

OPERATION AND MAINTENANCE MANUAL

SKIDDING WINCH FARMI 61



READ THIS OPERATION AND MAINTENANCE MANUAL CAREFULLY
BEFORE USING THE MACHINE

FARMI[®]
FOREST

Farmi Forest Corporation
Ahmolantie 6
FIN-74510 Iisalmi, Finland
Tel. +358 (0)17 83 241
Fax. +358 (0)17 8324 372
www.farmiforest.fi

FARMI 61

INTRODUCTION

This manual includes the information and maintenance instructions required for operating the machine in the optimal manner.

Although you have experience in using this kind of machinery, read the operation and maintenance instructions carefully since they include information enabling efficient and safe operation. Regular maintenance is the best way to guarantee the efficient and economical performance of the machine.



Each and every operator must read, understand, and follow all safety instructions and procedures.

PRODUCT WARRANTY

Farmi provides a 12-months warranty on all Farmi products.

Register on our home page (www.farmiforest.fi) under FeedBack ("Product Registration" form) within 30 days after the receipt of the product to get full product warranty and additional information on your product. If it is not possible for you to register via internet, please register as follows: Complete the registration form on the last pages of this manual and return it to us within 30 days after the receipt of the product.

CUSTOMER FEEDBACK

We are happy to receive your opinions and suggestions for improvements by mail, fax or e-mail. All implemented suggestions for improvements will be rewarded.

WARNING SYMBOLS IN THIS MANUAL



- **imminent danger which could cause serious personal injury or death**



- **danger which could cause personal injury**



- **conditions or misuse that could damage equipment or machinery**



EC DECLARATION OF CONFORMITY

Manufacturer:

Farmi Forest Corporation
Ahmolantie 6, FIN-74510 IISALMI, Finland

Person authorized to compile the technical documentation:

Name: Matti Berg
Address: Ahmolantie 6, FIN-74510 IISALMI, Finland

Commercial name:

Farmi

Machine denomination:

Skidding winch

Machine type:

FARMI 61

Machine series number:

Herewith, we declare that the machine brought into circulation conforms with the pertinent requirements of the Machinery Directive 2006/42/EC.

The following harmonized standards were used for the conceptual design of the machine:

EN ISO 12100-1/2, SFS EN ISO 13857, SFS EN ISO 4254-1

Iisalmi
(Place)

17.1.2013
(date)

Juha Hallivuori

FARMI 61

TABLE OF CONTENTS

PRODUCT WARRANTY	3
GENERAL SAFETY INSTRUCTIONS	6
SAFETY INSTRUCTIONS FOR WINCHES	9
STICKERS AND PLATES	10
MAIN PARTS	13
TECHNICAL SPECIFICATION	14
MOUNTING	15
PRE-OPERATION CHECKS	16
CONTROLS	17
OPERATION	18
PRE-OPERATION CHECKS	19
WINCHING	20
SKIDDING	20
WORKING IN ROUGH TERRAIN	21
IF YOU GET STUCK WITH THE TRACTOR	21
DROPPING THE LOAD	21
TRANSPORTATION	21
MAINTENANCE	22
LUBRICATION	22
ADJUSTING THE DRUM BRAKE	24
REMOVING THE WINCH MECHANISM	25
TROUBLE SHOOTING	26

When ordering spare parts, please indicate the machine's type from the machine plate, spare part's order number, description and quantity required. Example. FARMI 61, 42722744, friction plate, 6 pc

FARMI 61

GENERAL SAFETY INSTRUCTIONS

These safety instructions are meant for the owners of FARMI equipment, as well as those who operate, service or repair it.

The instructions help with:

- using the machine safely, appropriately and effectively.
- identifying, avoiding and preventing potentially dangerous situations.

The manufacturer supplies an instruction manual, which must always be available at the place of operation of the machine. Each user must read the safety, maintenance and operating instructions before operating the machine, and comply with these instructions at all times.



Ensure that every operator of the machine is familiar with the content of the instruction manual and situation-specific safety instructions, and has been suitably trained before operating the machine.

The machine complies with technical requirements and applicable safety regulations. However, incorrect use, maintenance or repair of the machine may cause risks.

In addition to the instruction manual, remember to comply with regulations of the local occupational health and safety authorities, and with your country's laws and decrees.

The manufacturer is not liable for damages caused by:

- incorrect, negligent or inappropriate use of the product.
- non-original spare parts.
- normal wear and tear.
- misuse caused by an untrained person's improper actions.
- alterations made without the manufacturer's permission.



Written authorization must be requested from the manufacturer for any alterations to the machine.

STARTING

- Familiarize yourself thoroughly with the use, operation and controls of the machine and its equipment before starting.
- Familiarize yourself with the capacities and limitations of the machine and its equipment.
- Do not use the machine unless you are completely familiar with its operation.
- Be aware of the machine's danger zones.
- During operation, prevent bystanders from entering the danger zone.
- Ensure that each operator has the necessary safety equipment, such as a helmet, safety goggles, work safety boots and suitable protective clothing.
- Never wear loose clothing around moving parts. Protect long hair!
- Ensure that work is carried out according to the stipulations of applicable occupational health and safety legislation.
- Before starting up or using the machine, ensure that it cannot cause a risk to other people or property.
- Perform a safety check on the machine before every use. If you observe any faults or deficiencies, repair the machine immediately.
- Before operating the machine, ensure that there are no foreign articles in it.
- Place the machine on a hard, level surface for operation. In the winter avoid working in slippery areas.
- Before mounting and using the machine, check the PTO drive shaft for correct condition and attachment.
- Never use a faulty or deficient machine.

FARMI 61

TRANSPORT

- Before driving with the machine, ensure the safe mounting of the machine. Make sure that the journals are seating correctly and that the pins are tight. Check the tension of the lower link stabilizers.
- Before driving with the machine, make sure that the required lamps and reflectors as well as the slow moving vehicle sign are attached correctly. Moreover, the lamps should be checked for correct functioning.
- Before driving with the attached machine, make sure that the hydraulic unit of the machine is depressurized (unless otherwise instructed in the operating instructions).
- When driving on public roads, always observe the valid traffic regulations. The travel speed must be adapted to the specific conditions.
- When driving, please take into consideration the additional mass resulting from the machine's weight. It may affect the reactions, the steerability and the braking function of the tractor.
- Please note that the machine rear sways when turning.
- Pay attention to the machine's height near bridges or other height restricting objects.
- When backing off, the machine may obstruct the rear view. Exercise extreme caution. If necessary, ask a flagman to help you; he can indicate the required distances.
- It is prohibited for other people to ride on the machine.

- Never insert any body part into the machine with the engine running.
- If any faults arise that may jeopardize occupational safety, turn off the machine.
- During operation, the machine's operator is responsible for safety in the whole work area. Work may not be carried out in the presence of any factors that jeopardize occupational safety.
- Exercise extreme caution when hitching / unhitching the machine from a tractor/trailer.



The machine's operator must have constant, unobstructed visibility of the work area. If this is not possible, the operator must work with an assistant.

OPERATION



Many occupational accidents take place in abnormal circumstances. Therefore it is important to take into account all the possible circumstances that may arise during operation of the machine.

- Depending on the machine's type, it will have diverse safety devices and protectors. These are meant to protect the machine and its operator, and they must never be removed or altered. Never start up or use the machine without all the safety devices and protectors in place. Also check the universal joint's safety equipment and joints.
- Look out for moving parts when the machine is in operation.
- Secure the machine against unauthorized and accidental operation (e.g. moving when parked) whenever it is left unattended.
- Never leave the machine running unattended.
- Avoid causing fast, stroke-like loading.
- Never exceed the given operating values.
- All safety and warning signs on and in the machine must be legible and intact.
- The machine may not be operated by persons who are unwell or under the influence of drugs or alcohol.

MAINTENANCE

- The machine may only be serviced and repaired by professionals.
- Electrical and hydraulic faults may only be repaired by authorized professionals.
- In cases requiring welding, contact the manufacturer.
- Turn off the tractor engine and disconnect the universal joint before beginning service or maintenance actions.
- Before any maintenance work, turn the main power switch of the tractor to OFF.
- Ensure that there is no pressure in the hydraulic system.
- Take out the key from the tractor's ignition for the duration of the servicing or maintenance. Check that the power is off from the machine you are working on.

- When servicing the machine, place it on a level surface and ensure that it cannot be moved.
- Observe the service intervals and annual safety inspections.
- All spare parts and equipment must fulfill the manufacturer's requirements. This can be guaranteed by using original parts.
- Put all safety devices back into place immediately once servicing or maintenance is complete.



When lifting the machine, check that the lifting/hoisting equipment is in perfect working order. Check the weight of the machine before lifting it. Choose lifting trajectories so that they do not cause any danger.

Many countries have specific legislation on lifting, hoisting cables and hoists. Always comply with local safety regulations.

OILS AND LUBRICATION

- Always use the oil types recommended by the manufacturer. Other types of oil may cause faults or improper operation of the equipment, which could lead to serious damage to people or property.
- Never mix different liquids or oils.
- Always follow the manufacturer's lubrication instructions.
- Use control equipment carefully until the hydraulic oil has had time to reach its operating temperature.

SAFETY INSTRUCTIONS FOR HYDRAULIC CIRCUITS

1. Work on hydraulic equipment may only be carried out by professional hydraulic engineers.
2. Be cautious when using the equipment in cold conditions.
3. Check the machine for leaks. Do not use the machine if there is a leak from any system. Check all hydraulic hoses – particularly those which are bent during use – and replace any that are in poor condition or have leaks. Ensure that all joints are tight and that the lines are not damaged. Check that all protective caps and filler caps are closed properly. Check the hose sheathing for damage.
4. Check that all hose connectors, lengths and qualities comply with applicable requirements. When replacing or repairing hoses, use original parts or hoses and connectors recommended by the manufacturer. Check particularly that the pressure classes of the hoses and connectors are suitable to the operating pressure levels.
5. Check that all safety devices such as pressure relief valves, etc., are in place and work properly. Familiarize yourself with their use. Safety systems may never be bypassed.
6. Check the main hydraulic parts daily, and always after a fault. Replace any damaged parts immediately.
7. If a component is damaged, clean it before repairing it. Do not use solvents when cleaning parts.
8. Do not attempt to carry out repairs that you are not fully familiar with.
9. Never carry out repairs of the hydraulic circuit when the system is pressurized. When pressurized, the oil spray can penetrate the skin and cause mortal danger.
10. Never work below a device or component that is only being held up by hydraulics. Use separate supports when carrying out maintenance or repairs. Do not disconnect cylinders or their valves until the machine is well supported.
11. Most hydraulic oils do not evaporate easily. Risk factors include hot oil, spills and oil mist (pressurized).
12. If oil gets into your eyes, rinse with plenty of water and contact a doctor.
13. Avoid prolonged or repeated contact with your skin.
14. If sprays or contact with the skin cannot be avoided, use protective gloves, goggles and clothing as necessary. Do not use oily clothing.
15. Avoid discharging hydraulic oil into the environment, as it can pollute waterways and the groundwater. If biodegradable oil is to be used, please contact the manufacturer beforehand and have the suitability of your equipment for the operation with biodegradable oil confirmed by him before such oil is used.
16. Store the oil in sealed containers provided by the manufacturer. Try to transfer the oil directly from its container into the tank.
17. If the oil must be passed through other containers, ensure that they are completely clean. Caps, funnels, sieves and filling holes must also be clean.
18. Never store oil outdoors, as water could condense in it.
19. Always dispose of oil in a suitable container, never into the environment!

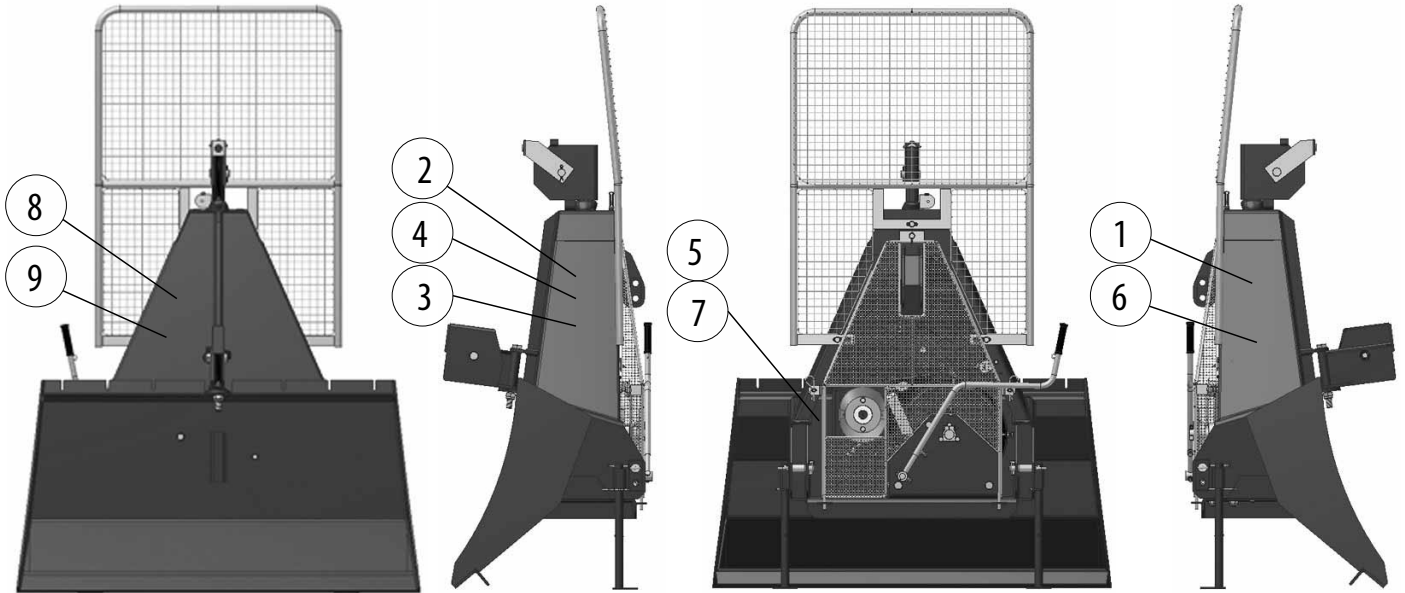
SAFETY INSTRUCTIONS FOR WINCHES

- Check that the wire cable is in good condition before using the winch (check for corrosion, sharp bends, breakage and thickness of strands). If a cable snaps, it can whip towards the operator or away from the winch.
- Operate the winch with a guide cable at least 2 meters away to the side of the machine. Do not operate the winch from the tractor cabin unless a safety net has been installed.
- When winching downhill, the pulling must be done from the side using an additional idler.
- When winching on a hill, do not follow the load from below.
- Side-winching must not be done at angles of more than 30 degrees.
- It is extremely dangerous to be in the space between a load attached to the wire cable and the winch.
- Check that all bystanders are at a safe distance of at least 15 meters whenever the machine is running. Place warning signs on approaching roads.
- Never touch the wire cable by hand during winching.
- The maximum load must be adjusted to conditions.
- Check that the winching chains are carefully attached. Do not attach the wire cable directly to the load.
- The safety coefficient must be 2.5 for cable-type fasteners and 2 for chain-type fasteners.
- Disconnect the transmission before examining the machine in the case of any faults.
- Ensure the wire cable is as short as possible during transport.
- The winch may only be used for winching and hauling. Do not use the winch for lifting loads.

FARMI 61

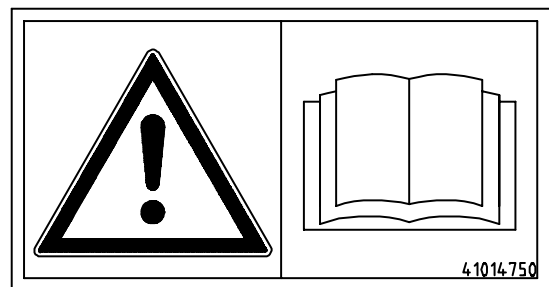
STICKERS AND PLATES

The following plates and labels must be correctly attached to the machine.
Missing safety plates / labels must be replaced immediately.

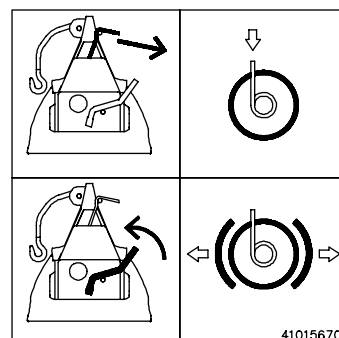


Farmi Forest Corporation		
Ahmolantie 6 FIN-74510 IISALMI FINLAND		
CE		
SEILWINDE / SKIDDING WINCH		
Typ / Type	FARMI 61	
Triebwerkgruppe / Duty cycle	EM	1
Zugkraft innen / Bare drum line pull	kN	60
Zugkraft aussen / Full drum line pull	kN	26
Betr.-Druck / Max. pressure	bar	140
Fabr.-Nr. / Serial number		
Baujahr / Manufacturing year		20
Erf. Antriebsleistung / Input power	kW	45
Seildurchmesser / Cable diameter	mm	12
Rech. Bruchkraft/Min. rope breaking load	kN	120
Gewicht / Weight	kg	503

1. Machine plate FARMI 61 (40146830)

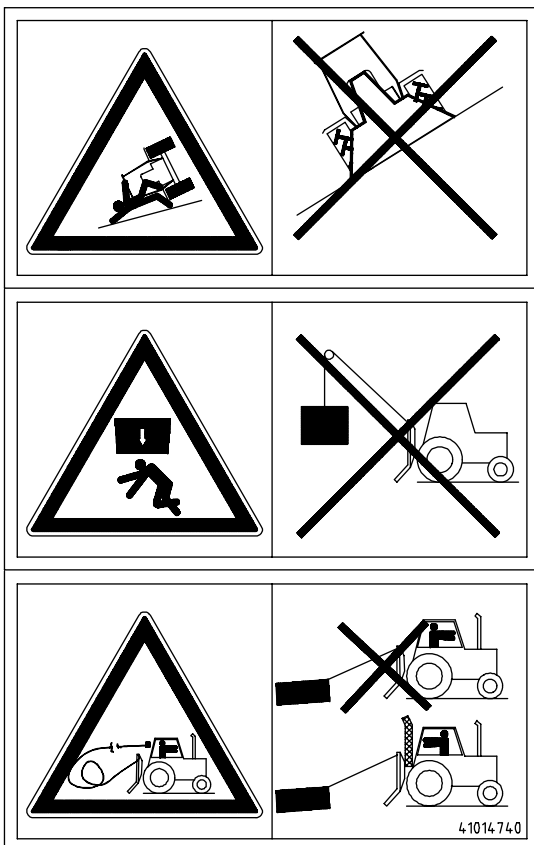


2. Note! See manual for operation and maintenance.
(41014750)



3. Controls (41015670)

FARMI 61

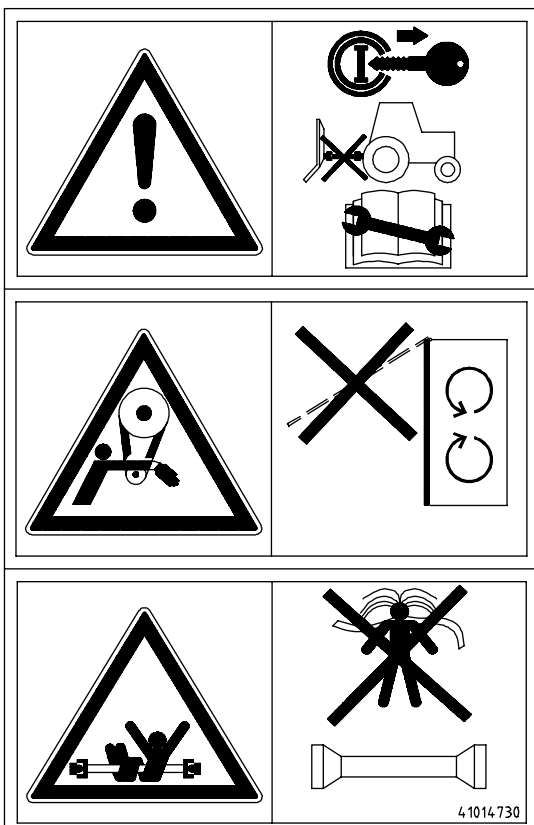


4. Nr 41014740

*Falling danger!
Do not work in an oblique position.*

*Crushing danger!
Do not use the winch for the lifting.*

*Watch out for a breaking cable!
Always use the protective screen.*



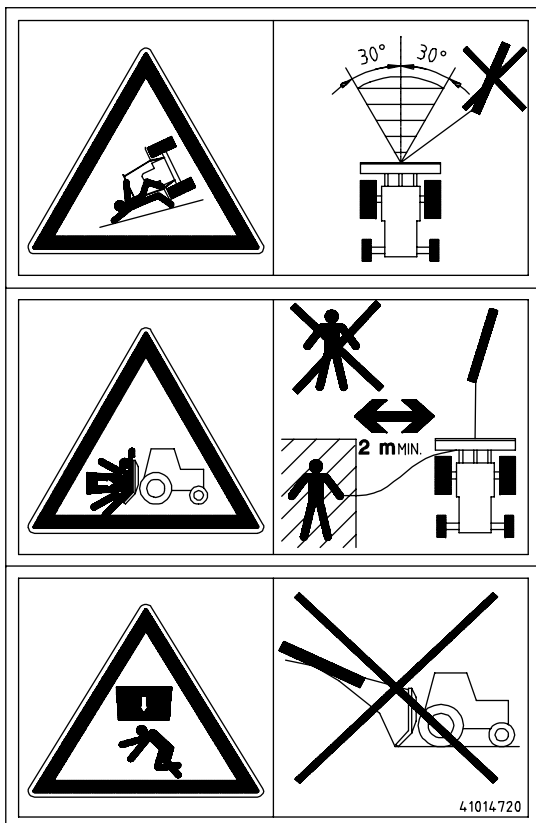
5. Nr 41014730

*Note!
Before doing maintenance work turn off the motor,
remove the ignition key and disengage the P.T.O.*

*Accident danger!
Keep the safety equipment where it belongs.*

*Winding danger!
Do not wear too loose clothes and keep the hair bound
inside the cap.*

FARMI 61

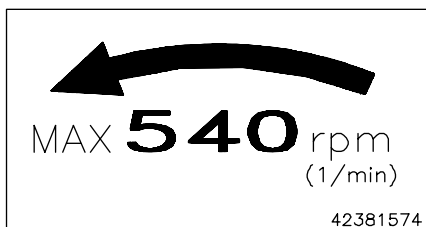


6. Nr 41014720

*Falling danger!
Do not winch at sideways angles exceeding 30 degrees.*

*Crushing danger!
Do not stand in front of the winch when working.
Stand on the side at a distance of at least 6 ft from the winch.*

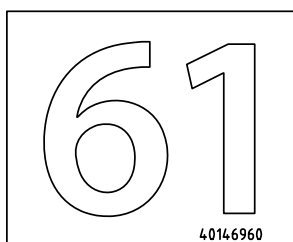
*Crushing danger!
Do not winch downhill.*



7. Maximum rpm (42381574)



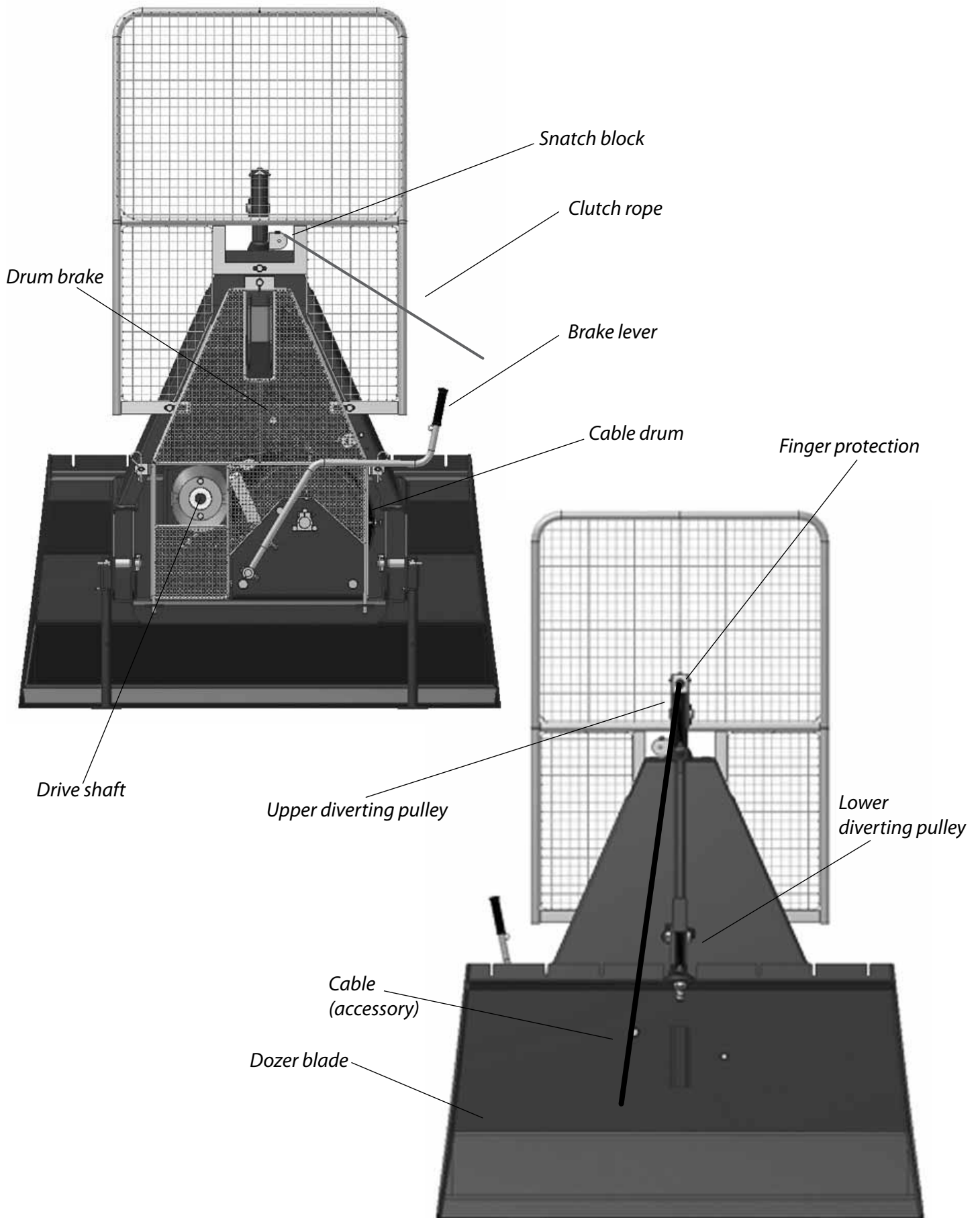
8. FARMI Forest -sticker (40147110)



9. Sticker 61 (40146960)

FARMI 61

MAIN PARTS

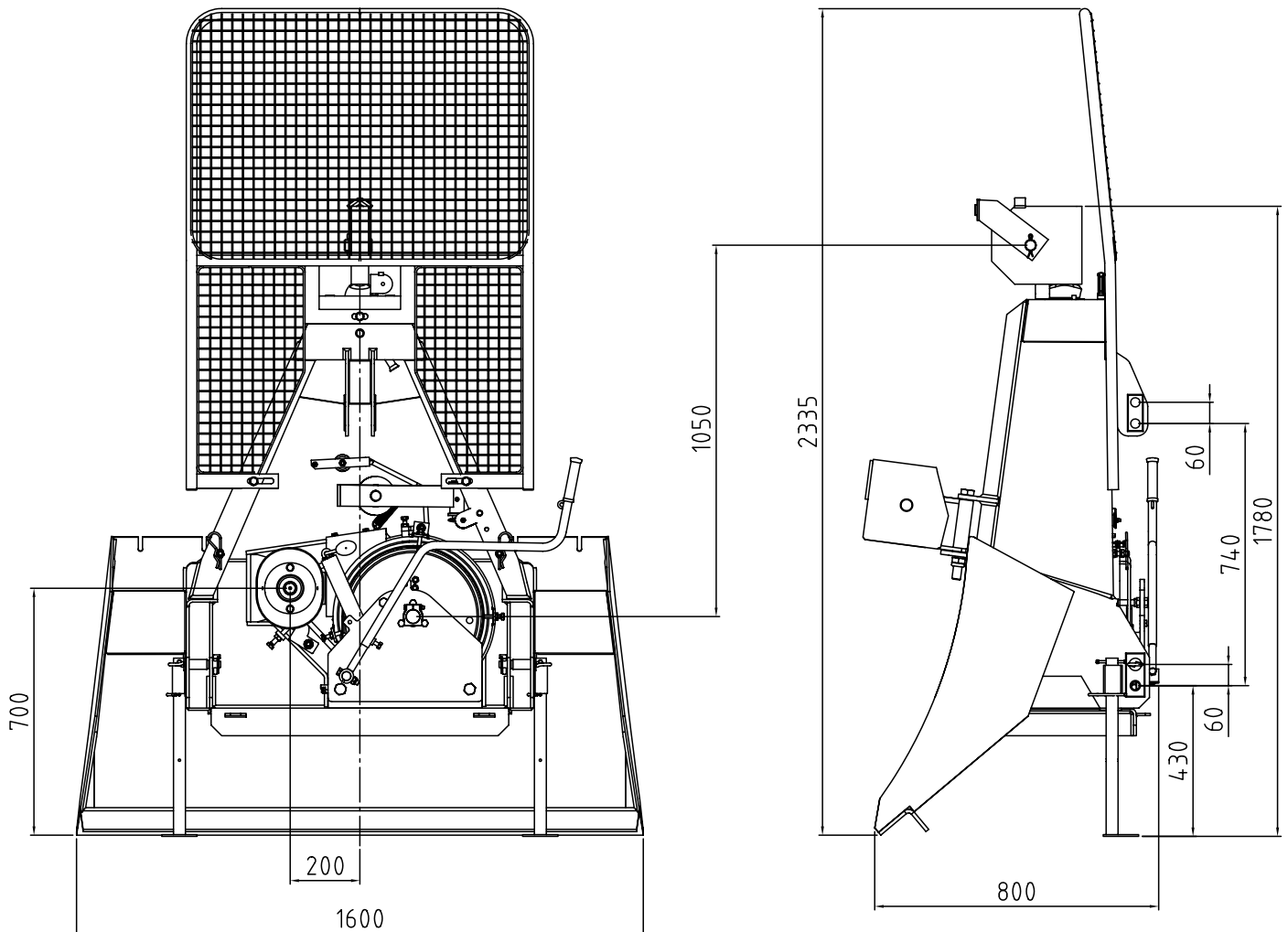


FARMI 61

TECHNICAL SPECIFICATION

		FARMI 61
Tractive power	Cable drum empty (Maximum)	60 kN
	Cable drum full (Minimum)	26 kN
Cable capacity		70 m, ø 12 mm cable
Ultimate strength of the cable	1960 N/mm ²	COMPACTED
Winching speed	350 rpm	0,36 - 0,82 m/s
	540 rpm	0,56 - 1,26 m/s
Weight(without cable)		508 kg
Clutch		Mechanical friction plate clutch with heat sink
Power transmission		Universal shaft from tractor
Mounting		To 3-point hitch(Kat.I and Kat.II)
Power needed		min. 45 kW (60 hp)

DIMENSIONS



MOUNTING

MOUNTING TO THE 3-POINT HITCH

The winch can be mounted to the 3-point linkage of any tractor. Power transmission is obtained through universal shaft from tractor.

ASSEMBLY OF THE PTO SHAFT



If the PTO shaft is too long it may get pressed when the three point hitch is lifted up. This may cause damage to the bearings of the winch or to the PTO of the tractor. The PTO shaft must not be too short in any position.

The PTO length is suitable, if the pipes do not reach the bottom.

PTO is optional equipment.

1. Mount the winch to the 3-point hitch of the tractor.
2. Raise the winch high enough to get the PTO shaft of the tractor and the winch to a horizontal level.
3. If you have a shortened PTO shaft available, put one end into the drive shaft and check that the distance of the locking of the other end. Take into account the additional clearance of approx. 20 mm.
4. Fasten the other end of the PTO shaft in its place and also move the winch sideways at the same time securing that the axis does not base.

SHORTEN THE DRIVE SHAFT



Both PTO halves must be shortened by equal amounts.

- First cut the thicker cover to a correct length (1). Remember 20 mm clearance. Then cut away the same amount from the form pipe. Make a similar shortening to the second half of the PTO shaft. Remove the burr with the file.
- Connect the PTO shafts within each other. Make sure by moving elevator carefully up and down that the shortening of the axis is sufficient. Check that the axis have 20 mm latitude.

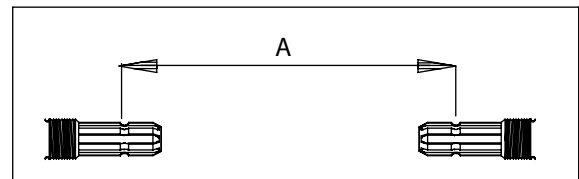


Fig. 1. Measure A when the drive shafts are nearest to each other.

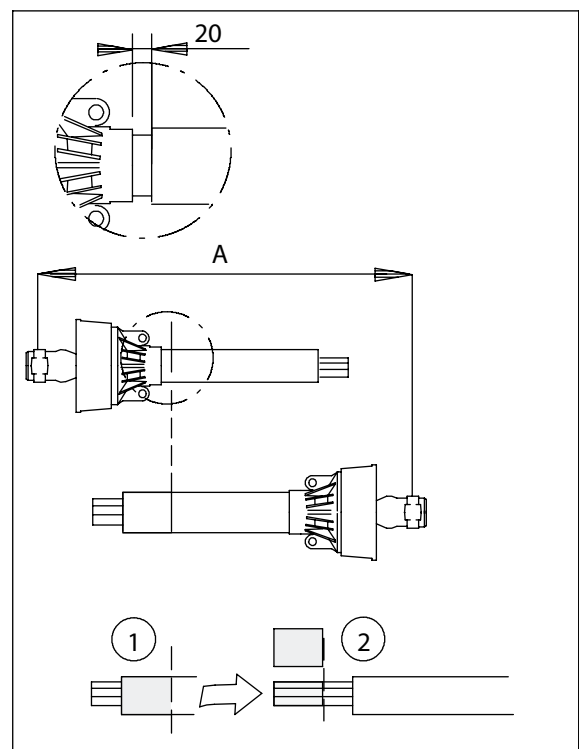


Fig. 2. Shorten the drive shaft

FARMI 61

FASTENING THE CABLE TO THE DRUM

1. Tape the cable end to prevent loosening of the core wires.
2. Pass the cable through the hole in cable guard, over the upper snatch block and then inside the winch.
3. Insert the cable from behind the roll of the drum brake.
4. Pull the cable onto the drum from the left hand side (the same side as the clutch lever).
5. Pass the cable end through the hole in the drum plate, pull about 15 cm (6"), and insert under the wedge of the cable lock device. See fig. 3.
6. Tighten the cable lock screw.
7. Winch the cable on the drum. **REMEMBER THAT THE CABLE HAS TO BE LOADED HEAVILY, WHEN WINCHING THE CABLE BACK ON THE DRUM.**

Do not use longer cable than needed. With correct length you achieve good pulling strength and proper winding of the cable.

PRE-OPERATION CHECKS

CABLE

Check that:

- the cable is faultless (breakage risk).
- there are no twists or kinks (breakage risk) in the cable.
- the cable has been properly fastened to the winch.

WINCH

Check that:

- all the pins and lynch pins are in place.
- all bolts and nuts have been tightened.
- roller chain is tight.
- the drum brake has been properly adjusted.
- the clutch has been correctly adjusted.
- lubrication is carried out correctly. See lubricating instructions.

MOUNTING TO THE TRACTOR

Check that:

- the tractor's top link point is locked. (with the help of a support, if necessary).
- the pins are properly secured.
- the side limits are locked and slack removed from the lifting arm.
- the PTO-shaft is suitably long, properly fastened and the shield chains attached.
- the winch support legs have been raised.

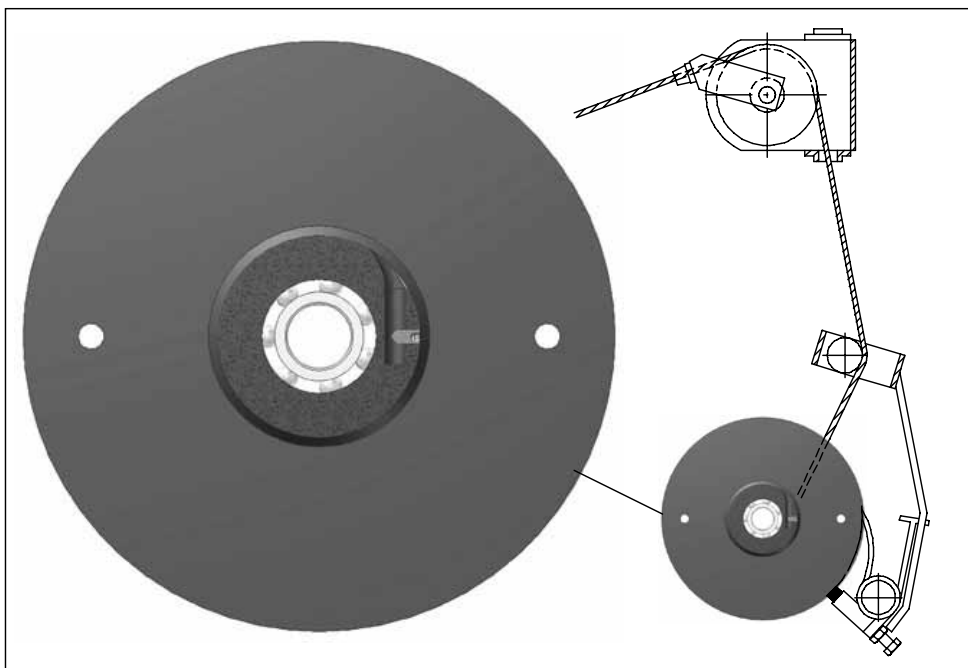


Fig. 3. Fastening the cable

CONTROLS



Get acquainted with the controllers of the winch before the use, tests the stopping functions of the winch and the tractor and all other functions. Each function has to be in perfect condition.

WINCHING

- The winch is equipped with a clutch, which will be used by the control rope. When the user draws the control rope, the winch begins to draw in the cable. Winching will stop when the rope is released.
- The end of the cable drum is equipped with a friction clutch, which slips, if the load is too heavy. This prevents cable break or damages if the load gets caught.
- The cable can be pulled out when the safety brake is released.

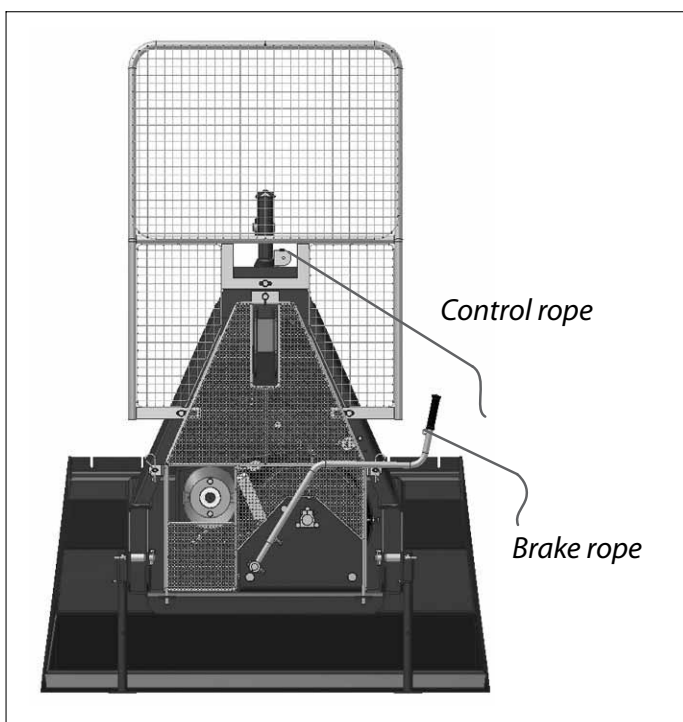


Fig. 4. Controls

OPERATION

SAFETY PRECAUTIONS



Read the operation instructions before operating this machine! It is the owner's responsibility to instruct all equipment operators and support personnel in the operation of this winch.

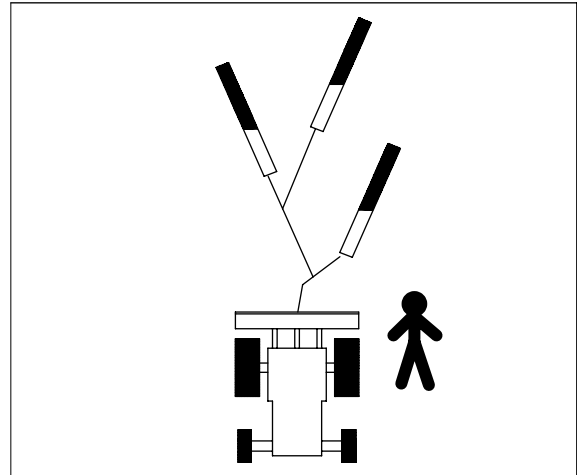


Fig. 5.

1. Choose a horizontal, hard based skidding route for the tractor. Avoid steep slopes, especially when winching from the side. Check that the winching trail is clear and that the tractor's parking brake is on. Do not run the tractor at a high idle when winching. Maximum PTO speed is 540 rpm. Ensure that the logs can be drawn freely. Be especially careful when working on slopes. Avoid winching sideways at angles exceeding 30 degrees. Use diverting pulley which is fastened to the tree if needed. (See fig. 7.)
2. The safest place for the operator is at the back left side of the winch, allowing good visibility. See fig. 21. Take care that there is no one in the working area.
3. The tractor must have a ROPS cab and front end weights.
 - Always position the tractor on a flat ground in line with the direction of the pull (see fig. 5). Avoid working in steep terrain. Ensure nothing is blocking the path of trees.
 - Avoid an unnecessarily strong pulls, the tractor may roll over.
 - Adjust the tractors rpm's according to the conditions.
 - Use a shield between the seat and the winch (e.g. safety cab or protective screen) if you run the winch from the tractor seat.
 - Use agreed signals when working in groups.
4. When you use a light tractor, there is a very big risk that the tractor will roll over. To avoid that risk, you must add extra weight to the front of the tractor.
 - The falling danger of the tractor can be reduced by winching through the lower diverting pulley.

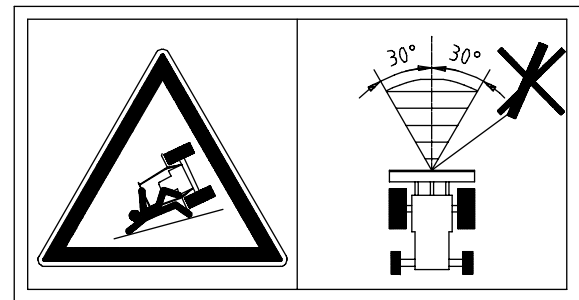


Fig. 6. Do not winch sideways at angles exceeding 30 degrees. The tractor can tilt.

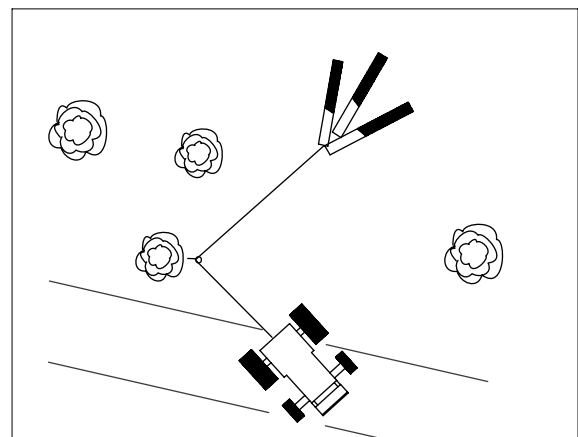


Fig. 7. Use a snatchblock to avoid winching sideways.

PRE-OPERATION CHECKS

MOUNTING AND USE OF THE LOWER SNATCHBLOCK

- Usually the logs are winched in through the upper diverting pulley of the winch. This lifts the logs and they dig less into the ground. The weight of the load also pushes the blade into the ground thus anchoring the winch and the tractor to the ground.
- The winch has a lower diverting pulley. The main use of the lower diverting pulley is to lower the pulling point. This enables larger loads to be skidded out. For skidding out the load the cable is transferred to the lower diverting pulley.
- Several logs can be hooked up and winched in at one time by means of keyhole sliders on the cable. The skidding chain should have a pin on the end, which makes it easier to pass the chain underneath the tree. See fig. 8.

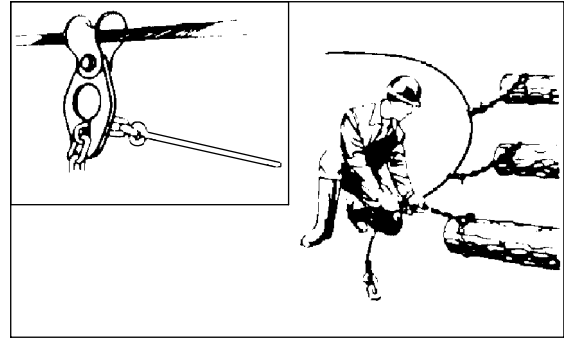


Fig. 8. Use a keyhole sliders to winch several logs at one time.



When using the lower diverting pulley make sure that it follows the direction of the cable. Otherwise the cable will be damaged, when it is pressed between the snatch block and the lower diverting pulley frame.



When winching an unloaded cable, make sure that the finger guard doesn't rise up with cable and doesn't cause cable to cross-cut.

WINCHING



Before using the winch, you have to pull the cable completely out of the drum and winch the cable back on the drum with a heavy load. Otherwise the cable will be damaged.

- Park the winch and tractor on level, stable ground. Lock the brakes of the tractor before winching. Lower the 3-point hitch so that the dozer blade anchors the winch to the ground. See fig. 9.



Do not let the dozer blade sink too deeply into the ground, so that the PTO shaft is not damaged.

- Before using the skidding winch, make sure that the lower diverting pulley, the upper diverting pulley and the finger guard move freely.

1. Draw the cable to the load but avoid twitches. Do not draw out too much cable to avoid loose spaces when the cable is reeled in.
2. Start the tractor, turn the PTO on. Use the winch with the control rope and stand in a safe place at a distance of at least 2 m (6 ft) from the winch. Use the upper diverting pulley when winching.
3. Operate the clutch firmly. Avoid sliding the clutch to avoid warming of the clutch. Stop winching by letting go of the control rope for the leave. The clutch will slip when the load is heavier than the selected pull. This prevents damages to the cable or winch. Avoid extra large loads. The winding speed depends on the number of revolutions of the tractor. Do not wind too fast.

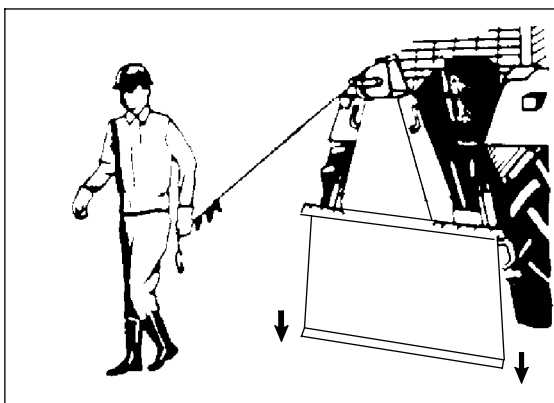


Fig. 9. Anchor the dozer blade to the ground.

4. Stop winching when the logs are at about 1,5-3 m (5-10 ft) from the tractor. Install the cable on the lower diverting pulley.

SKIDDING

1. Start the tractor, engage the power output. Pull the control line and winch-skid the logs onto the lower sheave. The load is locked by stopping the output, by which the brake is engaged. Do not release the safety brake!
2. Turn off the P.T.O.
3. Raise the 3-point hitch so that the logs come off ground (fig. 12.).
4. Move the logs to the desired place.

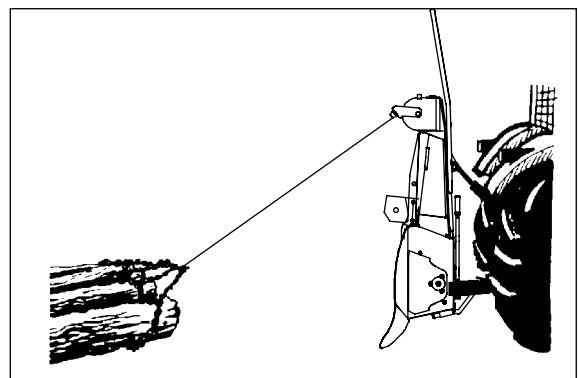


Fig. 10. Winching over the upper diverting pulley

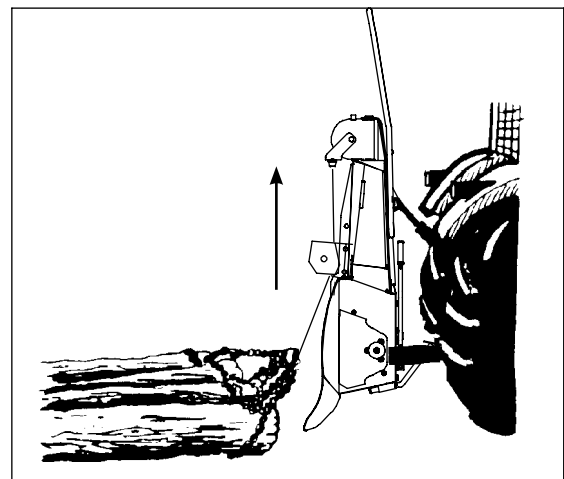


Fig. 11. Cable on the lower diverting pulley

FARMI 61

WORKING IN ROUGH TERRAIN

Drop the load before you reach bad terrain. Drive through the bad spot. Winch in the load again (Fig. 13.).

IF YOU GET STUCK WITH THE TRACTOR

1. Drop the load. Drive the tractor to firm ground. Winch in the load.
2. If you cannot move the tractor, release the load and winch the tractor out. When winching the tractor out, always run the cable under the lower pulley. Support the winch by driving the tractor.

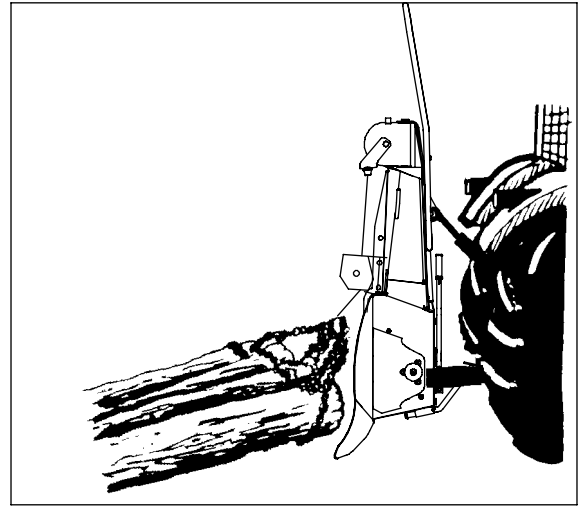


Fig. 12. Winching over the lower diverting pulley

DROPPING THE LOAD

1. Let down the 3-point hitch.
2. Release the safety brake.

TRANSPORTATION

The cable should be run under lower diverting pulley and locked in place for transportation of the winch.

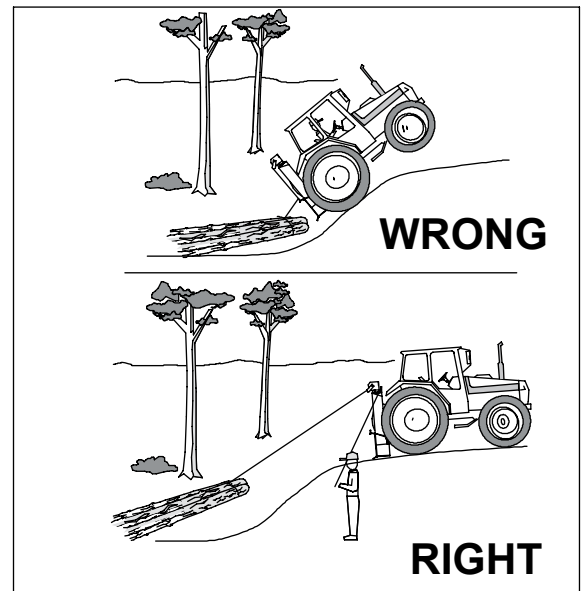


Fig. 13. Driving through bad terrain

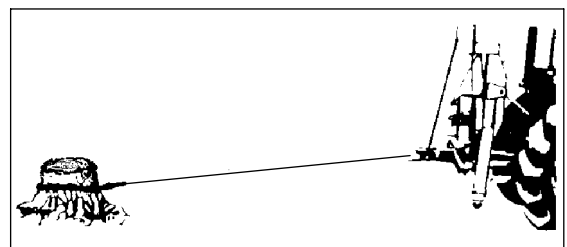


Fig. 14. Winching the tractor out

FARMI 61

MAINTENANCE

SAFETY



Disengage the P.T.O and turn the tractor off before you service the winch, remove the keys so the tractor cannot be started up accidentally.

LUBRICATION

Following points require lubrication:

1. Grease the mechanical clutch parts after every 500 working hours. Always use good quality lubrication grease.
2. Grease ball thrust bearings after every 1000 working hours.
3. Grease the PTO-shaft regularly and always before use as shown in figure 15.
4. Grease the drum chain lightly (not with oil) after every 50 working hours with spray type, hardening chain grease. Wipe off the excessive grease.

	Ball thrust bearings, for example Teboil MultiPurpose Grease	Clutch halves, for example Teboil Universal M
Thickening agent	Litium	Litium
NLGI rating	2	2
Dropping point °C	185	180
Base oil viscosity mm ² /s @ 40 °C	110	110
Operating temperature range °C	-30...120	-30...120

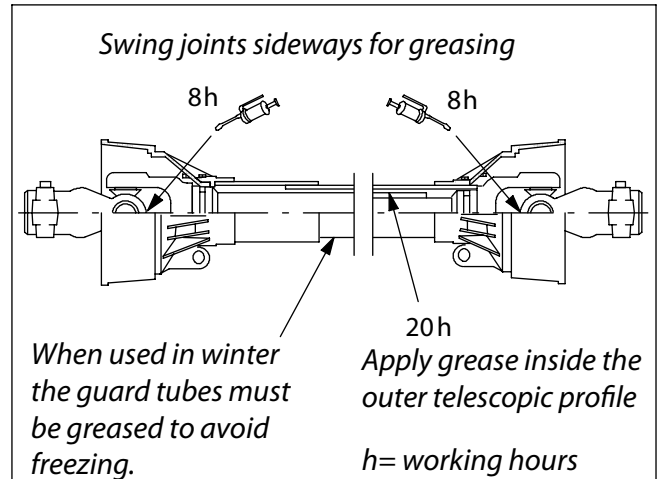


Fig. 15. PTO shaft lubrication

CLUTCH ADJUSTMENT

The clutch is easy to operate. It does not exert to keep the clutch pulled because the lever is pulled over the highest transfer strength 35 kg outside up to the impact. In impact proximity the transfer strength is only 10-15 kg.



It is important that the clutch is adjusted correctly and the impact is not changed, otherwise exists danger that the clutch goes beyond the so-called dead point and cannot the drive any longer be switched off.

CHECK

- Measure the strength of the control rope e.g. with the help of a spring scale or a weight.
- If the maximum force is below the desired level, tighten the clutch. If the force exceeds the desired level, loosen the clutch.

ADJUSTING

1. Loosen the axle nut's (C) lock screw.
2. Turn the nut (C) (horizontal width: 50 mm) slightly in the required direction – clockwise to tighten the clutch and counter-clockwise to loosen it.
3. Use the scales to pull the clutch lever (A) close to the limiter (B).
4. After reaching the desired maximum force, lock the nut (C).



If you overtighten the nut (C), the string force will increase but the winch will not pull well. If the nut is too loose, the string force will be light but the clutch could slip.

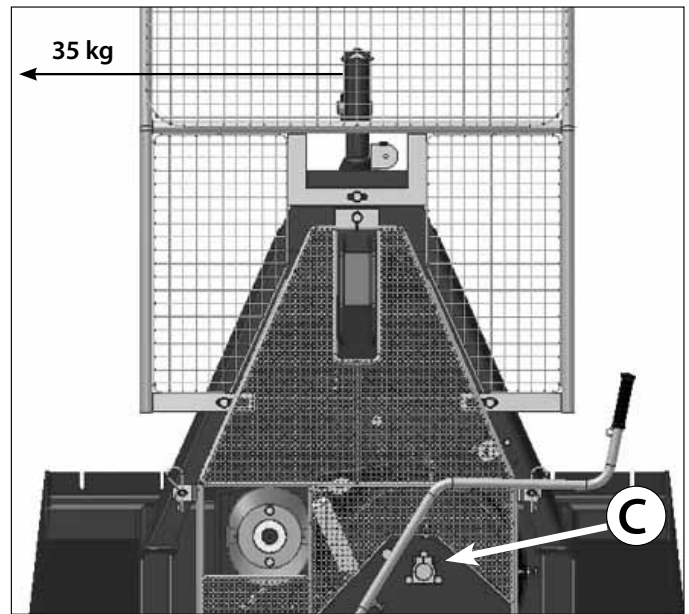


Fig. 16. Clutch adjustment

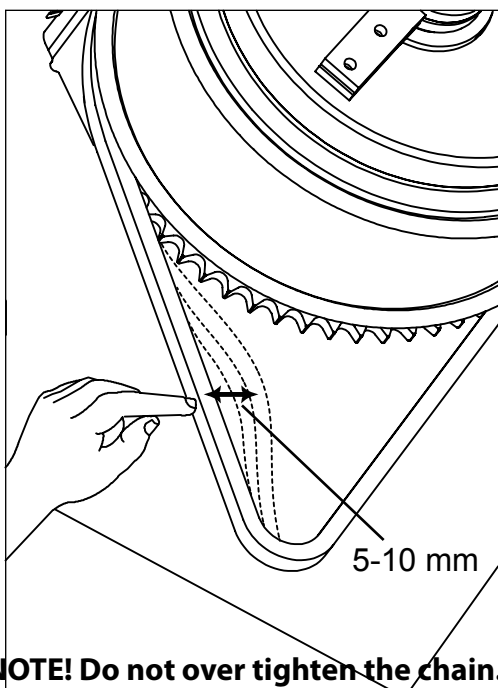
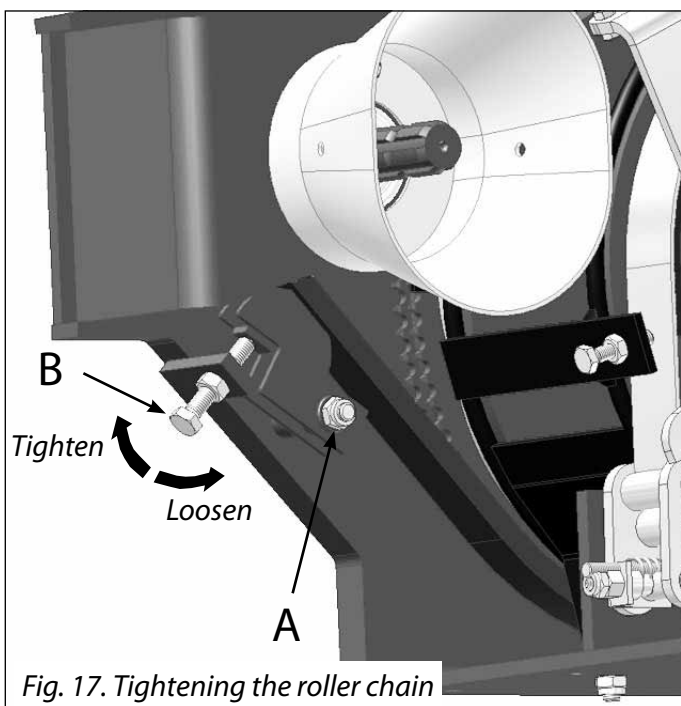
FARMI 61

ADJUSTING THE ROLLER CHAIN TIGHTNESS

Roller chains tightness adjustment is carried out by moving the chain tightener. See fig. 17.

1. Loosen the bolt (A) holding the chain tightener (19 mm wrench).
2. Adjust the chain tightness by moving the chain tightener towards with screw (B).
3. Tighten the nuts.

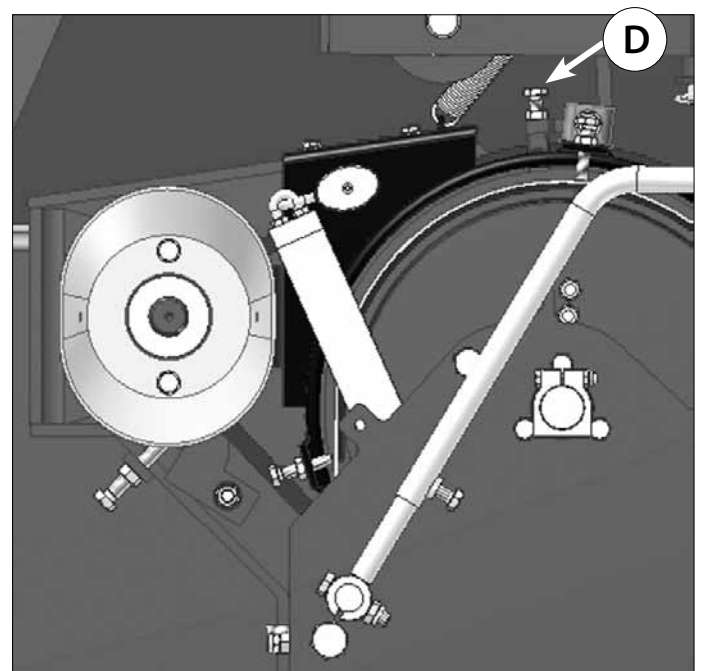
NOTE! Do not over tighten the chain.



ADJUSTING THE DRUM BRAKE

Adjust the drum brake so that it slows down the drum slightly while pulling out the rope. This will reduce risk of tangling and backlash.

- To increase the braking effect tighten the adjustment bolt D. See fig 18. To decrease the braking effect loosen the adjustment bolt.



REMOVING THE WINCH MECHANISM

The whole winch mechanism can be removed in one piece from the frame. To remove the winch mechanism from the winch (e.g. in order to change the roller chain) follow the instructions below:

1. Park the winch on a level, stable ground so that it leans a little backwards.
2. Remove the cable.
3. Remove the fastening bolts (fig. 19 pos. A) beside the drive shaft. 24 mm wrench.
4. Remove fastening bolts (fig. 19 pos. B). 19 mm wrench.
5. Remove fastening bolts 6 pieces (fig. 19 pos. C). 30 mm wrench.
6. Pull out the winch mechanism. Weight 180 kg.

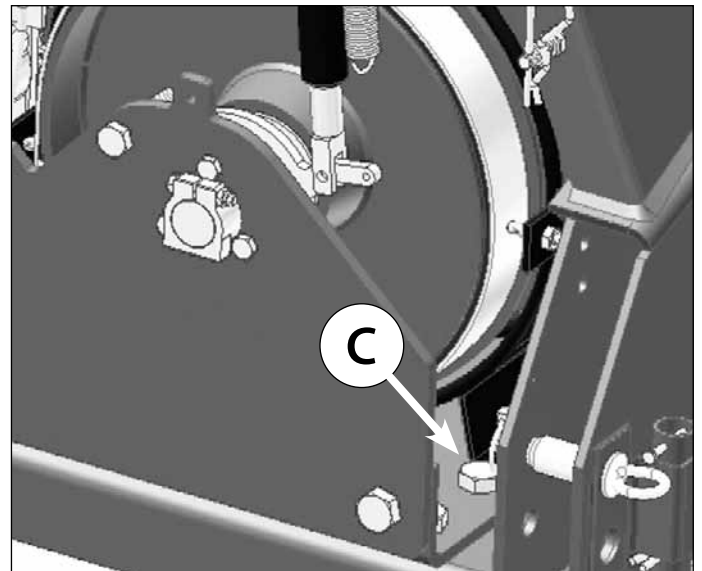
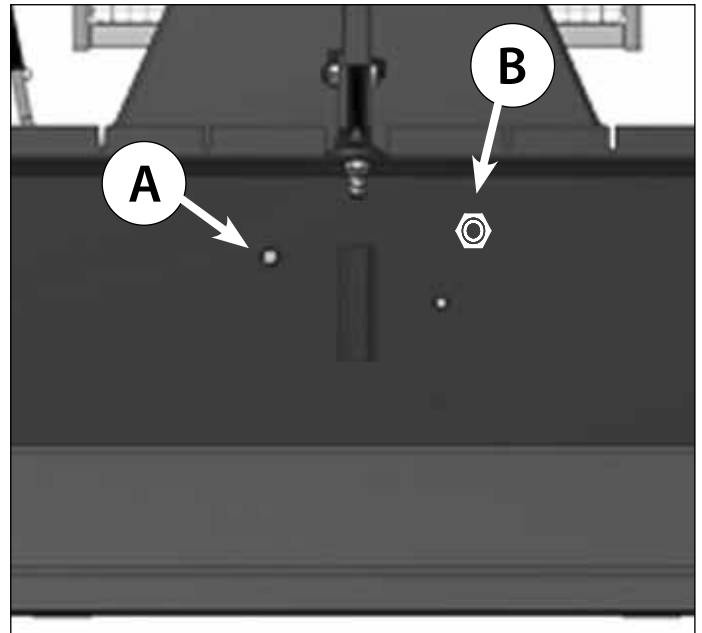
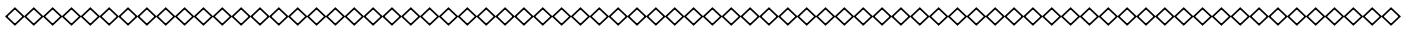


Fig. 19. Removing the winch mechanism

FARMI 61

TROUBLE SHOOTING

CONDITION	POSSIBLE CAUSE	REMEDY
Hard to pull the cable out	Drum brake is too tight.	Loosen the drum brake. See instructions from item "Adjusting the drum brake".
	The clutch is too tight	Loosen the clutch
Cable gets tangled on the drum.	Cable too loose on the drum. The cable is pressed between loose loops.	Disengage the brake and drive the cable out from the drum by means of the tractor. Reel the cable tightly back in with the help of the load.
Cable develops kinks.	Cable brake too loose	Tighten the drum brake. Tighten cable on the drum by pulling out the cable and by winching with a heavy load.
Roller chain comes off.	Roller chain too loose, some part is broken or the aligning is incorrect.	Check the alignment of the chain. Check possible damages. Adjust the roller chain, change if necessary. See chapter "Adjusting the roller chain".
Rattling sound	Roller chain too tight, some part is broken or the aligning is incorrect.	Check the alignment of the chain. Check possible damages. Adjust the roller chain, change if necessary. See chapter "Adjusting the roller chain".
Insufficient pull on the cable	Normal wear of the clutch. Minimum thickness of the clutch plates is 7 mm.	See chapter "Clutch adjustment"
	Oil or grease in the clutch	Disassemble and clean the parts.
	Clutch too loosely adjusted	Adjustment of the clutch. See chapter "Clutch adjustment"
Tractor slides backwards when winching	Parking brakes are not on. Dozer blade does not anchor the unit firmly to the ground.	Lock on the parking brakes. Lower the winch all way to the ground.



PRODUCT REGISTRATION FORM

Date of delivery: ____/____ 20____

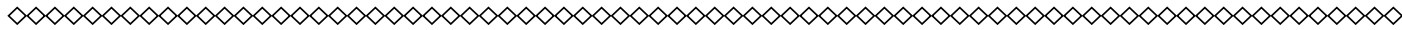
Dealer: _____

Dealer's address: _____

Dealer's tel: _____

Product and type: _____

Serial number: _____



Return to the manufacturer



Date of delivery: ____/____ 20____

Dealer: _____

Dealer's address: _____

Dealer's tel: _____

Customer: _____

Customer's address: _____

Customer's tel: _____

E-mail: _____

Product and type: _____

Serial number: _____





Farmi Forest Corporation
Ahmolantie 6
FIN-74510 Iisalmi, Finland
Puh. +358 (0)17 83 241
Fax. +358 (0)17 8324 372
www.farmiforest.fi

SPARE PARTS

SKIDDING WINCH FARMI 61 for manual use



FARMI[®]
FOREST

Farmi Forest Corporation
Ahmolantie 6
FIN-74510 Iisalmi, Finland
Tel. +358 (0)17 83 241
Fax. +358 (0)17 8324 372
www.farmiforest.fi

FARMI 61

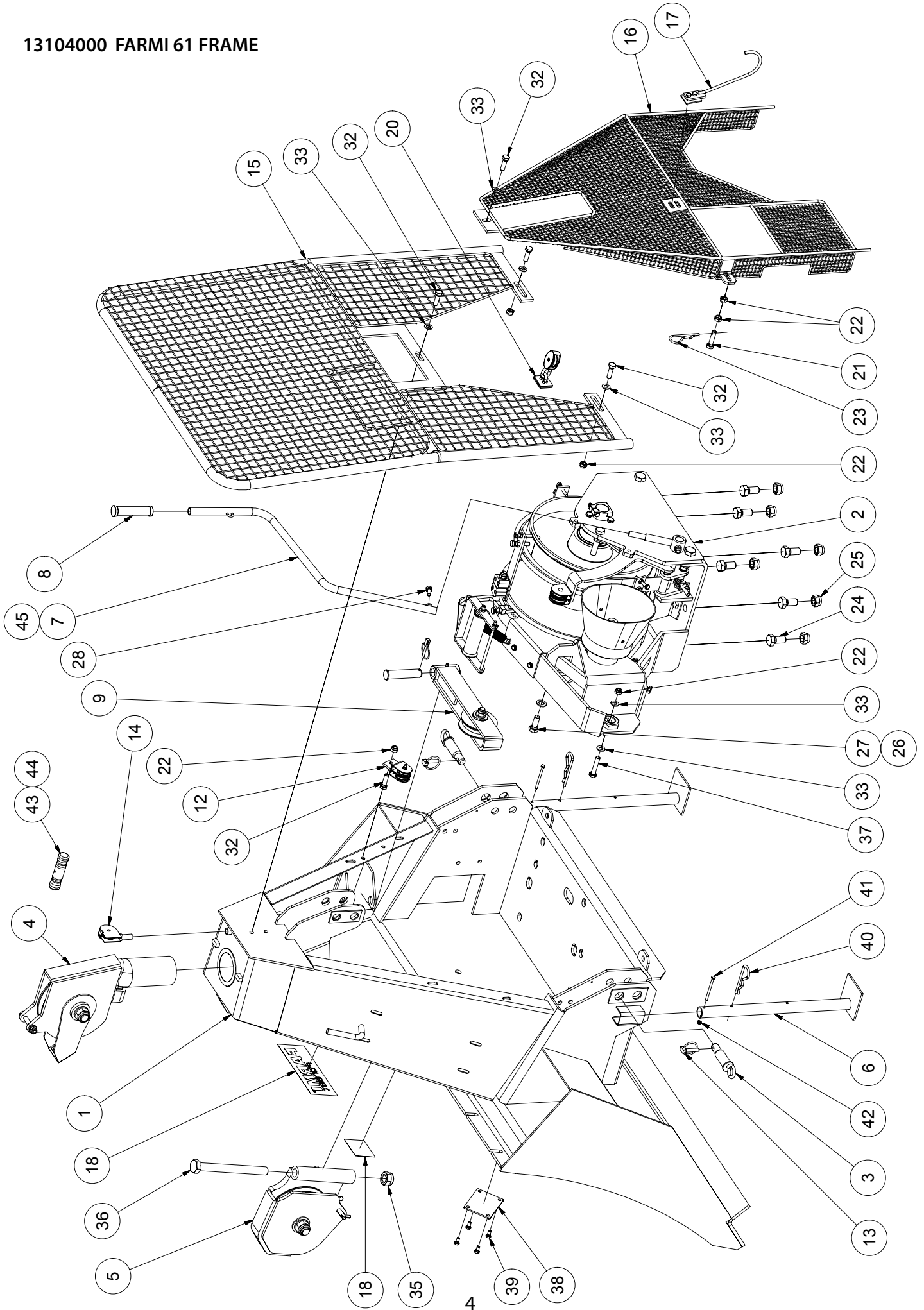
TABLE OF CONTENTS

13104000 FARMI 61 FRAME	4
13105000 FARMI 61 MACHINERY	6
33154120 UPPER DIVERTING PULLEY	10
33404400 LOWER DIVERTING PULLEY	11
33108030 DRUM	12
33106800 DRUM BRAKE	13
33106900 SPROCKET	14
33121400 SPOOLING DEVICE	15
43036880 SNATCH BLOCK	16
43130137 SNATCH BLOCK	17
43130368 HOOK FOR UNIVERSAL SHAFT	18

When ordering spare parts, please indicate the machine's type from the machine plate, spare part's order number, description and quantity required. Example. FARMI 61, 42722744, friction plate, 6 pc

FARMI 61

13104000 FARMI 61 FRAME



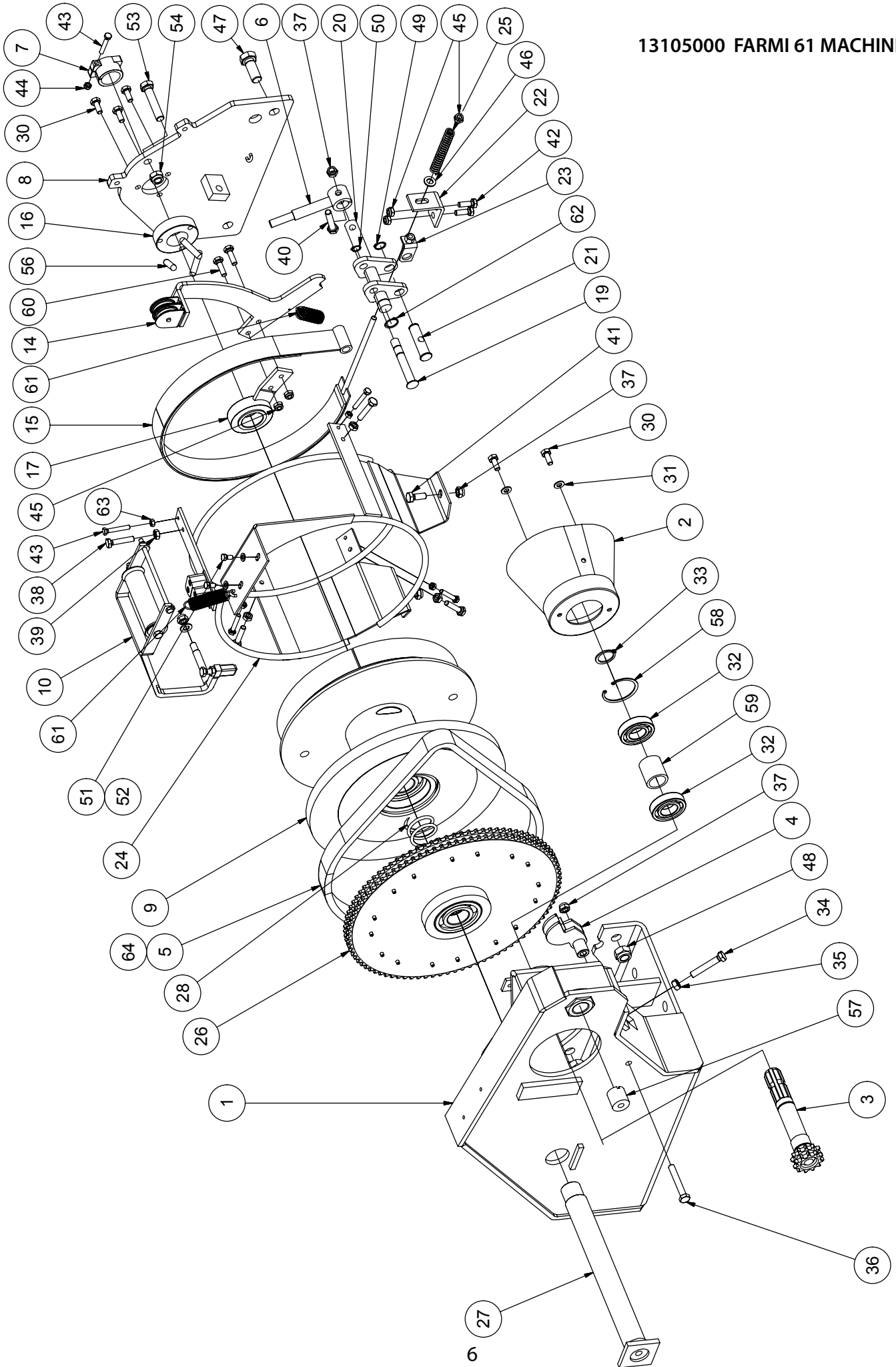
FARMI 61

13104000 FARMI 61 FRAME

Part	Order no	Description	Remarks	Qty
1	13105700	Frame		1
2	13105000	Machinery		1
3	92820190	Pin		2
4	33154120	Upper diverting pulley		1
5	33404400	Lower diverting pulley		1
6	43036540	Parking support		2
7	33104300	Brake lever		1
8	54924014	Handle	22x125, black, PVC	1
9	33121400	Spooling device		1
10	-	-	-	-
11	-	-	-	-
12	43036880	Snatch block		1
13	03182600	Chain + ring cotter		2
14	42721050	Snatch block		1
15	33611100	Protective screen		1
16	13104100	Lower protective screen		1
17	43130368	Hook for universal shaft		1
18	03106910	Stickers		1
19	-	-	-	-
20	43130137	Snatch block		1
21	43511630	Safety screw	M12X50	1
22	52117124	Lock nut	M12 DIN985 8ZN	6
23	52842143	Cotter	5x105	1
24	52062213	Screw	M20x40 DIN933 88ZN	6
25	52117207	Lock nut	M20 DIN985 8ZN	6
26	52200078	Washer	M16 DIN125 58ZN	1
27	52062114	Screw	M16x40 DIN933 88ZN	1
28	52060225	Screw	M10X25 DIN933 88ZN	1
29	-	-	-	-
30	-	-	-	-
31	-	-	-	-
32	52062031	Screw	M12x40 DIN933 88ZN	5
33	52200052	Washer		6
34	-	-	-	-
35	52117249	Lock nut		1
36	52062440	Screw	M24x240 DIN931 10.9ZN	1
37	52062056	Screw	M12x60 DIN931 8.8ZN	1
38	43106140	Plate		1
39	52060118	Screw		4
40	03182650	Chain + cotter	5x105	2
41	52060449	Screw	M6X80 DIN931 88ZN	2
42	52117066	Lock nut	M6 DIN985 8ZN	2
43	43551970	Handle of clutch rope		1
44	02721611	Clutch rope		1
45	02721629	Latch rope		1

FARMI 61

13105000 FARMI 61 MACHINERY



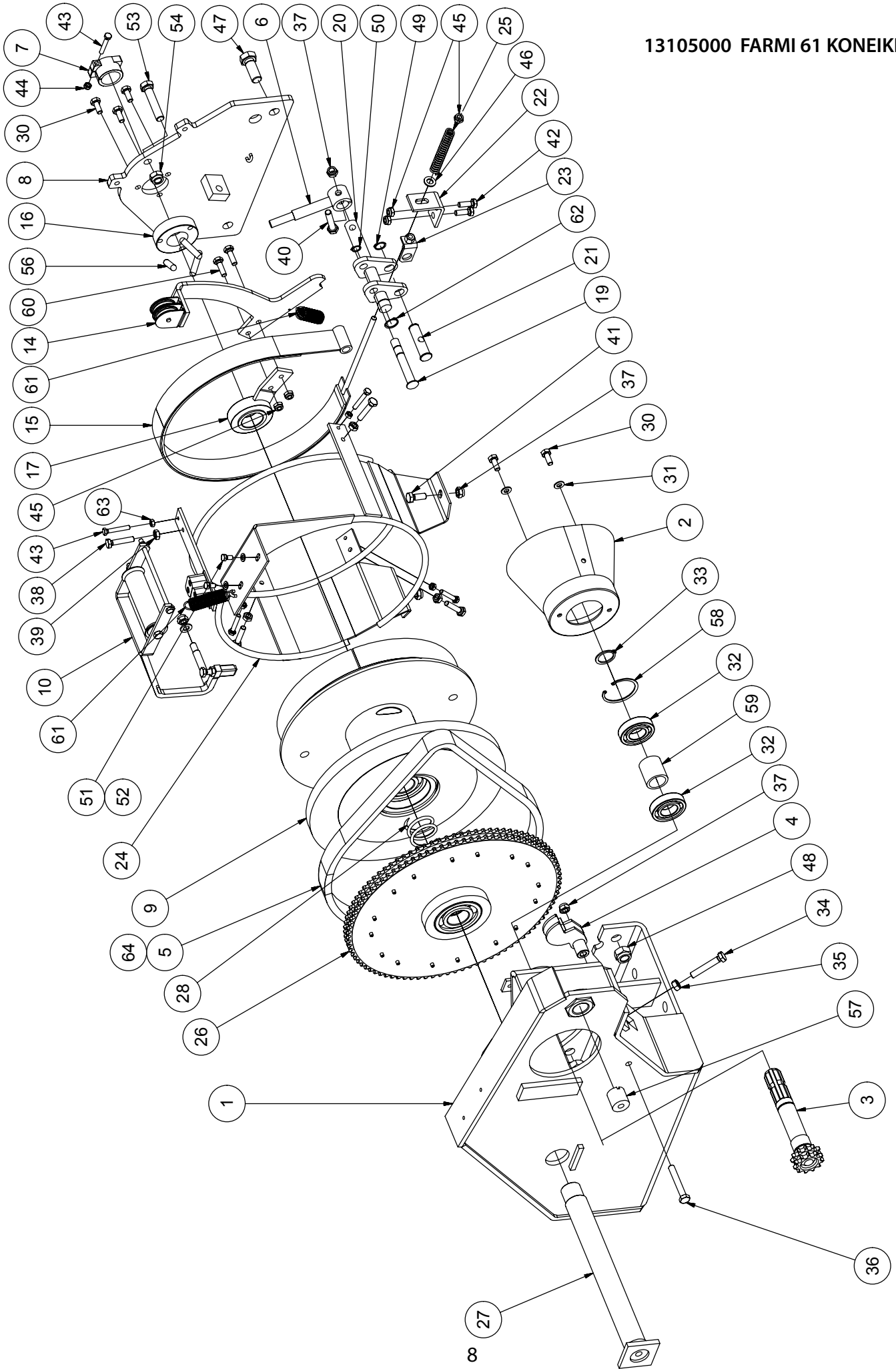
FARMI 61

13105000 FARMI 61 MACHINERY

Part	Order no	Description	Remarks	Qty
1	13106100	Frame		1
2	43511780	Cover of the universal shaft		1
3	33106300	Splined shaft		1
4	43105200	Chain tightener		1
5	54820840	Roller chain	2X5/8X101 5540 KP	1
6	43110394	Bushing		1
7	43610550	Clutch nut	M40x1,5	1
8	33104200	Front plate		1
9	33108030	Drum		1
10	33106800	Drum brake		1
11	-	-	-	-
12	-	-	-	-
13	-	-	-	-
14	33106120	Clutch lever		1
15	43100970	Brake band		1
16	43550113	Clutch half		1
17	43610450	Clutch half	moving	1
18	-	-	-	-
19	43104880	Brake release pin		1
20	33104600	Swing joint		1
21	43104870	Alignment pin		1
22	33104910	Spring bracket		1
23	43000942	Brake regulator		1
24	33105100	Drum cover		1
25	94602075	Compression spring		1
26	33106900	Sprocket		1
27	33104400	Drum axle		1
28	43560300	Compression spring		1
29	-	-	-	-
30	52060225	Screw	M10X25 DIN933 88ZN	5
31	52200045	Washer	M10 DIN125 58ZN	2
32	54511340	Slotted sealed ball bearing		2
33	52230067	Circlip	35X2,5 DIN471	1
34	52063609	Screw	M12X70 DIN933 88ZN	1
35	52110053	Nut	M12 DIN934 8ZN	1
36	52062072	Screw	M12X80 DIN931 88ZN	1
37	52117124	Lock nut	M12 DIN985 8ZN	4
38	52060340	Screw	M10X50 DIN933 88ZN	4
39	52110046	Nut	M10 DIN934 8ZN	4
40	52062056	Screw	M12X60 DIN931 88ZN	1
41	52062023	Screw	M12X30 DIN933 88ZN	2
42	52060233	Screw	M10X30 DIN933 88ZN	2
43	52060159	Screw	M8X50 DIN933 88ZN	5

FARMI 61

13105000 FARMI 61 KONEIKKO



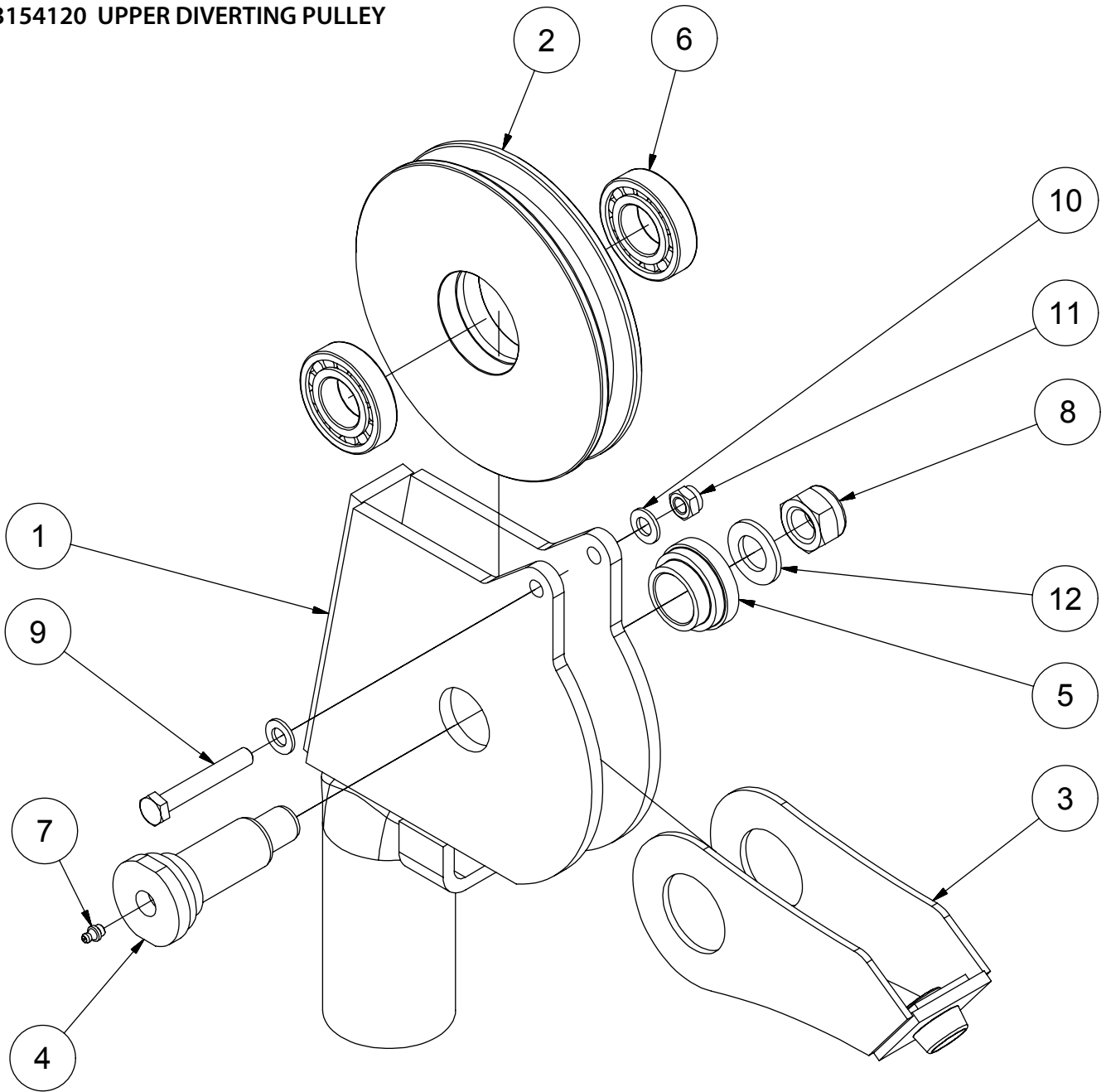
FARMI 61

13105000 FARMI 61 KONEIKKO

Part	Order no	Description	Remarks	Qty
44	52117082	Lock nut	M8 DIN985 8ZN	1
45	52117108	Lock nut	M10 DIN985 8ZN	5
46	52200052	Washer	M12 DIN125 58ZN	1
47	52062221	Screw	M20X50 DIN933 88ZN	2
48	52117207	Lock nut	M20 DIN985 8ZN	2
49	52230034	Circlip	20X1,2 DIN471	1
50	52230026	Circlip	16x1,0 DIN471	1
51	52060118	Screw	M8x16 DIN933 88ZN	2
52	52200037	Washer	M8 DIN126 58ZN	2
53	52062155	Screw	M16X80 DIN933 88ZN	1
54	52117165	Lock nut	M16 DIN985 8ZN	1
55	-	-	-	-
56	43551023	Pin		3
57	43106120	Adjusting bushing		1
58	52231172	Circlip	72x2,5 DIN472	1
59	43106130	Bushing		1
60	52060241	Screw	M10X35 DIN933 88ZN	2
61	94612082	Tension spring		2
62	52230315	Circlip	25X1,2 DIN471	1
63	52110038	Nut	M10 DIN934 8ZN	4
64	54820568	Chain link		1

FARMI 61

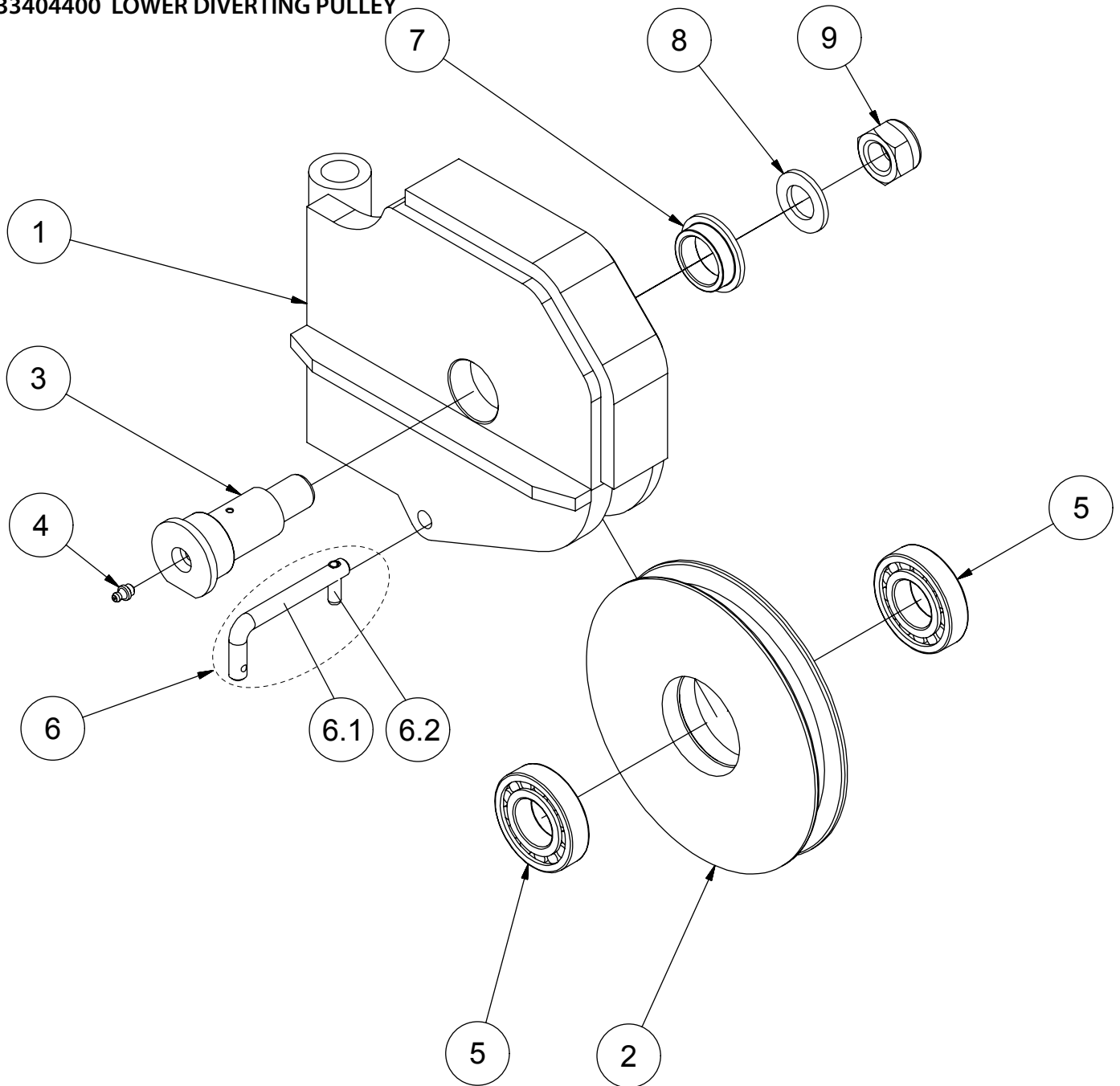
33154120 UPPER DIVERTING PULLEY



Part	Order no	Description	Remarks	Qty
1	33154200	Diverting pulley frame		1
2	43154130	Diverting pulley		1
3	43154170	Finger guard		1
4	43154140	Axle		1
5	43154150	Bushing		1
6	54511360	Bearing		2
7	52401015	Grease nipple	AR1/8	1
8	52117249	Lock nut	M24 DIN985 8ZN	1
9	52062072	Screw	M12X80 DIN931 88ZN	1
10	52200052	Washer	M12 DIN125 58ZN	2
11	52117124	Lock nut	M12 DIN985 8ZN	1
12	52200102	Washer	M24 DIN126 58ZN	1

FARMI 61

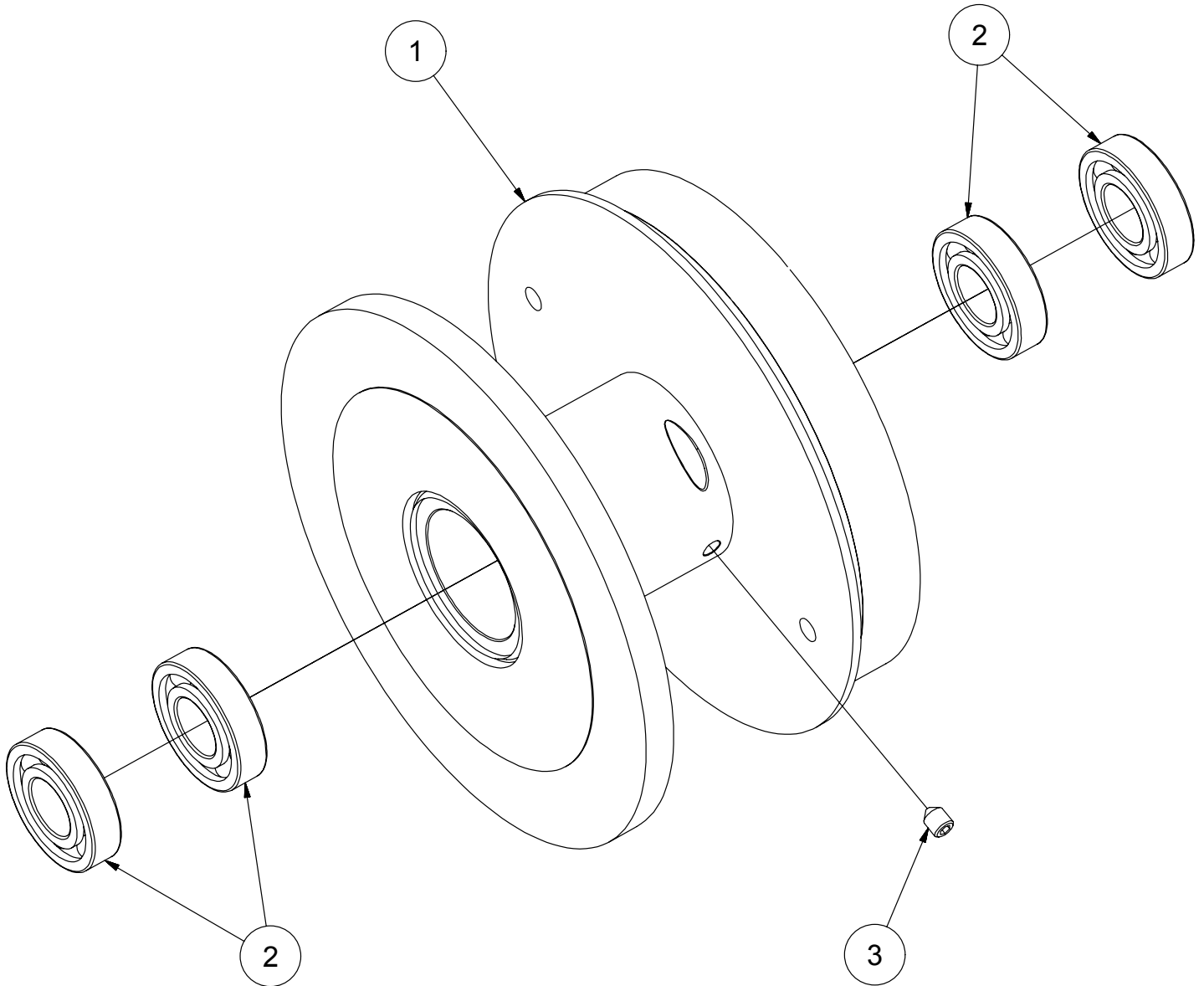
33404400 LOWER DIVERTING PULLEY



Part	Order no	Description	Remarks	Qty
1	33404250	Diverting pulley frame		1
2	43184120	Diverting pulley		1
3	43404350	Axle		1
4	52401015	Grease nipple	AR1/8	1
5	54511360	Bearing		2
6	43404330	Locking pin		1
6.1	43404340	Pin		1
6.2	52840170	Spring cotter		1
7	43404360	Bushing		1
8	52200102	Washer	M24 DIN126 58ZN	1
9	52117249	Lock nut	M24 DIN985 8ZN	1

FARMI 61

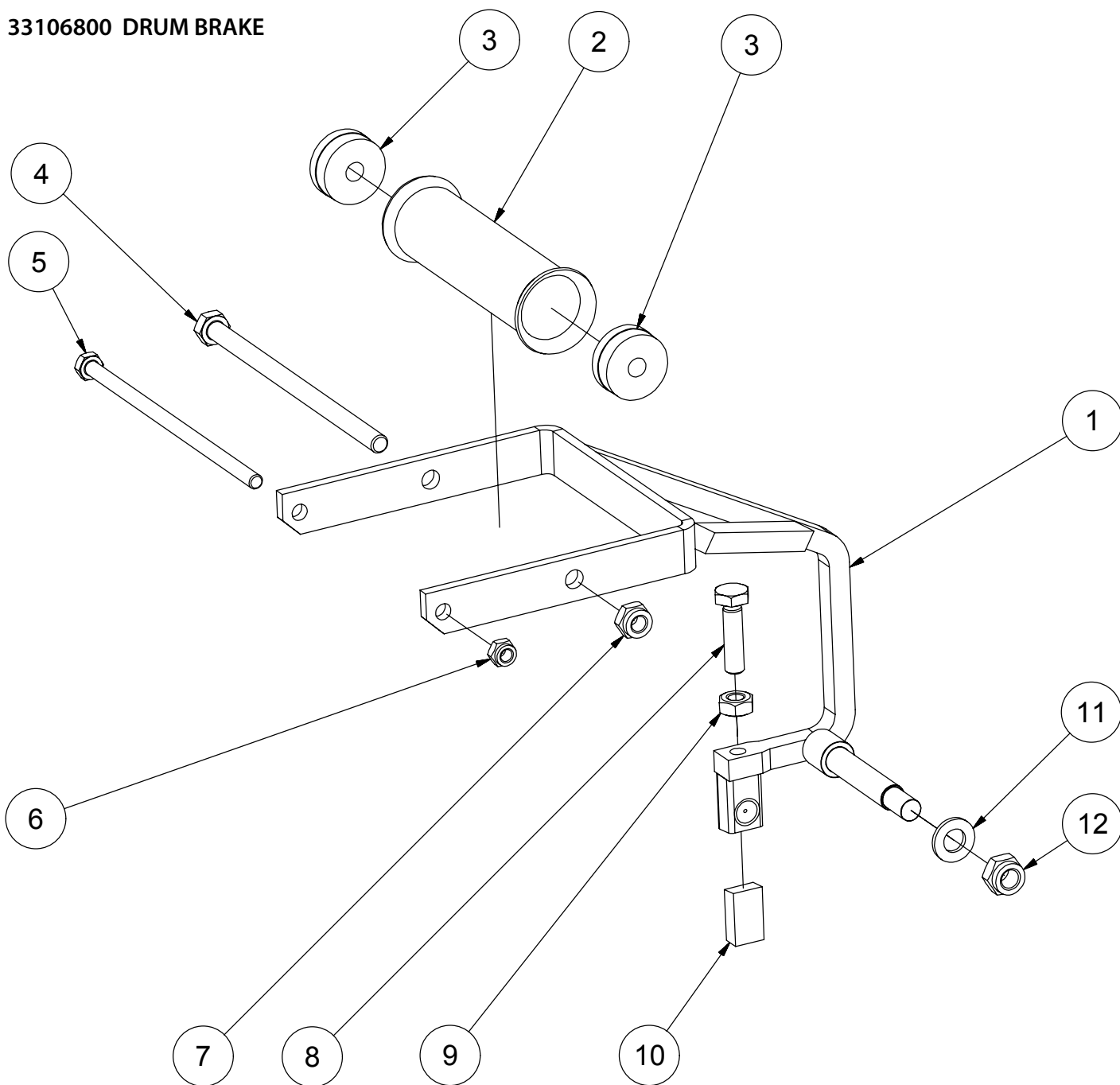
33108030 DRUM



Part	Order no	Description	Remarks	Qty
1	33105410	Drum		1
2	54510227	Slotted sealed ball bearing		4
3	52006244	Allen head retainer screw	M16X20 DIN914 10.9ZN	1

FARMI 61

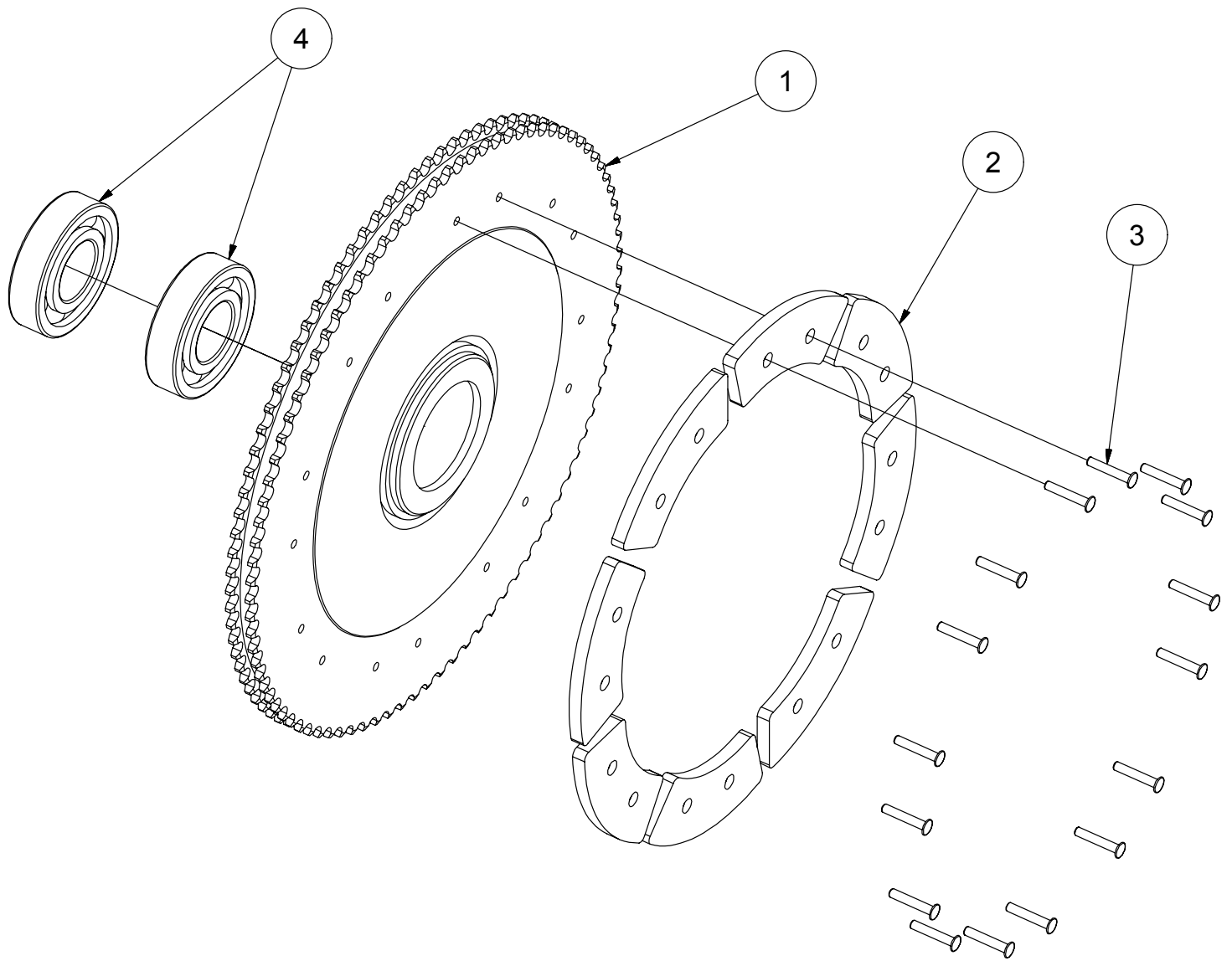
33106800 DRUM BRAKE



Part	Order no	Description	Remarks	Qty
1	33104900	Drum brake		1
2	43100690	Reel		1
3	43190860	Bushing		2
4	52062880	Screw	M10X180 DIN931 88ZN	1
5	52070301	Screw	M8x180 DIN931 88ZN	1
6	52117082	Lock nut	M8 DIN985 8ZN	1
7	52117108	Lock nut	M10 DIN985 8ZN	1
8	52060258	Screw	M10X40 DIN933 88ZN	1
9	52110046	Nut	M10 DIN934 8ZN	1
10	42723197	Friction piece	10X17X30	1
11	52200052	Washer	M12 DIN125 58ZN	1
12	52117124	Lock nut	M12 DIN985 8ZN	1

FARMI 61

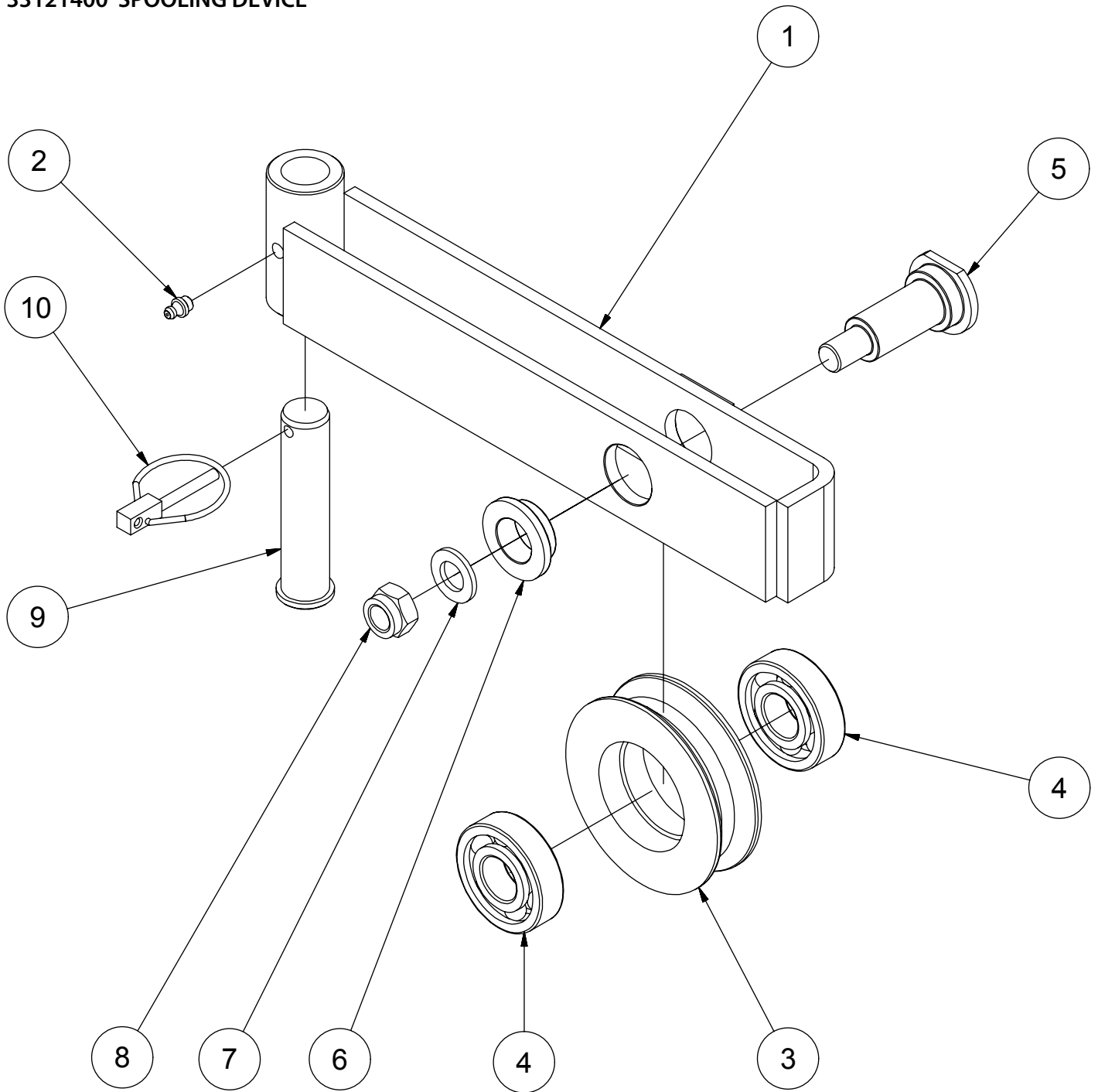
33106900 SPROCKET



Part	Order no	Description	Remarks	Qty
1	33105500	Sprocket		1
2	42722744	Friction piece		8
3	52830049	Rivet		16
4	54510227	Slotted sealed ball bearing		2

FARMI 61

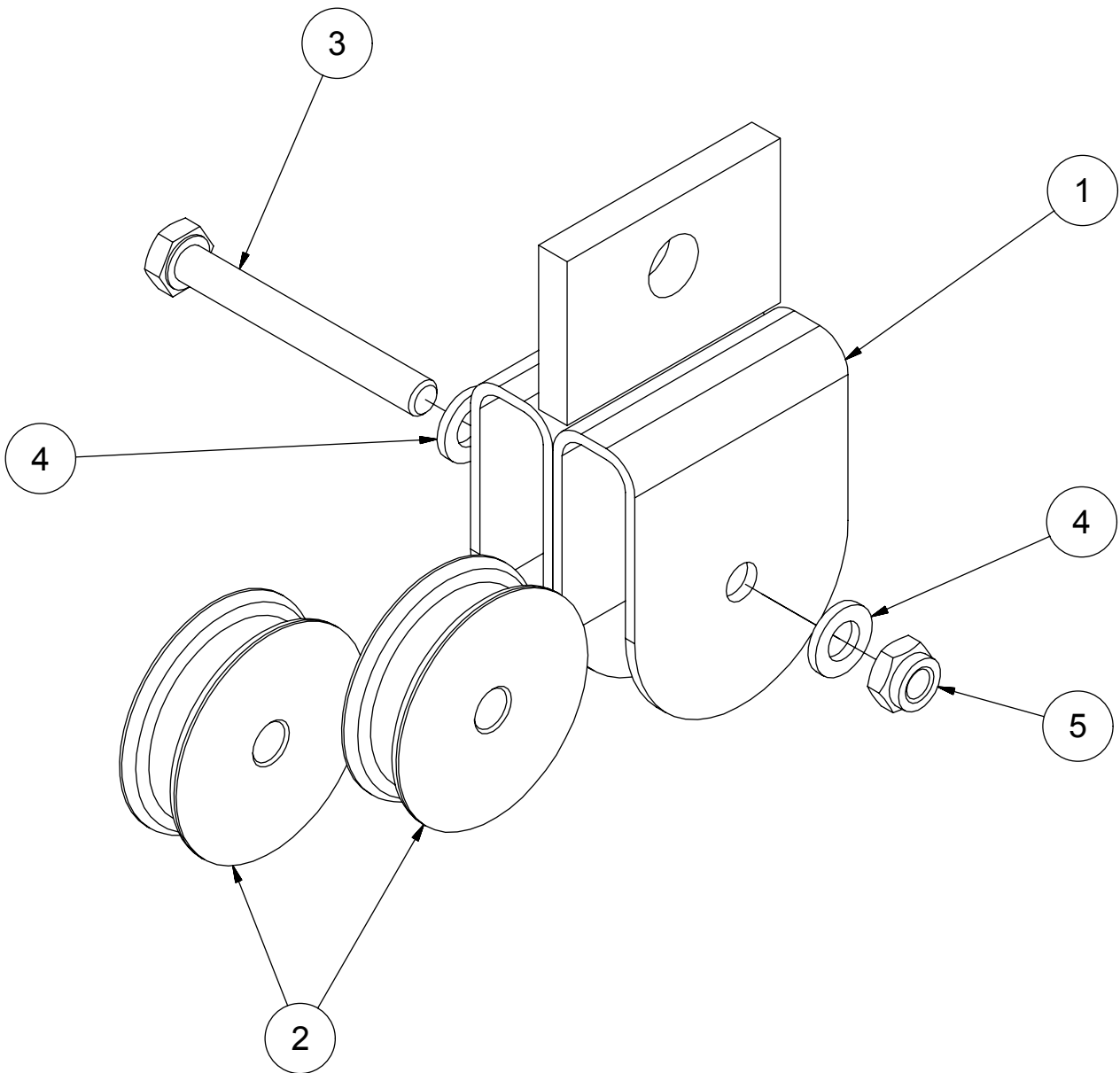
33121400 SPOOLING DEVICE



Part	Order no	Description	Remarks	Qty
1	33121350	Frame		1
2	52401015	Grease nipple	AR1/8	1
3	43030790	Diverting pulley		1
4	54511159	Slotted sealed ball bearing		2
5	43121330	Axle		1
6	43121340	Bushing		1
7	52200078	Washer	M16 DIN125 58ZN	1
8	52117165	Lock nut	M16 DIN985 8ZN	1
9	52854585	Pin		1
10	52842168	Ring cotter	6,5X40	1

FARMI 61

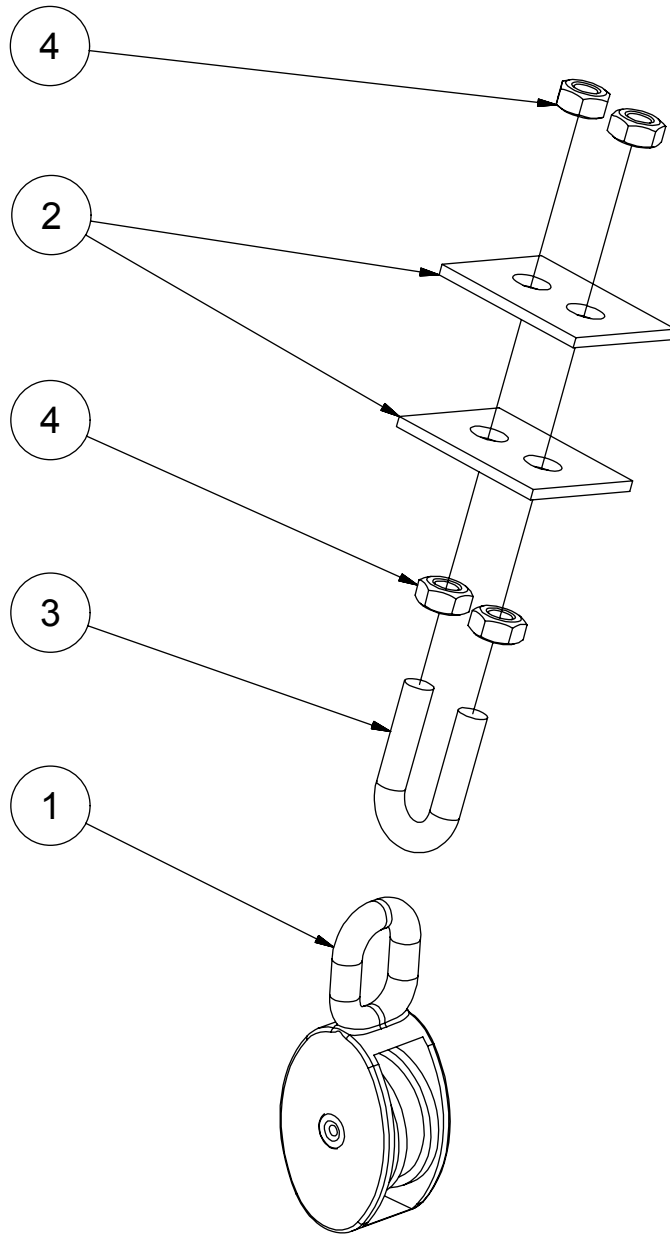
43036880 SNATCH BLOCK



Part	Order no	Description	Remarks	Qty
1	43036870	Snatch block		2
2	43020817	Reel		2
3	58220170	Screw	M6X50 DIN931 88ZN	1
4	52200029	Washer	M6 DIN126 58ZN	2
5	52117066	Lock nut	M6 DIN985 8ZN	1

FARMI 61

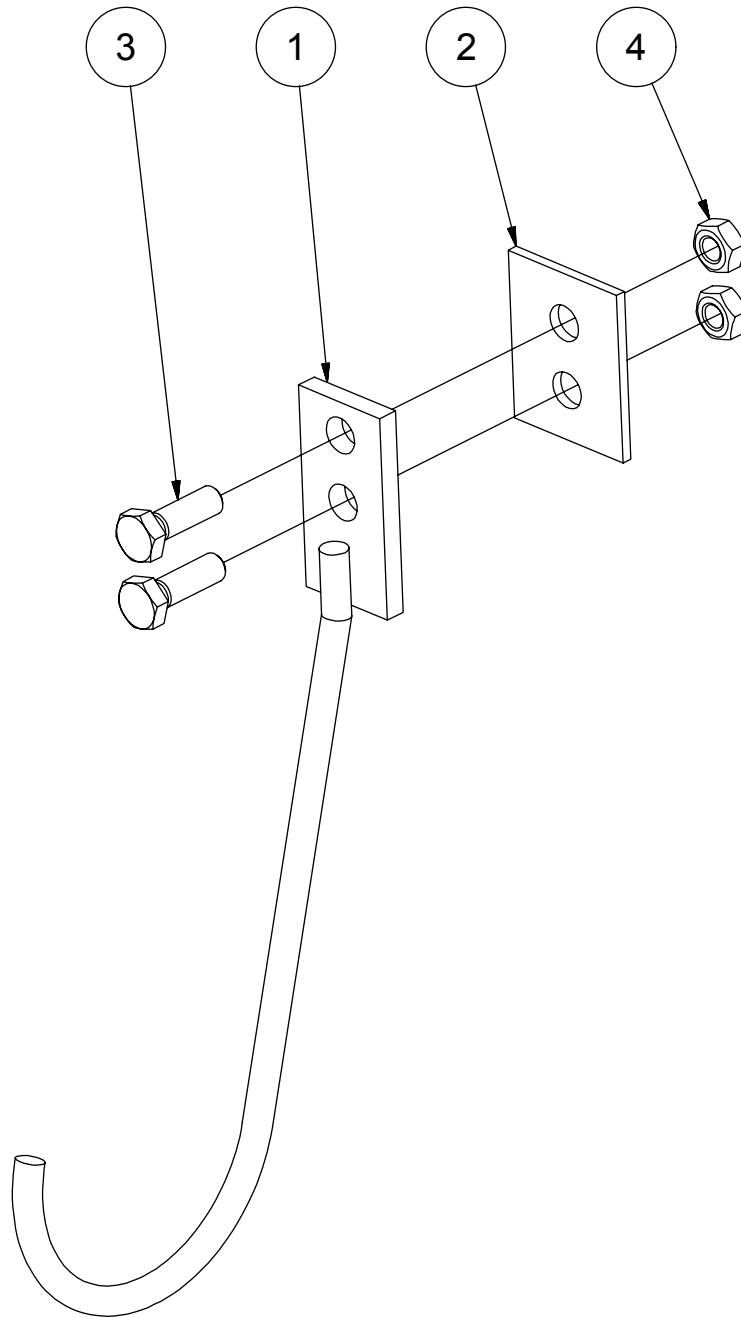
43130137 SNATCH BLOCK



Part	Order no	Description	Remarks	Qty
1	54816079	Snatch block		1
2	43130145	Plate		2
3	54813935	Bulldog grip	M8	1
4	52110038	Nut	M8 DIN934 88ZN	4

FARMI 61

43130368 HOOK FOR UNIVERSAL SHAFT



Part	Order no	Description	Remarks	Qty
1	43130376	Hook for universal shaft		1
2	43130145	Plate		1
3	52060175	Screw	M10x25 DIN933 88ZN	2
4	52110038	Nut	M10 DIN934 8ZN	2



Farmi Forest Corporation
Ahmolantie 6
FIN-74510 Iisalmi, Finland
Puh. +358 (0)17 83 241
Fax. +358 (0)17 8324 372
www.farmiforest.fi