

TSI - 技术服务报告

TSI编号 TSI NO	国家 country	服务负责人 Inspector's Name	联系方式 Inspector's Phone No
1	索马里兰 SOMALILAND	王向文 Musin	252 672188636

客户名称 Customer Name	客户联系方式 Customer Phone No.	客户类型 Customer Type	客户国家 Customer country	城市 City
穆罕穆德 Mohamed	252 633430118	一般终端用户	索马里兰 Somaliland	柏倍拉 Berbera

产品线 Product Line	设备名称 Machine Name	设备型号 Machine Model	出厂编号 Machine Serail No.	交付日期 Delivery Date	故障日期 Failure Date
混凝土	混凝土泵车 Truck mounted	ZOOMLION 43-5RZ	016515A222H007	2023/10/18	2023/10/18

	型号 Model	编号 Serial No.		型号 Model	编号 Serail No.
发动机 Engine	OM470LA.5-4	OM470LA.5-4	底盘	奔驰 BENZ	W1FNXXAC4P0632078
			电控柜	001651527C120000	016515A222H007

事件简述 Brief Description	客户购买我公司混凝土泵车，2023年10月18日在柏倍拉港口卸货吊装中发生侧翻，泵车向左翻倒，造成左侧支腿、转台、臂架等多处损坏。 The customer purchased our company's concrete pump truck, which overturned during unloading and hoisting at the Port of Babel on October 18, 2023. The pump truck tipped over to the left, causing damage to the left leg, turntable, boom,	故障阶段 Failure Period	故障系统 Faulty System	故障责任判定 Damage Reason
		交付前	臂架总成	运输

● 故障是怎样发生 (发现) 的? ● How was problem noticed?

索马里兰客户购买我公司混凝土泵车, 在索马里兰柏倍拉港口, 由船上卸下时, 泵车向左发生倾翻, 导致泵车转台、臂架、混凝土泵管、底盘、控制机构、泵送单元、电控系统等多处损伤。

A customer from Somaliland purchased a concrete pump truck from our company. When unloading it from the ship at the port of Berbera, Somaliland, the pump truck tipped to the left, resulting in the turntable, boom, concrete pump pipe, chassis, control mechanism, and pump of the pump truck. The transmission unit and electronic control system were damaged in many places.

● 具体的检查步骤? ● What are the specific troubleshooting steps, process, data and normalized values, etc.?

到达现场后对泵车进行整体外观初步观察, 对现场情况, 泵车停放位置, 泵车型号以及产品参数进行核对。

初步判断为泵车在吊运过程中向左侧倾倒造成损伤。

车辆自下而上检查步骤:

- 1, 发现底盘变速箱有漏油痕迹, 变速箱下方地面有大片漏油, 变速箱有一处螺栓断裂。
- 2, 左侧支腿因受外力撞击作用发生变形, 有一处大约2*8CM的类圆型贯穿型损伤, 支腿腹板垂直焊缝处有拉伤痕迹, 多处可见擦伤痕迹, 左侧支腿液压锁发生移位, 有液压油泄露痕迹; 左侧支腿锁固定螺栓断裂。
- 3, 检查发现电控柜柜门掉落, 电控柜整体发生形变, 电控柜内有一处线束断裂, 电控柜内柜门变形, 无法正常合上。
- 4, 检查发现料斗出口至#1臂之间的混凝土输送管有挤压变形, 2个泵管支撑由于外力作用向右侧形变, 泵管支撑底部有拉伤痕迹。
- 5, 检查发现#3臂泵管有多处挤压受损痕迹, 外表油漆掉落, 有生锈痕迹。
- 6, 检查发现泵车转台大齿轮盖板靠近驾驶室侧有压伤破损, 转台大齿轮外露。旋转马达油杯破裂。
- 7, 检查发现#4臂泵管有多处压伤, 有2处混凝土输送管支撑从焊缝处断裂。

After arriving at the scene, conduct a preliminary observation of the overall appearance of the pump truck, and check the on-site conditions, pump truck parking location, pump truck model and product parameters.

Preliminary judgment is that the pump truck tipped to the left during lifting, causing damage.

Vehicle inspection steps from bottom to top:

1. It was found that there were traces of oil leakage in the chassis gearbox, a large area of oil leakage on the ground under the gearbox, and a bolt in the gearbox was broken.
2. The left outrigger was deformed due to external impact. There was a quasi-circular penetration damage of about 2*8CM. There were strain marks on the vertical welds of the outrigger webs, and scratch marks were visible in many places. On the left side The outrigger hydraulic lock was displaced and there were traces of hydraulic oil leakage; the left outrigger lock fixing bolt was broken.
3. The inspection found that the door of the electrical control cabinet fell off, the entire electrical control cabinet was deformed, a wire harness broke inside the electrical control cabinet, and the door inside the electrical control cabinet was deformed and could not be closed normally.
4. The inspection found that the concrete delivery pipe between the hopper outlet and the #1 arm was extruded and deformed, the two pump pipe supports were deformed to the right due to external force, and there were signs of strain on the bottom of the pump pipe supports.
5. The inspection found that the #3 arm pump tube had many signs of extrusion damage, the paint on the surface was peeled off, and there were signs of rust.
6. The inspection found that the large gear cover of the pump truck's turntable near the cab side was crushed and damaged, and the large gear of the turntable was exposed. Rotary motor oil cup cracked.
7. The inspection found that the #4 arm pump pipe had multiple bruises, and 2 concrete delivery pipe supports were broken from the welds.

● 对于故障原因的分析及责任判定? ● What are the possible cause of failure?

经过现场勘察判定为泵车吊装途中发生事故, 该泵车发生左侧侧翻, 多处混凝土泵送管受力挤压变形, 臂架形变以及拉伤情况暂无法估计, 转台大齿轮盖板受力损坏, 局部有成块润滑油脂溢出, 内部损伤情况不明, 需进一步检查。

After on-site investigation, it was determined that an accident occurred during the hoisting of the pump truck. The pump truck rolled over on the left side. Multiple concrete pumping pipes were squeezed and deformed due to stress. The deformation and strain of the boom cannot be estimated for the time being. The large gear cover of the turntable was damaged. It was damaged due to force, with lumps of lubricating grease overflowing locally. The internal damage is unknown and requires further testing.

● 进行了哪些处理? ● How was problem corrected?

本设备左侧后支腿结构件整体已经损坏。臂架泵管支撑结构发生多处断裂, 且转台盖板处发生损伤, 有油脂溢出, 底盘变速箱有大量齿轮油渗出痕迹, 初步估计事故发生时受力较大, 该设备未来的使用安全情况未知。由于我公司在该地区不具备拆机修理能力, 且牵涉到转台、支腿、臂架、底盘变速箱等重要部件的检测需要返厂检查。

The entire left rear outrigger structure of the equipment has been damaged. The support structure of the boom pump tube was broken in many places, and the turntable cover was damaged. There was oil spillage, and the chassis gearbox had a large amount of gear oil leakage. It is initially estimated that the force was large when the accident occurred, and the future use of this equipment is safe. The situation is unknown. Since our company does not have the ability to disassemble and repair machines in this area, and the inspection of important components such as turntables, outriggers, booms, chassis gearboxes, etc. requires return to the factory for inspection.

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3 照片部分

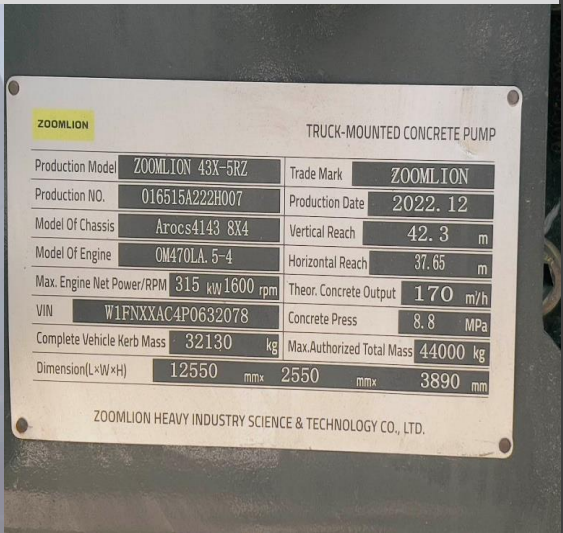
根据故障现象提供以下照片，要求照片须清晰，能够反映故障现象。

Please provide the following photos which are required clear enough to reflect the failure condition.

- 整车照片
● Vehicle photos
- 事故发生图片
● Accident pictures



- 泵车出厂编号以及产品编码
● Pump truck factory number and product code
- 车辆铭牌
● vehicle nameplate



- 底盘齿轮箱漏油
- Chassis gearbox oil leakage



- 底盘齿轮箱漏油
- Chassis gearbox oil leakage



- 支腿锁断裂
- Broken of the rear outrigger lock



- 左后支腿液压锁移位，有液压油漏出
- The hydraulic lock of the left rear outrigger was displaced and hydraulic oil leaked



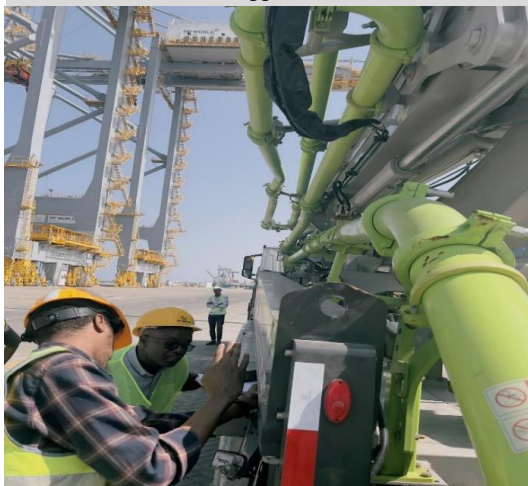
- 左后支腿损伤情况
- Left rear outrigger condition



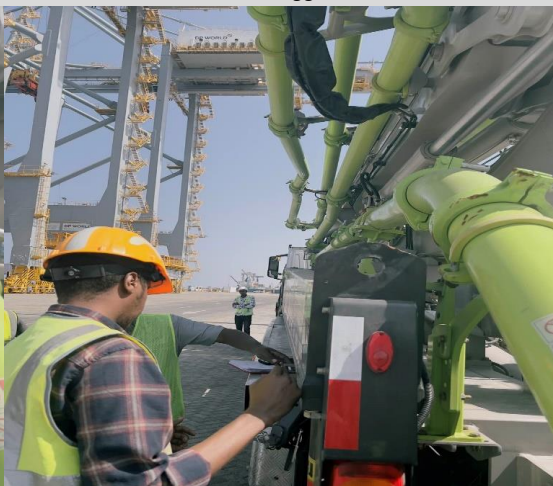
- 左后支腿损伤情况
- Left rear outrigger condition



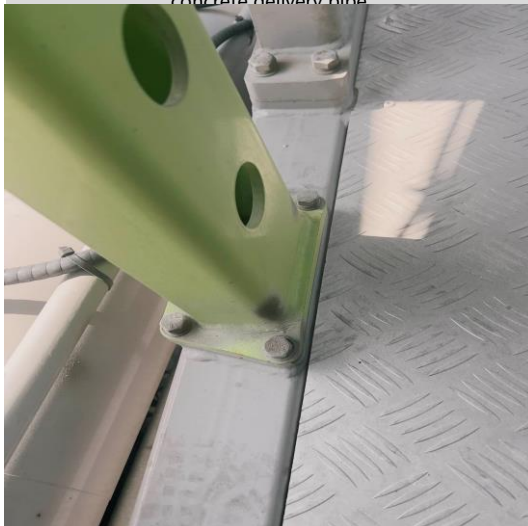
- 左后支腿发生变形
- The left rear outrigger is deformed



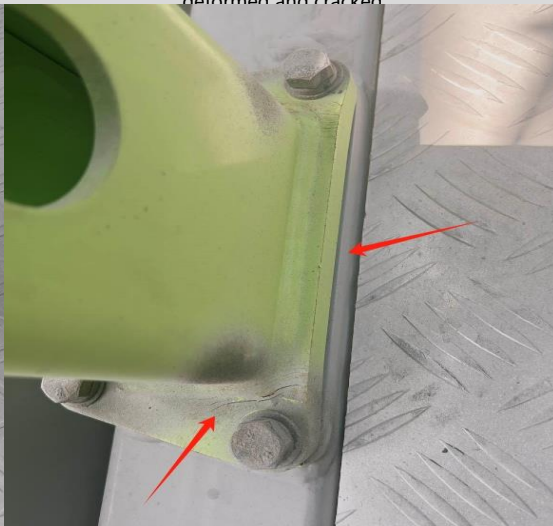
- 左后支腿发生变形
- The left rear outrigger is deformed



- 混凝土输送管底部支撑变形、开裂
- Deformation and cracking of the bottom support of the concrete delivery pipe



- 混凝土输送管底部支撑变形、开裂
- The bottom support of the concrete delivery pipe is deformed and cracked



- 电控柜受损情况
- Damage to the electrical control cabinet



- 电控柜受损情况
- Damage to the electrical control cabinet



- 转台受损情况
- Damage of the rotatesupport



- 转台受损情况
- Damage of the rotatesupport



- 混凝土输送管受损情况
- Damage of the concrete delivery pipes



- 混凝土输送管受损情况
- Damage of the concrete delivery pipes



总结: Summarize	<p>客户所购买的我公司型号为: ZOOMLION 43-5RZ 的泵车在吊卸过程中发生事故, 导致多部位受损。受限于该地区检测条件有限, 目前只能从外观上判断大致情况。该设备的未来安全使用情况, 需要进一步发往工厂进行检测。</p> <p>Our company's pump truck model ZOOMLION 43-5RZ purchased by the customer had an accident during the lifting and unloading process, resulting in damage to many parts. Due to the limited testing conditions in the area, we can only judge the general situation from the appearance. The future safe use of this equipment needs to be further sent to the factory for testing.</p>