒损失时，则应加比重为1.28的电解液。
Always check the height of the electrolyte liquid level, the liquid level should be 10-15 mm higher than the pole plate, and distilled water can be added if it is insufficient. If it is indeed lost due to leakage of electrolyte, an electrolyte with a specific gravity of 1.28 should be added.
- (3) 应经常检查蓄电池通气孔是否堵塞，如若堵塞，应及时清除外部泥土和脏物，擦净溢出的电解液，并在电极上涂以薄层钙基润滑脂以防腐蚀
Always check whether the battery vent is blocked. If it is blocked, remove the external soil and dirt in time, wipe the spilled electrolyte, and apply a thin layer of calcium-based grease on the electrodes to prevent corrosion.
- (4) 不得频繁使用起动机 Do not use the starter frequently.
- (5) 蓄电池应紧固,以免受震动而损坏 The battery should be fastened so as not to be damaged by vibration.

② 发电机与调节器 Generators and Regulators

硅整流发电机 Silicon rectifier generator:

- (1) 发电机上标有“+”、“F”两个接线柱和一个“-”接地钉。它们应与继电调节器上标有相同文字的接线柱连接。发电机两端用螺栓固定在发电机支架上；另有一个发电机撑脚，用来调整三角皮带张紧度。
The generator is marked with “+”, “F” two terminals and a “-” grounding pin. They should be connected to the terminals marked with the same text on the relay regulator. Both ends of the generator are fixed on the generator bracket with bolts; there is another generator support foot to adjust the tension of the V-belt
- 继电调节器 Relay regulator
- (1) 继电调节器是由截流器、调压器、限流器三个装置所有组成。继电调节器上标有“+”、“F”二个接线柱和一个“-”接地螺钉，“+”、“F”接线柱应与发电机上相应的接线柱相连
The relay regulator is composed of three devices: current interceptor, voltage regulator and current limiter. The relay regulator is marked with two terminals “+” and “F” and a “-” grounding screw. The “+” and “F” terminals should be connected with the corresponding terminals on the generator.
- (2) 蓄电池的“+”接线柱与电流表“-”极相连，电流表的“+”极接线柱与电锁的一档相连。
The “+” terminal of the battery is connected to the “-” pole of the ammeter, and the “+” terminal of the ammeter is connected to the first gear of the electric lock.

发现调节器工作不正常或使用1000小时后，需要有熟练的电工进行调整。
A skilled electrician is required to adjust the regulator after it is found that it is not working properly or after 1000 hours of use

③ 起动机 Starter

它的用途是由蓄电池供给电源来起动发动机。起动机齿轮的转动是以电磁驱动，并带有单向滚柱式离合器，能防止起动机电枢随起动后的发动机高速旋转而损坏
Its purpose is to start the engine by supplying power from the battery. The rotation of the starter gear is electromagnetically driven and has a one-way roller clutch, which can prevent the starter armature from being damaged with the high-speed rotation of the engine after starting.

④ 其他 Others

(1) 电流表 Ammeter

电流表用以蓄电池的充、放电电流显示，当发动机向蓄电池充电时数字显示26~28V,不充电时未24V以下，指针偏则为指零
The ammeter is used to display the charging and discharging current of the battery. When the engine is charging the battery, the digital display is 26-28V. When it is not charging, it is not below 24V.

(2) 电锁 Power locks

电锁控制整个电气系统，钥匙插入锁孔后，向右转一档时，所有电器的电源接通；向右转二档，起动机起动。为了保护启动马达，要求在发动机起动后，立即将电锁 松开，钥匙自动复位至一档位置。
The electric lock controls the entire electrical system. After the key is inserted into the lock hole, when the key is turned to the first gear to the right, the power of all electrical appliances is turned on; when the second gear is turned to the right, the starter starts. In order to protect the starter motor, it is required to release the electric lock immediately after the engine is started, and the key is automatically reset to the first gear position.

搅拌车油种类（见下表）Oil Category For Mixer Truck (see below)

加油部位 Refueling Part	使用油品类 Oil category
燃油箱 Fuel Tank	夏季（10℃以上）0号，冬季（10℃以下）-10号柴油 No. 0 in summer (above 10° C), and No. 10 diesel in winter (below 10° C)
油底壳 Oil Pan	夏季（10℃以上）CC40，冬季CC30柴油机润滑油 Summer (above 10 °C) CC40, winter CC30 diesel engine oil
变速箱，驱动桥 Gearbox, Drive Axle	18#双曲线齿轮油 18# hyperbolic gear oil
液压油箱 Hydraulic Tank	3 冬46、夏68抗磨液压油（国际油） Winter 46, Summer 68 anti-wear hydraulic oil (international oil)
各注油嘴 Each Grease Nipple	组合钙基润滑油 Combination calcium-based lubricants
刹车油 Brake Fluid	“912”合成制动液 “912” synthetic brake fluid

第六章 发生故障时的应急措施

Chapter VI Emergency Measures for Fault

故障及处理 Faults and handling

6.1搅拌罐不旋转 The mixing drum does not rotate

6.1.1 检查液压油油位和油品质量 Check hydraulic oil level and quality

压油不足时，补足液压油直至油位计中位。液压油很脏时，更换液压油。
When the pressure oil is insufficient, fill up the hydraulic oil until the oil level gauge median. When the hydraulic oil is dirty, replace the hydraulic oil.

检查进油球阀是否被关闭，如关闭，开启球阀并用限位螺栓限位

Check whether the inlet ball valve is closed. If it is closed, open the ball valve and limit the position with a limit bolt.

6.1.2 检查滤清器是否已堵塞,若是则更换滤芯 Check whether the filter is blocked, if so, replace the filter element

6.1.3 检查控制连接结构及软轴 Check the control connection structure and flexible shaft

将泵控制手柄向前或向后推动一段距离后，查看泵控制阀上控制柄是否相应的变更了角度。
After pushing the pump control handle forward or backward for some distance, check whether the control handle on the pump control valve has changed the angle accordingly.

如有相应变更角度，则转入 6.1.5 步骤 If the Angle is changed accordingly, go to Step 6.1.5.

如未变更角度则检查如下步骤 If the Angle is not changed, perform the following steps.

- (1) 检查泵控制软轴是否与控制手柄有效连接
Check whether the pump control soft shaft is effectively connected to the control handle.
- (2) 检查泵控制软轴是否固定牢固在软轴座上
Whether the pump control soft shaft is fixed firmly on the soft shaft seat..
- (3) 检查软轴座是否固定牢固在底架上，刚度是否足够
Check whether the soft shaft seat is fixed firmly on the bottom frame and whether the stiffness is sufficient.
- (4) 检查控制手柄变动角度，软轴是否伸缩。如不伸缩则软轴已断，更换软轴。
Check the Angle of the control handle and whether the flexible shaft is telescopic. If not telescopic, the flexible shaft has been broken, replace the flexible shaft.
- (5) 检查软轴是否与控制器联接牢靠及软轴后端是否固定牢靠
Check whether the soft shaft is firmly connected with the controller and whether the back end of the soft shaft is firmly fixed.
- (6) 检查控制器是否已损坏，损坏则更换控制器
Check whether the controller is damaged. If yes, replace the controller.

注意：驾驶室内控制器与后控制器并联，如后控制器因配件损坏问题失效，则可用驾驶室控制器暂时代用，直至损坏配件更换。如果后控制器或驾驶室控制器皆因配件的损坏而失效，在当有混凝土在搅拌罐中时，司机可用液压泵上的控制阀的控制柄来强制卸料，注意使用此控制柄只能慢慢的改变角度，且角度不宜过大，（大角度改变时，罐的转速将有可能很快，不安全）

Note: The cab controller is connected in parallel with the rear controller. If the rear controller fails due to parts damage, the cab controller can be used temporarily until the damaged parts are replaced. If the rear controller or cab controller fails due to the damage of accessories, when there is concrete in the mixing tank, the driver can use the control handle of the control valve on the hydraulic pump to force discharge. Note that the use of this control handle can only change the Angle slowly, and the Angle should not be too large, (For large Angle changes, the tank speed may be too fast and unsafe).

6.1.4 检查泵控制阀 Check pump control valve

用手小角度拨动控制阀控制柄，查看罐体是否旋转，如旋转，则转入 6.1.6 步骤，如不旋转，则检查如下步骤

Turn the control valve handle at a small Angle by hand to check whether the tank body rotates. If it rotates, go to Step 6.1.6. If it does not, check the following steps.

- (1) 检查控制柄与阀旋转轴是否连接牢固和一并旋转
Check whether the control handle and the valve rotation shaft are firmly connected and rotate together.
- (2) 从泵上拆下控制阀总成时，检查控制阀的连杆机构是否与伺服机构的连杆联接，如未联结，则联接起来，如连杆损坏，则更换连杆
When removing the control valve assembly from the pump, check whether the connecting rod of the control valve is connected with the connecting rod of the servo mechanism. If not, connect it. If the connecting rod is damaged, replace the connecting rod.
- (3) 查看控制阀上的3个控制油孔是否干净，如有堵塞，需用气枪冲洗干净。同时也应检查泵体上进入伺服机构的控制油孔是否堵塞。
Check whether the 3 control oil holes on the control valve are clean. If they are blocked, rinse them with an air gun. At the same time, check whether the control oil hole entering the servo mechanism on the pump body is blocked.
- (4) 拨动控制柄，查看阀芯是否运动正常。如拨动控制柄，阀芯不运动，则阀芯断裂，更换控制器总成。
Flip the handle to check whether the spool works properly. If the spool does not move when the control handle is moved, the spool is broken and the controller assembly is replaced..

6.1.5 检查泵补油压力 Check the pump filling pressure

补油压力正常（18bar），则检查高压安全阀，如高压不足，则更换高压安全阀。
If the oil filling pressure is normal (18bar), check the high pressure safety valve. If the high pressure is insufficient, replace the high pressure safety valve.

补油压力为 0，则泵输入轴或花键损坏，更换泵输入轴
If the oil filling pressure is 0, the pump input shaft or spline is damaged. Replace the pump input shaft.

补油压力不正常—检查滤清器 Oil filling pressure is abnormal – check the filter.

搅拌罐只能向一个方向旋转 The tank can only rotate in one direction.

6.1.6 检查控制器和控制软轴 Check the controller and control flexible shaft

将控制手柄向不旋转的方向推到最大行程。查看控制阀上控制柄是否相应变动控制角度。
Push the control handle to the maximum stroke in the non-rotating direction. Check whether the control handle on the control valve changes the control angle accordingly.

相应有角度变化，但罐体不旋转，则转入 6.2.2 步骤
If there is a corresponding Angle change, but the tank does not rotate, then go to step 6.2.2

无相应角度变化，则检查如下步骤： If there is no corresponding Angle change, check the following steps:

测量下当前软轴行程尺寸，然后将控制手柄推到中停位置，再次记下当前软轴的行程尺寸。将控制软轴与控制阀控制柄相连接的万向球头脱离，然后将控制手柄向旋转方向推动到最大行程处，记录下当前行程尺寸。以中停位置为基准0行程，并确认最大不转方向和最大旋转方向，软轴的行程是否伸(缩)) 向相反行程方向。
Measure the current stroke size of the soft shaft, then push the control handle to the middle stop position and write down the stroke size of the current soft shaft again. Disengage the universal ball head connected with the control soft shaft and the control valve control handle, then push the control handle to the maximum stroke in the rotation direction, and record the current stroke size. Take the middle stop position as the base 0 stroke, and confirm the maximum direction of no turn and the maximum rotation direction, the stroke of the soft shaft is extended (contracted)) to the opposite stroke direction.

如以中停为基准0行程，软轴有相反行程方向，则该软轴已损坏，更换软轴。如以中停为基准0行程，软轴无相反行程方向，则拆开控制器，查看控制器是否损坏，如无损坏，因控制器行程出现单向，则需要重新调整控制器行程，直至以中停为参照，向不同方向推动时，软轴伸缩双向行程尺寸相近，调整后再次联接万向球头。
If the soft shaft has the opposite direction of stroke, the soft shaft has been damaged, replace the soft shaft. If the 0 stroke is based on the intermediate stop, and the flexible shaft has no opposite stroke direction, disassemble the controller and check whether the controller is damaged. The intermediate stop is the reference. When pushing in different directions, the flexible shaft telescopic two-way stroke size is similar. After adjustment, the universal ball joint is connected again.

6.1.7 检查控制阀内外联结（脱离控制软轴与控制柄相联的万向球头）

Check the internal and external connection of the control valve (free from the universal ball head connected with the control soft shaft and the control handle).

a>检查控制阀输入轴是否磨损而导致单边失效
a>Check whether the control valve input shaft is worn and causes unilateral failure.

b> 将控制阀总成拆卸下，检查内部连杆机构是否损坏 b> Remove the assembly of control valve and check whether the mechanism of internal link is damaged or not..
c> 检查控制阀上控制油孔是否有因液压油脏而堵塞,如油脏堵塞控制油孔需用压力气枪清洗干净。 c> Check whether the oil hole controls on the control valve is blocked by the dirty oil of the hydraulic oil or not, if the oil is blocked, the oil holes need to be cleaned with a pressure gas gun..
d> 检查泵主体壳上到伺服机构的控制油孔是否因脏油而堵塞，如被堵塞，用压力气枪清洗干净。 d> Check whether the pump main shell to the servo institution is blocked or not due to the visceral oil. If it is blocked, clean it with a pressure gun..
检查补油单向阀 Check the oil supplementary valve
检查补油单向阀, 确认是否被堵塞或损坏, 如堵塞需拆下在干净的液压油中清洗, 如损坏则更换。 Check the oil supplemental valve to confirm whether it is blocked or damaged. If it is blocked, remove it in a clean hydraulic oil. If it is damaged, replace it.

6.1.8 检查不旋转方向相对应的安全阀及平衡梭阀 Check the safety valve and balance shuttle valve corresponding to the not rotating direction.

测试不旋转方向相应的高压压力,如无高压则拆下相应的安全阀检查是否被堵塞或损坏,如被堵塞,则清洗,如损坏则更换。
Test the pressure of high pressure in the direction of not rotating. If there is no high pressure, remove the corresponding safety valve to check whether it is blocked or damaged. If it is blocked, clean it, and replace it if damage.

检查梭阀,查看相应方向弹簧是否损坏,而导致单边直接泄压,更换弹簧或增加垫块。
Check the shuttle valve and check whether the corresponding direction spring is damaged, which causes a unilateral leakage to the unilateral side, replace the spring or increase the pad.

注6.2.3、6.2.4 两步骤只能是受过初步液压系统专业维修训练的技工方能进行。
Note 6.2.3, 6.2.4 Steps can only be carried out by technicians with preliminary hydraulic system maintenance training.

6.2 系统反应迟缓 Slow response of system

6.2.1 检查取力器转速(可由电发动机转速折算)至少500-600rpm

At least 500-600rpm by checking the speed (can be converted by the speed of the electrical engine)

6.2.2 检查液压油油位及油品质 Check the level of liquid oil and oil level and oil quality.

液压油不足，补充液压油直至油位计中位.If the hydraulic oil is insufficient, the hydraulic oil should be supplemented until the oil level is medium.

液压油很脏,更换液压油If the hydraulic oil is dirty, replace the hydraulic oil.

6.2.3 检查滤清器 Check the filter

如滤清器真空表指针指向或超过-2.5psi(1.27cm of Hg)则更换滤芯。
If the filter vacuum sheet pointer points or exceed -2.5PSI (1.27cm of hg), the filter element is replaced

6.2.4 检查液压泵补油压力 Check the hydraulic pump oil supplement pressure.

6.2.5 检查马达的回油被压阀 Check the oil return valve of the motor.

6.2.6 检查泵控制阀内外联接件 Check the pump control valve to connect with the inside and outside.

6.3 系统油温过高 Oil temperature of system is too high

6.3.1 检查液压油油位及油品质 Check the level of liquid oil and oil level and oil quality.

液压油不足时， 补足液压油直至油位计中位液压油很脏,则更换液压油。
When the hydraulic oil is insufficient, the hydraulic oil should be supplemented until the middle hydraulic oil is dirty, and then the hydraulic oil is replaced.

6.3.2 检查进油球阀是否被关闭 Check whether the oil ball valve is closed.

如被关闭,开启球阀并用限位螺栓限位。If it is closed, turn on the ball valve and use a limit bolt to limit

6.3.3 检查滤清器是否堵塞 Check whether the filter is blocked.

查看真空表,如表针指向或超过-2.5psi(1.27cm of Hg)则更换滤芯。
Check the vacuum table, if the table needle is or more than -2.5PSI (1.27cm of hg), the filter element is replaced.

6.3.4 查看散热风扇是否旋转 Check whether the cooling fan rotates.

不旋转进入 6.3.5 步骤,如旋转则检查 6.3.6 步骤 If not rotate, go into step 6.3.5, if rotating, check the 6.3.6 steps

6.3.5 检查散热器温控开关及电路 Check the temperature control switch and circuit of the heat sink.

开启手动开关，查看风扇是否旋转。Turn on the manual switch and check whether the fan rotates.

<A> 不旋转,则检查 If it does not rotate, check:

a>保险丝是否被熔断,熔断则更换保险丝(15A)

a> Whether the fuse is fused, replace it if fused(15A)

b> 检查线路是否接触不良,线路是否被扯断(接触不良,则重新连接,线路扯断则接通)

b> Check whether the line is poorly exposed and whether the line is disconnected (if the contact is poor, the connection should be re -connected, and the line is broken, re-connect it)

c> 检查开关是否损坏,损坏则更换开关

c> Check whether the switch is damaged, if damaged, replace it.

 旋转,则关闭手动开关检查 if rotate, turn off the manual switch to check:

a>连通温控开关的线路是否接触不良或线路被扯断(接触不良,则重新连接,线路扯断则接通)

a> Whether the line of connecting temperature control switch is poor or the line is torn (if the contact is poor, then connect to it, if the line is torn, then connect to it)

b> 将温控开关触头置于60℃以上的热水中,查看散热器风扇是否旋转,如不旋转,更换稳控开关.

b> Place the temperature control switch into a hot water above 60 ° C to check whether the heat sink fan is rotated. If it does not rotate, replace the steady control switch.

c> 检查开关是否损坏,损坏则更换开关

c> Check whether the switch is damaged, replace it if damaged

注意：因手动开关和温控开关并联控制风扇,如温控开关损坏,可用于手动开关暂时手动控制风扇直至更换温控开关
Note: Because the manual switch and the temperature control switch control fan together, if the temperature control switch is damaged, the fan can be temporarily controlled by manual switch until the temperature control switch is replaced

6.3.6 检查补油压力和马达的壳体压力 Check the pressure of oil supplement and the housing pressure of the motor.

用压力表测试该项压力,标准压力为18bar,如果压力过低更换补油泵或马达壳体背压阀。
Test the pressure with the pressure gauge, the standard pressure is 18BAR, if the pressure is too low, replace the oil pump or the back pressure valve of the motor shell.

6.4. 紧急处理预案 Emergency Scenario

当搅拌车在运输混凝土时,如果出现发动机或液压泵或马达或齿轮箱损坏导致搅拌罐无法旋转,为了避免混凝土凝固在罐体内,请用如下紧急处理预案:
When the mixer is transporting the concrete, if the engine or hydraulic pump or the motor or the gear box is damaged, the mixing tank cannot rotate. In order to avoid the concrete solidification in the tank, please use the following emergency treatment plan

6.4.1 发动机损坏 Engine damage.

因发动机损坏，搅拌机将失去动力源，故罐体无法旋转，请采用如下紧急处理预案：

If the engine is damaged, the mixing drum will not rotate as the mixer truck loses power, then the following emergency scenario should be implemented:

预案A：从维修孔处将混凝土排出 Scenario A: discharge the concrete from maintenance hole

首先将罐体后锥体上的 2 个维修如孔盖的螺栓拆除，并将维修孔盖打开，再将液压泵与马达相连的两根高压管旋转松或拆除，将混凝土从维修孔处排出。因维修孔在罐体的下端，故混凝土从入孔流出的速度将很快，在打开维修孔前，尽量使维修孔朝向车侧面。

First remove the bolts of 2 maintenance hole covers on the rear cone of drum body and open the maintain holes covers, then loosen or remove two high-pressure pipes between the hydraulic pressure pump and motor, finally discharge the concrete from maintenance hole. As the maintenance hole is located at the bottom of drum body, the concrete will run out of the hole quickly. Before opening the maintenance hole, make the maintenance hole towards the side of truck as far as possible.

注意：在旋松或拆除高压管时，因系统中有高压阻力，在旋松管件时有可能会有高压油喷出，请特别注意安全并防止烫伤。另罐体由于惯性作用，有可能自动旋转，救援人员必须注意安全。在旋松或拆除高压油管前，在滚轮与轨道之间放入木楔，阻碍罐体旋转。

Notes: When the high-pressure pipe is loosened or removed, the high pressure oil may inject as there is high-pressure resistance in the system, so please be careful and prevent burns. In addition, the drum body may rotate automatically due to the inertia effect, so the rescuers must pay attention to safety. Before loosening or removing the high pressure pipes, put put wooden wedge between the roller and track to prevent rotation of drum body.

预案B：紧急救援 Emergency rescue

①准备工作 Preparations

准备好一套救援软管 (2根高压软管，1根低压软管)，并准备18L液压油。

Prepare a set of rescue hoses (including 2 high-pressure hoses and 1 low-pressure hose) and 18 L hydraulic oil.

②故障车的操作 Operations of faulty truck

a. 将故障车熄火，并用手刹制动。(如在坡度处， 应用于木楔限位后轮)

Stall the faulty truck and brake it with handbrake. (The wooden wedge should be used to stop the rear wheels in the slope)

b. 将高压管和低压管从马达接口处卸下。注意用容器将泄出的油盛起来，避免污染车辆。

Remove the high-pressure hose and low-pressure hose from the interface of motor. Contain the drained oil with container to prevent it from polluting the truck.

c. 将3根救援管分别接到相应的接口位置，必须紧固各接口。

Connect 3 rescue hoses to the corresponding interfaces and tighten each interface.

d. 将卸料槽放低并固定，在卸料槽尾端准备好盛放混凝土的料斗或容器。

Lower and secure the discharge chute and get the hopper or container ready at the end of discharge chute to contain the concrete.

③救援车的操作 (未装载车辆) .Operations of rescue vehicle (unloaded vehicle).

a. 将同型号液压系统的搅拌机驾驶到事故现场，将救援车与故障车并排放置, 平行间距约1-2米， 车头与车头平齐。

Drive the mixer truck with same model of hydraulic system to the site of accident and place the faulty vehicle and faulty vehicle side by side with parallel distance of about 1 to 2 meters and abreast vehicle heads.

b. 将发动机熄灭, 并用手刹制动。(如在坡度处， 应用于木楔限位后轮)

Shut down tho engine and brake with handbrake (The wooden wedge should be used to stop the rear wheel slope)

C. 将高压管和低压管从马达接口处卸下。(注意用容器将泄出的油盛起来， 避免污染车辆)

Remove the high pressure hose and low-pressure hose from the joint of motor. (Contain the drained oil with container to prevent it from polluting the truck).

d> 将3根救援管参照故障车的联接位置安装到救援车液压泵相应的接口位置，必须紧固各接口。

d>Install the 3 rescue pipes to the corresponding interface position of the hydraulic pump of the rescue vehicle with reference to the connection position of the faulty vehicle, and each interface must be fastened.

e> 启动救援车的发动机，使发动机怠速运转数分钟后，在救援车液压油箱中补足液压油。

e> Start the engine of the rescue vehicle and let the engine run at idle speed for a few minutes, then replenish the hydraulic oil in the hydraulic oil tank of the rescue vehicle

f > 操作救援车的控制系统，将故障车内混凝土排出。

f > Operate the control system of the rescue vehicle to discharge the concrete inside the faulty vehicle.

g> 救援完毕后，使两车恢复原状。

g> After the rescue was completed, the two vehicles were restored to their original condition.

注意：救援软管需另外订购。2根高压软管总成，1根低压软管总成，皆长约4.5米。

Noted:Rescue hose to be ordered separately. 2 high-pressure hose assemblies and 1 low-pressure hose assembly are about 4.5 meters long.

6.4.2 液压泵损坏 Damaged hydraulic pump

预案A：更换同型号的液压泵，使搅拌机恢复正常运转，将混凝土运到工地，再卸出。

Plan A: Replace the hydraulic pump of the same type to restore the mixer truck to normal operation, transport the concrete to the construction site, and then unload it.

预案B：从维修孔将混凝土排出，见发动机损坏预案A。

Plan B: Drain the concrete from the maintenance hole, see Plan A for engine damage.

预案C：紧急救援，见发动机损坏预案B。

Plan C: emergency rescue, see Plan B for engine damage.

6.4.3 马达损坏 Damaged motor

预案A：更换同型号马达，使搅拌机恢复正常运转，将混凝土运到工地再卸出。

Plan A: Replace the motor of the same type to restore the mixer truck to normal operation, and transport the concrete to the construction site and then unload it.

预案B：从维修孔将混凝土排出，见发送机损坏预案A。

Plan B: Drain the concrete from the maintenance hole, see Plan A for damage to the transmitter.

6.4.4 齿轮箱的损坏 Damage to the gearbox

预案A：向罐体投入大量的缓凝剂和水或葡萄糖溶剂，缓解混凝土凝固，运到工地再处理。

Plan A: Put a large amount of retarder and water or glucose solvent into the tank to relieve the solidification of the concrete, and transport it to the construction site for reprocessing.

预案B：从维修孔将混凝土排出，见发动机损坏预案A。

Plan B: Drain the concrete from the maintenance hole, see Plan A for engine damage.

一般故障及原因分析General Faults and Cause Analysis

名称 Name	故障现象 Fault phenomenon	原因分析 Cause analysis	排除方法 Method of exclusion
一. 发动机 Engine		请参看柴油机说明书 Please refer to the diesel engine manual	

名称 Name	故障现象 Fault Phenomenon	原因分析 Cause Analysis	排出方法 Solution
二、离合器 Clutch	离合器打滑 The Clutch Slipped.	踏板自由行程太小 压力弹簧变弱 摩擦盘表面有油 摩擦片磨损 Pedal free travel is too small Compression spring weakens There is oil on the surface of the friction disc Friction plate wear	重新调整; 更换压力弹簧; 清洁; 更换摩擦片; Readjust; Replace the pressure spring; clean; Replace the friction plate;
	离合抖动 Clutch Shake	花键磨损过大 紧固螺栓松动 摩擦表面有油 分离杆调整不均匀 Excessive spline wear Fastening bolts loose Oil on friction surface Uneven adjustment of the separation lever	更换离合器花键; 紧固螺栓; 重新调整; Replace clutch splines; tighten bolts; Readjust;
	离合器不分离 Clutch Does Not Disengage	踏板自由行程太大 分离杆调整不当 Pedal free travel is too large Improper adjustment of the release lever	重新调整; Readjust;
三、变速箱 Gear Box	异响 Abnormal Noise	齿轮磨损严重, 齿隙过大 轴承磨损 紧固螺栓松动 缺少润滑 齿轮和轴花键过度磨损 The gears are seriously worn and the backlash is too large Bearing wear Fastening bolts loose Lack of lubrication Excessive wear on gears and shaft splines	更换齿轮; 更换轴承; 紧固螺栓; 加注润滑油; 更换齿轮和花键; Change gears; Replace bearings; Fastening bolts; Add lubricating oil; Replace gears and splines;;
	齿轮抖动 Gear Shaking	定位弹簧损坏 叉轴定位槽磨损 内外花键磨损 Damaged positioning spring Fork shaft positioning groove wear Internal and external spline wear	更换弹簧; 更换叉轴; 更换花键; Replace the spring; Replace the fork shaft; Replace splines;

名称 Name	故障现象 Fault Phenomenon	原因分析 Cause Analysis	排出方法 Solution
三、变速箱 Gear Box	变速箱卡滞 gearbox stuck	齿轮受冲击 Gear is impacted	修理或更换齿轮;repair or replace gears;
四、驱动桥 Drive Axle	行驶时有响声 Noise when driving	主减速齿轮啮合点不好 轴承磨损超限或松动 齿轮磨损超限 The main reduction gear meshing point is not good Bearings worn out or loose Gear wear exceeds the limit	调整或更改锥齿轮; 更换轴承或调整; 更换齿轮; Adjust or change the bevel gear; Replace bearings or adjust; Change gears;
	制动时异响 Abnormal noise when braking	制动底板弯曲 制动摩擦衬片铆钉松动 制动鼓损坏 Brake plate bent Brake friction lining rivets loose Damaged brake drum	修复或更换; 修理; 修复或更换; Repair or replace; Repair; Repair or replace;
	制动时车子跑偏car swerves when braking	制动蹄片表面有油 间隙调整不当 轮胎气压不合标准 Oil on brake shoe surface Improper clearance adjustment Substandard tire pressure	清洗; 重新调整; 使气压一致; Cleaning; Readjust; Make the air pressure consistent;
	制动失灵 Brake failure	制动鼓与制动蹄片间隙调整不当 有油污 制动摩擦衬片磨损超限 Improper adjustment of the gap between the brake drum and the brake shoe oily Brake friction lining wear exceeded	重新调整; 清洗; 更换; Readjust;cleaning;replace;
五、转向系统 Steering System	方向盘慢转轻、快转沉 Steering wheel turns lightly and turns quickly	供油不足 Insufficient fuel supply	调整分流阀、优先阀; Adjust the diverter valve and priority valve;
	转向无力 Turning powerless	工作压力油压力低 Low working pressure oil pressure	调整优先阀溢流阀; adjust the priority valve relief valve;

名称	故障现象	原因分析	排除方法
Name	Fault Phenomenon	Cause Analysis	Solution
五、转向系统 Steering System	转动方向盘油缸不动 Turning the steering wheel cylinder does not move	系统中有空气或油量不足 Insufficient air or oil in the system	排除空气或补充油； remove air or add oil；
六、液压系统和制动系统 Hydraulic And Braking Systems	举升臂提升力不足或转斗力不足 Insufficient lifting force of lift arm or insufficient turning force	安全阀调整不当系统压力低 吸油管及滤油器堵塞 油泵、油缸、管路内漏 多路阀过度磨损、阀杆与阀体配合间隙超过规定 Improper adjustment of safety valve low system pressure Oil suction pipe and oil filter clogged Internal leakage of oil pump, oil cylinder and pipeline The multi-way valve is excessively worn, and the matching clearance between the valve stem and the valve body exceeds the specification	按规定值调整系统工作压力； 清洗换油； 更换油泵、并按自然沉降量检查系统密封性； 更换多路阀； Adjust the working pressure of the system according to the specified value； Cleaning oil； Replace the oil pump and check the tightness of the system according to the natural settlement； Replace the multi-way valve；
	系统工作性能降低或不稳定 System performance is degraded or unstable	工作油变质 异物堵塞管路 滤油器堵塞或损坏 系统内有空气 Deterioration of working oil Foreign objects block the pipeline Oil filter clogged or damaged Air in the system	更换工作油； 清洗油路系统和油箱，清洗或更换； 检查进油系统有无漏气； Change the working oil； Clean the oil circuit system and oil tank, clean or replace； Check the oil inlet system for air leakage；
	举升臂举升后自行下沉 the lift arm is raised and sinks by itself	举升臂油缸内漏 多路阀 阀杆间隙过大 Lift arm cylinder leaking Multiway valve stem clearance is too large	拆修油缸、更换密封圈； 拆修或更换； Dismantle and repair the oil cylinder and replace the sealing ring； Overhaul or replace；
	油温过高 oil temperature is too high	重负荷工作时间过长 油量不足 Heavy workload for too long Not enough oil	停机休息或减少负荷； 加油到规定油位； Shut down to rest or reduce load； Refuel to the specified oil level；

名称	故障现象	原因分析	排除方法
Name	Fault Phenomenon	Cause Analysis	Solution
六、液压系统和制动系统 Hydraulic And Braking Systems	方向盘回位后继续转向 Continue to turn after the steering wheel is back	转向器内回位弹簧片损坏 1. Return spring leaf in steering gear is damaged 配油套和配油轴之间卡死或配油套与阀体之间卡死 2. The oil distribution sleeve and shaft are jammed or the oil distribution shaft and valve body are jammed	拆修更换弹簧片 Repair or replace the spring leaf 拆开转向器修复 Disassemble the steering gear and repair
	脚制动力不足 insufficient foot braking	制动分泵漏油 制动液压管路中有空气 制动总泵皮碗损坏 制动总泵油液不足 推杆行程调节不当 制动摩擦片磨损到极限 Brake cylinder oil leak Air in brake hydraulic line Damaged brake master cylinder cup Insufficient fluid in brake master cylinder Improper adjustment of push rod stroke Brake pads worn to the limit	更换分泵油封； 排除空气； 更换皮碗； 加油； 调正行程； 更换新制动摩擦片； Replace the sub-pump oil seal； Expel air； Change the leather bowl；refuel； Adjust the itinerary； Replace new brake pads；
七、电气系统 Electrical System	发动机正常而蓄电池不充电或充电率低 The engine is normal and the battery is Not charging or the charging rate is low	蓄电池极板硫化 发电机皮带过松或损坏 接线不牢，接触不良 调节器调节不当或有损坏 Battery plate vulcanization Generator belt is too loose or damaged Poor wiring, poor contact Improper adjustment or damage to the regulator	脱硫处理或更换极板；重新调整或更换； 检查并重接； 重新调整或修理； Desulfurization treatment or replacement of Plates；readjustment or replacement； Check and reconnect； Readjust or repair；
	蓄电池容量不足 insufficient battery capacity	电解液比重或液面过低 极板间短路 极板硫化 导线接触不良 极板活性物质脱落 Electrolyte specific gravity or liquid level is too low Short circuit between plates Plate vulcanization Poor wire contact Plate active material falls off	重新调整比重或添加电解液； 消除沉淀物， 更换电解液； 脱硫处理或更换极板； 检查并消除； 更换极板； Re-adjust specific gravity or add electrolyte； Remove sediment and replace electrolyte；desulfurize Or replace plate； Check and eliminate；replace the plate；

名称 Name	故障现象 Fault Phenomenon	原因分析 Cause Analysis	排除法 Exclusion
七、电气系统 Electrical System	发电机不发电 The Generator Does Not Produce Electricity	(1) 剩磁消失 (2) 磁场线圈回路断 (3) 整流子接触不良 (4) 电刷卡住不灵活 (5) 电枢匝间短路 ① The Residual Magnetism Disappears; ② Open Magnetic Circuit; ③ Bad Switch Contact; ④ The Brush Is Stuck Inflexibly; ⑤ Armature Interturn Short;	按发电机原来极性, 用蓄电池; 接于磁场线圈两端并接通; 用0号或00号砂纸磨光; 修正电刷尺寸, 调整弹簧压力; 检查并修复; Generator source polarity; connected to both ends of the magnetic field coil and connected; sand with sandpaper no. 0 or 00; correct brush size and adjust spring pressure; Check and repair

保修期限 Warranty Period		
内容 Content	型号 Model	保修期限或（小时）Warranty Period (Hour)
搅拌罐罐体 Mixing Tank	各种型号 Various Models	12月（2600小时）12 Months (2600 Hours)
底架Chassis	各种型号 Various Models	12月（2600小时）12 Months (2600 Hours)
进料斗 Feed Hopper		12月（2600小时）12 Months (2600 Hours)
卸料槽 Discharge Chute		12月（2600小时）12 Months (2600 Hours)
延伸料槽 Extension Chute		12月（2600小时）12 Months (2600 Hours)
液压泵 Hydraulic Pump		12月（2600小时）12 Months (2600 Hours)
液压马达 Hydraulic Motor		12月（2600小时）12 Months (2600 Hours)
齿轮箱 Gearbox		12月（2600小时）12 Months (2600 Hours)
散热器 Heat Sink	风冷 Air Cooling	12月（2600小时）12 Months (2600 Hours)
传动轴 Transmission Shaft		12月（2600小时）11 Months (2600 Hours)

内容 Content	型号 Model	保修期限或（小时）Warranty Period (Hour)
减压阀 Pressure Reducing Valve	7 Kg	12月（2600小时）112 Months (2600 Hours)
稳压阀 Regulator Valve	2 Kg	12月（2600小时）112 Months (2600 Hours)
单向阀 One-Way Valve		12月（2600小时）112 Months (2600 Hours)
卸压阀 Pressure Relief Valve	3 Kg	12月（2600小时）112 Months (2600 Hours)
控制器 Controller	Wj116, Wj105, Wj101	12月（2600小时）112 Months (2600 Hours)
控制软轴 Control Flexible Shaft	33C, 44C	12月（2600小时）112 Months (2600 Hours)
轨道保护带 Track Protector		12月（2600小时）112 Months (2600 Hours)

备注: 时间以先到为主
Note: Which time comes first(month/hour), warranty until then.

用户须知 NOTICE TO USERS

- 一、用户在购机之时, 要领取说明书, 本机合格证、保修下。
User should obtain the instructions, product certificate and warranty card at the time of purchase.
- 二、驾驶员在操作本机前, 必须详细阅读使用说明书, 应按说明书中的要求进行操作、调试和保养。
Before operating the machine, the driver must read the instruction manual in detail, and must operate, debug and maintain it in accordance with the requirements of the instruction manual.
- 三、本机的液压系统不准随意调整压力
The hydraulic system of this machine cannot adjust the pressure at will.
- 四、保修期从购机之日起12个月。无产品合格证、保修卡、电器件、易损件及因使用不当造成的故障不在保修范围之内。轮胎在保修期内出现起包现象给予三包, 其它情况不在保修范围之内。因缺黄油造成的损失不予三包。
The warranty period is 12 months from the date of purchase. Product certificate, warranty card, electrical components, wear parts and malfunctions caused by misuse are not covered by the warranty. During the warranty period, three sets of tires will be issued, other conditions are not covered by the warranty. Losses due to lack of oil
- 五、本机出现机械故障时, 用户应对本机铭牌拍照, 并按照铭牌上电话联系经销商。
When the machine has a mechanical failure, the user should take a picture of the nameplate of the machine and contact the dealer by phone according to the nameplate.