



# 众合鲁东自上料搅拌车 产品手册

## Product Manual of ZHS Self Loading Concrete Mixer

欢迎您使用青岛众合鲁东机械有限公司（以下简称“众合鲁东”）生产的自上料搅拌车，并衷心感谢您对本公司的信任和支持！

Welcome to use the self loading concrete mixer produced by Qingdao Zhonghe sheng Machinery Co., Ltd. (referred to as "ZHS"), and sincerely thank you for your trust and support to our company!

1、为保障自上料搅拌车的可靠性以及使用寿命，请严格按照《产品手册》进行维护和保养。

In order to ensure the reliability and service life of the self-loading mixer truck, please strictly follow the "Product Manual" for maintenance.

2、请使用众合鲁东提供的或众合鲁东指定的纯正配件、液压油和润滑脂，并严格按《产品手册》进行操作、维护和检修。否则，众合鲁东可以拒绝提供售后服务及不承担任何责任。

Please use pure fittings, hydraulic oils and greases provided by Or specified by Zhonghe Ludong, and operate, maintain and overhaul in strict



accordance with the "Product Manual". Otherwise, Zhonghe Ludong may refuse to provide after-sales service and shall not assume any responsibility

3、众合鲁东自上料搅拌车（不含易损件）保修期按《产品买卖合同》执行。

The warranty period of ZHS self-loading mixer truck (excluding wearing parts) is executed in accordance with the "Product Sale and Purchase Contract"

4、严禁未经众合鲁东书面授权擅自对自上料搅拌车结构及系统进行更改，包括更改水箱、铲斗、液压系统、轮胎等等，如有未经书面授权的更改，众合鲁东可以拒绝提供售后服务及不承担任何责任。

It is strictly forbidden to make changes to the structure and system of the self-loading mixer without the authorization of ZHS Group, Which includes changing the water tank, bucket, hydraulic system, tires, etc. If there is any change without written authorization, ZHS can refuse to provide after-sales service and do not assume any responsibility.

5、众合鲁东自上料搅拌车在操作、维护及检修时，请务必遵守相关安全规定，并在人身及设备安全的前提下进行，否则众合鲁东不承担任何责任。

During the operation, maintenance and overhaul of The self-loading mixer truck, please be sure to comply with the relevant safety regulations and carry out under the premise of personal and equipment safety, otherwise ZHS does not assume any responsibility.

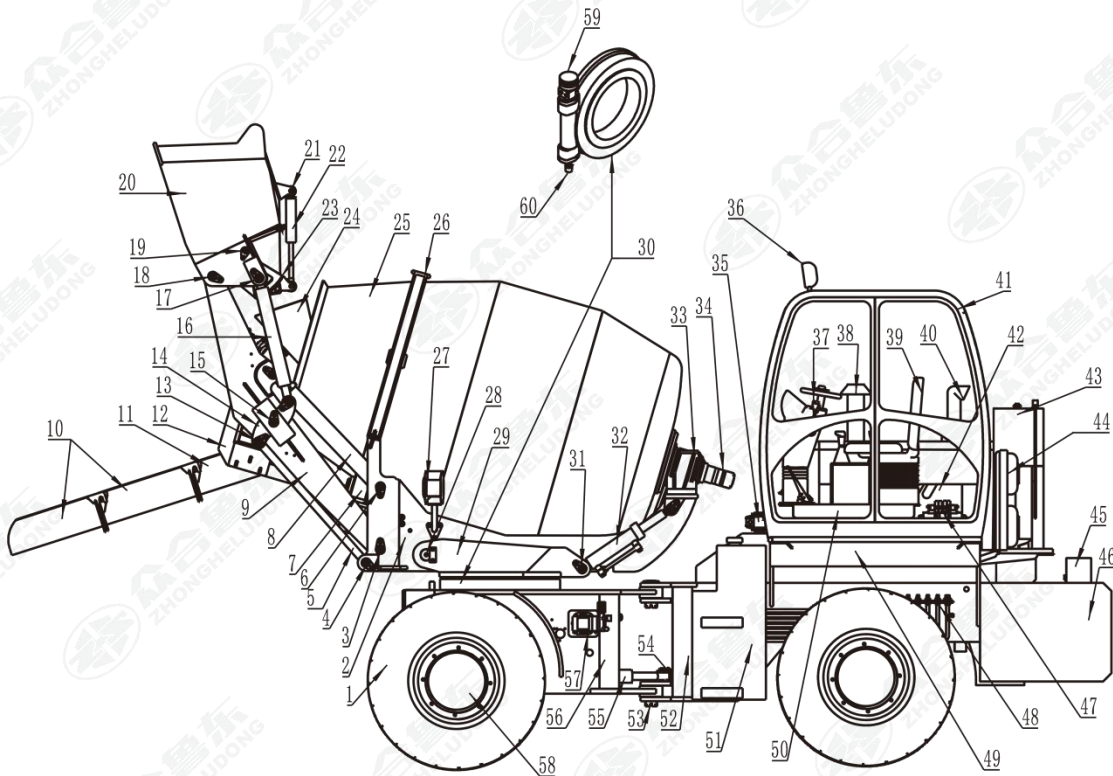
## 一、结构特点 Structural features

众合鲁东自上料搅拌车(以下简称搅拌车)由底盘和上装部分两大总成组成。上装部分由搅拌罐、副车架、进出料装置、操作系统、液压系统、电气系统、供水系统及护栏等组成。具体结构见下图所示：

ZHS self loading mixer truck is composed of two major assemblies:



chassis and Upper Part. The Upper Part is composed of a mixing tank, a subframe, an inlet and outlet device, an operating system, a hydraulic system, an electrical system, a water supply system, and a guardrail. The specific structure is shown in the figure below



1	轮胎 tyre	16	翻斗油缸 Tipping cylinder	31	举罐油缸销轴 Lift the tank cylinder pin shaft	46	水箱 water tank
2	前上架 Front shelf	17	翻斗油缸销轴 Tipping cylinder pin shaft	32	举罐油缸 Lift the tank cylinder	47	电磁阀 Solenoid valves
3	升降臂销轴 Lift arm pin shaft	18	升降臂连接上料斗销轴 The lifting arm is connected to the upper hopper pin shaft	33	搅拌斗减速机 Agitator bucket reducer	48	镀锌高压油管 Galvanized high-pressure tubing
4	拉杆销轴 Tie rod pin shaft	19	闸门销轴 Gate pin shaft	34	转罐马达 Tank motor	49	驾驶室支架 Cab bracket
5	拉杆 pull rod	20	上料斗 Upper hopper	35	外吸水 External water absorption	50	前后驾驶室转盘 Front and rear



							cab turntables
6	升降臂油缸销轴 Lift arm cylinder pin shaft	21	闸门油缸销轴 Gate cylinder pin shaft	36	棚顶灯 Ceiling lights	51	液压油箱 Hydraulic oil tank
7	承重滚轮 Load-bearing rollers	22	闸门油缸 Gate cylinders	37	方向机 Directional machine	52	后架子 Rear shelf
8	升降臂升降油缸 Lift arm lifting cylinder	23	闸门 sluice gate	38	空气滤清器 Air filter	53	前后架连接销轴 The front and rear shelves connect the pin shafts
9	升降臂 Lifting arm	24	进料斗 Feed hopper	39	座椅 seat	54	转向油缸销轴 Steering cylinder pin shaft
10	加长出料槽 Lengthening discharge chute	25	搅拌罐 Mixing Tank	40	exhaust pipe 排气 管	55	转向油缸 Steering cylinder
11	出料槽 Discharge chute	26	捆带 Strapping	41	驾驶室 cab	56	前下架 Front and down shelves
12	上料斗支架 Upper hopper bracket	27	前照灯 Headlamps	42	机罩 Hood	57	高压洗车泵 High pressure car wash pump
13	摇臂销轴 Rocker pins	28	转盘连接前上架销轴 The turntable is connected to the front upper shelf pin shaft	43	液压油电子散热器 Hydraulic oil electronic radiator	58	轮边桥 wheel bridge
14	摇臂 Rocker arm	29	转盘 turntable	44	空调散热器 Air conditioning radiator	59	回转马达 Slewing motor
15	摇臂固定销轴 The rocker arm holds the pin shaft	30	回转支撑 Slewing support	45	刹车转向倒车组合 灯 Brake steering reversing combination light	60	编码器 encoder

利用内置的叶片不断的对混凝土进行强制搅拌，使它在一定的时间内(最长不超过 90 分钟)不凝固，从而使搅拌运输车到达工地后还能满足使用要求。



The built-in blades are used to continuously force the concrete to be mixed, so that the concrete does not solidify for a certain period of time (up to 90 minutes), so that the mixer truck can meet the requirements of use after arriving at the site.



低速 空挡 高速 Low speed, Neutral, High speed

前进挡 空挡 后退挡 Forward, Neutral, Reverse

发动机转速表 水温 电压 工作时间 气压 变矩器压力表 加水计时器

Engine tachometer, Water temperature, Voltage, Working time, Air Pressure, torque converter Pressure, Water timer

点烟器, 右转向, 左转向, 应急灯开, 应急灯关, 前大灯开, 前大灯关, 后大灯开, 后大灯关

Cigarette lighter, right turn, left turn, emergency light on, emergency light off, headlights on, headlights off, back headlights on, back headlights on, back headlights on

雨刷开, 雨刷关, 驾驶室顶灯开, 驾驶室顶灯关, 暂未启用

Wipers on, wipers off, cab top lights on, cab top lights off, empty



## 二、操作流程 Operational Process

### 1、上车前: Before getting in the car

**注意:** 新车第一次工作前一定要将液压系统销轴及铰接处加注润滑脂。

**Note:** Before the first work of the new car, be sure to grease the hydraulic system pin shaft and articulation.

(1) 检查轮胎螺母、发动机、变速箱各紧固螺栓及销轴是否松动; 检查各锁定点是否锁紧; 检查轮胎外观及气压(低压胎 4 个气压, 高压胎 8-10 个气压)。

Check whether the tire nuts, engine, and transmission each tightening bolt and pin shaft are loose; check whether each locking point is locked; check the tire appearance and air pressure (low pressure tire 4 air pressure, high pressure tire 8-10 air pressure).

(2) 检查整车有无漏油、漏水、漏气现象。

Check whether the vehicle has oil leakage, water leakage and air leakage

检查发动机机油(油量一定要介于机油尺的最高刻度与最低刻度之间)、冷却水(**注意:** 发动机工作中或工作后不要打开水箱, 避免发生危险)。

Check the engine oil (the amount of oil must be between the highest and lowest scales of the oil gauge), cooling water (**Note:** Do not open the water tank during or after the engine work to avoid danger).

检查前、后液压油箱油量(**注意:** 液压油散热器开关上的 0, 表示自动, 当液压油油温达到 60°C, 散热器风扇会自动开启工作状态; 1 表示手动, 当液压油散热器开关处于手动状态下, 散热器风扇处于持续工作状态中); 正常使用, 开关处于 0 位置。

Check the amount of oil in the hydraulic tank before and after (**Note:** 0 on the hydraulic oil radiator switch, indicating automatic; when the hydraulic oil temperature reaches 60 ° C, the radiator fan will automatically open the working state; 1 means manual, when the hydraulic



oil radiator switch is in the manual state, the radiator fan is in a continuous working state); Normal use, the switch is in the 0 position.

(3) 检查变矩器液力传动油（发动机点火后，油位在玻璃管二分之一处）。

Check torque converter fluid transmission oil (after engine ignition, the oil level is in the middle of the glass tube)

(4) 检查柴油箱油量以及车载水箱水量。Check the amount of fuel in the diesel tank and the amount of water in the on-board water tank

## 2、上车后：After getting in the car

发动机点火前，打开电源总开关，然后检查方向盘左边档杆是否在空档位置；发动机点火后，检查气压（必须达到 0.4Mpa 以上，否则车辆无法行走），变矩器压力表（正常值 1.2Mpa），发动机转数、机油压力、水温、电池电压。

Before the engine ignites, turn on the power master switch, and then check whether the left gear lever of the steering wheel is in the neutral position;

After the engine ignites, check the air pressure (must reach 0.4Mpa or more, otherwise the vehicle cannot walk), the torque converter pressure gauge (normal value 1.2Mpa), the number of engine revolutions, oil pressure, water temperature, battery voltage.





### 3、车辆起步：The vehicle starts

方向盘右边档杆为高、低速转换档，分为高速档、空档、低速档，搅拌车行走时用高速档（空车行驶），工作时用低速档。需要注意的是，高、低速转换档在挂档的时候，必须要保证方向盘左边的两个档杆处于“空档”状态下。搅拌车行走时，踩下刹车，方向盘右边推高档，然后方向盘左边推低速档、挂前进档起步，松手刹、脚刹，踩油门，再换高速档。

The right gear lever of the steering wheel is high and low speed conversion gear, which is divided into high speed gear, neutral gear, low speed gear. high speed gear when the mixer truck is **walking** (empty car driving), and low speed gear when **working**. It should be noted that when the high and low speed converse, it is necessary to ensure that the two gear levers on the left side of the steering wheel are in the "neutral" state. When the mixer truck is walking, step on the brakes, push the high-speed on the right side of the steering wheel, then push the low speed gear on the left side of the steering wheel, hang the forward gear to start, release the handbrake, foot brake, step on the accelerator, and then change the high-speed gear.



### 4、工作状态：Working Condition

**注：**自上料搅拌车上料顺序依次是：水、水泥、沙子、石子；（水泵流量 90 L/min，混凝土具体配料比例请根据施工要求自行配置，）。

**Note:** The order of feeding from the loading mixer truck is: water, cement, sand, stone; (pump flow rate 90 L/min, the specific batch ratio





of concrete please configure according to the construction requirements.

(1) 工作前，应先检查搅拌罐内是否有水，如有应排除干净；

Before working, you should first check whether there is water in the stirring tank, and if so, it should be eliminated;

(2) 启动发动机，方向盘左边两个档杆在“空档”位置的前提下，将方向盘右边高低速转换档档杆拨到“低速”位置（重载行驶）；

Start the engine, the two gear levers on the left side of the steering wheel in the "neutral" position.

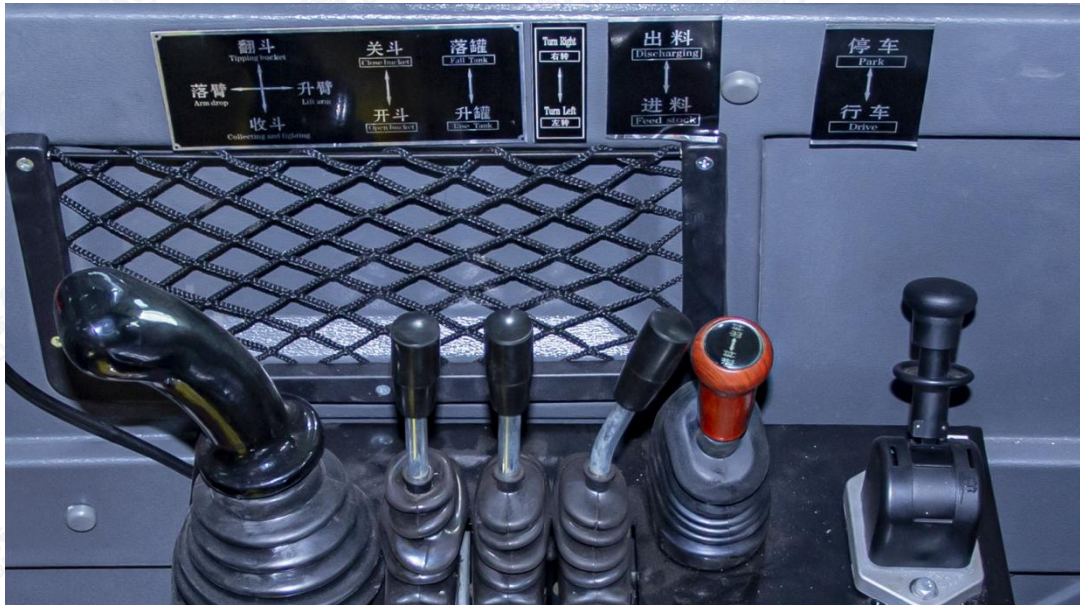
The right high and low speed conversion gear lever is dialed to the "low speed" position (heavy duty driving);

(2) 发动机怠速情况下，确认“进、出料”档杆是否在“进料”位置，“落、升罐”档杆是否在“落罐”位置；

In the case of engine idling, confirm whether the "inlet and outlet" gear rod is in the "feed" position, and whether the "falling and rising tank" gear rod is in the "falling tank" position;

(3) 将方向盘左边的档杆分别推至“低速”、“前进”，松刹车、踩油门的同时，向前推动手柄（落臂），装满料后，向后拉手柄（升臂），上料斗举升到到位后，将“开、关斗”档杆拨至“开斗”位置，打开上料斗仓门，即可实现上料过程，上料结束后将“开、关斗”档杆拨至“关斗”位置，及时关闭上料斗仓门。

Push the gear lever on the left side of the steering wheel to "low speed" and "forward", loosen the brakes, step on the accelerator at the same time, push the handle (falling arm) forward, after filling the material, pull the handle backwards (lifting arm), after the upper hopper is lifted into place, pull the "open and close bucket" gear rod to the "open bucket" position, open the upper hopper barn door, you can realize the feeding process, after the loading end, the "open, close the bucket" gear rod is pulled to the "off bucket" position, and close the upper hopper barn door in time.



### 5、加水泥: Add Cement

将水泥倒入料斗，然后装入搅拌罐。注意上升时不要收起铲斗，应平行上升不易撒水泥，进水泥时闸门开二分之一即可。

The cement is poured into the cement tank and then loaded into the mixing tank. Pay attention not to backward the bucket when rising, it should be parallel to rise not easy to sprinkle cement, when adding the cement into tank, the feeding gate can be opened by half.

### 6、罐体加水:

#### Adding water into tank

自上料搅拌车的车载加水可分为自动加水和手动加水两种状态，如果您选择使用自动加水功能，请先设置加水时间，设置完成后，将开关旋转到自动位置即可。手动加水状态下，无需设置时间，只要开关是打开的，系统则持续保持





加水状态，直到关闭为止。

Self-loading mixer truck (inside water) can be divided into automatic water and manual water addition two states, if you choose to use the automatic water addition function, please first set the water time, after the setting is completed, the switch can be rotated to the automatic position. In the manual water-added state, there is no need to set the time, as long as the switch is on, the system continues to maintain the water-added state until it is turned off.

自上料搅拌车外部加水，需要接入 220v 或 380v 电源连接水泵和控制器，定好时间即可遥控加水

From the outside of the loading mixer to add water, you need to connect the 220v or 380v power supply to connect the pump and the controller, set the time to remotely control the water

## 7、车载水箱加水：Adding water to water tank

首先将水泵加入水，注意进水管灌满水直接接入水泵快接卡口，启动车利用液压马达带动水泵向水箱吸水，水箱排气孔向外喷水时证明已加满水箱。**注意：**车载水箱加水完毕后，一定要及时关闭外吸泵开关，否则会影响自上料搅拌车工作状态。

First of all, Adding water to the pump directly, after the inlet pipe is full, then connect the water inlet pipe, start the car to use the hydraulic motor to drive the pump to absorb water to the water tank, the water tank exhaust hole to spray water outward to prove that the tank has been filled. **Note:** After the inside water tank is added, be sure to close the external suction pump switch in time, otherwise it will affect the working state of the self-loading mixer truck.





外吸泵加水口 suction pump inlet

外吸泵放水口 suction pump outlet

外吸泵开关 suction pump switch

## 8、卸料过程: Discharging Process

自上料搅拌车卸料时,“进、出料”档杆从“进料”位置一定要拨到“空档”位置稍作停留,才可以拨至“出料”位置,然后将“落、升罐”档杆拨到“升罐”位置,升高搅拌罐即可实现出料过程;根据施工环境的需要,搅拌罐的罐体是可以实现左右旋转卸料的,具体操作请点击液晶显示屏右下角自动化页面,按需求操作。卸料后,请及时将“落、升罐”档杆拨到“落罐”位置;将“进、出料”档杆按操作要求拨至“进料”位置。

When unloading from the loading mixer, the "inlet and outlet" gear rod must be dialed from the "feed" position to the "neutral" position for a slight stop, you can pull to the "discharge" position, and then "drop, rise" gear lever to the "liter tank" position, raise the mixing tank can realize the discharge process; according to the needs of the construction environment, the tank of the mixing tank can be rotated left and right to discharge, the specific operation Please click on the automation page in the lower right corner of the LCD screen to operate according to the needs. After unloading, please promptly dial the "falling, rising tank" gear lever to the "falling tank" position; the "inlet, discharged" gear lever is dialed to the "feed" position according to the operation requirements.





## 9、清洗过程：Cleaning Process

为了使自上料搅拌车保持良好工作状态，延长其使用寿命。建议每天工作结束后，对搅拌罐、出料口、出料槽以及整车外表及时清洗，特别是与混凝土有直接接触部分，以防止残余混凝土凝固结块。

In order to keep the self-loading mixer truck in good working condition and extend its service life. It is recommended that at the end of each day's work, the mixing tank, the outlet, the discharge trough and the surface of the vehicle be cleaned in time, especially the part with direct contact with the concrete, to prevent the residual concrete from solidifying and agglomerating.

## 操作流程：Operating Process

(1) 将搅拌罐内注水，然后将罐体充分旋转，洗掉罐内残余的混凝土；

Fill the mixing tank with water, then rotate the tank sufficiently to wash away the remaining concrete in the tank;

(2) 将水枪连接洗车泵，然后点击驾驶室内液晶显示屏“洗车键”即可。

Connect the water gun to the car wash pump and click the "car wash button" on the LCD screen in the cab.

## 10、双向驾驶功能演示：Reversible driving Function

(1) 后置驾驶室版：Back Cab Model

第一步将座椅向前移到最前端，左脚踩下定位销，向左用力旋转即可，第二步将驾驶座位左下方换向阀拔倒另一端，使方向盘旋转方向和车的行驶方向一致，避免产生操作危险。

The first step is to move the seat forward to the front, the left foot to step on the positioning pin, to the left can be rotated forcefully, the second step will be the driver's seat lower left reversing valve pull down the other end, so that the steering wheel rotation direction and the direction of the car travel consistent, to





avoid operational danger.

## (2) 前置驾驶室版: Front Cab Model

点击液晶显示屏右下角自动化页面, 然后长按停止键 3 秒, 驾驶室转向, 转向停止后, 向下打开换向阀。驾驶室回到初始位置, 点击液晶显示屏右下角自动化页面, 然后点击归零, 驾驶室转向停止后, 关闭换向阀。

Click on the automation page in the lower right corner of the LCD, then press and hold the stop key for 3 seconds, the cab is turned, and after the steering stops, open the directional valve downwards. The cab returns to its original position, tap the automation page in the lower right corner of the LCD, then click Return to Zero, and when the cab steering stops, close the directional valve.



## 自上料搅拌车保养 maintenance

**发动机首次保养:** 发动机工作 300 小时, 需要及时更换发动机机油 (15W-40 号柴油机油 5-8kg)、机油滤芯、柴油滤芯、空气滤芯 (注意: 自上料搅拌车空气滤芯至少保持每星期清理一次), 以后 1000 小时更换一次即可。

**Engine first maintenance:** the engine worked for 300 hours, you need to replace the engine oil (15W-40 diesel engine oil 5-8kg), oil filter, diesel filter, air filter (Note: self-loading mixer truck air filter at least once a week to clean), after 1000 hours can be replaced.



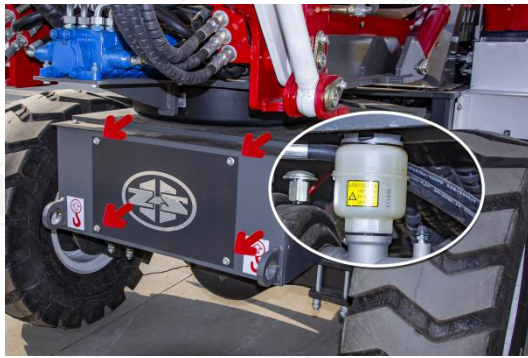
**变矩器保养：**变矩器的放油口及过滤网在变矩器左下角，用扳手拧开螺丝，将油排放干净后，再清洗过滤网。清洗干净后，打开盖板，从变速箱上方加入8号液力传动油(约20-25kg)，油量为发动机启动后，玻璃管的二分之一处。

**Torque converter maintenance:** The torque converter oil discharge port and filter in the lower left corner of the torque converter, use a wrench to unscrew the screws, drain the oil clean, and then clean the filter. After cleaning, open the cover plate and add No. 8 hydraulic transmission oil (about 20-25kg) from above the transmission, which is one-half of the glass tube after the engine is started.



**刹车油：**自上料搅拌车定期检查刹车油，保持刹车油油量不低于油杯标注下限。(前刹车油杯位于前桥上方，打开固定盖板螺丝即可看到，后刹车油杯位于驾驶座位左下角)

**Brake oil:** Self-loading mixer truck regularly checks the brake oil, keeping the amount of brake oil not lower than the lower limit of the oil cup label. (The front brake oil cup is located above the front axle, which can be seen by opening the fixing cover screws, and the rear brake oil cup is located in the lower left corner of the driver's seat.)



**液压系统保养：**首次使用 300 小时更换一次液压油（L-HM46 号抗磨液压油）并清理过滤网，再次使用 1000 小时或一年一次。前液压油箱的放油口在油箱底部，后液压油箱的油量加至红点处。

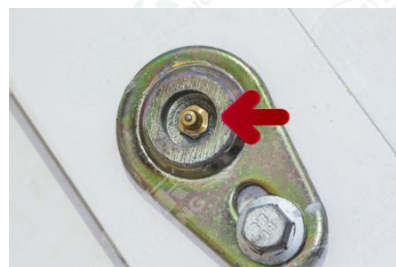
**Hydraulic System Maintenance:** Replace the hydraulic oil (L-HM46 anti-wear hydraulic oil) once in 300 hours for the first time and clean the filter, using again for 1000 hours or once a year. The oil discharge port of the front hydraulic tank is at the bottom of the tank, and the amount of oil in the rear hydraulic tank is added to the red dot.



**销轴及轴套保养：**

**Pin shaft and sleeve maintenance**

新车第一次工作前一定要将液压系统销轴及铰接处加注润滑脂。每天工作之前要将液压系统销轴及铰接处加注或补充润滑脂。



Before the first work of the new car, it is necessary to grease the hydraulic system pin shaft and articulation. The hydraulic system pins and articulations are filled or re-greased before working every day





桥、减速机：每 1000 小时更换一次齿轮油。桥的中间加 4kg 齿轮油，两边各加 2kg 齿轮油。

Bridges, reducers: Change the gear oil every 1000 hours. Add 4kg of gear oil to the middle of the bridge and 2kg of gear oil to each side.



## 注 意 事 项 Noted items

一、进、出料状态切换时，从进料到出料过程需在发动机怠速下操作，必须在“空档”位置稍作停留，然后方可拨至下一个操作位置，避免对减速机造成损害。

When switching between the infeed and discharged states, the process from infeed to discharged needs to be operated under the engine idle speed, and must be **stopped completely** in the "neutral" position for a while, and then it can be dialed to the next operating position to avoid damage to the reducer.





二、出料前，在发动机怠速的情况下，检查“进、出料”档杆是否在“出料”的位置。油门控制手柄可适当上抬，提高发动机转速，使搅拌罐转速增加。行驶过程出料时不可使用手油门。

Before discharging, in the case of engine idling, check whether the "infeed and discharged" gear lever is in the "outfeed" position. The throttle control handle can be raised appropriately to increase the engine speed and increase the speed of the mixing tank. Do not use the hand throttle when discharging during driving.

三、混凝土在未添加缓凝剂的情况下，都在1小时左右进入初凝状态，这时再进行混凝土浇注施工将影响混凝土的工程量。因此搅拌车运送混凝土的输送半径一般控制在1小时以内。从出料到卸料完毕的最长时间为90分钟。

In the case of no retardant, the concrete enters the initial condensation state in about 1 hour, and then the concrete pouring construction will affect the amount of concrete. Therefore, the conveying radius of concrete transported by mixer truck is generally controlled within 1 hour. The maximum time from discharge to unloading is 90 minutes.

四、搅拌车行驶时，“进、出料”档杆应处于“进料”状态。

When the mixer truck is running, the "feeding and discharging" gear rod should be in the "feeding" state.

五、工作完毕后，应及时对搅拌罐内部进行冲洗。如不及时冲洗，会造成搅拌罐内混凝土的粘结，使装载量减少，以及进料不畅，请务必注意！

After the work is completed, the inside of the mixing tank should be cleaning in time. If it is not rinsed in time, it will cause the concrete in the mixing tank to bond, reduce the loading capacity, and the feeding is not smooth, please pay attention!

六、在冬季车辆停用时，请将水箱、管路和水枪中的余水全部排净，以免冻坏供水系统零部件，造成不必要的损失。When the vehicle is deactivated in



winter, drain all the remaining water in the water tank, pipeline and water gun to avoid freezing the components of the water supply system and causing unnecessary losses.

七、一般作业时的重要注意事项 Important considerations for general operations

(1) 在进行出料作业，需要离开驾驶室时，必须完全锁定制动器，然后再进行作业。In the discharging condition, when exiting the cab, the brakes must be fully locked before the operation is performed.

(2) 使用加长卸料槽时，请切勿将手伸到卸料槽和加长卸料槽的连接部分；卸料结束后，必须及时拆除加长卸料槽。When using the extended discharge chute, do not extend your hand to the connecting part of the discharge chute; after the discharge is completed, the extended discharge tank must be removed in time

(3) 在搅拌罐运转时，请不要接近上料斗和搅拌罐出料口。When the mixing tank is running, do not approach the upper hopper and the outlet of the mixing tank.

(4) 进行加油、加润滑油等作业时，为防止发生卷入搅拌罐驱动部件(托轮、驱动轴)及其它运转部件的危险，必须将发动机熄火，钥匙拔出后，一定由操作者携带，以免发生人身事故。When refueling, adding lubricating oil and other operations, in order to prevent the danger of being involved in the driving parts of the mixing tank (carrier wheels, drive shafts) and other operating parts, the engine must be turned off, and after the key is pulled out, it must be carried by the operator to avoid personal accidents.

八、长期不用时应采用的措施 Measures to be taken in case of long-term unuse

自上料搅拌车如果长期不用，应存放于通风、防潮的车库内，不宜露天存放。同时还应将冷却液和燃油放尽，切断电源。如属短期在露天存放，应用帆布加以遮盖，特别是料斗，出料口。避免雨天，雨水进入搅拌罐内会造成大量积水，以及轮胎停车时负荷量的增大。由于搅拌罐、进料斗、卸料槽等部件都是易损件，长期与砂石接触，停用后钢板表面会锈蚀，还需进行油漆类表面喷涂。



If the self-loading mixer truck is not used for a long time, it should be stored in a ventilated and moisture-proof garage, and should not be stored in the open. At the same time, the coolant and fuel should be drained and the power should be cut off. If it is stored in the open for a short time, it should be covered with canvas, especially the hopper and outlet. Avoid rainy days, rainwater entering the mixing tank can cause a lot of standing water, and the load on the tire when parked increased. Because the stirring tank, feed hopper, discharge tank and other components are vulnerable parts, long-term contact with sand and gravel, the surface of the steel plate will rust after deactivation, and paint surface spraying is also required.

## 常见故障排除方法 Common troubleshooting methods

### 油泵异响 The oil pump is abnormal

- 1、检查液压油位。从油箱或减速机上的油位计，检查是否缺油。
  - 2、检查油液是否变脏，查看负压表指针，如果压力表读数大于 0.3Mpa，请立即更换液压油及滤芯。
  - 3、检查系统内是否有空气。用手握住高压油管检测是否有间断的颤抖。有颤抖现象须进行放弃处理。
  - 4、检查液压油的品质。拧开放油螺堵检查油品，是否油品变质或乳化。
  - 5、检查筒体内是否有剩料结块，进行清楚处理。
  - 6、检查油泵补油阀是否堵塞，进行清理。
  - 7、油泵吸空，吸油滤清器堵塞，清洗或更换油滤清器。
  - 8、油泵里面有铁屑等杂质，清洗或检修。
1. Check the hydraulic oil level. From the oil level gauge on the tank



or reducer, check for lack of oil.

2. Check whether the oil becomes dirty, check the negative pressure gauge pointer, if the pressure gauge reading is greater than 0. 3Mpa, please replace the hydraulic oil and filter element immediately.

3. Check whether there is air in the system. Hold the high-pressure tubing in your hand to detect intermittent shaking. Tremors must be abandoned.

4. Check the quality of hydraulic oil. Unscrew the oil screw plug to check the oil product, whether the oil is spoiled or emulsified.

5. Check whether there is any leftover material agglomeration in the cylinder body and carry out clear treatment.

6. Check whether the oil pump oil replenishment valve is blocked and clean it up.

7. The oil pump is empty, the oil suction filter is blocked, and the oil filter is cleaned or replaced.

8. There are impurities such as iron filings in the oil pump, which can be cleaned or overhauled.

### 减速机异响 The reducer is abnormal

1、检查减速机油位。从减速机上的油位计。检查是否缺油。

2、检查减速机油液是否变质，如果变质进行更换。

3、检查减速机连接法兰处是否缺少黄油，如缺油加注黄油。

4、检查减速机轴承是否损坏，发出异响为间断响声。

5、检查连接法兰与筒体间螺栓是否松动。

6、磨损严重，检修。

1. Check the oil level of the reducer. Oil level gauge from the reducer. Check for lack of oil.

2. Check whether the reducer oil is deteriorated, and if it deteriorates, it is replaced.



3. Check whether there is a lack of butter at the connecting flange of the reducer, such as lack of oil and filling butter.

4. Check whether the reducer bearing is damaged, and the abnormal sound is intermittent.

5. Check whether the bolt between the connecting flange and the cylinder is loose.

6, serious wear, maintenance.

### 油路系统漏油 Oil leakage in the oil circuit system

1、检查管路密封圈是否破损。

2、螺纹连接部位漏油，检查是否松动，须进行紧固。

3、油泵偏心轴处漏油，检查是否限位螺栓松动。

4、控制阀漏油，检查固定螺栓是否松动。

5、油泵油封漏油，进行更换。更换步骤如下：

(1) 拧出油泵连接法兰紧固螺栓，取出垫圈。

(2) 用三爪拉马取出连接法兰。

(3) 取出卡簧。

(4) 取出油泵油封安置处。

(5) 清洗油泵油封安置处。

(6) 将新的油封内外圈用机油或油脂润滑后，装入。

(7) 装入卡簧。

(8) 转动油泵输出轴，进行走合。

1. Check whether the pipeline sealing ring is damaged.

2. Oil leakage at the threaded connection, check whether it is loose, and tighten it.

3. Oil leakage at the eccentric shaft of the oil pump, check whether the limit bolt is loose.

4. Control valve oil leakage, check whether the fixing bolt is loose.

5. Oil pump oil seal oil leakage, replace. The replacement steps are as follows:



- (1) Unscrew the oil pump connection flange to tighten the bolt and remove the washer.
- (2) Remove the connecting flange with a three-prong pull horse.
- (3) Remove the circlip.
- (4) Remove the oil pump oil seal placement.
- (5) Clean the oil pump oil seal placement.
- (6) After lubricating the inner and outer rings of the new oil seal with oil or grease, load them.
- (7) Load the circlip.
- (8) Turn the output shaft of the oil pump and carry out the closing.

#### 传动轴异响 The drive shaft is abnormal

- 1、检查传动轴两端法兰连接螺栓是否松动，须进行紧固。
- 2、检查花键、万向节周抽是否缺油脂润滑。
- 3、检查十字轴承是否损坏，更换或检修。
- 4、检查花键连接部分是否磨损严重。

1. Check whether the flange connection bolts at both ends of the transmission shaft are loose and must be tightened.

2. Check whether the spline and universal joint pumping are lacking grease lubrication.

3. Check whether the cross bearing is damaged, replaced or overhauled.

4. Check whether the spline connection part is seriously worn.

#### 散热器风扇电机不转 The radiator fan motor does not spin

- 1、测量油温，是否高于 65℃。
- 2、检查散热电路线路连接是否良好。
- 3、检查散热电路保险是否完好。
- 4、检查散热电路继电器是否完好。
- 5、检查温控开关是否完好（检查温控开关两端电阻，温控开关为常开式）。



- 1, measure the oil temperature, whether it is higher than 65 ° C.
2. Check whether the heat dissipation circuit line connection is good.
3. Check whether the heat dissipation circuit insurance is intact.
4. Check whether the heat dissipation circuit relay is intact.
5. Check whether the temperature control switch is intact (check the resistance at both ends of the temperature control switch, and the temperature control switch is normally open)

### 搅拌罐不能转动 The mixing tank cannot be turned

1、柴油机供油不足造成输出功率不足。更换柴油滤清器，检修油管，检查柴油箱中柴油是否足够，检查柴油箱吸油接头是否漏气。

2、液压油脏，手动伺服阀中有内泄或阻尼孔堵塞，液压泵压力不足，液压马达内泄。更换液压油，清洗液压油箱，液压泵，液压马达，更换密封圈。

3、手动伺服阀内销轴或反馈阀杆被剪断，液压管路损坏，操纵失灵。若混凝土已装入搅拌罐，而故障又不能立即排除，应立即打开搅拌罐的人孔，用工具向罐筒外清除混凝土，同时用高压水冲，使混凝土不至于在搅拌罐内凝固；或用应急油管连接另一台相同型号车的液压油泵与故障车的液压马达组成临时回路，驱动搅拌罐卸出混凝土。

4、发动机或柱塞泵发生故障，马达或减速器能正常使用时。

连接紧急驱动软管(两车泵、马达相同)，依靠其它搅拌车的动力，驱动拌筒旋转并将混凝土排出。但是马达或减速器发生故障时，则不可采用此法。

具体操作步骤如下：

(1)准备好三根紧急驱动软管，卸下接管和接头盖。

(2)故障车(被驱动车)的操作

a. 将故障车的发动机熄火；将紧固螺母(左右各有一个)朝左旋松；

b. 再将旋钮朝右旋转，直到不能再旋为止；

c. 将高压软管从马达接头处卸下；

d. 将紧急驱动软管接到马达接头上；

e. 把紧急驱动软管上的接管于故障车卸下的高压软管相接，以防漏油。

(3)救援车(驱动车)的操作

a. 将操作手柄至于空档位置；

b. 将发动机熄火；





- c. 将高压软管从高压油管处卸下；
- d. 将紧急驱动软管接到高压油管上；
- e. 用紧急驱动软管上的接头盖将驱动车的高压软管盖起，以防漏油。

(4) 启动救援车的发动机。

(5) 将救援车的操作手柄拔至“出料”位置，使故障车内的混凝土排出。

紧急驱动完毕后，时两车各自恢复原状。注意：紧急驱动软管需另行订购。

#### 5、马达或减速器发生故障时

打开拌筒检修孔的孔盖，将混凝土从拌筒检修孔内尽快掏出。

1. Insufficient oil supply to the diesel engine causes insufficient output power. Replace the diesel filter, overhaul the tubing, check that there is enough diesel in the diesel tank, and check whether the diesel tank suction joint is leaking.

2. Dirty hydraulic oil, leakage or damping hole in the manual servo valve, insufficient pressure of hydraulic pump, leakage of hydraulic motor. Replace hydraulic oil, clean hydraulic tank, hydraulic pump, hydraulic motor, replace seals.

3. The internal pin shaft or feedback stem of the manual servo valve is cut, the hydraulic pipeline is damaged, and the operation fails. If the concrete has been loaded into the mixing tank and the fault cannot be immediately eliminated, the human hole of the mixing tank should be opened immediately, the concrete should be removed from the outside of the tank with a tool, and the concrete should be flushed with high-pressure water at the same time so that the concrete will not solidify in the mixing tank; or the emergency oil pipe should be connected to the hydraulic oil pump of another vehicle of the same type and the hydraulic motor of the faulty car to form a temporary circuit to drive the mixing tank to unload the concrete.

4. When the engine or plunger pump fails, the motor or reducer can be used normally.

Connect the emergency drive hose (the two pumps and motors are the same) and rely on the power of other mixer trucks to drive the mixer to rotate and drain the concrete. However, this method cannot be used when the motor or reducer fails.

The specific steps are as follows:



(1) Prepare the three emergency drive hoses and remove the nozzle and joint cover.

(2) Operation of faulty cars (driven vehicles).

a. Turn off the engine of the faulty car; Loosen the fastening nut (one on each side) towards the left;

b. Rotate the knob to the right again until it can no longer be rotated;

c. Remove the high-pressure hose from the motor joint;

d. Connect the emergency drive hose to the motor connector;

e. Connect the nozzle on the emergency drive hose with the high-pressure hose unloaded by the faulty car to prevent oil leakage.

(3) Operation of rescue vehicle (drive vehicle).

a. Put the operating handle to the neutral position;

b. Turn off the engine;

c. Remove the high pressure hose from the high pressure tubing;

d. Connect the emergency drive hose to the high pressure tubing;

e. Cover the high-pressure hose of the drive vehicle with the joint cover on the emergency drive hose to prevent oil leakage.

(4) Start the engine of the rescue vehicle.

(5) Pull the operating handle of the rescue vehicle to the "discharge" position so that the concrete in the faulty car is discharged.

After the emergency drive is completed, the two vehicles are restored to their original state. Note: Emergency drive hoses need to be ordered separately.

5. When the motor or reducer fails

Open the hole cover of the mixer manhole and pull the concrete out of the mixer manhole as soon as possible.

### 搅拌罐提速不起来 The mixing tank can not be accelerated

1、液压油品质下降，液压油脏，吸油不足请清洗或更换液压油箱吸油滤清器。



- 2、液压系统漏油，检测或更换密封垫或涂密封胶。
- 3、油门拉线太松，或者操纵机构卡死，请检修。
- 4、柴油机输出功率不足。
- 5、动力输出泵或液压马达受损。

1. Hydraulic oil quality declines, hydraulic oil is dirty, insufficient oil absorption, please clean or replace the hydraulic tank suction filter.

2. Oil leakage in hydraulic system, detection or replacement of sealing gasket or application of sealant.

3. The throttle pull cable is too loose, or the control mechanism is stuck, please overhaul.

4. Insufficient output power of diesel engine.

5. The power output pump or hydraulic motor is damaged.

#### 搅拌罐不能转向 The nixing tank cannot be steered

1、油泵控制阀损坏

2、检查高压溢流阀是否受堵。

3、电磁阀是否卡死。

1. The oil pump control valve is damaged

2. Check whether the high pressure relief valve is blocked.

3. Whether the solenoid valve is stuck.

#### 进料斗漏料 Feed hopper funnel

进料斗的橡胶圈磨损，用1厘米厚，大小合适的橡胶板更换。

The rubber ring of the feed hopper wears out and replaces with a rubber sheet of 1 cm thick, suitable size

#### 托轮异响、抱死 The wheel is loud and dead

1、与轨道摩擦，托轮表面涂适量润滑油脂，但不能过量，防止打滑。1.



Friction with the track, apply an appropriate amount of lubricating oil to the surface of the carrier, but not excessively, to prevent slippage.

#### **整机颤抖 The whole machine trembled**

- 1、检查搅拌罐内是否有混凝土结块，需清除。
- 2、清除搅拌罐内时混凝土结块是否对称清除，造成搅拌罐质量偏心。1. Check whether there is concrete agglomeration in the mixing tank, which needs to be removed.
2. Whether the concrete agglomeration is symmetrically removed when the mixing tank is removed, resulting in the eccentricity of the quality of the mixing tank.

**本手册仅供参考，具体细节以实际产品型号为准！**

青岛众合鲁东机械有限公司

2021 年 12 月