

# Operation Manual

## Cable Pulling Winch



MODEL  
**KE-SP 3050**  
Diesel Motor (Yanmar)  
Electronic Measuring System (KPR 2000)

Distributor for the United States of America



**GLOBAL  
MACHINERY**

303-430-7130 800-430-7130 Fax 303-428-7762

[info@GlobalMachinery.com](mailto:info@GlobalMachinery.com)

[www.GlobalMachinery.com](http://www.GlobalMachinery.com)

705 West 62<sup>nd</sup> Avenue  
Denver, CO 80216



**Dear Customer,**

We appreciate your purchase or rental of the Jakob Thaler KE-SP 3050 cable pulling winch.

You can expect this machine to function very effectively as we have designed it to operate and perform with efficiency and to be maintained with ease.

This manual should be kept in the tool box, is an essential part of the equipment, and should always be readily available.

This manual should also be made available to the following people:

- Machine operators
- Maintenance technicians
- Those who are transporting the machine

We recommend that all people involved in the project, whether in management, operation, or maintenance, read the manual carefully and completely before the use of the winch. Please contact us for any clarification and/or additional information you may need.

We recommend that all rules and regulations prescribed by the company and the country where the winch is being used be observed, in addition to the methods prescribed here for handling, usage and maintenance of the winch.

Thank you,

**Jakob Thaler GmbH**  
Cable Laying Machinery and Equipment  
**Manufacturer**

**Global Machinery**  
Cable Placing Equipment  
**USA Distributor**

### General Safety Instructions



**This manual has been prepared to assist you in the operation and care of your new winch. Please read it thoroughly as the contents can contribute to more effective operation of your equipment.**

The construction of this winch including the mechanical, hydraulic and electrical systems, were all designed to meet safety standards of European Union No 98/37/EC.

The winch should be operated and handled by qualified personnel only. Qualified operators are those who have received training from the machine owner's company or, alternatively, from the manufacturer. Never permit anyone to operate the winch without proper training.

Operators must be aware of all local, state and federal safety regulations governing the use of this equipment.

Operators must wear suitable clothing to reduce the possibility of entanglement in the machine's moving parts. They should avoid the wearing of any jewellery for the same reason.

Operators must use personal protective gear in accordance with OSHA's PPE guidelines. (Safety glasses, gloves, boots, hard hat, etc.)

Operators must carefully follow hazard related instructions contained in this instruction manual or indicated on the machine.

The work area should be clear of oil or other liquid spills, as well as materials or equipment that may be considered an obstacle to proper operation.

The operator must avoid the direct inhalation of the equipment's engine exhaust.

The winch must not be modified without the specific and written consent of the Manufacturer. Factory provided accessories and spare parts must always be used.

All maintenance and repairs, including electrical, should be performed by trained and authorized personnel only. Any waste oils, grease or fuel should be disposed of properly in accordance with the local state or country guidelines.

#### **Note**

These units are built according to your order and the latest design changes. Therefore, differences in the descriptions and pictures of the equipment may occur as they apply to your machine. We reserve the right to make design changes at any time and without notice.

## Safety Instructions

### **Standard Operation:**

Before starting the job:

- Secure the work area (traffic, manhole, etc.).
- Ensure all safety equipment is in place and operating correctly.
- Be sure that the winch has been stabilized properly.
- Before starting the operation, be sure that no one is standing in the operation area.
- Test the operation of all controls according to the instructions in this manual.

### **Maintenance:**

- Only to be performed by trained personnel.



#### **Danger!**

- If the safety devices have been removed for maintenance purposes, operate the machine with utmost care.
- Refer to the maintenance instructions in this manual.
- Safety devices must be immediately re-installed after maintenance has been completed.

## Table of Contents

<b>1</b>	<b><u>Product Information</u></b>	
1.1	Machine Description.....	1
1.2	Manufacturer.....	1
1.3	CE-certification.....	1
1.4	Application According to Design.....	1
1.4.1	Use / Operation Range.....	1
1.5	Operator Station.....	2
1.6	Technical Data.....	2
1.7	Product Description.....	3
<b>2</b>	<b><u>Transport of the Winch</u></b>	
2.1	Securing the Trailer to the Tow Vehicle.....	4
2.1.1	Traffic Regulations.....	4
2.1.2	Connecting the Trailer.....	4
2.2	Driving with the Winch.....	6
2.2.1	Forward Movement.....	6
2.3	Disconnecting the Winch.....	7
2.4	Moving the Winch Manually.....	7
2.5	Changing Tires and Adjusting Tire Pressure.....	7
<b>3</b>	<b><u>Operation of the Winch</u></b>	
3.1	Rear Supports.....	9
3.2	Boom Control (Hydraulic Boom).....	10
3.3	Description of Control Panel Components.....	11
<b>4</b>	<b><u>Maintenance</u></b>	<b>16</b>
4.1	Scheduled Maintenance.....	17
4.2	Hydraulic System.....	18
4.2.1	Checking the Hydraulic Oil Level.....	18
4.2.2	Breather in Filler Cap of Hydraulic Oil Tank.....	18
4.2.3	Changing the Hydraulic Oil.....	18
4.2.4	Filter Change.....	18
4.2.5	Regular Control Checks.....	18
4.3	Greasing.....	19
4.4	Rope Inspection and Replacement.....	19
4.5	Drive Chain and Chain Wheels.....	19
4.6	Check Operation Controls for Proper Function.....	19
4.7	Maintenance of Yanmar Diesel Engine.....	19
	Maintenance Schedule.....	20
<b>5</b>	<b><u>Troubleshooting Guide</u></b>	
5.1	Diesel Engine.....	21
5.2	Trailer Electric Brake System.....	21
	<b>Service and Warranty Conditions.....</b>	<b>22</b>

### Attachments:

- Operation and Maintenance Manual for Yanmar Engine
- Spare Parts List
- Electric and Hydraulic Schematics

**1 Product Information****1.1 Machine Description: Cable Pulling Winch****Model: KE-SP 3050****1.2 Manufacturer:**

Jakob Thaler GmbH  
Cable Laying Machinery and Equipment  
Justus-von-Liebig-Str. 8 a  
D-25335 Elmshorn / Germany  
Tel. +49(0)4121/57999-0  
Fax +49(0)4121/5799957

**Distributor USA:**

Global Machinery  
705 West 62<sup>nd</sup> Ave.  
Denver, CO 80216  
(303) 430-7130  
(800) 430-7130  
Fax (303) 428-7762

**1.3 CE-certification:**

This machine has a



sticker, which is fixed on the serial number plate.

**1.4 Application According to Design:**

This cable-pulling winch should only be used per the operation manual and the following safety guidelines.

**1.4.1 Use / Operation Range:**

The Cable Capstan Winch Model KE-SP 3050 is designed to pull in empty duct and cable in a **horizontal direction** up to a pulling force of 11000 pounds, 50 kN.  
This machine is only to be used for the work it was designed for.



**If the unit is used for other applications or working conditions, prior consultation with the manufacturer is required.**

**If this caution is not followed, the manufacturer is free from any liability for damages or losses incurred.**

**While operating the machine, all warning signs and decals must be obeyed.**

The Cable Capstan Winch must not be used:

- For lifting people and/or goods
- In a location where the machine cannot be positioned and anchored properly
- In areas where brush or other materials can be easily set on fire
- In closed/unventilated sites, or those poorly ventilated (tunnel or similar)
- At sites where fuels or explosives are present
- For structure demolition
- For the pulling of elastic elements
- With ropes or joints having a bigger diameter than that specified in this manual
- With over-ridden or broken safety system devices
- For handling trucks or other mobile equipment

**1.5 Operator Station:**

The operator must stand in an area that is free and clear of all moving parts while the unit is in operation.

**1.6 Technical Data :**

VIN / Serial Number : \_\_\_\_\_

Delivery Date : January 9, 2013

Drive : 3 Cylinder Diesel / Yanmar 3TNV88

Power : 36 HP (27.1 kW)

Max. Pulling Force : 11000 pounds (50 kN)

Max. Pulling Speed : 0-220 fpm, continuously adjustable

Rope Diameter : 0.472 inches (12 mm)

Rope Length : 2500 feet (765 m)

Overall Length (including tongue) : 157-1/2 inches (4000 mm)

Width : 67 inches (1700 mm)

Height : 67-1/2 inches (1710 mm)

Tires : 215/75R 17.5

Electrical : 12 V



### 1.7 Product Description:

This cable capstan winch represents the latest modern technical standard in the area of hydraulically operated cable pulling winches. It is specifically designed for pulling in and out communication and power cables of all types.

The winch is designed for pulling horizontally. It is **NOT** to be used as a means for lifting loads.

The single axle chassis consists of a rubber suspension axle with electric brakes. The hitch is height adjustable and equipped with a forged 4-bolt mount hitch. A crank jack is fitted to the trailer tongue. The tire size is 215/75R 17.5. The lighting system is 12 Volt.

Rear adjustable stabilizers control the stability of this winch during the pulling operation. For transportation the stabilizers may be raised up and be secured with the appropriate pins.

The capstan unit is hydraulically driven. The power pack consists of a 36HP (27.1 kW) water-cooled diesel engine (corresponding to the EPA norms) and a pressure and flow controlled hydraulic pump.

The steel wire rope of the winch runs directly from the capstan system to the rope drum. The machine is equipped with an automatic level-wind system with cross groove spindles so that even layering of the rope onto the rope drum is guaranteed.

Drive and brake operation of the drum is powered hydraulically.

The boom is hydraulically raised and lowered, manually pivoted +/-45° laterally and is secured by a manually adjusted boom support.

The measurement of the pulling force is controlled and monitored by an electronic measuring system (KPR 2000) with a record printer mounted at the control panel. The measuring system has the following functions:

- Indication of pulling force, length and pulling speed
- Adjustable maximum pulling force limit with automatic stopping function of the winch drive system when the adjusted pulling force is exceeded
- The ability to print out a complete pull report while in the field

The separate card writer is connected to the KPR 2000 system by a serial cable and has a 32 MB storage card with card adaptor for storing cable pull data.

By pushing a single button at the KPR 2000, each job can be stored on the card as MS-DOS/Windows compatible data. A name for each pulling job is automatically generated. The data can be evaluated on a PC or Laptop and shown in tabular form. If the data is required in graphic form, it can be opened in Excel for analysis.

All operator controls are centrally mounted at the operation panel. The following controls exist:

- Remote control joystick with deadman switch for controlling the pulling direction and speed
- Throttle lever for engine speed
- Key-operated switch for engine start
- Control indicators for diesel engine
- Fuel gauge
- Working hour meter
- Electronic measuring system (KPR 2000)
- Card-writer with adaptor
- Raise/Lower lever for hydraulic boom
- On/Off switch for rotating beacon light



## 2. Transport of the Winch

The winch is mounted on a single axle trailer chassis fitted with an electric brake system and a height adjustable hitch.

### 2.1 **Securing the Trailer to the Tow Vehicle:**

#### 2.1.1 **Traffic Regulations:**

Based on local state and country laws, select the appropriate vehicle for the transportation of the winch.

#### 2.1.2 **Connecting the Trailer:**



**Note that unless the winch is secured against movement, no person is allowed to stand between the pulling vehicle and the winch.**

The hitch of the trailer must be adjusted to the hitch height of the pulling vehicle.



**Proper selection and condition of the hitch type and size are essential to safely towing your winch. A loss of coupling may result in death or serious injury.**

- **Be sure the hitch load rating is equal to or greater than the load rating of the coupler.**
- **Be sure the hitch size matches the coupler size.**
- **Observe the hitch for wear, corrosion and cracks before connecting. Replace worn, corroded or cracked hitch components before coupling the winch to the tow vehicle.**

**Be sure the hitch components are tight before coupling the winch to the tow vehicle.**

Height adjustment of the hitch



**Hitch height should be adjusted only when the winch is not connected to the towing vehicle.  
Secure the winch against movement!**



**The hitch can be adjusted in the range of 2.165 inches (55 mm) steps.**

**Bolts (M16) have to be tightened by a torque wrench to 155 ft. pounds (210Nm)**

## Coupling

- Prepare the winch for transport
- Secure the trailer from moving by the use of wheel chocks
- Release and open the tow vehicle's hitch coupling
- Backup the tow vehicle until the coupling is aligned
- Lock coupling around eye on trailer

**An improperly coupled winch can result in death or serious injury.**



**Do not move the winch until:**

- **The coupler is secured and locked to hitch;**
- **The safety chains are secured to the tow vehicle;**
- **The supporting jack is fully retracted; and**
- **The wheel chocks are stored and secured.**

**Do not tow the winch on the road until:**

- **Tires and wheels are checked;**
- **The winch brakes are checked;**
- **The breakaway switch is connected to the tow vehicle; and**
- **The winch lights are connected and checked.**

If your winch comes loose from the hitch for any reason, safety chains have been provided, so that control of the winch can still be maintained.



**Improper rigging of the safety chain system can result in loss of control of the winch and tow vehicle, leading to death or serious injury, if the winch becomes uncoupled from the tow vehicle.**

- **Fasten the safety chains to the frame of the tow vehicle. Do not fasten the safety chains to any part of the hitch, unless the hitch has holes or loops specifically designed for that purpose.**
- **Cross the safety chains underneath the hitch and coupler with enough slack to permit turning while transporting, and to hold the tongue up, should the winch come loose.**

- Completely crank the jack upward until it engages, then fasten it with the safety pin.



**The jack is only intended to provide support. Do not manoeuvre the winch if the jack is lowered. This can cause injury and even death. Make sure that the front jack is fully raised and secured.**

- Secure the wheel chocks.
- Plug in the electrical connecting cable to the pulling vehicle. Use an adapter plug if necessary.
- Examine the lights of the winch for proper functioning.

Before each time this trailer is towed:

- Check the lighting system.
- Check tire conditions (tire pressure, damage).
- Check to be sure the winch is correctly coupled and the jack is fully raised and secured.
- Check the operation of the electric brake system

## 2.2 Driving with the Winch:

**The following actions must be avoided:**

- **Driving over curbs**
- **Exceeding the allowable maximum speed**
- **Mounting of non-acceptable wheels/tires**

### 2.2.1 Forward Movement:

If a winch is connected, the tow vehicle is under more stress; therefore the driver has to pay closer attention. If the driver is not able to see the rear traffic by use of the normal rear-view mirrors of the tow vehicle, additional mirrors are required. The additional load of the winch reduces the maximum allowable load of the pulling vehicle. Take extra caution while driving mountain roads.


Laws and regulations of the countries where the unit is being used shall be observed regarding supporting loads and maximum speeds for trailers being pulled by tow vehicles. The maximum speed for this unit is 65mph. Even if your country allows higher speeds, you should not exceed 65mph for safety reasons.

Increasing the speed reduces the stability of the vehicle, especially in bad weather road conditions. Therefore, you should adjust your speed to accommodate driving conditions. In any situation, if the trailer becomes unstable or starts to sway, the speed must be reduced. Do not increase the speed.

Always remember to brake in time! Leave plenty of room between you and the vehicle in front of you.

### 2.3 Disconnecting the Winch:

 **Danger!** Uncoupling the winch without the use of wheel chocks may result in the winch rolling away and potential injury or damage. Always use wheel chocks under the wheels when disconnecting the winch.

 **Damage!** Remove the break-away cable and the trailer plug. Otherwise, damage to the cable or plug may occur when the tow vehicle is pulled away from the trailer. Make sure that the towing vehicle is properly uncoupled before driving away.


Place the wheel chocks under the wheels so that the winch is secured against rolling away. Release the pin, lower the jack leg, and crank down the jack. Unplug the trailer plug cable and the break-away cable from the towing vehicle. Store the cable into its holder, in order to protect the contacts from dirt. Unhook the safety chains. Store the safety chains so that they do not hang on the ground. Pull up the hitch lever and uncouple the winch by cranking the jack leg down. It is now safe to drive away the towing vehicle.


### 2.4 Moving the Winch Manually:

 **If the winch rolls, DO NOT try to move it manually!**

In a low light environment, or if weather conditions demand (for example in fog), the winch should not be parked without lighting systems. Any further legal regulations have to be taken into consideration.

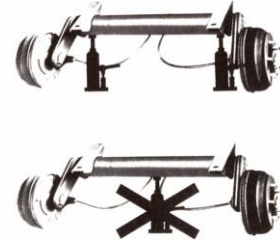
### 2.5 Changing Tires and Adjusting Tire Pressure:

 **Danger!** If the winch is not secured against movement and starts to slip, and therefore falls off the jack, a person can be injured, potentially causing death. Secure the trailer against movement when changing the tires.

 **Danger!** If a person is under the vehicle during the wheel change and the winch falls off the jack or the jack fails, the person can be injured, potentially resulting in death. It is forbidden to be under the lifted vehicle without jack stands or other safety equipment to secure the winch.

Worn tires do not grip wet roads very well at high speeds and there is a higher risk of hydroplaning. It is recommended that tires be changed when worn beyond serviceable condition.

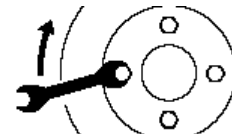
Set the winch on a flat, horizontal, solid surface.  
Use an appropriate jack.  
Disconnect the winch from the towing vehicle.  
Secure the winch against rolling away with the wheel chocks on the side of the winch where the tires are intact.  
Do not lie under the lifted vehicle without additional and appropriate support.  
Position the jack on the axle as close as possible to the wheel being changed.  
Follow the instructions of the jack manufacturer.  
Remove the wheel nuts. Replace the wheel. Snug the wheel nuts. Lower the winch and tighten the wheel nuts cross-wise with a torque wrench.



**After the first 30 miles (50 km) of use, and after every wheel change, the wheel nuts have to be checked and tightened if necessary.**

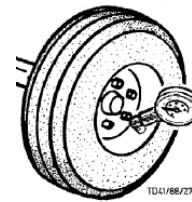
Starting torque of wheel nuts:

See AL-KO Owner's Manual for torque specifications.



Recommended tire pressure:

215/75R 17.5 - See tire sidewall for recommended pressure.



The tire pressure should be checked at least once a week, and corrected if necessary. The pressure should be checked while the tires are cold.

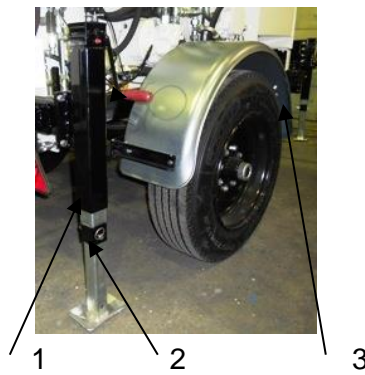
### 3. Operation of the Winch

Only work with the winch when it is in good operable condition. Always be aware of safety precautions and machine damage that may adversely affect the machine's operation.

Damages or defects to the winch must be immediately reported to a responsible person. Damages or defects to the winch should be repaired before using the unit.

Be sure that only trained personnel operate the winch. Regular winch inspections at scheduled intervals should be conducted with a focus on safety and damage.

#### 3.1 Rear Supports



##### **Pos. 1 Rear supports**

The rear supports are used for supporting the winch during operation, and are adjustable by pins and crank.

##### **Pos. 2 Safety pins**

The safety pins secure the rear supports of the winch. Pull out the safety pins, adjust the rear support lengths, and secure them by reinserting the safety pins and keepers.

##### **Pos. 3 Wheel chocks**

Put the wheel chocks in front or rear of the tire to secure the winch against movement.



**Always use both wheel chocks to secure the winch against movement.**

The wheel chocks may also be used to stabilize the winch while pulling in the cable.



### 3.2 Boom Control (Hydraulic Boom)

After removing and stowing the boom transport support arm, the boom can be hydraulically raised and lowered. It can be manually pivoted laterally +/- 45° and pinned in place. It is vertically supported by a manually adjusted boom support jack.



Always support the boom with the support jack to prevent damage to the boom.



The boom control lever hydraulically adjusts the height of the boom.



Adjustable boom lock is used to secure the boom when unit is being transported. The boom lock must be secured when transporting to prevent boom damage.

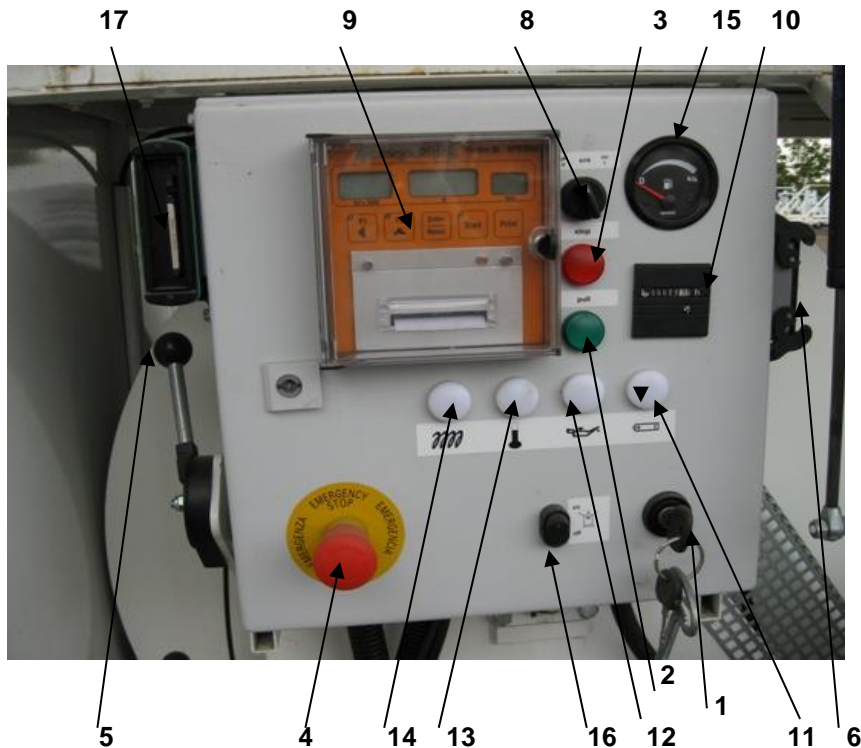


Latch used to disconnect ball coupler from boom when hydraulically lowering boom. Reverse procedure to secure boom for transport.

Three cornered locking nut used to tighten adjustable link from rotating. Loosen nut and rotate black adjustment arm to unlatch boom lock ball end. Do the opposite when installing the ball to secure arm.



### 3.3 Description of Control Panel Components


**Pos.**

- 1 Ignition switch with 3 settings - Turn to the right
- 2 Control Light, Green - Operation
- 3 Control Light, Red - Stop
- 4 Emergency Stop Button
- 5 Throttle lever - Engine Speed
- 6 Remote control tether plug connection
- 7 Remote control with dead-man switch (stored in toolbox, not shown)
- 8 On/off switch for electronic measuring system (KPR 2000)
- 9 Electronic Measuring System (KPR 2000)
- 10 Hour meter (counter)
- 11 Indicator light for alternator
- 12 Check oil indicator light
- 13 Control light – Engine temperature monitoring
- 14 Control light – Engine preheat
- 15 Fuel gauge
- 16 Switch for rotating beacon (on/off)
- 17 Card recorder
- 18 Boom control lever (hydraulically raise & lower boom)



- **Proper functioning of safety systems should be verified daily.**
- **Never remove any safety devices!**
- **Do NOT touch the machine while running!**
- **Make sure that no unauthorized personnel operate the winch!**



**Description of components:**

**Pos. 1 Ignition switch with 3 settings - Turn to the right**

To start the engine, set the throttle lever (5) into medium speed position. Set the winching lever (6) into “zero-position”

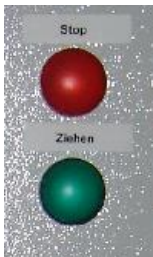
- Turn the ignition key clockwise until the control lights switch on.
- Turn the key to the next stage to activate the glow plugs for the diesel engine. Control light (14) should be on.
- When the light goes off, turn the key to the next stage and the engine will start. Disengage the key as soon as the engine starts to run.



**Never leave the ignition key in the start position for longer than 10 seconds in order to save battery life and starter wear.**

**Never turn the ignition key to “start” when the engine is running.**

Control lights 11 and 12 should turn off when the engine runs.


**Pos. 3 Control Light, Red - Stop**

The red control light is switched on when the Emergency Stop button is pressed, the dead-man’s switch is not pushed, or the set maximum limits of the KPR 2000 has been reached and stopped the winching process.

**Pos. 2 Control Light, Green - Operation**

The green control light indicates proper function of the electric control circuit.


**Pos. 4 Emergency Stop Button**

When the emergency stop button is pressed, the winching function will be stopped immediately. Reset by turning left.



**Use of the emergency stop is ONLY recommended in emergency situations. It is NOT recommended to use the emergency stop system for normal shut down of the system.**

**Caution**

**Pos. 5 Throttle lever - Engine Speed**
**Page 13**


This lever regulates the speed of the diesel engine. Start the cold engine at approximately half speed. When the operation temperature is reached, adjust the speed to full throttle during pulling operation.

**Pos. 6 Tether connection for remote control**


Insert remote control cable plug into connection.

Clean connections as needed and lube with dielectric grease.



Secure with two latches.

**Pos. 7 Remote Control**


To pay-out the wire rope, push the lever right while holding down the dead-man switch on top of the lever. For pulling-in, move lever left while holding down the dead-man switch. The amount you move the lever increases or decreases the line speed.

When winching in, position the lever so that there is a balance between pulling force and line speed. Otherwise, the engine may stall.



The toggle switch on the remote control lever must always be held on for winching in or out. Pay-out the rope the distance required, or until the color-marked end of rope appears. Stop pulling out immediately to avoid pulling the rope off the capstan unit.

If the Emergency-Stop is pressed (or if the set value of the measuring system - pulling force and/or length – are exceeded and the winching operation is stopped automatically) this lever **must be set back to the “Zero” position** to allow a re-start of the winching function.



Report any wire rope damage immediately. Refer to Section 4.4 of the maintenance manual for detailed inspection procedure.

**Pos. 8 On/Off switch for Electronic Measuring System (KPR 2000)**



For monitoring the winching process with the KPR 2000, be certain the switch is turned to the ON position.

**Pos. 9 Electronic Measuring System (KPR 2000)**



To learn how to operate the KPR 2000, please read the detailed description in the KPR 2000 manual.

**Pos. 10 Hour meter (counter)**



The working hour counter displays the accrued operation hours of the winch. This is important for maintenance intervals.

**Pos.11 Indicator light for alternator**

The light should be off when the engine is running. If not, stop the engine immediately. The electric circuit needs to be checked by a specialist.

**Pos.12 Check oil indicator light**

**This light must be off when the engine is running. If not, the engine must be stopped immediately. Check the engine oil level.**

If required, top off the oil level. Start the engine again. If the control light still illuminates, contact a dealer for the engine manufacturer.



**DO NOT try to start the engine if the indicator light illuminates again. Damage or destruction of the engine may occur.**

Page 15

**Pos.13 Control light – Engine temperature monitoring**

This indicator light illuminates when the engine temperature is too high. Turn off the engine immediately and check the following:

- 1) Coolant level in radiator overflow tank.
- 2) Obstructions in radiator.
- 3) Damage to fan belt.

**Pos.14 Control light – Engine preheat**

This indicator light for the glow plug must be off before starting the diesel engine.

**Pos. 15 Fuel gauge**

The fuel gauge is equipped with a precise rotation measuring unit that accurately shows the fuel level of a fuel tank as measured by the sensor.

Check the fuel level before starting the diesel engine.

**Pos. 16 Switch for rotating beacon (on/off)**

By operating this switch the beacons are turned on and off.

**Pos. 17 Card recorder (for KPR 2000 Electronic Measuring System)**

The card recorder is a separate unit and is connected through a serial cable to the interface of the KPR 2000. The recorder will be delivered with a compact-flash-memory card and adaptor with 32 MB of capacity for recording and downloading information from the cable pulls.

Upon request, every pulling operation can be stored by the KPR 2000 measuring unit in a MS-DOS/Windows compatible file on the memory card. The corresponding file name for the cable pull will be generated automatically. Any number of pulling operations can be stored one after the other due to the large capacity of the memory card.

The data can be evaluated on a PC or Laptop and shown in tabular form. If the data is required in graphic form, it can be opened in Excel for analysis.

Page 16



**Pos. 18 Hydraulic control lever to raise and lower boom**

**4 Maintenance**

These instructions are part of our Warranty Conditions.

**Normal wear is not covered by the warranty.**



**Any customer repairs not authorized by the manufacturer, relieves the manufacturer of any responsibility for any resulting damage of property or injury to personnel.**

**BEFORE MAINTENANCE AND/OR REPAIRS**

- When cleaning the machine, avoid directly spraying water or steam on electronic components or the control panel.
- The work area must be closed to unauthorized personnel.
- Release the hydraulic pressure in the system!
- Properly clean the unit for repair and maintenance.
- Obey the local laws regarding the legal disposal of waste. The following fluids should not reach the ground or be put into the sewage system during installation, repairs and/or maintenance work.



- Greases and oil
- Hydraulic fluids
- Solvents and cleaning liquids

These substances must be stored, transported and disposed of in a suitable container.

- Check for loose hardware.
- Check that all dismantled parts are assembled.
- Check that all materials and tools for maintenance and repair work are removed from the work area.
- Check to be sure that there are no fluid leaks.
- Check to see that all safety devices function properly.



**Damaged components are to be replaced with factory original parts only.**

**Page 17**

#### **4.1 Scheduled Maintenance:**

Daily:

- Inspect the lights and brakes
- Check the tires for air pressure and damage or wear
- Check the levels of the engine oil and hydraulic fluid
- Check the engine air cleaner (replace if needed)
- Check the engine water level at the overflow tank
- Check all hoses and tubes for interference
- Check all operation functions

Every 50 hours of operation:

- Clean and grease the level wind shaft
- Inspect the hydraulic system
- Grease all zerks
- Check all drive chains, tighten if necessary
- Grease the drive chains



- Inspect the wire rope / cable
- Inspect all bolted connections

Every 250 hours of operation: - Change the engine oil and filter

Once per year or after 500 hours of operation:

- Check the guides for the level wind system. Replace if necessary.
- Perform any trailer inspections as required by Federal or State regulations.

**Page 18**

- Change engine fuel filters (primary clean screen, secondary change filter)

Every 1000 hours of operation:

- Drain the engine coolant system and add proper anti-freeze mixture.
- Maintain the hydraulic system (change filters)

Every 2000 hours of operation: - Maintain the hydraulic system (change oil & filters)

**NOTE: Refer to the Yanmar engine manual for maintenance instructions.**

## **4.2 Hydraulic System:**

### **4.2.1 Checking the Hydraulic Oil Level**

The oil level of the hydraulic tank must be checked daily at the sight gauge on the side of tank. The oil level control stick is located in the tank cap. Add oil if necessary.

### **4.2.2 Breather in Filler Cap of Hydraulic Oil Tank**

The hydraulic tank aeration (filter) must be regularly cleaned free of dirt and dust in order to avoid a blockage. The aeration filter is cleaned and washed with cleaning solvent. If necessary, replace the filter.

### **4.2.3 Changing the Hydraulic Oil**

Under normal working conditions, the hydraulic oil is to be changed after 2000 operating hours. When changing the oil, drain the oil after the machine has been warmed up. Use oil grade AW46.

#### 4.2.4 Filter Change

Under normal working conditions, the filter elements (filter cartridges) have to be changed as follows:

- after the first 50 operation hours, then at 1000 hour intervals



**Note: Use only original filter elements.**

#### 4.2.5 Regular Control Checks:

- Strange noises	Daily
- Fluid leaks	Daily
- Loose bolts or pins	Daily
- Pipe, tube or hose leaks (connections, scrubbing, bends)	Monthly

Page 19

#### 4.3 Greasing

Each zerk must be greased every 50 operating hours. Grease is to be applied until it is coming out of the greasing point. All greasing points have a red mark. Grease recommendation: Multi Purpose EP-2 or equivalent

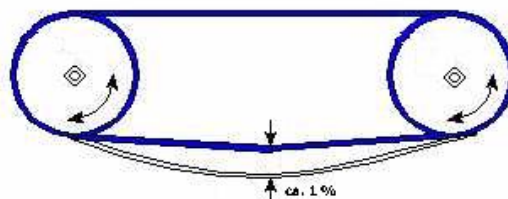
#### 4.4 Rope Inspection and Replacement

The rope must be replaced if any of the following occur:

- a) There are 3 wire breaks within a length of wire equal to the diameter x 6
- b) There are 6 wire breaks within a length of wire equal to the diameter x 30
- c) The rope diameter is reduced by 20% due to flattening
- d) There are significant deformations or bends in the rope

#### 4.5 Drive Chain and Chain Wheels

Drive chains and chain wheels have to be checked every 50 operating hours for wear and damage. Furthermore, the chain tension has to be checked and the chains have to be tightened, if necessary. Chain sag on the return strand of drives should be approximately 1% of the axle distance or 1/8 to 1/4 inch in normal position.



If it is not possible to tighten the chains, they must be replaced. (Only use original parts.)  
Lube using 30W lubricant oil.  
Before oiling the chains, they must be thoroughly cleaned with solvent.

#### 4.6 Check Operation Controls for Proper Function

Before every operation the following functions must be checked:

- The operation lever on the remote control is easily operable.
- When pressing the emergency stop button, the winch operation stops.
- When releasing the dead man switch, the winch operation stops.
- When operating the joystick, the machine operation is normal.

If any one of the above conditions is not working properly, the winch should not be operated until the problem is repaired.

#### 4.7 Maintenance of Yanmar Diesel Engine

Refer to separate engine maintenance manual.

### MAINTENANCE SCHEDULE - THALER CABLE PULLING WINCH

#### YANMAR DIESEL ENGINE MODEL 3TNV88-BDSA@36HP

FUEL SYSTEM	TYPE/MAKE	PART#	SERVICE HOURS
Fuel	#2 Diesel		
Primary filter	Screen		500 HOURS : WASH OUT WHEN SECONDARY FILTER IS CHANGED
Secondary filter	Yanmar	119802-55801	500 HOURS
Capacity	8 Gallons		
Lubrication System	Type/Make	Part#	Service hours
Oil	SAE15W-40	CJ-4	250 HOURS
Filter	Yanmar	129150-35153	250 HOURS
Capacity	7 Quarts		
Air System	TYPE/MAKE	PART#	SERVICE HOURS
Air Filter	Donaldson	P812543	AS REQUIRED
Cooling System	TYPE/MAKE	PART#	SERVICE HOURS
Anti-Freeze	ASTM D6210, D4985		1000 HOURS
Capacity			
Electric System	12 Volt		
Battery	12 Volt		
CABLE PULLING WINCH THALER MODEL KE-SP3050			
Hydraulic System	TYPE/MAKE	PART#	SERVICE HOURS
Oil	AW46		2000 HOURS
Filter in tank	MP	SF250M25N	AFTER FIRST 50 HOURS, THEN @ 1000 HOUR INTERVALS

In-Line filter	MP	CS-050-P10-A	AFTER FIRST 50 HOURS, THEN @ 1000 HOUR INTERVALS
Breather (fill cap)			Wash out with solvent as required
Tank Capacity	16 Gallons		
<b>GREASE SCHEDULE</b>			
Red marked zerks	Multi-purpose EP-2		50 HOURS
Cross grooved spindle	Multi-purpose EP-2		50 HOURS Clean with solvent
Drive chains	30W oil		50 HOURS Clean with solvent
Chain Tension	1/8 to 1/4 inch sag		50 HOURS See section 4.5 under maintenance
<b>WIRE ROPE</b>			
WIRE ROPE	.472 (12mm) diameter	SSELSZSPA2NK1960	See section 4.4 under maintenance
<b>TRAILER</b>			
Tire size	215/75R 17.5		
Tire pressure	See Manual		
Wheel Torque	See Manual		
	See Manual		
DOT Inspections	State & Federal		YEARLY PER REGULATIONS

## 5 Troubleshooting Guide

Refer to the electrical and hydraulic schematics.

The toggle switch on the remote control lever must always be in the “ON” position while pulling in or paying out.

If the Emergency-Stop is pressed (or if the limited value of the measuring system – pulling force and length – are exceeded and the winching operation is stopped), the remote winch lever must be set back to center or zero position to allow a restart of the winching operation.

If problems occur with the KPR 2000 control system, refer to that system manual.

### 5.1 Diesel Engine

Refer to separate Owner’s Manual from Yanmar.

### 5.2 Trailer Electric Brake System

Refer to separate Trailer Owner’s Manual from AL-KO.

## **Service and Warranty Conditions**

### **The warranty includes:**

Replacement or, at the factory's discretion, repair of manufacturing or material defects, providing that the failure occurred during normal use of the trailer in accordance with the instruction manual. Repairs carried out during the warranty period will not extend the period.

### **Conditions:**

The maintenance guidelines and instructions of the manufacturer detailed in this manual must have been followed. The use of original spare parts is required for repairs. All repairs must be performed by a qualified technician in an authorized service center. Failure to follow the instructions in this manual, improper use of the winch, lack of experience of the operator, any variations made to the winch not authorized by Jakob Thaler GmbH, or disregard of the directions and/or instructions contained within this manual, will void the warranty.

Each winch is a hand-crafted, manufactured product. In spite of the utmost care, small and superficial scratches can be created during the assembly of the machine which do not affect the performance. Manufacturing-caused tension fractures in the surface (hairline cracks) cannot be avoided. These hairline cracks have no effect on the structural integrity or operation of the winch. UV-radiation and certain weather conditions might have negative effects on the paint color and/or appearance. The winch is not weather-proof; therefore water can enter through small gaps in doors and lids. Heavy moisture may lead to the formation of water condensation under the covers. If this occurs, properly ventilate the area to avoid the potential formation of mold.

### **The warranty is invalid:**

...if the operation, maintenance and inspection instructions are not complied with,  
...in the event technical alterations are made to the winch,  
...in the event arbitrary extensions or attachments which are not authorized by Jakob Thaler GmbH are added to the winch,  
...if the winch is not used properly,  
...if other than original Jakob Thaler replacement parts are used for repairs,  
...if the safety information on the winch is not complied with,  
...if the service intervals, which includes components mounted by Jakob Thaler (such as axle, brakes, emergency brake system, hydraulic motors, pumps etc.) are not complied with,  
...in the event of a continued use of the winch even if defects are known and notified and a further use has been forbidden by the manufacturer until completion of the repairs,  
...in the event of continued use of the winch when defects are known, which makes a repair impossible and/or more extensive or only possible with considerably higher expense, and when the use of the winch is reduced as a result of the continued use.

### **The warranty does not cover:**

- Expenses for general maintenance.
- Expenses arising from normal wear and tear, or the fact that the winch has not been used for an extended period of time.
- Defects that occur from use of the winch that is not in accordance with the instructions in the manual.
- Defects that occur from use of non-original spare parts or repairs carried out by anyone who is not authorized.
- Travel expenses for field service work.
- Property damage or loss of revenue as a result of machine failure.

**Jakob Thaler GmbH reserves the right to make changes in design or to make additions or improvements without being obligated to install the same upon winches covered by this warranty.**



**Distributor for the United States of America**



**303-430-7130      800-430-7130      Fax 303-428-7762**

**[info@GlobalMachinery.com](mailto:info@GlobalMachinery.com)**

**[www.GlobalMachinery.com](http://www.GlobalMachinery.com)**

**705 West 62<sup>nd</sup> Avenue  
Denver, CO 80216**