



**SAMPO ROSENLEW**

# Comia



CU4  
CU6  
CU8

## Combine Harvester Instruction Book

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0814374 01/2017  
Englanti



## **THIS BOOK**

The purpose of this book is to enable the Operator to handle and maintain the combine efficiently. It is of utmost importance that the Operator becomes familiar with the structures, adjustments and maintenance of his machine. Compliance with the advice and instructions given in this manual guarantees the best results at the lowest costs.

Have this manual always in the cab, in the special pocket reserved for it, for convenient reference.

This manual provides descriptions of as well as operating and maintenance instructions for several models in the series. One combine does not have all the described features. The actual structure and number of accessories and optional equipment depend on what was agreed in the delivery contract. This is to be kept in mind when reading the manual.

Item "Technical Specifications" has a description of all the features of the combine in accordance with the delivery contract. It does, however, not include retro-fitted accessories.

The Manufacturer reserves the right to modify the structure, adjustments or accessories of the combine as well as the service and maintenance instructions without further notice.

**SAMPO ROSENLEW LTD**

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## SAFETY PRECAUTIONS

Read carefully these instructions on safety and use before starting to operate the combine. Time spent in becoming familiar with the instructions now, will save you money or may even spare you from injury. Before accepting the delivery of the combine, make sure it conforms to the delivery contract. Do not fit the combine with any accessories not approved of by the Manufacturer. The Manufacturer of the Combine is not responsible for any damage or injury caused by such accessories either to people or property.

### 1. TRANSPORTATION ON A VEHICLE OR BY RAIL

Make sure you know the measurements and weights of the combine and the transporter. When driving the combine on the road, comply with the relevant statutory traffic regulations. Use increased tyre pressure (2-2.5 Bar) to improve stability.

Fix the combine securely in the transporter. For road transport, lower the cutting table fully or remove it.

### 2. DRIVING IN TRAFFIC

When driving on public roads, comply with the relevant statutory traffic regulations. Remember that the combine has rear-wheel steering.

Brake pedals must be latched together. Test brake functions before driving on the road. Brake smoothly as the rear wheels of the combine easily rise from the ground when applying the brakes violently. The threshing equipment must be disengaged, the straw dividers removed and the unloading pipe locked for road transport.

On combines with the Premium Plus cab, the safety switch on the instrument panel shall be depressed. (The switch is released to its top-most position by turning the knob clockwise.)

The knife guard and the front warning signs shall be fitted onto the table. (Fitting of the front warning signs in accordance with the enclosed illustrations.)

The front and rear lights and the rear-view mirrors shall be correctly aligned.

Never drive downhill with the gear in neutral. Never carry passengers on the machine.

Never use the combine for transporting goods.

Always have the grain tank empty when driving on the road.

### 3. THRESHING

Get familiar with the structure of the combine by studying the manual before starting threshing.

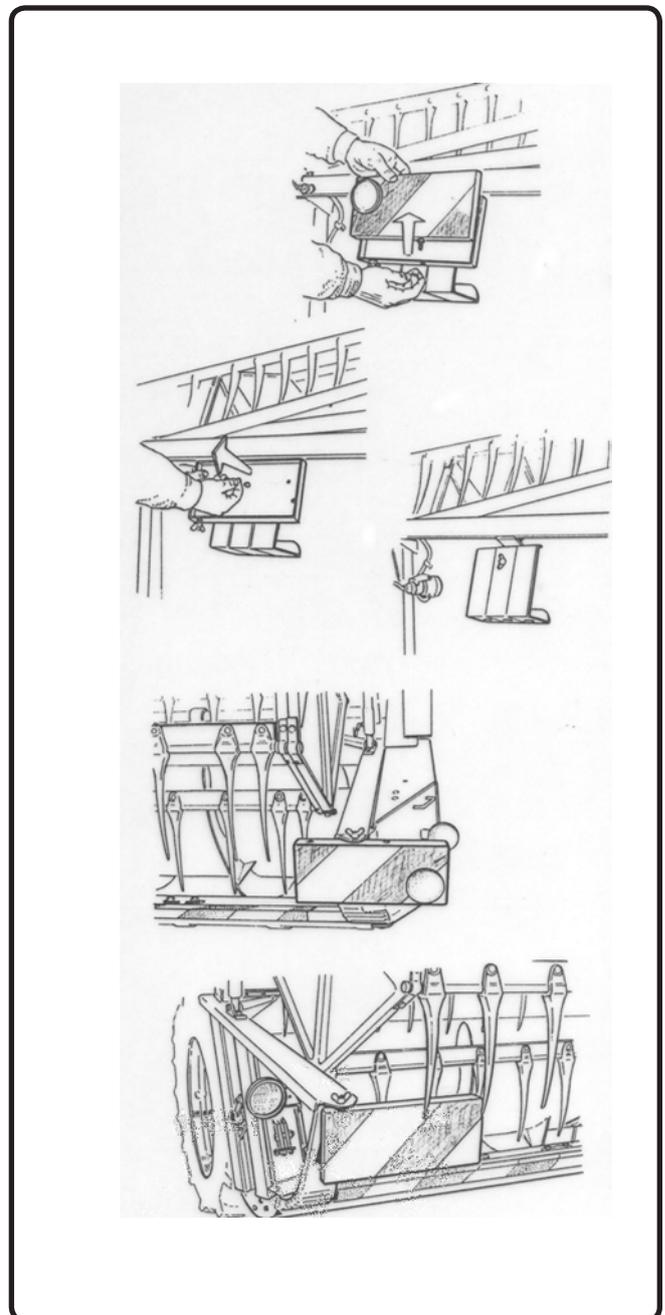
Wear appropriate clothing. Avoid loose clothing that may get entangled in moving parts. Use of hearing protectors is recommended.

Make sure the protective guards are properly attached and in good condition.

When working with combine harvester it is advisable to keep the cabin doors closed.

Sound the signal to warn people around the combine before starting the engine.

Adjust the rear-view mirrors before starting to ensure good visibility of the road or the working area behind.



A1

Never use the combine for anything but threshing. Manual feeding of crops onto the cutting table is prohibited.

Before starting, particularly reversing, make sure that everybody nearby is aware of your intentions.

Test the brakes as soon as you start, and stop immediately if the brakes or steering operate defectively.

Never adjust the seat or steering wheel while driving.

Never leave the cab while the combine is moving.

Never leave the engine running unattended.

Do not open any guards with the engine running.

Do not climb on top of the grain tank or the straw walkers with the engine running, and do not let anybody else do it either.

Beware of the cutting mechanism and the rotating chopper knife.

Keep in mind that with the chopper rotating, there is a 20 m no-access danger zone behind the chopper.

Drive carefully on hillsides; the combine may overturn, particularly with the grain tank full.

The combine cab is no safety cab.

**THE RIGHT-HAND SIDE DOOR MAY BE USED AS AN EMERGENCY EXIT. PULL UP THE HANDLE, AND OPEN THE WINDOW. Fig. EXIT**

Note the recommended safety distances when threshing under power lines.

Stop the engine before cleaning or servicing the combine.

Stop the combine and the engine immediately if there is an alarm or any abnormal sounds or smells. Find out the reason for them, and solve the problem before carrying on with threshing.

Support or lock the cutting table and the reel before going beneath them.

Never clean the combine without proper equipment.

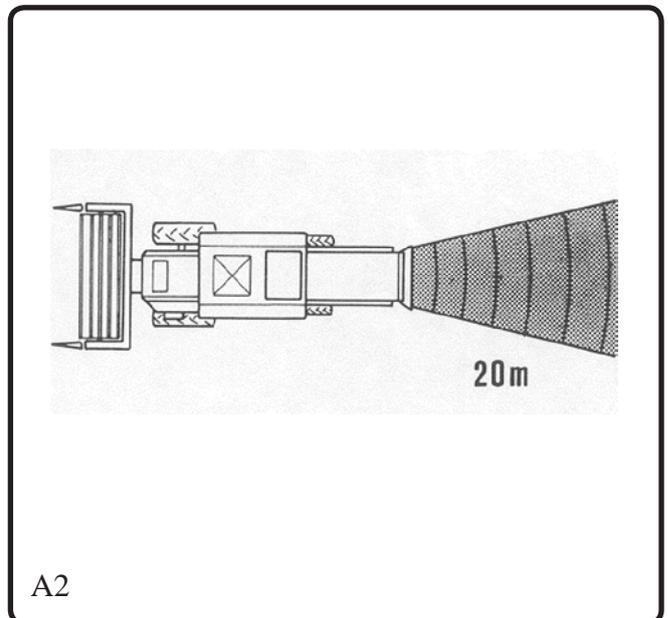
When leaving the combine, lower the cutting table, lock the parking brake, stop the engine and remove the ignition key.

## SAFETY DISTANCES WHEN THRESHING UNDER OPEN-WIRE POWER LINES

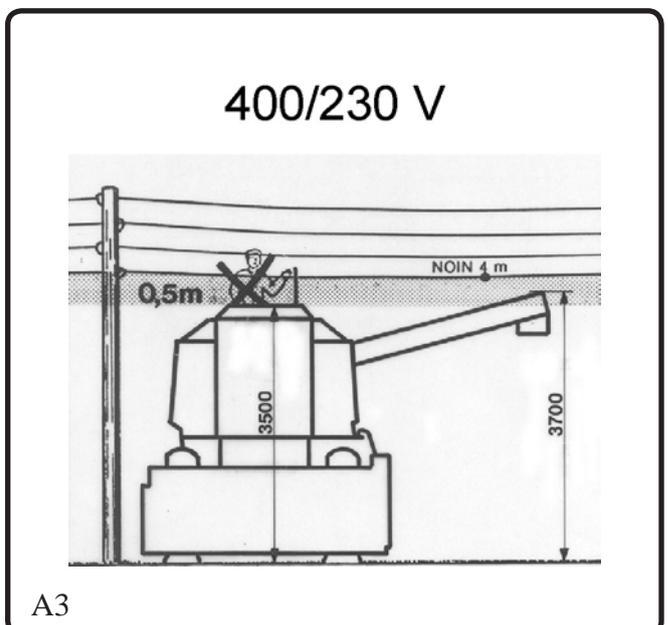
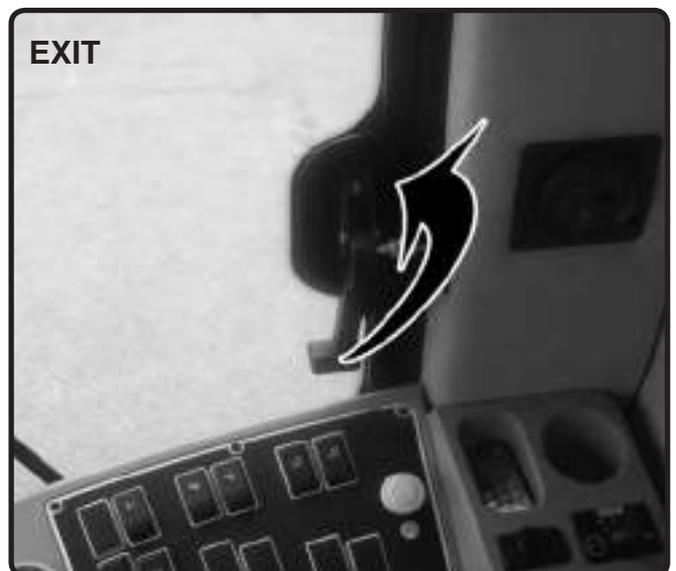
The minimum clearance between the combine and power lines with voltage must be in accordance with the enclosed illustration, in which the danger zone is darkened.

Low-voltage power lines, fig. A3 (240/400V) can be distinguished from high-voltage line, fig. A4...A5 (over 1 kV) by the smaller insulators and the fact that there are usually 4 low-voltage lines.

In case the height or voltage of the power line is difficult to estimate, the Electric Company shall be consulted.



A2



A3

## In Case of an Accident

If there is an accident despite all precautions, keep calm and consider carefully what to do. First try to reverse the combine away from the power line. If there are other people near, ask them to check that the combine is not stuck in the line.

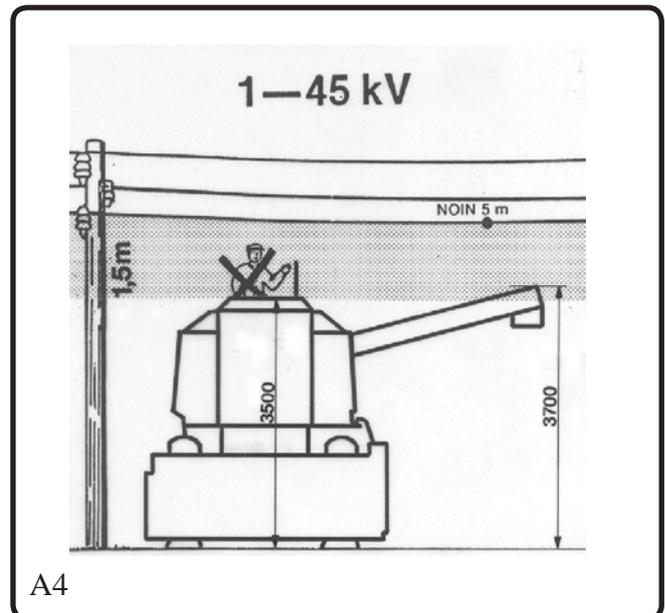
If the combine is just leaning against the lines, try to drive it away from them. Follow the advice from the people nearby. Due to their own safety, they shall stay a minimum of 20 metres away from the combine touching the power line.

If the combine cannot be driven off, and you have to leave the combine, jump down with your feet together in order not to touch the combine and the ground simultaneously. Do not make yourself a conductor through which electricity can pass; the real danger lies in touching the combine and the ground simultaneously. Get away from the combine jumping either with your feet together, or with only one foot on the ground at a time.

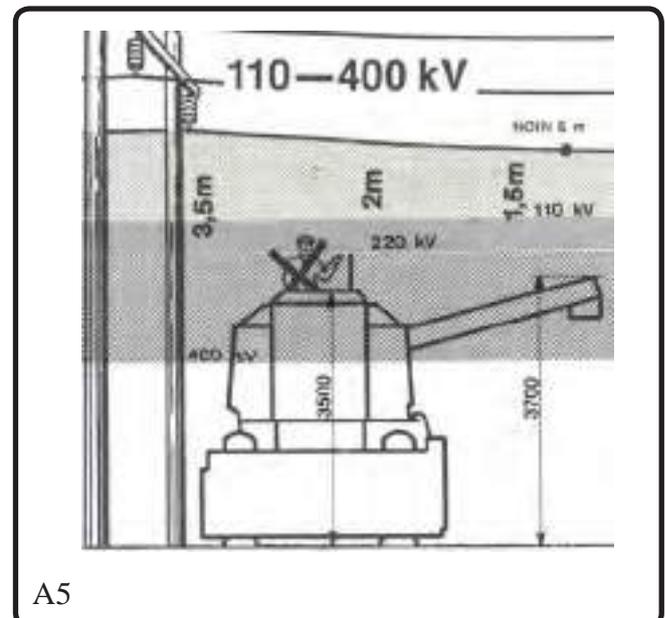
Otherwise the electric field on the ground may create a fatal electric current between your legs. You will be safe at a distance of 20 metres from the combine. Beware of broken power lines lying on the ground. A combine touching a power line may catch fire. Leave the combine immediately if smoke starts coming from the tyres.

Make sure the combine will be guarded at a safe distance. Do not try to get on the combine even if the power in the power lines may seem to have gone off. Remember that open-wire lines never have a "blown fuse", but they are always dangerous unless made dead by an electrician. Even if the power went off, it might come back on in a while due to technical reasons. This may be repeated several times. Contact the Electric Company and inform them about the exact site of the accident. By doing this, any risk can be eliminated and the fault repaired. Ask the Electric Company for advice and follow it. Inform them about any contact with power lines even if there was no actual damage.

Source: Koneviesti Magazine 15/87



A4



A5

## 4. REPAIR AND SERVICE

Always keep the combine in good condition.

Check the condition of fast moving parts daily. Pay special attention to the transmission mechanism and the rotating chopper knives. Replace defective parts before they become dangerous.

Clean, repair and service the combine with the transmission and engine off, the ignition key off the ignition switch and the master switch in its off position.

Disconnect the negative battery cable before repairing the engine or any electrical instruments.

Do not use inappropriate tools to connect and disconnect the battery.

Do not make an open fire or smoke near the battery.

Handle the battery acids with care.

Do not add air in the tyres without a pressure gauge due to risk of explosion.

Do not add coolant with the engine running.

Do not remove the radiator cap from an overheated engine.

Do not refuel with the engine running.

Beware of hot surfaces of the engine and exhaust pipe.

Do not smoke while fuelling.

Do not adjust the hydraulic working pressure without a pressure gauge due to possible damage to the hoses.

When servicing the hydraulics, be aware of the high pressure in the system. Make sure there is no pressure in the system or in the pressure accumulator before disconnecting the connectors.

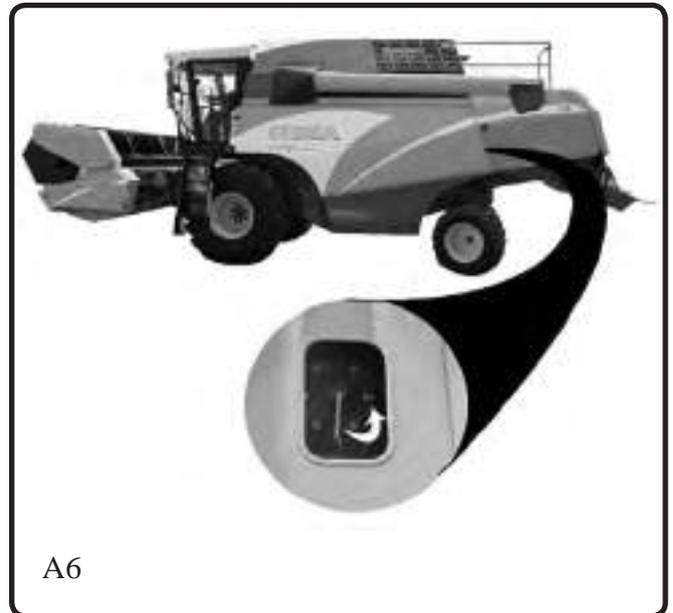
Never use over-sized fuses; they involve risk of accident.

Never start the combine with anything but the ignition key.

When refitting a wheel, tighten the fixing screws to the correct torque.

Attach accessories such as the trailer using the appropriate equipment.

Tow the combine only from designated points.



## 5. THE LAWS AND REGULATIONS

Combine harvester is a complex device, and dangerous if misused. User manual must always be preserved with the machine at the place reserved for it and if needed, new drivers should be instructed to operate the machine. Different countries have different safety at work and traffic regulations. Get to know the existing regulations of your area.



**This symbol in the manual refers to a special risk involved in taking a certain measure, due to which extra caution shall be practised.**

## **6. FIRE SAFETY**

Two factors are needed to start a fire: flammable material and ignition; oxygen is always available. Threshing generates a lot of light and highly flammable dust. Therefore it is important to clean the combine on a regular basis, and the engine compartment daily. Oil and fuel leaks increase the risk of fire. Repair any defects immediately. High temperature near the exhaust pipe makes the area fire-prone. A fire may also be caused by a short circuit in the electric system, slipping of an overloaded belt, a damaged bearing or overheating of the brakes. Make sure there is at least one 6-kilo class AB fire extinguisher located in its marked place on the combine at all times.

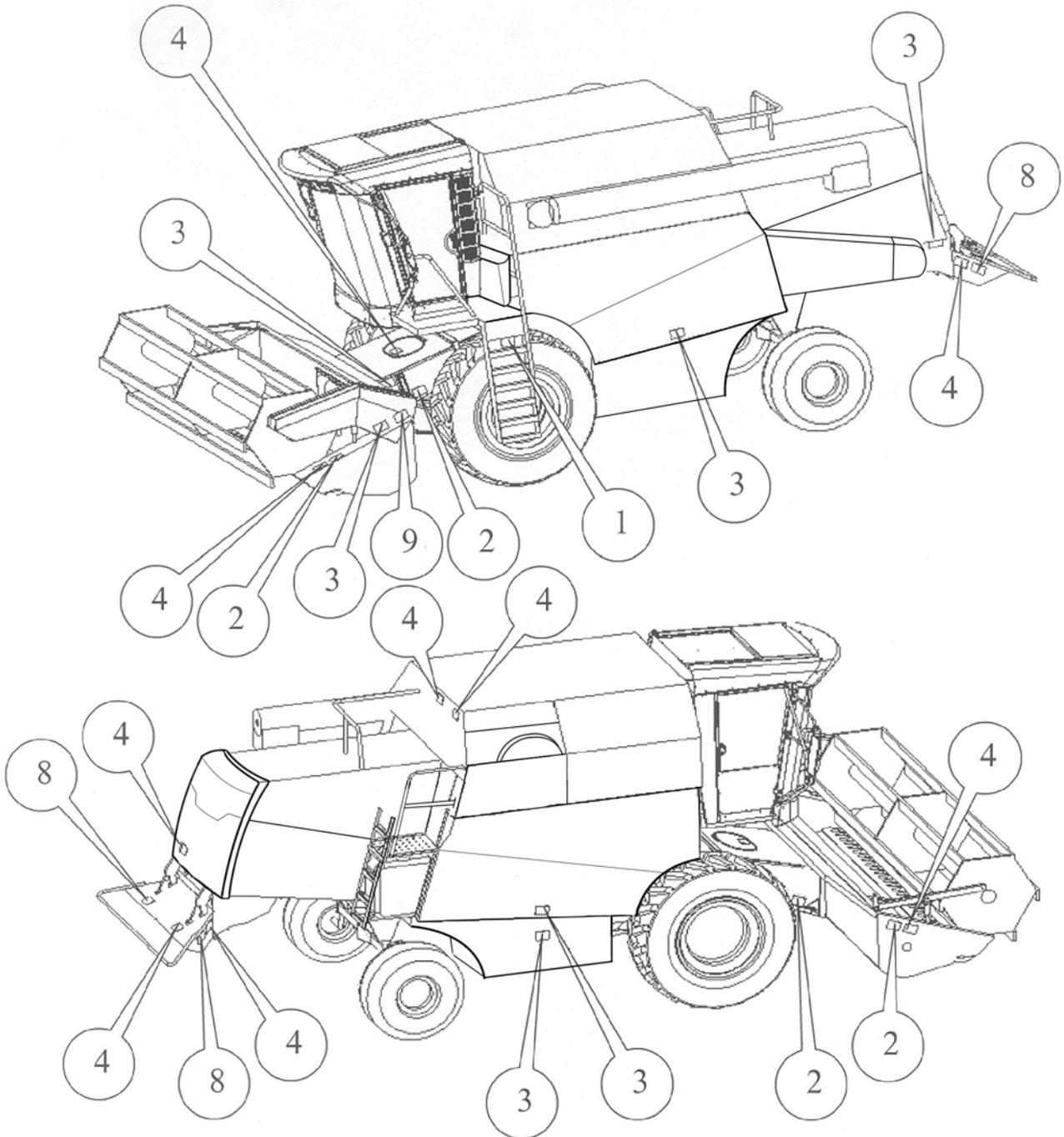
In particularly dry and dusty circumstances another similar extinguisher is to be placed near the engine compartment.



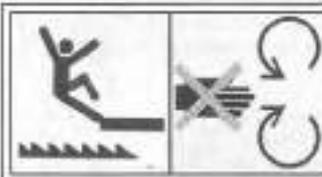
## MARKING THE DANGER POINTS

Although an effort has been made to build the combine as safe to use as possible, there are certain risks involved in its use. These are to be kept in mind when operating the combine.

The danger points have been marked on the combine using hazard pictorials. On the following page you will find the locations of and the key to these symbols. Ensure that undamaged danger markings are displayed on the combine. The hazard pictorials are based on the international ISO 11 684 standard.



# HAZARD PICTORIALS

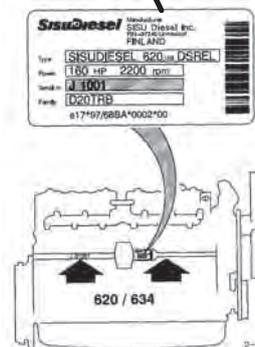
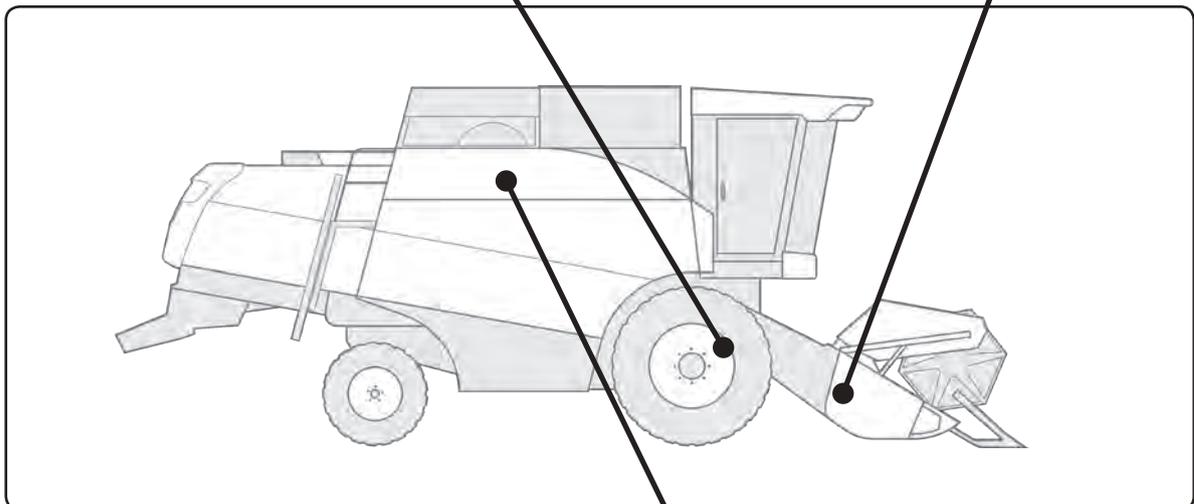
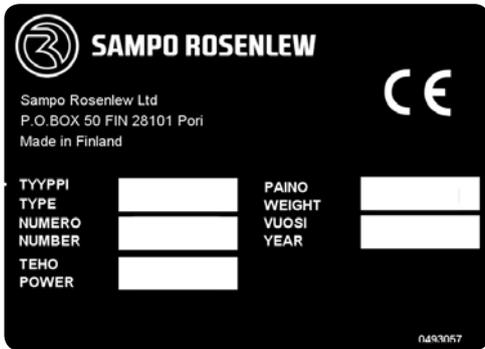
Danger	How to avoid it	Nr.	Symbol
Subject to danger due to insufficient information	Read the manual before starting the combine	1	
A raised part may fall down	Support raised parts before going under them	2	
Gap in belt drive	Stop the engine and remove the ignition key before removing any guards	3	
Getting entangled in moving parts	Stop the engine and remove the ignition key before removing any guards and/or reaching into a danger zone	4	
Getting entangled in rotating auger	Stop the engine and remove the ignition key before removing any guards	5	
Getting entangled in rotating auger	Do not reach into an opening with the engine running	6	
Falling into moving machinery	Stop the engine and remove the ignition key before removing any guards	7	
Danger caused by flying objects	Keep at a safe distance from the combine	8	
Kickback or upward motion of arm handle	Stop the engine and remove the ignition key before inserting the handle	9	

# TYPE MARKING

When ordering spare parts or service, always quote the type marking and number shown on the machine plate of the combine. When ordering parts for the cutting table, also quote the type marking and number shown on the cutting table.

When ordering engine parts, also quote the engine number.

Write down the numbers of the combine and engine on this page (and in the spare part list).



Engine Number

Note! Left side of the combine = The side of the cab with the stairs  
 Right side of the combine = The side with the fuel tank

## TECHNICAL SPECIFICATION COMIA

(ISO 6689 standard has been used in measuring)

### Cutting table

Cutting width (m)	3,45	3,9	4,2	4,5	4,8	5,1
Cutting height (m)	-0,20...+1,20					
Knife, Number of Strokes	1020 cycles/min					

### Reel

Diameter (m)	1,05
Speed range (rpm)	16...51 WobbleBox (WB) 15...49 Crank-driven knife (CK)

### Threshing Cylinder

Width (m)	1,11	Pre-threshing Cylinder	1,11
Diameter (m)	0,5		0,4
Number of rasp bars	7 or 8		
Speed range (rpm)	600...1300 MD 400...1150 HD ( <b>Maize</b> )		

### Concave

Area (m <sup>2</sup> )	0,51	Pre-Concave	0,34
Angle of wrap	105°		
Number of bars	12		
Clearance in front (mm)	6...42		

### Straw Walkers

Number	4 or 5
Separating area (m <sup>2</sup> )	4,80

### Shaker Shoe (m<sup>2</sup>)

Area 3.40 m <sup>2</sup>	Chaffer 1,74 + 0,33 m <sup>2</sup>	Sieve 1,33 m <sup>2</sup>
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### Grain Tank

Volume (m <sup>3</sup> )	3,70	4,20	5,20
Unloading height (m)	3,4 4,0 (heighten unloading)		

### Engine AgcoSisuPower

	<b>C4</b>	<b>C6</b>	<b>C8</b>
Power kW / hp / num. of cylinders	110/150/4	136/185/6 126/170/4	154/210/6

RPM	2000	2000	2000
-----	------	------	------

### Traction Drive

Hydrostatic

### Driving speed (km/h)\*

Final drive	Hydrostatic Traction Drive			
<b>DANA</b>	I	0... 4,7	4WD	0... 4,1
	II	0... 7,0	4WD	0... 5,6
	III	0... 18,4		
<b>CIT</b>	I	0... 6,4	4WD	0... 5,6
	II	0... 9,5	4WD	0... 7,6
	III	0... 25		

\* Speeds may vary depending on the size of the tyres

**Turning radius (m)** 5,9 (6,2 C8)

### Tyres / Air pressure (bar)

Front

Tyres	Weight Limit kg											
	5700	6000	6200	6600	6800	7100	7500	7800	8500	8600	10500	
18.4- 34 157A8	1,5	1,5	1,5	1,6	1,6	1,6	1,9	1,9				
18.4R34 144A8	1,5	1,5	1,5	1,6	1,6	1,6	1,9	1,9				
520/70R34 148A8	1,5	1,5	1,5	1,6	1,6	1,6	1,9	1,9				
600/65R34 158A8	1,2	1,2	1,2	1,3	1,3	1,4	1,5	1,8	1,9	1,9	2,0	
750/65R26 166A8	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,1	1,2	1,2	1,3	
800/55-30.5 172A8	0,8	0,8	0,8	0,8	0,8	0,8	1,0	1,2	1,4	1,4	1,6	

Rear

Tyres	Weight Limit kg											
	3450	5700	6000	6200	6600	6800	7100	7500	7700	8600	10500	
11.5-15.3 10 PLY	1,2	1,7	1,8	1,8	1,9	1,9	2,0	2,0	2,0			
360/70R20 120A8		1,6	1,7	1,7	1,8	1,8	1,8	1,9	1,9	2,0	2,0	
420/65R20 125A8		1,6	1,7	1,7	1,7	1,8	1,8	1,8	1,9	1,9	1,9	
550/45-22,5 153A8/149B	1,5	1,9	1,9	2,0	2,0	2,0	2,1	2,1	2,1	2,1	2,1	

### Wheel track (m)

Front

Final drive	Tyres			
	18.4R34	520/70R34	600/65R34	750/65R26
DANA	2,35 / 2,52		2,35 / 2,52	2,35 / 2,52
CIT	2,35 / 2,52		2,35 / 2,52	2,35 / 2,52

Rear

Rear axle	Tyres		
	11.5-15.3	360/70R20	420/65R20
Normal	2,2	2,42 (2,43 4WD)	2,42 (2,43 4WD)
Narrow	1,85	2,07 (2,08 4WD)	2,07 (2,08 4WD)

**Volumes** (See manual, LUBRICATION)

Fuel tank (litres)	350
Cooling system (litres)	(4 cyl.= 29) (6 cyl =33 )
Urea (litres)	30

<b>Weight (kg)</b>	<b>C4</b>	<b>C6</b>	<b>C8</b>
Without cutting table and chopper	7700	7950	8740

<b>Cutting table (m)</b>	<b>3,45</b>	<b>3,9</b>	<b>4,2</b>	<b>4,5</b>	<b>4,8</b>	<b>5,1</b>
<b>Weight (kg)</b>	790 CK 890 WB	1005	1055	1110	1160	1200

<b>Chopper weight (kg)</b>	190
<b>Maize table. 4 row. (kg)</b>	1300

<b>Length (m)</b>	<b>C4</b>	<b>C6</b>	<b>C8</b>
On the road	8,7	8,7	9,1
Without cutting table	7,15	7,15	7,55
In the field	9,95	9,95	10,35

**Width (m)**

On the road without cutting table

Final drive	Tyres			
	18.4R34	520/70R34	600/65R34	750/65R26
DANA	2,82 / 2,99	2,87 / 3,04	2,95 / 3,12	3,30
CIT	2,82 / 2,99	2,87 / 3,04	2,95 / 3,12	3,30

<b>With table (m)</b>	<b>3,4</b>	<b>3,9</b>	<b>4,2</b>	<b>4,5</b>	<b>4,8</b>	<b>5,1</b>
	3,75	4,25	4,55	4,85	5,25	5,45

<b>Height with cabin (m)</b>	3,7
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<b>Noise level in cabin dB(A)</b>	78
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The weighted acceleration subjected to operator's arms does not exceed 2,5 m/s<sup>2</sup> (ISO-5349)

The weighted acceleration subjected to operator's body does not exceed 0,5 m/s<sup>2</sup> (ISO-2361)

## CERTIFICATE ON CONFORMITY TO THE EU DIRECTIVES

**Manufacturer**

Sampo-Rosenlew Ltd  
Konepajanranta 2A, P.O.Box 50  
28101 Pori Finland

**Collector of technical specification**

Kalle Pärkö  
Sampo-Rosenlew Ltd  
Konepajanranta 2A, P.O.Box 50  
28101 Pori Finland

Declares that the machinery placed on the market:

**Combine Harvester**

Type: \_\_\_\_\_

Serial Number: \_\_\_\_\_

complies with the technical requirements specified in the:

2006/42/EC machinery directive  
97/68/EEC engine emission directive  
89/336/EEC electromagnetic compatibility

The machinery has been designed in conformity with the following international standards:

EN-ISO 4254-7 Combine harvesters and forage harvesters, Safety  
EN-ISO 14121-1 Safety of machinery. Risk assessment  
EN-ISO 14982-1998 EMC acceptance criteria

16.12.2013 Pori



Jali Prihti

Managing Director  
Sampo Rosenlew Ltd

## ACCEPTANCE INSPECTION AND GETTING STARTED

The combine leaves the factory packaged in an appropriate way to ensure undamaged delivery. Before start-up the following steps shall be taken:

- Read the Operating Manual carefully before start-up.
- Remove all loose parts stored in the grain tank during transportation.
- Make sure the combine was not damaged in transit and that no parts are missing. (When necessary, contact the dealer or the transport company.)
- Make sure the combine complies with the purchase agreement. (When necessary, contact the dealer.)
- Refit the parts removed before transportation, such as the rotating inlet screen in the engine, lights, mirrors, etc.
- Put the fire extinguisher in its place.
- Check the oil and coolant levels.
- In case the combine has been stored for a longer period of time, change all the oils before starting harvesting.
- Check and lower the tyre pressures in compliance with the recommendations given in the Operating Manual.
- Make sure the threshing mechanism can rotate freely and that there are no foreign objects inside the combine before starting the engine.
- Engage the cutting table.
- Assemble, fit and adjust the straw dividers as shown in the drawings in the Spare Parts Catalogue.
- Fit the crop lifters as instructed in the Operating Manual.
- Have a trial run as instructed in the item "Storage when Not in Use".

## IMPORTANT NUMBERS

Check and write down the following numbers:

The combine serial number \_\_\_\_\_

The cutting table serial number \_\_\_\_\_

The engine serial number \_\_\_\_\_

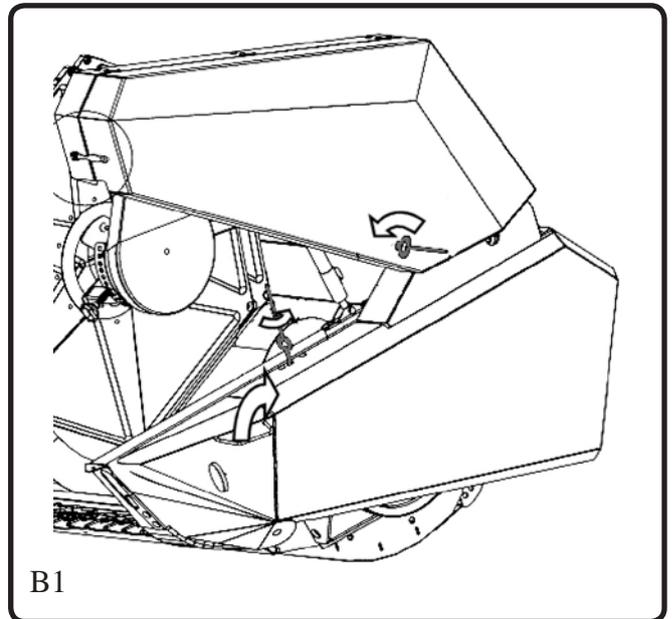
The cab key number \_\_\_\_\_

The fuel tank key number \_\_\_\_\_

## OPENING THE GUARDS

To ensure safety, the movable guards in the combine have been equipped with a locking device. They cannot be opened without the appropriate tool supplied with every combine, hanging on a hook on the back wall of the cab. The guards are locked automatically when closed. Some guards also have additional clamps.

- Unlock the guard at the left end of the cutting table by turning the locking device counter-clockwise. To open the guard, pull the handle outwards and lift the guard slightly upwards at the same time. Fig. B1.
- Unlock the belt drive guard on the reel by turning the locking device counter-clockwise. The rubber clamps need to be opened first. The guard is kept open by means of a gas spring. Fig. B1.
- Open the side guards by placing the tool in the hole at the lower part of the guard and turning the lock open with the tool. The guard opens when the lower edge is pulled outwards. The guard gets locked in the upper position. It is released from the upper position by lifting the guard and turning the locking device open near the gas spring. Fig. B2.

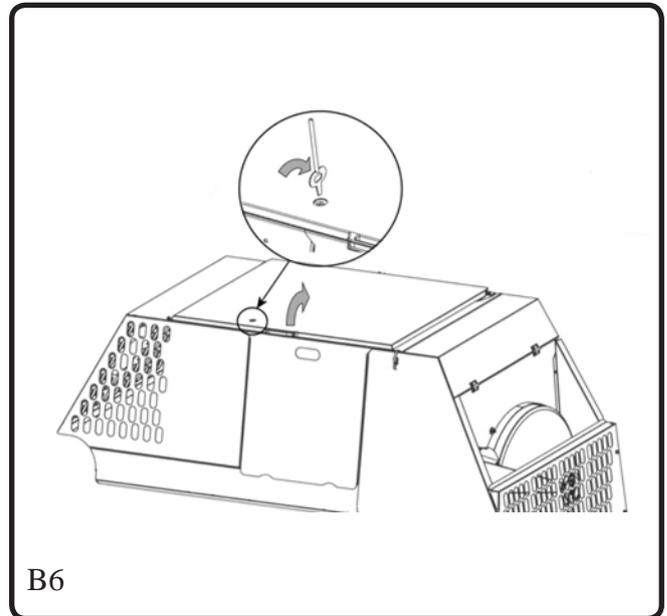


- The rear guard of the chopper (straw spreader) is released by levering the locking pivot to the right with the tool. The guard also gets locked in the upper position and is released correspondingly.
- Choppers belt guard is opened by loosening the bolt on the guard and turning the cover open. The guard is secured in the upper position with a rubber strip.
- Straw hoods plastic cover is opened by lifting the bottom upwards, then loose the bolts of the inner guard and remove inner guard.



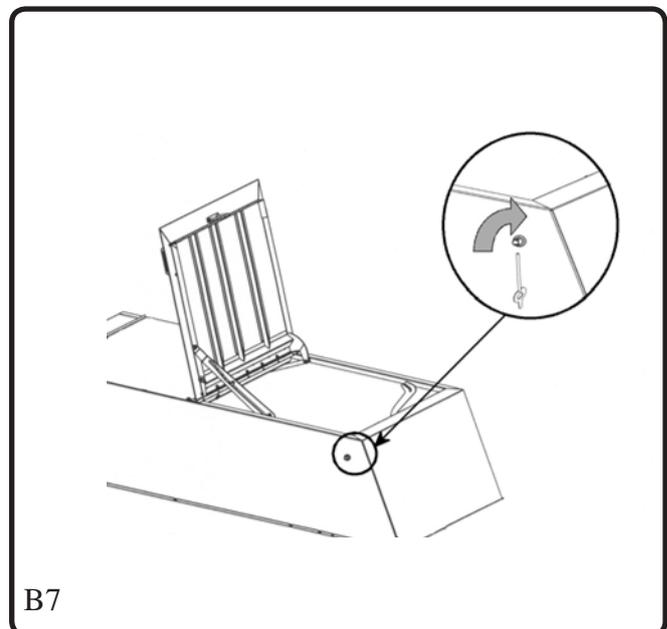
## Engine Compartment

To open the cover on the engine compartment



To unlock the grain tank cover, turn the lock shaft with the key.  
The cover can also be opened from the inside.

Clean, repair and service the combine with the transmission and engine off, the ignition key off the ignition switch and the master switch disconnected.



To unlock the top door to the straw walker compartment remove the bolt with 13mm wrench and lift the cover.



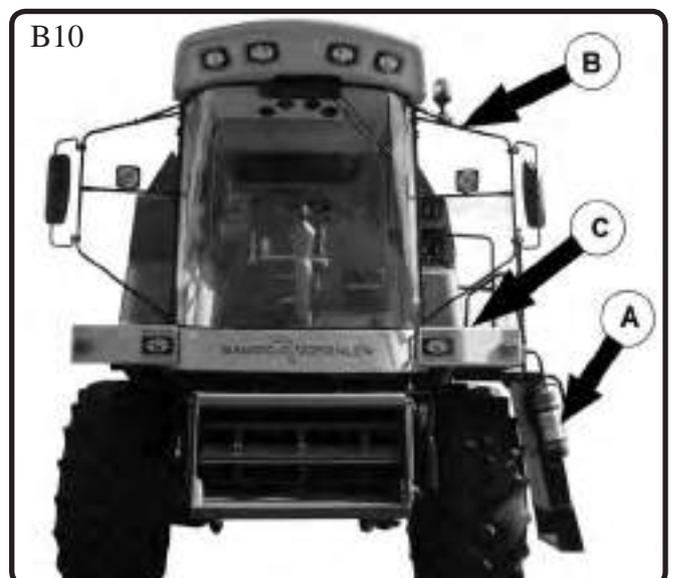
## Windscreen cleaning and adjusting mirrors

When cleaning the windscreen, climb on top of the crop elevator and hold on of the top arms of the mirrors B (Figure B9.)

When adjusting rear view mirrors climb on the platform C and hold on of the top arms of the mirrors B. (Figures B9 & B10.)



Fire extinguisher is placed in the stairs. (A, Figure B10).



# **STRUCTURE AND FUNCTIONS OF THE COMBINE**

## **Standard Threshing Mechanism**

### **The cutting and feeding equipment takes the crops in for threshing.**

The straw dividers limit the crop to be cut and bring it within reach of the reel.

The reel, together with the crop lifters, lift the laid-down crop up and take it from the cutting knife onto the table auger.

The table auger gathers the cut crop and feeds it onto the crop elevator, which takes the crop forward to be threshed. Stones and other heavy objects are pushed to the stone trap thus preventing damage to the threshing mechanism.

### **The threshing mechanism separates the grains from the straw.**

The threshing cylinder beats the grain off on the concave. Most of the threshed grain and chaff go through the concave into the grain pan.

The rear beater and the concave extension take the threshed straw onto the straw walkers.

### **The separating and cleaning equipment sieves the grains.**

The straw walkers separate the grains from the straw and eject the straw out to the field from the rear of the combine. The CSP ruffling drum placed above the straw walkers intensifies the separation of loose grains from the straw by opening a fluffier area into the straw flow (accessory). The grains run along the bottom grooves to the grain pan.

The grain pan takes the threshed material to the shaker shoe. The chaff and any light remains are sorted topmost in the grain pan with the grain at the bottom.

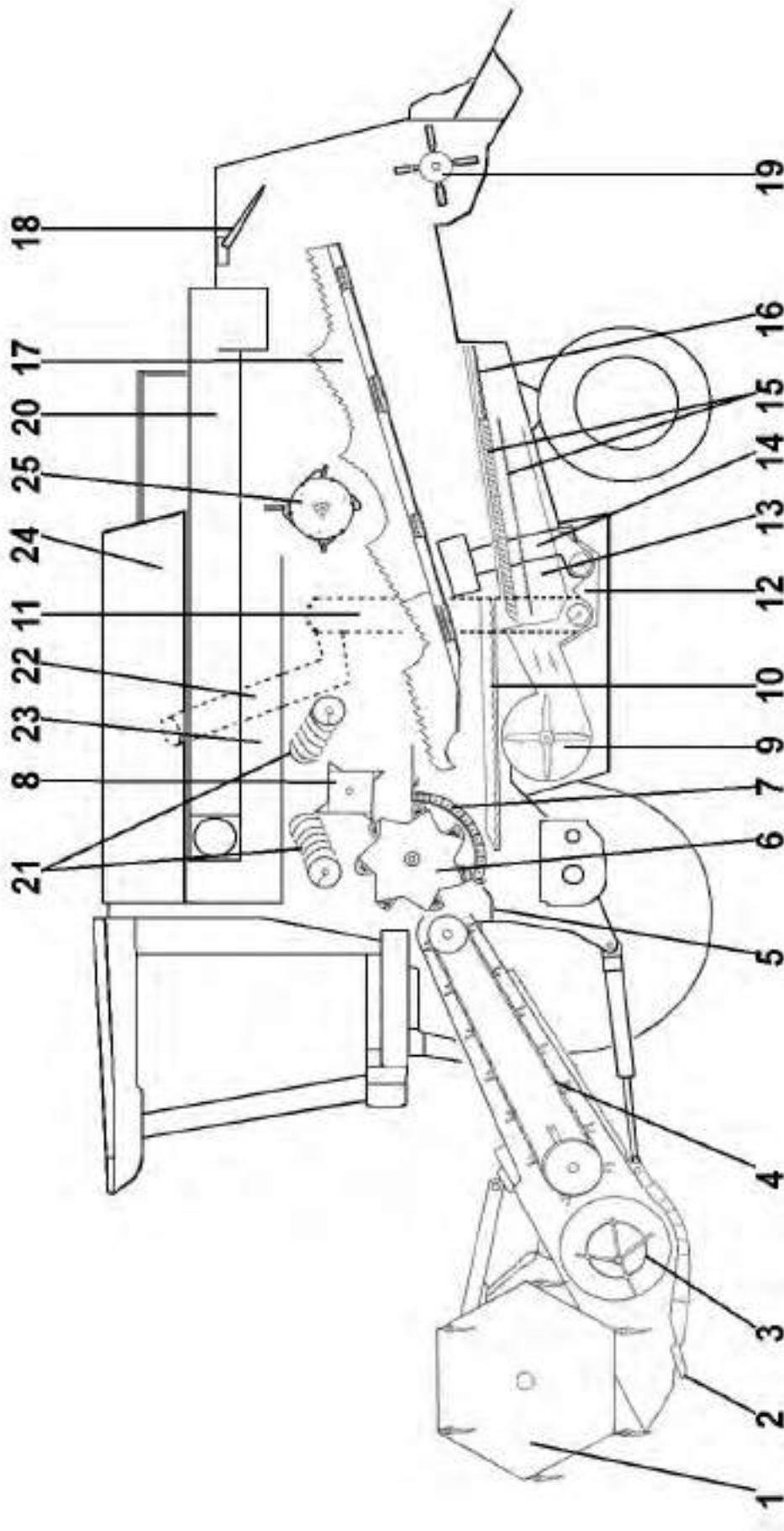
The air stream from the fan lifts the light chaff in the air and transports it over the shaker shoe and out of the machine. Heavier grains and any partly threshed material fall through the chaff sieve. Any larger remains move out along the sieve. Clean grain falls onto the grain auger through the grain sieve and is transported from there by the grain elevator and filling auger to the grain tank.

The grains and occasional straw bits, which lie on the shaker shoe extension, fall to the returns course to be re-threshed.

### **The chopper cuts and spreads the straw.**

After the straw walkers, the straw is either discharged uncut onto the field or taken to the chopper, which cuts and spreads it out.

## CUT - AWAY PICTURE OF THE COMBINE, Standard Threshing Mechanism



- |                  |                    |                     |                    |                   |
|------------------|--------------------|---------------------|--------------------|-------------------|
| 1. Pick-up reel  | 9. Fan             | 13. Shaker shoe     | 17. Straw walker   | 21. Bottom augers |
| 2. Cutter bar    | 10. Grain pan      | 14. Return auger    | 18. Straw alarm    | 22. Filling auger |
| 3. Table auger   | 11. Grain elevator | 15. Sieves          | 19. Straw chopper  | 23. Grain tank    |
| 4. Crop elevator | 12. Auger housing  | 16. Sieve extension | 20. Unloading pipe | 24. Engine        |
|                  |                    |                     |                    | 25. CSP           |

# **STRUCTURE AND FUNCTIONS OF THE COMBINE**

## **The TS Threshing Mechanism**

### **The cutting and feeding equipment takes the crops in for threshing.**

The straw dividers limit the crop to be cut and bring it within reach of the reel.

The reel, together with the crop lifters, lift the laid-down crop up and take it from the cutting knife onto the table auger.

The table auger gathers the cut crop and feeds it onto the crop elevator, which takes the crop forward to be threshed. Stones and other heavy objects are pushed to the stone trap thus preventing damage to the threshing mechanism.

### **The threshing mechanism separates the grains from the straw.**

The cut crop first comes onto the pre-cylinder, which gently separates the most easily threshable grains and ejects them through the pre-concave to the front of the grain pan. The pre-cylinder also evens out the feed onto the main cylinder.

The rest of the grains are threshed off by the main cylinder and concave. Most of the threshed grain and chaff go through the concave into the grain pan.

The rear beater and the concave extension take the threshed straw onto the straw walkers.

### **The separating and cleaning equipment sieves the grains.**

The straw walkers separate the grains from the straw and eject the straw out to the field from the rear of the combine. The CSP ruffling drum placed above the straw walkers intensifies the separation of loose grains from the straw by opening a fluffier area into the straw flow (accessory). The grains run along the bottom grooves to the grain pan.

The grain pan takes the threshed material to the shaker shoe. The chaff and any light remains are sorted topmost in the grain pan with the grain at the bottom.

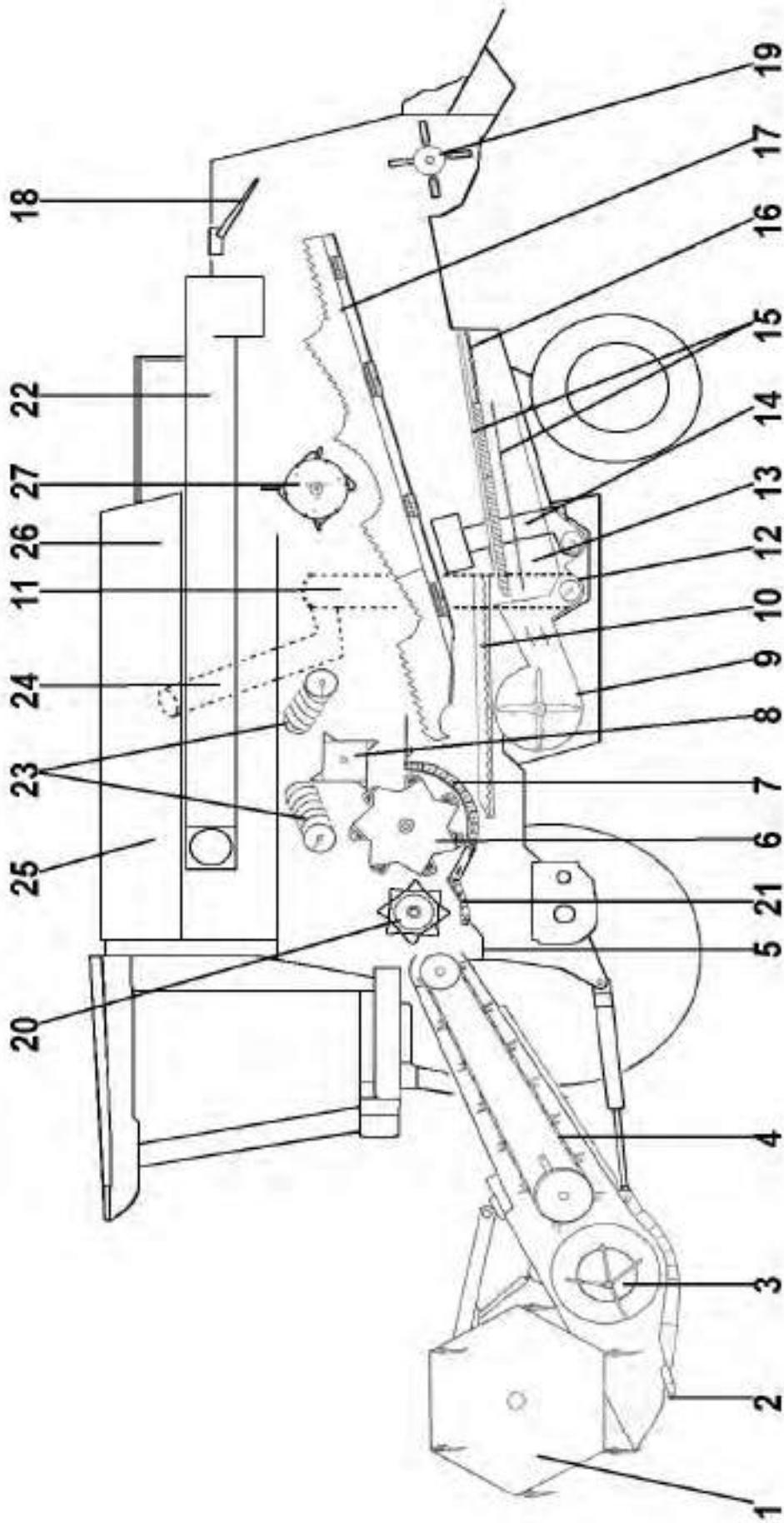
The air stream from the fan lifts the light chaff in the air and transports it over the shaker shoe and out of the machine. Heavier grains and any partly threshed material fall through the chaff sieve. Any larger remains move out along the sieve. Clean grain falls onto the grain auger through the grain sieve and is transported from there by the grain elevator and filling auger to the grain tank.

The grains and occasional straw bits, which lie on the shaker shoe extension, fall to the returns course to be re-threshed.

### **The chopper cuts and spreads the straw.**

After the straw walkers, the straw is either discharged uncut onto the field or taken to the chopper, which cuts and spreads it out.

# CUT - AWAY PICTURE OF THE COMBINE; the TS Threshing Mechanism

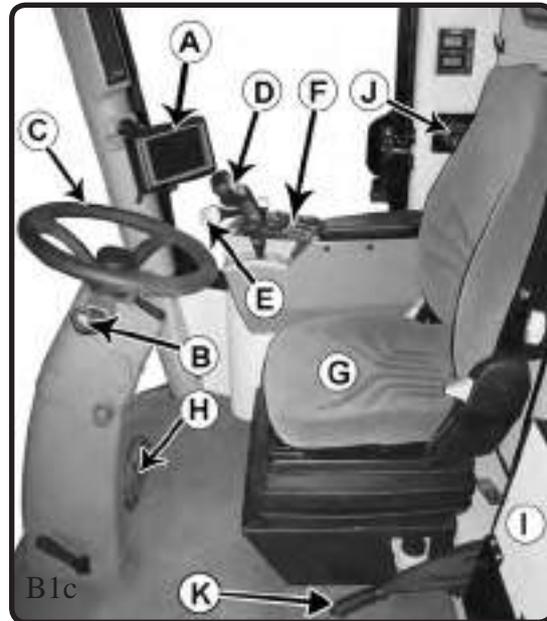


- |                  |                       |                    |                     |                     |            |
|------------------|-----------------------|--------------------|---------------------|---------------------|------------|
| 1. Pick-up reel  | 6. Threshing cylinder | 11. Grain elevator | 16. Sieve extension | 21. Pre-concave     | 26. Engine |
| 2. Cutter bar    | 7. Concave            | 12. Auger housing  | 17. Straw walkers   | 22. Unloading auger | 27. CSP    |
| 3. Table auger   | 8. Rear beater        | 13. Shaker shoe    | 18. Straw alarm     | 23. Bottom augers   |            |
| 4. Crop elevator | 9. Fan                | 14. Return auger   | 19. Straw chopper   | 24. Filling auger   |            |
| 5. Stone trap    | 10. Grain pan         | 15. Sieves         | 20. Pre-cylinder    | 25. Grain tank      |            |

# OPERATOR'S CONTROLS AND INSTRUMENTS

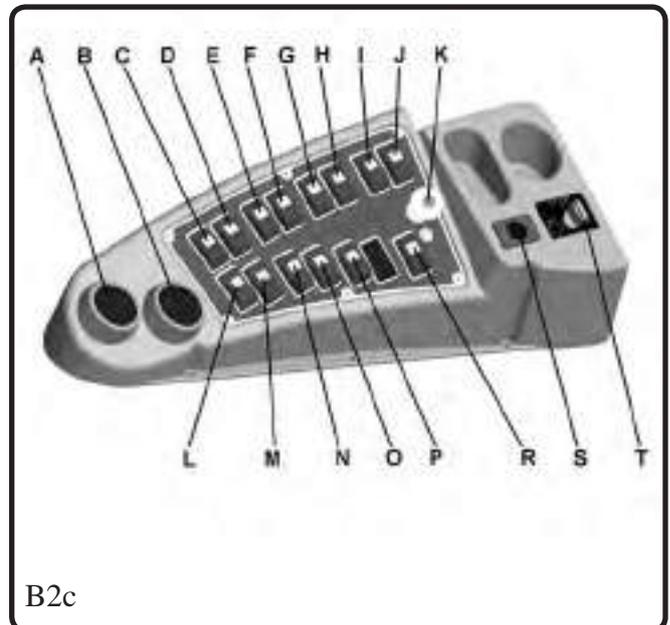
## Operator's Platform / Cab (fig. B1c)

- A Comvision- display
- B Multi-function Lever
- C Steering Wheel
- H Brake Pedals
- F Instrument Panel
- E Gear Lever
- D Traction Speed Control Lever
- G Seat
- I Buddy Seat
- J Concave Clearance Indicator
- K Handbrake



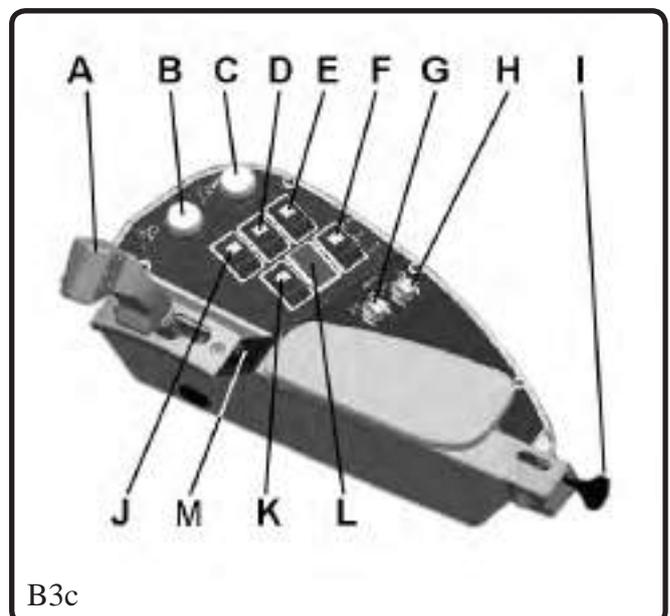
## Instrument Panel (fig. B2c)

- A Thermometer
- B Fuel Gauge
- C Differential Lock
- D Reversing of Cutting Table and Feeding Mech.
- E Concave Clearance Adjustment
- F Concave Clearance Adjustment
- G Direction of Straw Chopper Spray
- H Direction of Straw Chopper Spray
- I Working Lights
- J Working Lights
- K Safety Switch
- L Emergency Flasher
- M Rotating Flasher
- N Vertical Knife, left (optional)
- O Vertical Knife, right (optional)
- P 4WD Switch (optional)
- Q Engine faulty code
- R Main switch
- S Electric Outlet
- T Ignition Lock, Starter / Stopper



## Switches (fig. B3c)

- A Traction Speed Control Lever
- B Cutting Table Start/Stop
- C Threshing Mech. Start/Stop
- D Fan Speed Adjustment
- E Electric accelerator (depending on the engine type)
- F AHC/DHC
- G AHC Pre-setting height
- H AHC Automatic height
- I Armrest angle adjustment
- J Cylinder Speed Adjustment
- K Reel Speed Automatic/ Manual
- L Cover
- M Unloading Start/Stop



# SIGNALS AND SYMBOLS

Ignition Switch		Cylinder Speed	
Master Switch (electric)		Concave Clearance	
Ignition Signal		Reel Fore & Aft Control	
Stop Control Lever	STOP	Reel Speed Control	
Oil Warning Light		Air Volume Control	
Alternator Warning Light		Air Direction Control Lever	
Engine Revolutions, lever control		UmkehReversing Switch of Cutting Table	
Engine Revolutions, electric control		Four-wheel Drive	
Gear Change Decal		Rotating Flasher	
Horn		Emergency Flasher	
Flasher		Swinging of Unloading Pipe	
Dip Switch			
Headlights		Grain Tank Full	
Working Light		Grain Elevator Alarm	
Windscreen Wiper		Bottom Auger Alarm	
Temperature Control		Return Auger Alarm	
Air Conditioning		Straw Alarm	
Hand Brake		Coolant Temperature Alarm	
Table Height Control			
Reel Height Control		Differential Lock	
Threshing Mechanism Lever		Emergency Exit	EXIT
Speed Control Lever		Engine Malfunction Light	
Cutting Table Clutch		Safety Switch, driving in traffic	
Grain Tank Unloading Lever			

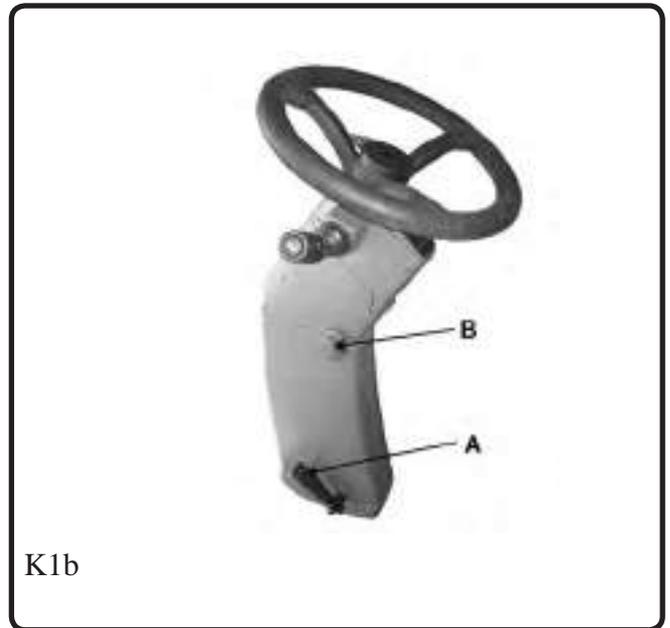
## OPERATION AND ADJUSTMENT

### STEERING WHEEL Position Can Be Adjusted (Triple Adjustment Steering Column)

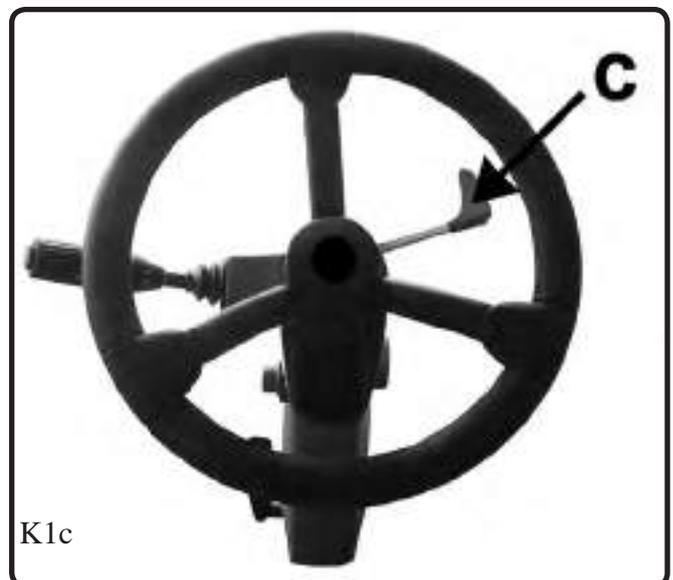
To adjust the steering column angle, depress pedal A and tilt the whole column forward or backward (Fig. K1b).

The steering column folds in the middle. Lift the lever B up and adjust the steering wheel to the desired position.

To adjust the height of the steering wheel, lift the lever C (Fig. K1c) up and adjust the steering wheel to the desired position



K1b



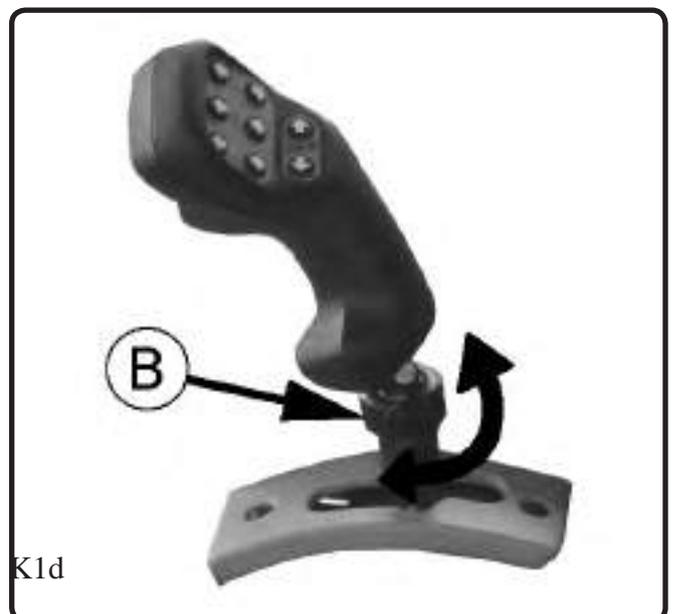
K1c

### Drive Lever (K1d)

On combines with hydrostatic transmission traction speed and direction is controlled with a drive lever. Lever handle position can be adjusted to suit the driver.

To adjust the lever position, slacken nut B and turn the lever in the ball-and-socket joint.

Tighten the screws and the nut after adjustment to ensure the lever will not move while driving.



K1d

## OPERATOR'S SEAT Adjustments

Spring Suspended Grammer Seat (fig. K2a)

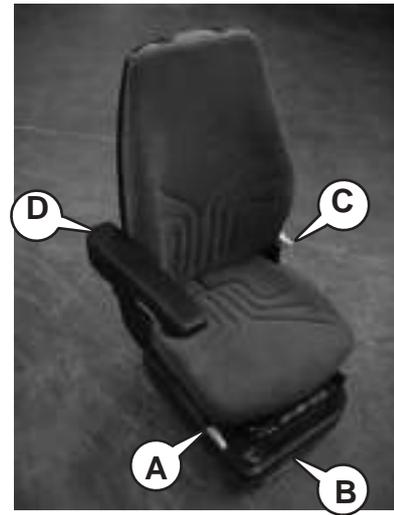
To adjust the fore and aft position, release lever A under the seat and move the seat to the required position.

Adjust the height by raising the seat manually. There are three alternative heights at 20 mm intervals. When the seat is raised above the highest position, it will drop to the lowest position.

Adjust the suspension to suit the operator's weight by turning adjustment screw B. The screw tightens when turned clockwise.

Adjust the backrest angle by releasing lever C and turning the backrest.

Adjust the armrest angle by turning hand wheel D. The height of the armrest can be adjusted by moving its fixing point.



K2a

## Air Suspended Grammer Seat (fig. K2b)

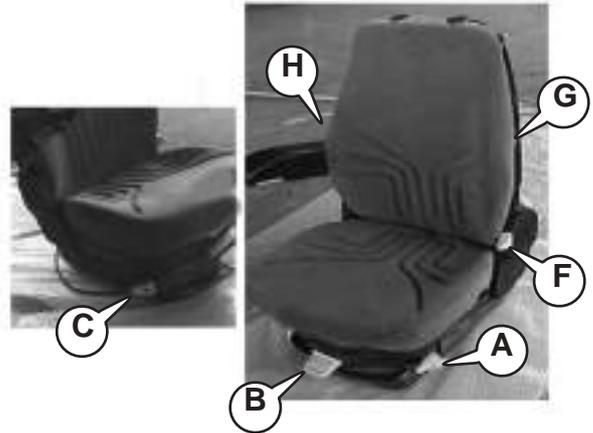
To adjust the fore and aft position, release lever A under the seat and move the seat to the required position.

To adjust the height, raise adjustment lever B briefly after being seated. The seat will be automatically adjusted to suit the driver's weight. From this position the seat can be moved up and down by turning the adjustment lever in the required direction.

Adjust the suspension to suit the weight of the operator by turning screw C.

To adjust the backrest angle, release lever F and turn the backrest.

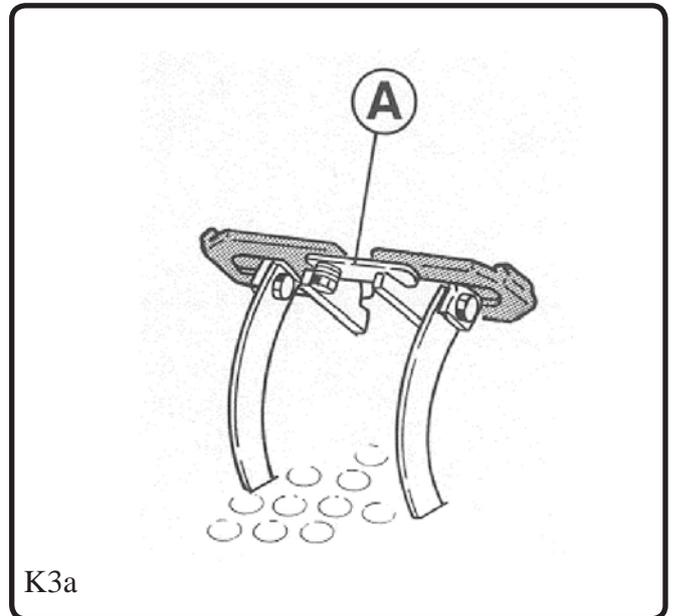
To adjust the lumbar support, turn hand wheel G. Adjust the armrest angle by turning hand wheel H. The height of the armrest can be adjusted by moving its fixing point.



K2b

## **BRAKES (Fig. K3a) While Driving and Turning**

The mechanical outer shoe brakes operate on the front wheels through the drive shafts. They may be used separately as steering brakes by releasing locking pin A. When driving on the road, the brake pedals must be latched together.



## **HAND BRAKE (fig. K4)**

The hand brake operates on the intermediate shaft of the gears. Use the brake only when parking, and fully release it before starting. A symbol light warns of an unreleased parking brake. That light is on only when ignition is switched on.

