



Agromehanika
SINCE 1968

AGT 830
AGT 835
AGT 835 T/S

INSTRUCTIONS FOR USE

rev.2017/10

AGROMEHANIKA reserves the right to changes in design or modification of the product without any liability towards informing the customer before and after each change.

INDEX

EC DECLARATION OF CONFORMITY	2
1 GENERAL	3
2 SAFETY	4
2.1 SAFETY SIGNS	4
2.2 DEFINITIONS.....	4
2.3 SAFETY WARNINGS.....	5
2.4 USER OR CUSTOMER	6
2.4.1 PREPAREDNESS FOR DANGERS	7
2.4.2 PERSONAL PROTECTION	7
2.5 SAFETY INSTRUCTIONS BEFORE USING THE TRACTOR.....	8
2.5.1 ENTERING THE TRACTOR	8
2.6 SAFETY INSTRUCTIONS DURING TRACTOR USE	9
2.6.1 DANGER AREA	9
2.6.2 STANDARD SAFETY EQUIPMENT	9
2.6.3 STARTING THE TRACTOR UNDER SAFE CONDITIONS	11
2.6.4 STOPPING THE TRACTOR UNDER SAFE CONDITIONS.....	12
2.6.5 WORKING WITH TRACTOR	12
2.6.6 USING THE TRACTOR WITH INSTALLED WEIGHTS	13
2.7 SAFETY INSTRUCTIONS AFTER USING THE TRACTOR.....	13
2.8 USING THE TRACTOR ON SLOPES	13
2.9 USING IMPLEMENTS	14
2.9.1 CARRIED IMPLEMENTS.....	15
2.9.2 TOWED IMPLEMENTS.....	15
2.9.3 CARDAN SHAFT	15
2.10 USING THE TRACTOR ON THE ROAD	16
2.11 TRANSPORT OF TRACTOR	17
2.11.1 TRANSPORT	17
2.11.2 TOWING	17
2.12 MAINTENANCE.....	18
2.12.1 HYDRAULIC SYSTEM.....	18
2.12.2 BODYWORK	19
2.12.3 WHEELS	19
2.12.4 COOLING SYSTEM	19
2.12.5 ELECTRICAL SYSTEM.....	20
2.12.6 ENVIRONMENT PROTECTION (RECYCLING)	21
2.12.7 NOISE	21
2.13 USING THE TRACTOR FOR SPRAYING	22
2.14 USING THE TRACTOR IN FORESTRY	22
2.15 FRONT LOADER	23
2.16 ADDITIONAL SAFETY REQUIREMENTS	23
2.17 SAFETY SIGNS ON THE TRACTOR	24
2.17.1 MEANING AND POSITION OF SAFETY SIGNS.....	25

3	TECHNICAL SPECIFICATION	26
3.1	MANUFACTURER'S INFORMATION.....	26
3.2	REPLACEMENT PARTS	27
4	GENERAL DESCRIPTION OF TRACTOR	28
4.1	DESCRIPTION OF TRACTOR'S MAIN COMPONENTS	29
4.2	DESCRIPTION OF MAIN SAFETY COMPONENTS.....	31
4.2.1	CABIN	31
4.2.2	ROLL BAR.....	35
4.2.3	SAFETY BELT	36
4.2.4	PROTECTIVE COVER OF CARDAN DRIVE.....	36
4.3	DRIVER'S SEAT.....	37
4.3.1	ACCESS TO DRIVER'S SEAT	37
4.3.1	DRIVER'S SEAT.....	37
4.4	DESCRIPTION OF HYDRAULICS	38
4.4.1	HYDRAULIC SCHEME AGT 835 T/S	39
4.4.2	HYDRAULIC SCHEME AGT 835 T/S WITH FRONT CONNECTION SHAFT	40
4.4.3	HYDRAULIC SCHEME AGT 830/835.....	41
4.4.4	HYDRAULIC SCHEME AGT 830/835 WITH FRONT CONNECTION SHAFT	42
4.4.5	HYDRAULIC SCHEME AGT 835 WITH SEPARATED HYDRAULIC OIL TANK	43
4.4.6	HYDRAULIC SCHEME AGT 835 WITH FRONT CONNECTION SHAFT, FRONT HYDRAULICS AND SEPARATED HYDRAULIC OIL TANK	44
4.4.7	HYDRAULIC SCHEME AGT 830-835-835 T/S	45
4.4.8	FRONT HYDRAULIC LIFT SYSTEM (OPTION).....	46
4.4.9	REAR HYDRAULIC LIFT MECHANISM.....	47
4.5	DESCRIPTION OF INSTRUMENTS AND CONTROL ELEMENTS.....	49
4.5.1	DASHBOARD.....	49
4.5.2	DESCRIPTION OF CONTROL ELEMENTS (CABIN) – TRACTOR VERSION AGT 835 T/S)	53
4.5.3	DESCRIPTION OF CONTROL ELEMENTS FOR DRIVING (PEDALS)	54
4.5.4	DESCRIPTION OF CONTROL ELEMENTS FOR HYDRAULICS	59
4.6	OPTIONAL EQUIPMENT	63
4.6.1	FRONT LIFT MECHANISM.....	63
4.6.2	HYDRAULIC TOP CONNECTION SHAFT	63
4.6.3	WHEEL EXTENSIONS	63
4.6.4	FRONT HYDRAULIC CONNECTION	64
4.6.5	WHEEL DIMENSIONS	64
4.6.6	WEIGHTS	64
4.6.7	ROTATION LIGHT	64
4.7	DESCRIPTION OF DEVICES FOR USING THE TRACTOR IN ROAD TRAFFIC	65
4.8	ELECTRICAL SYSTEM	65
4.8.1	BATTERY	65
4.8.2	ELECTRIC STARTER.....	66
4.8.3	ALTERNATOR.....	66
4.8.4	FUSES	66
4.8.5	SOCKET FOR CONNECTIONS (ISO 1724)	68
5	TRACTOR TRANSPORT.....	68
5.1	LOADING.....	68
5.2	UNLOADING.....	69
5.3	TOWING.....	69

6	TRACTOR SETTINGS	71
6.1	SEAT AND STEERING WHEEL	71
6.1.1	SEAT SETTINGS.....	71
6.2	LIGHTING SETTINGS.....	72
6.2.1	SETTING HEADLIGHTS.....	72
6.2.2	SETTING TOP (WORK) LIGHTS (WITH INSTALLED CABIN)	73
6.3	SETTING REAR HYDRAULIC LIFT MECHANISM.....	74
6.3.1	SETTING OF LOWER CONNECTION ARMS.....	74
6.3.2	SETTING OF TOP CONNECTION BAR (TOP LINK).....	75
6.3.3	SETTING OF LATERAL TENSIONER.....	76
6.4	SETTING OF FRONT HYDRAULIC LIFT MECHANISM (OPTION)	76
6.4.1	SETTING OF LOWER CONNECTION ARMS.....	76
6.5	SETTING OF REAR TOWING HOOK.....	77
6.6	SETTING OF CLUTCH PEDAL	77
6.7	BRAKE SETTING	78
7	USING THE TRACTOR	81
7.1	USING THE ROLL BAR	81
7.2	TRACTOR COVER.....	82
7.3	USING TRACTOR HYDRAULICS.....	82
7.3.1	OPERATION OF LIFT MECHANISM	82
7.3.2	USING REAR HYDRAULIC LIFT MECHANISM.....	82
7.3.3	USING FRONT HYDRAULIC LIFT MECHANISM	83
7.4	TRACTOR START-UP	83
7.4.1	TRACTOR START-UP	84
7.4.2	TRACTOR SHUTDOWN	84
7.4.3	TRACTOR START-UP WITH BATTERY AID	84
7.5	STARTING CONNECTION SHAFT (PTO).....	86
7.5.1	STARTING CONNECTION SHAFT	86
7.5.2	CONNECTION SHAFT ROTATION.....	86
7.5.3	CONNECTION SHAFT SHUTDOWN	86
7.6	STARTING FRONT CONNECTION SHAFT (OPTION)	87
7.6.1	CONNECTION SHAFT STARTING	87
7.6.2	CONNECTION SHAFT ROTATION.....	87
7.7	PREPARATION OF TRACTOR FOR ROAD	87
7.7.1	DRIVING THE TRACTOR	88
7.7.2	STOPPING THE TRACTOR	88
7.8	IMPLEMENT.....	89
7.8.1	CONNECTION AND DISCONNECTION OF IMPLEMENT ON REAR HYDRAULIC LIFT MECHANISM	89
7.8.2	CONNECTION AND DISCONNECTION OF IMPLEMENT ON FRONT HYDRAULIC LIFT MECHANISM	89
7.8.3	CONNECTION AND DISCONNECTION OF IMPLEMENT ON REAR TOWING HOOK.....	90
7.9	CARDAN SHAFT (NOT DELIVERED).....	91
7.9.1	CONNECTION AND DISCONNECTION OF CARDAN SHAFT	91
7.10	CONNECTION OF TRACTOR	93
7.10.1	CONNECTION OF HYDRAULIC COUPLINGS	93

7.10.2 ELECTRICAL CONNECTION.....	94
7.11 INSTALLING WEIGHTS AND EXTENSIONS	94
7.11.1 INSTALLATION OF 40 KG WHEEL WEIGHTS	94
7.11.2 INSTALLATION OF 50 KG WHEEL WEIGHTS	95
7.11.3 INSTALLATION OF 340 KG REAR WEIGHT	96
7.11.4 INSTALLATION OF WHEEL EXTENSIONS	96
7.12 LONGER STANDSTILL AND RESTART	97
7.12.1 LONGER TRACTOR STANDSTILL	97
7.12.2 RESTARTING THE TRACTOR.....	98
7.13 FILLING THE TANK.....	98
8 TRACTOR MAINTENANCE	99
8.1 WHEELS.....	99
8.1.1 TRACTOR LIFT POINTS.....	99
8.1.2 WHEEL MOUNTING.....	100
8.1.3 TYRES.....	100
8.1.4 REST OF WHEEL END POSITION	101
8.1.5 TRACK SETTING	101
8.2 ELECTRICITY	102
8.2.1 REPLACING THE BATTERY	102
8.2.2 CHANGING BULBS	103
8.3 MAINTENANCE TABLE	105
8.4 CLEANING THE TRACTOR	107
8.5 ENGINE MAINTENANCE.....	107
8.5.1 CHECKING ENGINE OIL LEVEL	107
8.5.2 CHANGING ENGINE OIL.....	108
8.5.3 CHANGING OIL FILTER	108
8.5.4 CHANGING AIR FILTER.....	109
8.5.5 CLEANING AIR FILTER.....	109
8.5.6 CHANGING FUEL FILTER.....	110
8.5.7 CHECKING/CHANGING BELT.....	111
8.6. MAINTENANCE OF COOLING SYSTEM.....	112
8.6.1 CHECKING COOLING LIQUID LEVEL	112
8.6.2 DISCHARGE AND ADDING COOLING LIQUID	112
8.6.3 CLEANING RADIATOR	113
8.7 CHECKING WHEELS.....	113
8.7.1 CHECKING TYRE PRESSURE	113
8.8 MAINTENANCE OF TRANSMISSION	115
8.8.1 CHECKING OIL IN GEARBOX.....	115
8.8.2 CHANGING OIL IN GEARBOX	115
8.8.3 CHANGING OIL FILTER OF HYDRAULIC SYSTEM	117
8.8.4 CHECKING OIL IN REAR BRIDGE (TRACTOR VERSION AGT 830/835)	118
8.8.5 CHECKING OIL IN FRONT BRIDGE (TRACTOR VERSION AGT 835 T/S)	118
8.8.6 CHANGING OIL IN REAR BRIDGE (TRACTOR VERSION AGT 830/835).....	118
8.8.7 CHANGING OIL IN REAR BRIDGE (TRACTOR VERSION AGT 835 T/S).....	119
8.9 MAINTENANCE OF HYDRAULIC SYSTEM	120
8.9.1 CHECKING OIL IN HYDRAULIC SYSTEM	120
8.9.2 CHANGING OIL IN HYDRAULIC SYSTEM	120
8.10 LUBRICATION POINTS ON TRACTOR.....	121
8.10.1 SCHEME OF LUBRICATION POINTS.....	121

9	TRACTOR OPERATION TROUBLESHOOTING	124
10	TECHNICAL DATA.....	129
10.1	TRACTOR DIMENSIONS.....	129
10.1.1	REAR LIFT MECHANISM DIMENSIONS	130
10.1.2	FRONT LIFT MECHANISM DIMENSIONS	131
10.1.3	REAR TOWING HOOK HEIGHT.....	132
10.1.4	TRACTOR AXLE LENGTHS	133
10.2	TYRES.....	134
10.2.1	TYRE PRESSURE.....	134
10.3	TRACTOR WEIGHT	135
10.3.1	MAXIMUM TECHNICALLY ALLOWED TRACTOR WEIGHT.....	135
10.3.2	MAXIMUM LOAD ON AXLES AND IN CONNECTION POINT	135
10.3.3	MAXIMUM TENSILE LOAD OF CONNECTION POINT	135
10.4	WEIGHTS	136
10.5	NOISE LEVEL	136
10.5.1	DRIVER VIBRATIONS	136
10.6	TECHNICAL DATA	137
10.6.1	OILS.....	138
10.6.2	COOLING LIQUID	139
10.6.3	LUBRICANTS.....	139
10.7	CONNECTION SHAFT.....	139
10.7.1	CONNECTION SHAFT PROPERTIES	139
10.7.2	CONNECTION SHAFT SPEED TABLE	140
10.7	GEARBOX GEAR SCHEME	141
10.8.1	TRACTOR SPEED	143
10.9	ELECTRICAL CONNECTION OF TRACTOR	147
10.10	RECALCULATIONS OF TRACTOR LOAD.....	148

We thank you for your trust in choosing our tractor series AGT 830/835 or AGT 835 T/S. After many years of experience, we can say that we, based on international guidelines for developing such tractors and on observations of desires and demands of customers, have developed a product of high standards in regard to highest quality between performance and reliability in use in different fields of agriculture, municipal services and simpler production.



TRACTOR AGT 830/835

EC DECLARATION OF CONFORMITY

Manufacturer:

**AGROMEHANIKA, proizvodnja in trgovina Kranj d.d.
Hrastje 52 a, KRANJ, SLOVENIA**

declares that the product:

Tractor AGT 830/835

AGT 835 T/S

is produced in accordance with:

- 1. Machinery Directive 2006/42/EC;**
- 2. Directive on type-approval of agricultural and forestry tractors on wheels 2003/37/EC;**
- 3. Rules on acquiring certificate on conformity of agricultural and forestry tractors according to guidelines of technical specifications (TSV). (Uradni list RS, No. 1/12)**

The following harmonized European standards on safety were complied with:

SIST EN ISO 4254-1:2010 – Agricultural machinery – Safety – Part 1: General requirements (ISO 4254-1:2008);

SIST EN ISO 4254-1:2010/AC:2011 – Correction AC:2011 to standard SIST EN ISO 4254-1:2010;

SIST EN ISO 5674:2009 – Tractors and agricultural and forestry machinery – Shields for connection shafts – Tests of strength and wear and admissibility criteria (ISO 5674:2004);

SIST EN ISO 12100:2011 – Machine safety – General principles of planning – Risk assessment and risk reduction (ISO 12100:2010);

SIST EN ISO 13857:2008 – Machine safety – Safety distances to prevent reaching into dangerous areas with upper and lower limbs.

Kranj, 26.4.2013

Production manager:
(responsible for tech.
documentation)

Matjaž Kuhar, B.Eng.



Manager:

Jan Šinkovec



1 GENERAL

AGT tractors are designed and produced to provide users with the best reliability and work performance. However, a lot depends on the user, his approach to work and subsequent maintenance and proper care of the tractor.

Carefully read instructions for safe use and maintenance and heed to them when handling the tractor to perform them correctly as the user of your new AGT tractor.

Instructions for use and maintenance are a component part of the tractor and contain vital information for efficient and safe use and long life expectancy of the tractor.

Keep instructions for use and maintenance in an easy accessible place, so that they are available in any situation.

Enclose the instructions upon possible sale of the tractor to another purchaser.

If you require expert assistance, contact our service centres, where we will gladly provide support. Upon contact, provide exact information about your tractor, provided on the identification plate.



When purchasing AGT tractor, you receive documentation, which, along with instructions for use, includes instructions for use and maintenance of the engine, warranty and CE declaration of conformity of the product.

NOTE




Due to development and modifications, minor deviances of the text of Instructions for use and maintenance can occur from the actual state of the tractor. Therefore, we, as the manufacturer, reserve the right to technical changes of information without prior notification of the customer.

2 SAFETY

2.1 SAFETY SIGNS

There are three main types of safety signs for danger, warning and important, which can be found in the instructions and tractor decals. Whenever you see such a sign, heed to their content of instructions for safe work, and act accordingly in special situations. Consequences of not heeding to safety warnings for danger can be serious injuries or even death.

Heed to these safety regulations for your own safety!

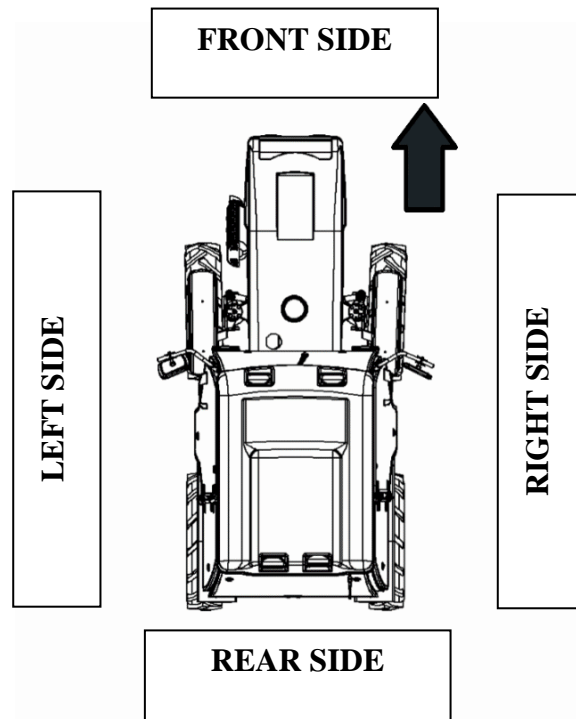
	IMPORTANT: This symbol represents important technical information regarding different work procedures and warns about potential danger, which can arise during operation and can have lighter injury as consequence.
	WARNING: This symbol warns about potential danger, which can arise and can have serious injury to the operator or damage to the tractor and its equipment as consequence.
	DANGER: This symbol warns about immediate danger, which can have serious injury or even death as consequence.

2.2 DEFINITIONS

Definitions, explained in the following, explain use of certain terms, which come up in the Instructions for use.

- **FOPS (Falling objects protective structure)**, safety structure, which protects the driver in case of falling objects from above;
- **OPS (Operator protective structure)**, safety structure, which protects the driver in case of object protrusion;
- **ROPS (Roll over protective structure)**, safety arch or safety cabin, which protects the driver in case of tractor rolling over;
- **USER**, person trained and properly educated for work with the tractor and authorized for its servicing;
- **MAINTENANCE**, a series of service operations, which enable functionality and effective tractor operation for further use. Maintenance procedure is normally defined by the manufacturer in corresponding intervals and execution procedures;
- **DANGEROUS AREA**, area, where great danger of safety and health hazard of persons exists.

- **VIEWING DIRECTION**, tractor position is determined according to drawing and is conditioned by driving direction. Directions, shown in the figure, are used in the Instructions for use.



2.3 SAFETY WARNINGS

- Carefully read instructions regarding safety regulations in the instructions for use of your tractor.
- Familiarize yourself with tractor operation and handling and its control units.
- Familiarize yourself in detail with tractor properties, such as weight, load capacity (load), speed, tractor stability etc., so there is no consequences due to disregard in terms of serious injury.
- Always act according to regulations, especially when driving on public roads.
- Ensure that the signs on the tractor are clearly visible.
- Never remove or paint safety signs on the tractor.
- After repair and replacement of component part on the tractor, make sure that it includes all required safety signs. Safety signs are available at authorized dealers.
- Ensure that your tractor is in good technical state. Each unauthorized modification on the tractor can reduce its function, as well as safe operation, and can shorten its life expectancy.



2.4 USER OR CUSTOMER

Before commencing work, user must be previously informed about the tractor and its correct use of all working functions, especially in certain parts, where extreme caution is required. Therefore, it is recommended that:

- The user is familiar with the instructions for use before using the tractor and confirms that he will follow all safety instructions for work and maintenance consistently;
- The user is familiar with safety warnings in the instructions for use and safety decals on the tractor;
- The user ensures correct maintenance and checks of the tractor and its parts;
- The user, upon damage or malfunction, ensures replacement of parts with original ones, otherwise the manufacturer can nullify warranty free from liabilities;
- Other persons (third persons), who do not possess required knowledge, familiarize themselves with the instructions for use;
- The user, when being the employer, instructs the person in charge of work on the tractor or organizes education for this person;
- The user does not allow persons without adequate knowledge to operate the tractor;
- The tractor is operated by only one person, without an assistant, except in case of driving with objects, which obstruct the view and prevent good overview of the driver's field of view. The assistant is in charge only of showing correct driving direction:
 - must not ride on the tractor;
 - must heed to safety distance during work.
- The user is healthy – mentally and physically;
- The user of the tractor is medically examined (in accordance with local regulations).



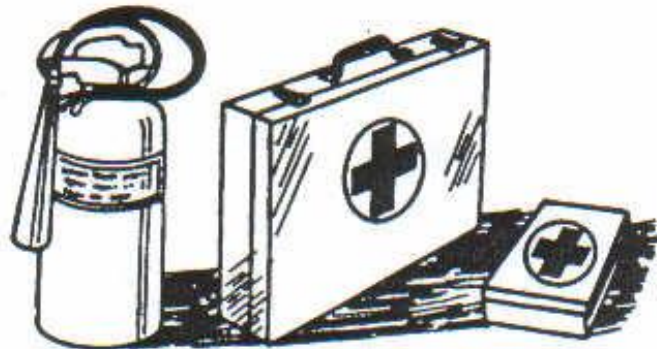
WARNING: Never use the tractor under the influence of alcohol or other substances. In case of using medication, consult your physician beforehand.



WARNING: Do not allow unauthorized persons or persons under the age of 18 to operate the tractor.

2.4.1 PREPAREDNESS FOR DANGERS

- Be prepared for sudden fire.
- Make sure that, during work, there are always a first aid kit and a fire extinguisher present.
- Make sure that you have phone numbers of your physician, emergency, doctor's office, hospital and fire service present in a visible place.

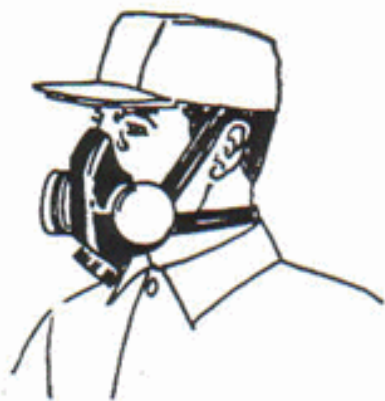


2.4.2 PERSONAL PROTECTION

During work, the tractor operator must wear well fitting clothing and effective protection equipment:



- Protective helmet
- Face protection (goggles or mask)
- Protective gloves
- Suitable work clothing (not loose)
- Appropriate hearing protection means
- Protective footwear



If, during work with the tractor, you are in contact with pesticides, use suitable means of personal protection provided above (protective mask, work clothing...) in accordance with recommendations of pesticide manufacturer.

2.5 SAFETY INSTRUCTIONS BEFORE USING THE TRACTOR

Use the tractor only with original parts and safety devices, installed by the manufacturer.

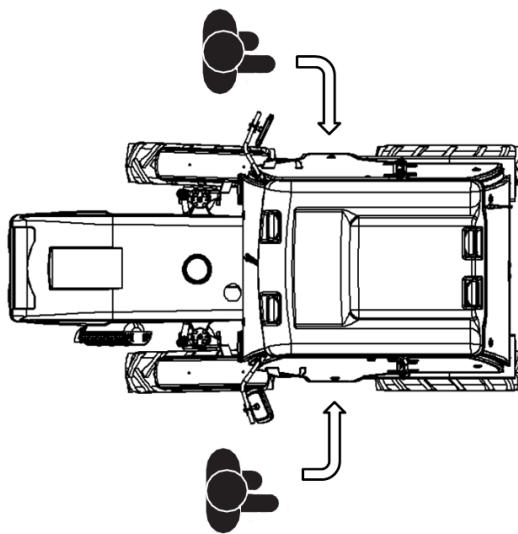
- Perform a visual inspection of the tractor, make sure that all of the parts and equipment are installed properly and/or are not damaged:
 - Check proper functioning of brakes, including handbrake;
 - Check functioning of hydrostatic control system;
 - Check oil level and add, if required;
 - Check the state of electrical system (battery, wires, headlights, warning lights...).
- Before use, perform a visual inspection of tractor tyres:
 - Check pressure. If the tyre has insufficient pressure, inflate it;
 - Check for possible damages, such as protrusions or cuts;
 - Check tyre tread wear.
- Never overinflate tyres, because they can explode!



WARNING: If there are signs of wear or damage, immediately replace the tyre!

2.5.1 ENTERING THE TRACTOR

- Entering the tractor is possible from both of its sides.
- Never enter the tractor elsewhere as arranged, as serious injury can occur in case of fall.
- Before entering the tractor, make sure that the surfaces and steps are clean, free of mud, oil, dust etc. In winter time, always remove any ice or snow before entering.
- When entering the tractor, use the handrail and step. Never grab shift lever and do not step on the pedal when entering.
- Always use "three-point grip" – both legs and one arm or one leg, both arms – when getting into or out of the machine.



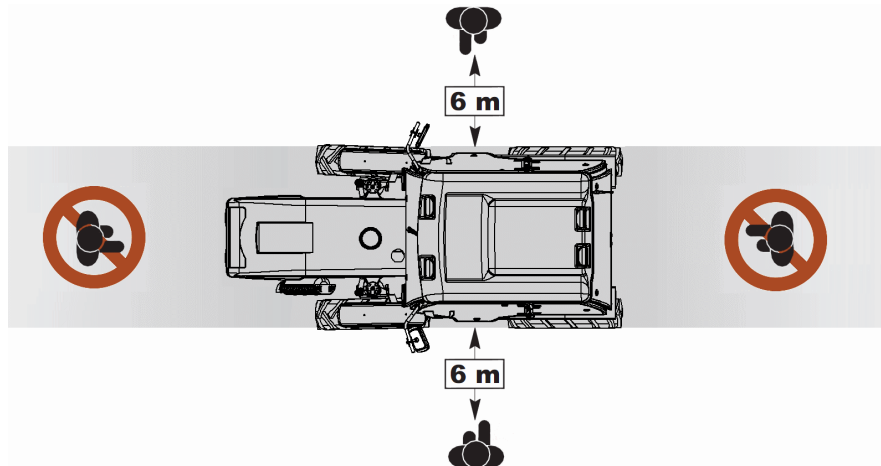
WARNING: During driving, do not get out of the tractor or vice versa!

2.6 SAFETY INSTRUCTIONS DURING TRACTOR USE

Use the tractor for work in accordance with regulations and strictly follow safety instructions.

2.6.1 DANGER AREA

- Before commencing work, make sure that other persons, especially elderly and children, are out of the tractor's danger area, especially when it is working or in motion. If required, stop the tractor and move the persons to a safe distance.



- Do not allow anybody in the vicinity of the tractor, when you are using the loader or suspended load.

2.6.2 STANDARD SAFETY EQUIPMENT

⇒ SAFETY BELT

- Always use safety belt, which ensure safe work and keeps the user in place upon possible tractor roll-over.
Safety belt is NOT used, if you have a tractor without a cabin or lowered roll bar.



WARNING: Before using the tractor, always check the state of the seat belt, and, if any damage or wear is determined, immediately replace it!

⇒ ROLL BAR (ROPS – roll-over protective structure)

- The roll bar must always be in upright position, when driving or using the tractor.



WARNING: In case of lowered roll bar, the tractor must be on solid, level ground with no incline or obstacles.

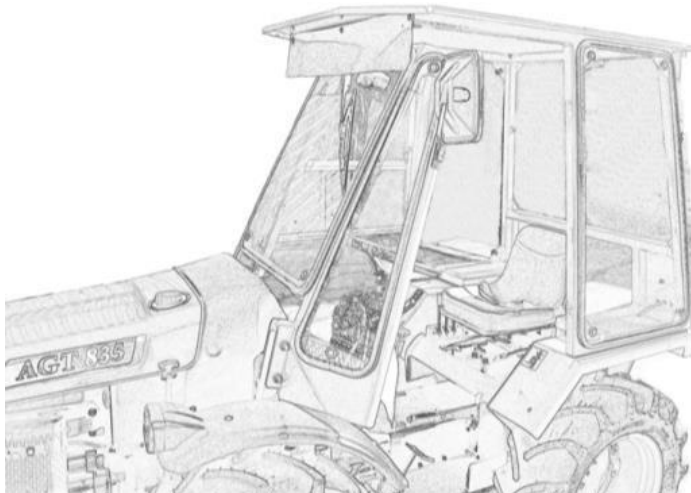
- Roll bar offers suitable protection only if its construction is intact.
- If the roll bar or its construction is damaged due to tractor roll-over or hitting an obstacle during driving, **replace the roll bar.**
- Roll bar is not intended for towing, therefore, NEVER attach chains or tow ropes, as you risk damaging the tractor or even rolling it over.



WARNING: Do not change or modify the roll bar, do not cut, drill, straighten or weld its construction, as this reduces its level of safety.

⇒ SAFETY CABIN (ROPS – roll-over protective structure)

- Safety cabin, installed on the tractor, meets safety requirements according to European guidelines.
- Safety cabin protects/reduces danger of driver injuries in case of tractor roll-over, only if the driver follows all safety instructions and also uses a safety belt.
- Do not change or modify the safety cabin, do not cut, drill or weld its construction.
- If you install additional equipment in the safety cabin, consult qualified persons, who will provide the necessary information.
- If the safety cabin or its construction is damaged in tractor roll-over or if you have bumped an obstacle during driving, **it must be replaced!**



WARNING: Do not use the tractor in environment where there is possible danger of falling objects, even if the tractor has an installed cabin. In such cases, use of special protective equipment is required (FOPS – falling object protective structure and OPS – operator protective structure), which is NOT CERTIFIED on the tractor!

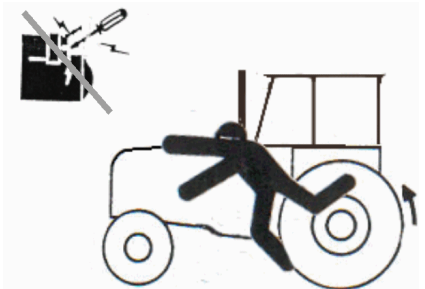
2.6.3 STARTING THE TRACTOR UNDER SAFE CONDITIONS

- Before using the tractor, always check that all safety devices (safety belt, roll bar...) are properly installed (firmly fitted) and enable functionality.
- Start the tractor only when sitting in the driver's seat.
- Driver's seat enables rotation function according to desired driving direction (forward or reverse).
- Turn the seat only when the tractor is turned off, NEVER during driving.
- Familiarize yourself beforehand with all control elements, which must be in reach and always in neutral position until using or starting the tractor.



WARNING: Never start the tractor, when you are standing beside it!

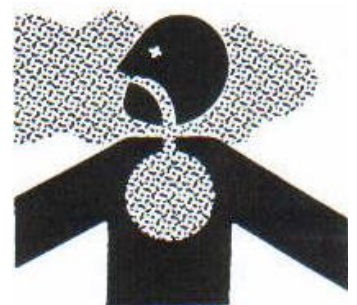
- Do not start the engine by short-circuiting the starter, because the tractor can drive off unexpectedly, if in gear.



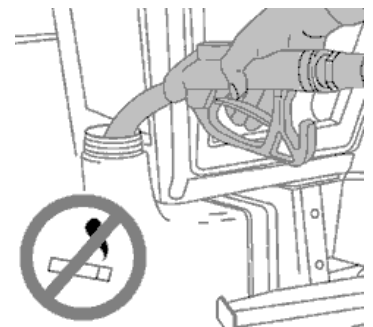
- Before using the tractor, driver's space must be tidy and ensure optimal field of view, without restrictions.
- If there is a cabin installed on the tractor, all windows must be clean before use.



- NEVER leave the tractor running in closed spaces or spaces with poor ventilation. Exhaust fumes, such as CO (carbon monoxide), are potentially extremely dangerous to your health, therefore, always ensure adequate ventilation.



- Be careful, when refuelling the tractor. Turn the tractor engine off and wait for it to cool down before refuelling the fuel tank in a well ventilated area.
- Malfunction can be a cause of fire, therefore, do not smoke while working and make sure that there is no open flame or sparks in the area. In case of spillage, it is mandatory to wipe the spilled fuel.
- Do not fill the fuel tank to the top due to fuel expansion, which depends on the temperature.



2.6.4 STOPPING THE TRACTOR UNDER SAFE CONDITIONS

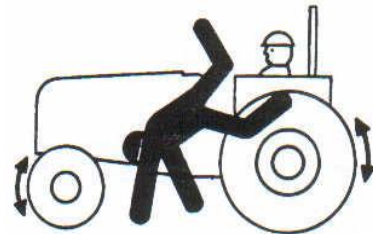
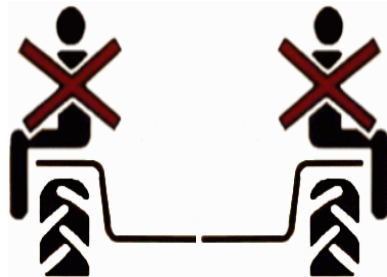
Before stepping out of the tractor or leaving it without control, heed to the following safety measures:

- Always lower the three-point hitch;
- If you have installed carried equipment, always lower it to the ground;
- Move all control elements to neutral position;
- Activate handbrake and turn off tractor engine;
- Shift to first gear and remove the key.



2.6.5 WORKING WITH TRACTOR

- Do not begin work until making sure that there are no unauthorized persons in the machine's work area.
- Each unauthorized person, riding on part of the tractor, which is not explicitly designed for that, can:
 - be hurt or can have an accident (falling off the tractor),
 - can have an effect on the driver during tractor use,
 - change tractor's barycentre,
 - obstruct driver's overview and can have an effect on unreliable working conditions on it.



WARNING: Do not allow unauthorized persons to approach the tractor.



WARNING: Driving unauthorized persons on the tractor is prohibited!

- Safe work with the tractor requires complete attention of the operator, therefore:
 - DO NOT listen to music with headphones during work;
 - DO NOT use your phone during work;
 - Set the installed additional equipment in the cabin beforehand.
- Make sure that you and persons in your area are careful when moving around rotating tractor parts.
- All moving parts (shafts, joints, cylinders, belts etc.) must have protection, which prevents clothing or any body part getting entangled.
- **NEVER remove protection from moving parts!**



WARNING: Entanglement with rotating part can cause serious or even fatal injury!

2.6.6 USING THE TRACTOR WITH INSTALLED WEIGHTS

When using the tractor with installed weights, required by circumstances, certain measures must be taken, especially the ones regarding safety.

- Unevenly installed weights significantly affect tractor balance, therefore, always install weights in symmetry, according to type of fitted implement and surface type, where the work is carried out;
- If you weigh the tractor down with water in tyres, do this only if you are qualified for such work, otherwise, leave this to qualified persons;
- When using water weights in tyres in the winter, add antifreeze to water;
- When driving with heavy or long implements, always weigh the tractor down at the front;
- Do not overload the tractor with weight or do not exceed its maximum determined weight;
- When disconnecting implement from the tractor, always also remove weights to prevent tractor instability, reduce wear of vital parts and increase functionality.

2.7 SAFETY INSTRUCTIONS AFTER USING THE TRACTOR

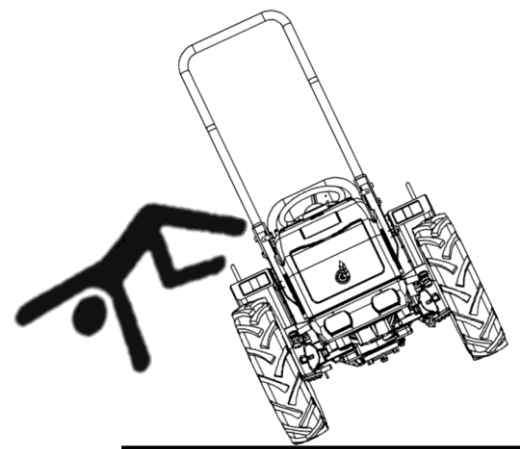
When you have finished using the tractor or parked it for a longer period of inactivity, perform general measures regarding safety.

- Park the tractor on level and solid ground, under covered area or at least with option of covering in a way that does not represent potential danger or hindrance.
- Stop the tractor safely, as described in the chapter "LEAVING THE TRACTOR", and prevent other persons to access control elements in the driver's space.
- Disconnect negative (-) pole from the battery. To prevent electrolyte freezing, disconnect the battery from the tractor for the winter period and store it at suitable room temperature.



2.8 USING THE TRACTOR ON SLOPES

- Avoid working with the tractor on uneven ground, slopes or banks. Be very carefully when driving near ditches or holes.
- When driving on a slope, do not shift into neutral position and do not press the clutch pedal.
- When driving on a slope, always use suitable speed with suitable gear, especially when driving heavier loads or work implements. Do not drive or stop abruptly and avoid sudden turns to prevent the tractor from rolling over.
- Connect towed implement or trailer only to original tractor connection.
- Make sure that the towed implement is always lighter than the tractor.

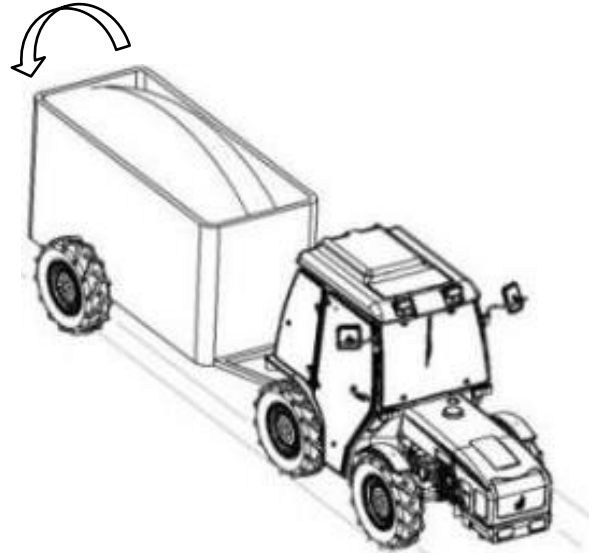


- Driving the tractor, loaded with a very heavy towed implement, must be done in reverse on very steep slopes. Otherwise, the front end of the tractor can lift due to overload and can cause the tractor to roll over.
- Do not drive the tractor transversally on slopes, as you risk rolling it over. If possible, drive only uphill and downhill.



WARNING: When working on a steep slope, make certain of ground firmness, especially in bad weather conditions.

- When braking with towed implement, especially when driving downhill, consider its length, width and weight, as these are key for stability and their factor can greatly extend braking path in correlation to tractor speed.



2.9 USING IMPLEMENTS

- Connect implements only to designated points on the tractor. Do not connect implements, which do not meet all safety conditions of use when:
 - Lacking proper signalling;
 - Lacking suitable safety devices;
 - Tractor capability does not meet implements.
- If you are using the tractor with fixed implement in connection with cardan shaft, always:
 - Leave the tractor running in idle or shift to neutral gear position;
 - Activate handbrake;
 - Place wedges under tractor wheels.
- Do not overload the tractor with implement. If there is great load, ensure proper stability of the tractor by adding appropriate weights.
- Keep in mind that the weight changes with implement, which decreases braking effect, which has a substantial influence on longer braking path.
- Do not connect electricity or hydraulics, when the tractor is operating.



WARNING: If there are additional implements installed on the tractor, which change weight distribution, adapt you driving to current conditions!

2.9.1 CARRIED IMPLEMENTS

- Connect carried implement to tractor's three-point hitch and secure it with pins. Implement and tractor must be at the same height to connect them with cardan shaft.
- Always make sure of tractor stability, when connecting carried implement. For this purpose, instructions for use include calculation formulas to determine suitability.
- Familiarize yourself with proper use of carried implement before using it on the tractor. For this purpose, read its instructions for use and maintenance.

2.9.2 TOWED IMPLEMENTS

- Connect towed implement to tractor's towing hook.
- Do not connect towed implement to tractor's three-point hitch system, as it is intended only for carried implements. Otherwise, you risk tractor roll-over.
- You can tow implements on the tractor without brakes or implements fitted with mechanical brakes. When driving with towed implements without brakes, especially when stopping, consider total weight of the tractor and towed implement or load, because you can very easily lose control of the tractor.
- When leaving the tractor with connected towed implement, repeat procedure from chapter "STOPPING THE TRACTOR UNDER SAFE CONDITIONS", and, in case of slope, always install safety wedges under the wheels of tractor or trailer.



WARNING: Do not allow unauthorized persons to be between the tractor and implement, when it is operating or when you are connecting or disconnecting the implement.

2.9.3 CARDAN SHAFT

Drive elements can cause serious accidents, therefore, heed to the following instructions:

- For driving elements on the implement (pump, fan countershaft etc.) use cardan shaft, which is equal to defined shaft for this implement according to size and construction and is fitted with safety cover.
- Before first use, check cardan shaft to make sure that its length is not too short or too long, so that it does not come off or gets stuck during start.
- First, connect the cardan shaft to the implement and then to tractor's drive shaft (PTO).
- When fitting the cardan shaft, make sure that the safety pin is locked into place. Push and pull the cardan shaft forwards and backwards, until the safety pin locks into place.
- Connect the implement to the tractor only when the drive shaft (PTO) is disengaged.
- Connect and disconnect the cardan shaft **only when the engine is off and ignition key removed from its switch.**
- Before engaging the drive shaft (PTO), check number of revolutions and make sure that there are no people or animals in the danger area.
- Do not engage the tractor's drive shaft (PTO) for any reason and check that the angle difference on cardan joints is not too great.
- Outlet drive shaft (PTO) of the tractor can be manually turned when installing the cardan shaft, when the engine is off and the cardan shaft is disengaged.
- Rotating shafts without protection are very dangerous!

- Always make sure that safety elements are in place and cover all rotating parts, including "crosses" of the cardan shaft on both ends! Do not use cardan without protection!
- Do not touch rotating cardan shafts! Safety distance from rotating cardan shaft is 1.5 m.
- To ensure long life expectancy of the cardan, avoid using angles greater than 15° when working.
- Protect safety elements from rotating with chain!
- Make sure that cardan shaft protections on the tractor and implement are joined (fastened)!



WARNING: Install the cardan shaft according to order implement → tractor. Never connect the other way around, as this may cause serious injury or even death!

2.10 USING THE TRACTOR ON THE ROAD

Do not drive the tractor on public roads, but if you do, observe the following instructions:

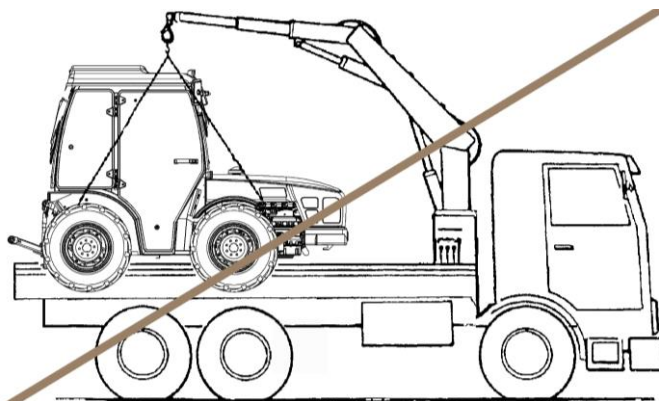
- When driving with the tractor, heed to road traffic regulations;
- Before driving, make sure that the brake pedals are connected;
- If you want to use the tractor in road traffic, it must be fitted with road signalling and signs, as defined by road traffic regulations;
- Check that the light signalling on the tractor and implement (if in use) works flawlessly;
- Check condition of tyres (pressure and wear);
- Do not use differential lock when taking off or driving on the road;
- Lift mechanism must be fixed in top position during driving;
- If you drive the tractor with an implement, reduce speed to take into account that braking paths (depending on weight) significantly increases and do not brake or turn suddenly;
- When driving the tractor on the road, the seat must always be in normal position, never reverse;
- During driving, always adapt to traffic and conditions on the road;
- If you are driving in road traffic, do not engage the cardan shaft – do to this only when working;

2.11 TRANSPORT OF TRACTOR

Tractor can be transported by towing with another vehicle or by loading on a transport vehicle.

2.11.1 TRANSPORT

- Transport of tractor must be performed by persons, who have been instructed beforehand or have appropriate knowledge and skills;
- Transport of tractor must be performed in accordance with instructions set by the manufacturer in the instructions for use;
- Before transport, make sure that all parts are safely secured to the tractor and that all opening parts are correctly closed;
- When transporting, always use suitable loading ramps, which ensure safe execution of the entire procedure of loading and later unloading from transport vehicle;
- Loading ramp must have a side safety edge, which prevents the tractor to slide to the side when loading or unloading;
- Always make sure that the loading ramp is secured firmly to transport vehicle and on ground and that there is no dirt, oil, ice etc. on it, as this may cause uncontrolled sliding. In this case, clean the surface of loading ramp before loading and unloading;
- Do not load the tractor with a hoist or a forklift. For safe loading, use a towing bar or towing chain with a winch, which must be correctly connected to tractor's connection points;



- During loading and unloading, an additional person must be present to give safety instructions from a safe distance;
- Tractor must be secured properly on the transport vehicle, as stated in the instructions for use;
- If the loaded transport vehicle exceeds external measurements, make sure that all signals and warning lights are in appropriate position and function perfectly, if required by local legislation.

2.11.2 TOWING

- Towing should be performed only in case of tractor malfunction and only for short distances;
- When towing the tractor, heed to the maximum allowed speed, which is 10 km/h.
- When towing the tractor, always keep warning lights or other devices for better signalling turned on, in accordance with road traffic regulations in force.



WARNING: During loading or unloading, never stand in immediate vicinity.

2.12 MAINTENANCE

In the period of tractor operation, maintain it regularly, as foreseen by the manufacturer. Correct maintenance ensure long operating period of the tractor and suitable safety.

Before starting maintenance work on the tractor, shut down the engine, remove the key and engage the handbrake and wait for the tractor to cool down:

- Inform yourself on servicing or leave to adequately qualified personnel.
- Keep the work place clean and dry.
- Do not lubricate, repair or set the tractor when in motion! Do not touch moving parts! Shut off power and make sure there is no work pressure in the hydraulic circuit!
- Maintenance and servicing should be performed when the tractor is cleaned.
- During maintenance and servicing of the tractor, disconnect all implements.
- Use only suitable tools for servicing.
- Disconnect tractor's drive shaft (PTO) to prevent sudden turning on and operation of the machine.
- Do not check the tractor without "engaging" safety elements.
- Support the tractor for repair or maintenance, so there is no uncontrolled movement.
- Support and install safely all parts, which need to be raised during service.
- Maintain machine parts in good condition. Remedy problems immediately. Replace worn out and damaged parts. Remove excess oil, grease or any other filth.
- During tractor repair, use protective equipment.



**PROHIBITED REPAIR
DURING OPERATION!**



WARNING: Do not perform maintenance work on the tractor, when it is operating. Stop the tractor under safe conditions!

2.12.1 HYDRAULIC SYSTEM

Check the condition of hydraulic system (joints, tubes), especially tubes going to hydraulic cylinders of steering system.

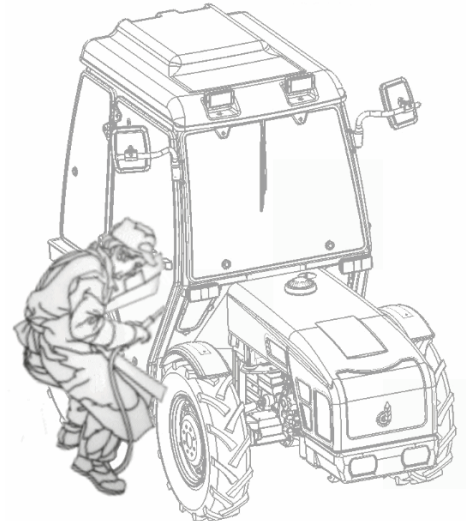
- Do not use open flame near tubes under high pressure. Damage to any tube under high pressure can cause flammable liquids (fuel, oil) to escape and thus causing severe burns.
- Liquids, coming out of the tubes, can be under high pressure and can damage skin and, if they get under the skin, can cause serious injury.



- Never try to disassemble hydraulic tubes or other hydraulic lines, when they are under pressure. Before using the hydraulic system, make sure that the connection is safe.
- When determining hydraulic circuit leakage position, use cardboard for help. If you are dealing with high pressure circuit, protect your arms and body.
- In case of injury, seek medical attention. Due to danger of serious injury, any penetration of liquid through the skin must be stopped and the liquid must be removed in a matter of hours.

2.12.2 BODYWORK

Do not heat painted parts of the tractor, as this creates toxic gases, which are harmful to health. When repairing painted parts of the tractor with welding, soldering or heating, remove the paint first with sanding!



2.12.3 WHEELS

Regularly check that wheel nuts are tightened properly. When tightening, use correct torque. Table with torque values for tightening is provided in the instructions for use in the chapter Maintenance. When repairing rim due to damage, always remove the tyre beforehand. If you do not have suitable equipment, leave this task to qualified person.



WARNING: Never repair rims with tyres still on, because tyres can explode with compressed air!

2.12.4 COOLING SYSTEM

Before inspection, shut down the engine and wait for it to cool down. When the engine is warm, cooling liquid in the tank is under pressure and can cause burns, if you open the cover.



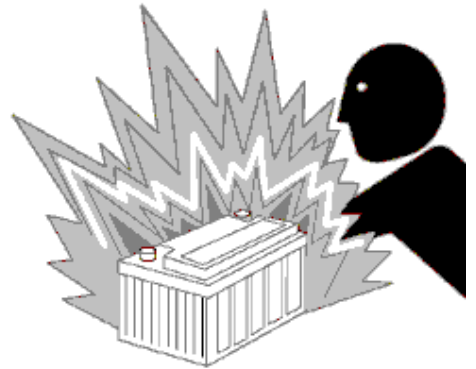
WARNING: Always refill cooling liquid when the engine is cold!

2.12.5 ELECTRICAL SYSTEM

Before performing any setting or repair on the electrical system, or if you weld on the tractor, disconnect connections (negative cable -) on the battery.

Be careful, when handling the battery:

- Make sure that you connect poles from the battery to tractor correctly;
- Never connect battery poles with each other, as this may cause explosion;



- Battery acid is toxic and corrosive. Therefore, it can destroy clothes, burn skin or, if sprayed into eyes, cause blindness.

Follow these recommendations:

- charge the battery in a well ventilated area,
- when charging the battery, do not keep it near fire (welding) or smoke near it,
- use protective goggles and rubber gloves for work,
- when adding electrolyte, do not inhale toxic gases.
- If spilled with electrolyte:
 - wash skin with water;
 - undress spilled clothes;
 - apply baking soda to neutralise the acid;
 - if electrolyte came into contact with your eyes, wash them for 10-15 minutes with water;
 - immediately seek medical attention.
- If drinking electrolyte:
 - drink a lot of water;
 - drink magnesium milk, whipped eggs or vegetable oil;
 - immediately seek medical attention.
- In case of suspicion of poisoning (signs: sweating, dizziness, depression, headache, nausea):
 - immediately stop work;
 - undress wet clothes;
 - stay calm;
 - lay on your side;
 - immediately call medical attention.



2.12.6 ENVIRONMENT PROTECTION (RECYCLING)

All companies must foresee, assess and then control the effect of their products and services on the environment.

Regard the following factors to determine effects on the environment:

- Emissions in atmosphere
- Discharge of waste liquids
- Waste management
- Ground pollution
- Use of raw material and waste sources
- Related local problems regarding environmental pollution

To reduce these effects on the environment, the manufacturer suggests some general measures, which must be followed by everybody operating the tractor in its life span.

- When performing maintenance tasks on the tractor, be careful not to pollute the environment with worn out parts or waste.
- Uncontrolled discharge of chemicals in the environment is **strictly prohibited!**
- Pour waste liquids in designated containers and dispose of them in accordance with regulations of local legislation.
- When the tractor is no longer to be used, it must be cleaned completely, disassembled and sorted according to material of individual components and handed over to waste management organization.
- Plastic components can be recycled or incinerated in designated incineration devices, and metal parts can be separated as scrap iron.



IMPORTANT: Incorrect recycling or disposal is fined by legally set sanctions!

2.12.7 NOISE

The tractor, as well as the connected implement, creates certain level of noise during operation.

- Excessive noise can cause severe hearing damage, therefore, the greater the noise level and the longer the noise is present, the greater the risk. Instructions for use include information about the noise level of your tractor.
- If the noise level exceeds 85 dB(A) or if the user is exposed to noise for a longer period, use of hearing protection is recommended (anti-noise plugs or headset).
- Noise level can vary depending on the implement that you are using and revolutions of the connection shaft.

2.13 USING THE TRACTOR FOR SPRAYING

Tractor operator must be familiar with regulations regarding plant protection, therefore, always read instructions for use on the chemical substances. Heed to regulations, safety measures and use instructions:

- When working, keep cabin windows and doors closed and use respiratory protection, such as gas mask or helmet with fresh air.
- When preparing chemical substances, dress appropriately. When working, use protective mask, gloves, boots and protective clothing. Take care of your protective equipment. Do not use "worn out" protection.
- If you see people in the work area, who are potentially exposed to inhaling chemical substances, immediately stop spraying.
- After use, clean the spraying device and store it in a suitable area, so that it is inaccessible to unauthorized persons.
- Make sure that your tractor and spraying device are regularly cleaned, as this reduces the risk of direct contact with chemicals.
- After spraying, clean the tractor (if required) and spraying device at an appropriate place, so that chemical substances do not get into the environment.
- Make sure that your protective equipment and clothing are well maintained and cleaned. Dirty gas mask can cause skin irritation. Regularly replace the filter!
- Store protective equipment in a dry, cold and clean place. Never store protective equipment in the same place as chemicals. Your protective clothing for chemicals must be stored separately from other clothes. Protective equipment, which gets dirty with chemicals during work, should be cleaned in accordance with regulations on cleaning dangerous substances.



WARNING: Do not begin spraying until you have until you have put on personal protective equipment, even if your tractor has a protective cabin!

It is desired that the tractor has a hermetically sealed cabin during spraying, in which overpressure can be created with ventilation of fresh air, which disables chemically polluted air to enter the cabin. **Because the tractor does not have a suitable cabin installed, which would enable this or the cabin is NOT CERTIFIED, the tractor is not suitable for such type of work!**

2.14 USING THE TRACTOR IN FORESTRY

When using the tractor in forestry, you must consider dangers, which happen most often when trees, branches or other objects fall or penetrate the driver's space.

When doing forestry work, the tractor must be well-positioned and stable. Ensure this in any case (support wedges, weights etc.).

Protective cabin on the tractor is not intended for forestry work, is NOT CERTIFIED and does not meet the conditions of use as protective equipment FOPS – falling object protective structure and OPS – operator protective structure.



WARNING: Do not use the tractor in forestry, if there is danger of material falling or penetrating from the side!

2.15 FRONT LOADER

- Front loader must be equipped with suitable support device, which, with raised lift arms, prevents the load to slide in driver's area.
- Objects, which are not secured properly on the loader, can, during lifting, fall on persons standing in direct vicinity of the tractor.
- When transporting objects with front loader, you must lower the bucket as close to the ground as possible.
- When driving downhill with loaded front loader, drive downhill in reverse.
- If you drive with front loader on uneven ground, reduce tractor speed to prevent loss of steering control.



WARNING: The tractor does NOT HAVE CERTIFIED protective safety equipment for work with front loader, therefore, it is not suitable for such work!

2.16 ADDITIONAL SAFETY REQUIREMENTS

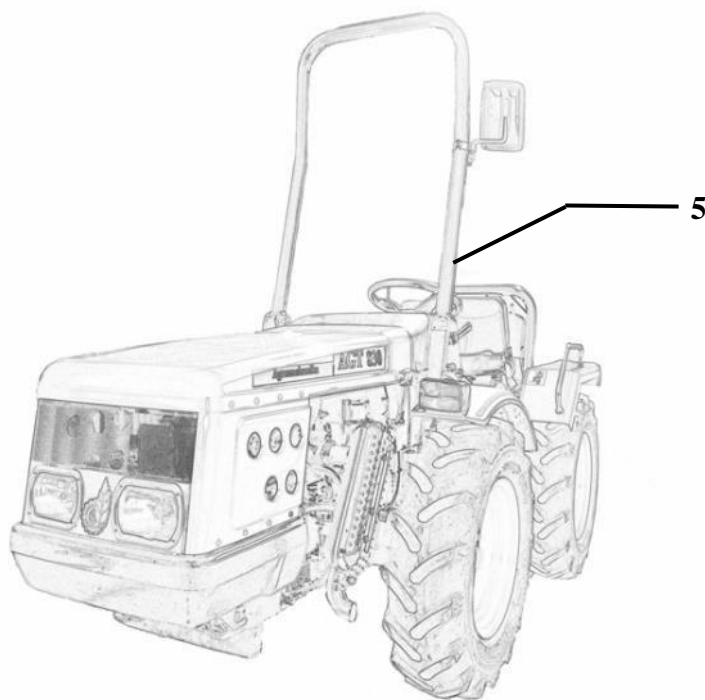
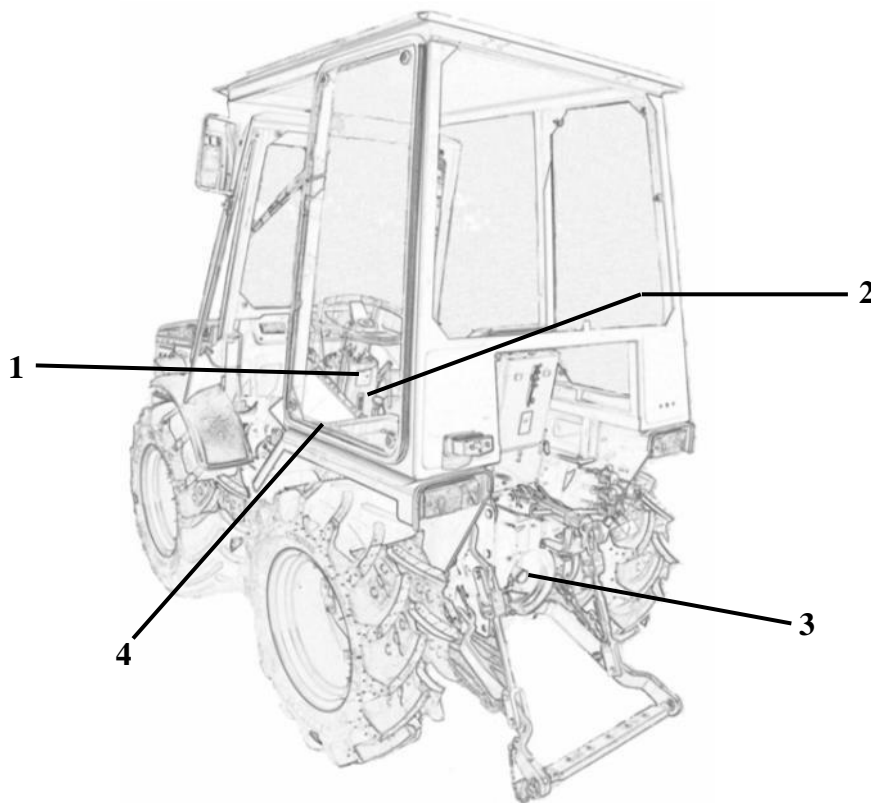
This chapter describes additional danger or risks, which often occur and of which you must be especially aware of as user, despite being already described in the instructions for use and you have already considered or anticipated them.

- **Danger of loss of stability:** To prevent loss of tractor stability, the user must drive safely and responsibly, especially when there are implements or weights or both on the tractor, near ditches or on slopes, on soft and uneven ground in bad weather conditions.
- **Danger of tripping:** The user must be careful before entering or exiting the tractor not to trip against control units or slip in case of dirty surfaces. Therefore, it is recommended to use three-point grip when entering or exiting the tractor.
- **Danger of impact:** The user must always connect or disconnect the cardan shaft correctly, therefore, he must heed to correct order and follow the procedure of connection implement → tractor and disconnection tractor → implement to prevent dangerous impact, which can cause severe injuries or even death.
- **Danger of crushing:** When connecting or disconnecting an implement, the user must always be in the safe zone of the driver's seat and must not allow other persons to approach during the process.
- **Danger of cuts:** The user must not reach his hand toward rotating fan or other moving parts without suitable safety protection. If performing maintenance tasks, stop the tractor first under safe conditions.
- **Dangerous substances:** The user must not use the tractor in closed or poorly ventilated areas, where he risks poisoning with exhaust gases (carbon dioxide CO₂). In case of handling chemical substances, always use protective equipment (face mask), even in case of installed cabin with suitable filters.
- **Danger of pulling:** Do not approach rotating mechanical parts of the tractor, such as front (optional) and rear cardan shaft, because trouble can arise quickly with serious injury or even death.
- **Danger of scratching:** The user must never touch rotating wheels or other rotating parts in his reach during driving.
- **Danger of burns:** The user must never touch the engine, when it is running and creating heat. Parts of the engine, such as the block, radiator and especially exhaust pipe, heat extremely during operation and can cause burns upon contact. Before touching them or performing maintenance tasks on them, wait for them to cool down.

2.17 SAFETY SIGNS ON THE TRACTOR






On the tractor and in the instructions for use are safety and warning signs. To ensure your safety, take a closer look at them. Follow instructions and advice regarding safety measures, provided in the previous chapter.

Ensure that safety signs are visible. Ensure that you have all required signs after servicing or replacement of parts. Safety signs are available at authorized dealers.



2.17.1 MEANING AND POSITION OF SAFETY SIGNS

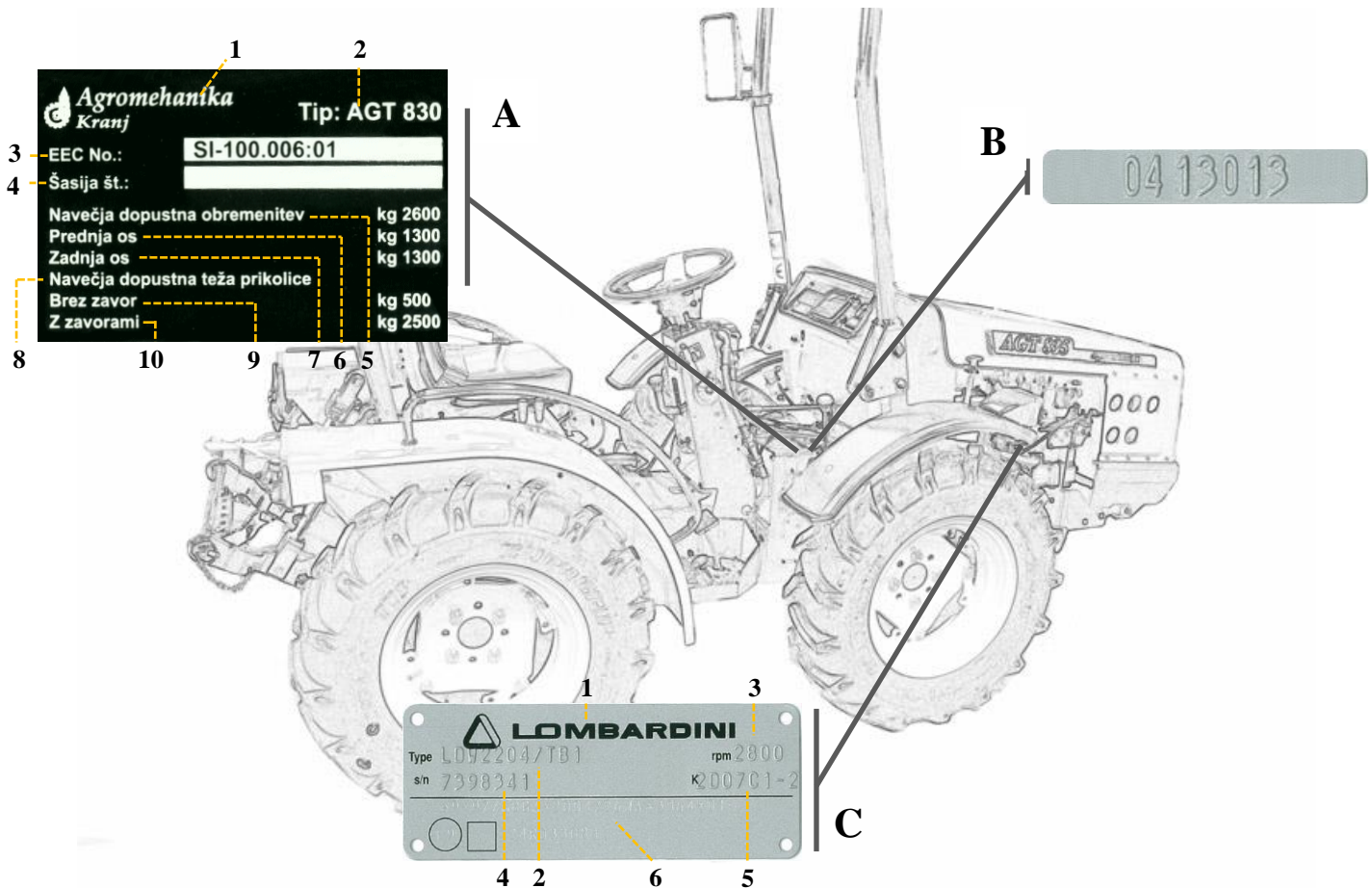
Learn to operate the tractor well and never allow it to be operated by a person not familiar with the instructions! The table below describes individual safety signs.

	Position	Description	Sign
1.) General danger	Sign is positioned on the left side of driver's console under the steering wheel.	Sign represents general danger or danger of possible injury due to noncompliance with instructions.	
2.) Key removal	Sign is positioned on the right side of driver's console under the steering wheel.	Before each intervention or repair, shut off the engine and remove the key from its lock. Warning: Before first use of the tractor, read instructions for use!	
3.) Danger of pulling	Sign is positioned on the protective part of rear connection shaft.	Sign shows danger of entanglement with rotating part (cardan shaft), so be careful and do not approach rotating drive shafts!	
4.) Danger of fall	Sign is positioned on the rear left track of the tractor (with or without cabin).	Sign represents danger of persons falling, so do not transport persons, who are not sitting appropriately on the tractor!	
5.) Danger of roll-over	Sign is positioned on the left lower side of roll bar.	Sign represents danger of serious injury, which can occur in roll-over, if the roll bar (ROPS) is lowered. Never drive with the roll bar lowered!	

3 TECHNICAL SPECIFICATION

3.1 MANUFACTURER'S INFORMATION

Type plates are fitted on the right side of the tractor.



A – Type plate with information about the tractor and manufacturer (fitted below the steering wheel on the intermediate part of transmission).

Type plate includes the following information:

1. Manufacturer;
2. Type of tractor;
3. EC number of tractor conformity;
4. Identification number;
5. Maximum admitted weight total;
6. Admitted weight on the front axle;
7. Admitted weight on the rear axle;
8. Maximum admitted weight of implement;
9. Admitted weight of implement without brakes;
10. Admitted weight of implement with inertia brakes;
11. Admitted weight of implement with independent brakes.

B – Type plate with identification number of manufactured tractor (fitted below the steering wheel on the intermediate part of transmission).

C – Type plate with information about engine (fitted on the right part of engine block).

Type plate includes the following information:

1. Manufacturer
2. Engine type
3. Maximum number of revolutions
4. Serial number
5. Customer number
6. EC number of engine conformity

3.2 REPLACEMENT PARTS

Manufacturer ensures flawless and long-lasting operation of the tractor, of course, with original replacement parts installed. In case of installing and using non-original parts on the tractor, the performance can decrease substantially, repair costs increase and the manufacturer does not guarantee for material damage and personal injuries, which occur due to such action.

When using non-original parts, tractor warranty can also expire, therefore, use only original replacement parts or accessories, delivered by company Agromehanika d.d.

In case of any malfunction or damage on the tractor, the manufacturer ensures required service and provides reliable technical support with its expert staff.

For you, as owner, to be familiar with all information about your tractor in case of contacting technical services, write down the following information below:

Information about your tractor:

Tractor model _____

Tractor serial number _____

Engine model _____

Engine number _____

Year of manufacture _____

Phone number of sales unit _____

4 GENERAL DESCRIPTION OF TRACTOR

AGT 830/835 and AGT 835 T/S series tractors are intended for different requirements or tasks in agriculture, gardening, forestry, and can also be used in municipal services with a few technical accessories.

For different work, the tractor is equipped with:

- rear hydraulic lift system with three-point hitch;
- towing connection;
- drive shaft;
- hydraulic connections.

As option or according to work requirements, the tractor can also be fitted with front hydraulic system with three-point hitch and cardan shaft in the front.

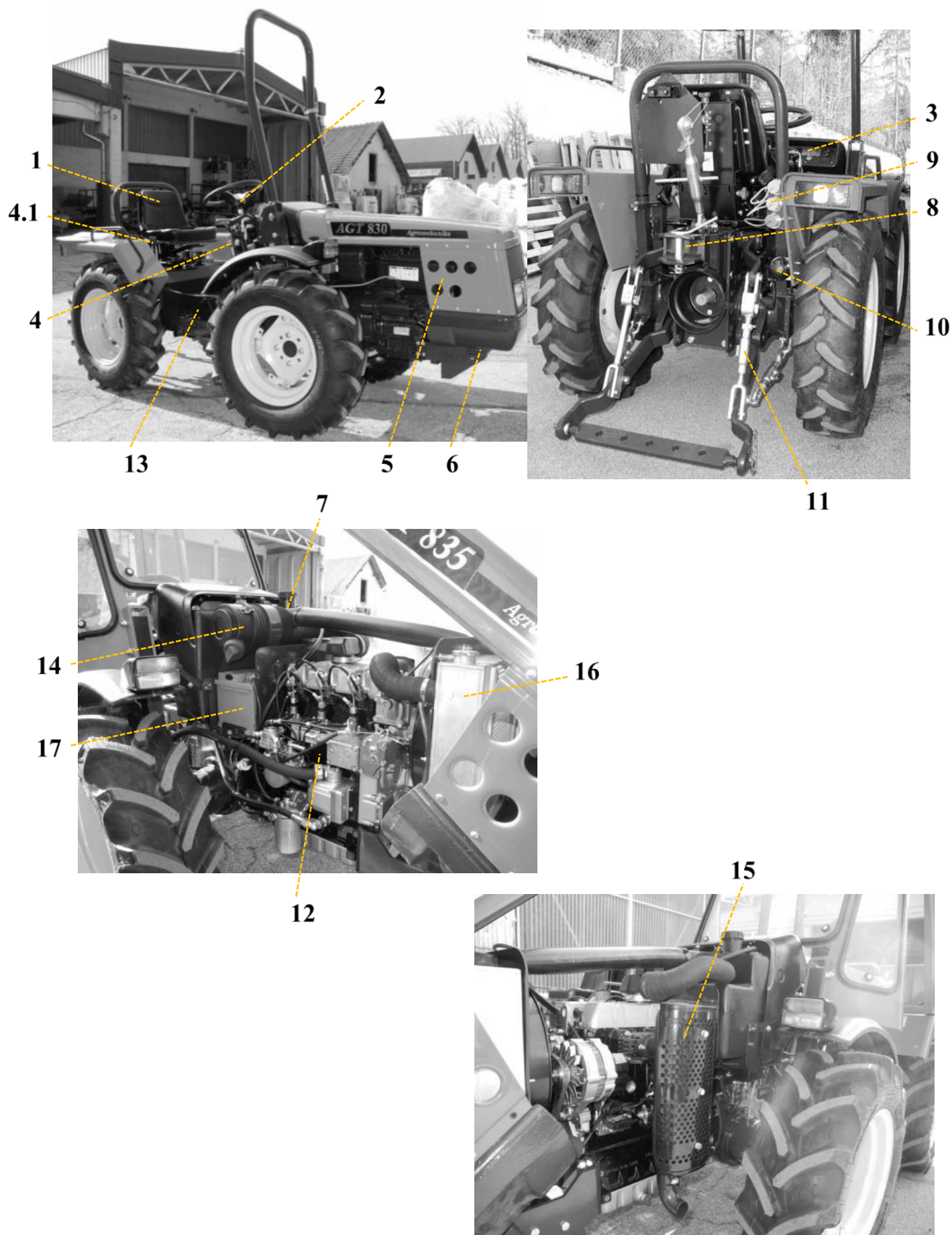
This is what makes the tractor suitable for a wide spectre of tasks.

The tractor can be operated by only one operator, who must follow all instructions for safe use consistently.

Tractor is distinguished by:

- articulated or rigid construction,
- constant four-wheel drive,
- synchronised gearbox (only model AGT 835 T/S),
- hydrostatic steering system,
- rear wheel braking,
- adjustability of wheels and drive to most varied terrain types,
- short turning radius,
- front and rear differential lock,
- low operation costs,
- simple and safe use and easy maintenance.

4.1 DESCRIPTION OF TRACTOR'S MAIN COMPONENTS



1. Driver's seat

Driver's seat is manufactured according to ergonomic principles, which means that it is adaptable to work environment of the user, according to his physical features. The seat is positioned so that the user has complete overview and simple control of control elements.

2. Steering wheel

Steering wheel is hydraulically steered and enables simple steering.

3. Dashboard

Dashboard consists of different control devices, speedometer, control lights and control elements.

4. Control elements

Control elements, connected to gearbox, with which you can set speed and direction of driving.

4.1 Control elements of hydraulics

Control elements of hydraulics control lift mechanism and implements, carried or towed. Control elements are connected to the hydraulic system, which is built in the tractor and runs all main components. Hydraulic system is driven by gear pump, which is driven by the engine.

5. Engine cover

Engine cover protects the user or prevents contact with moving parts, such as belts, radiator fan etc.



WARNING: If the tractor was running, be careful with hot surfaces when opening the engine cover!



WARNING: Open the engine cover only when the tractor is stopped. Do not allow unauthorized persons to open the engine cover!

6. Front towing hook

Front towing hook is intended for towing the tractor in case of malfunction.

7. Tank

Tank contains the fuel supply for the engine.



IMPORTANT: Fill the tank only with diesel fuel!

8. Towing hook

Towing hook is intended for connection and towing of towed implements.

9. Rear hydraulic couplings

Hydraulic couplings are intended for quick connection of implements with hydraulic system.

10. Rear electrical connection

Electrical connection from standard 7-pin electrical socket, for connecting electrical system of implement (trailer).

11. Rear lift mechanism

Rear lift mechanism with three-point connection is intended for connection and lifting of carried implements. It is available in different versions according to work requirements and demands of the customer.

12. Engine

Diesel engine with internal combustion is the main drive element of the tractor.

13. Transmission

AGT 830/835

Transmission is articulated, has constant four-wheel drive and enables mechanical lock of both differentials.

Connection shaft is, through tractor, intended for drive of towed or carried implements, has gearing and functions with speed, conditioned by two gear ratios, driven by tractor engine revolutions.

Gearbox has 3 gears and 2 speed groups with inverter, which enables change of movement direction, 6 gears forward and 3 reverse gears, 9 gears total.

AGT 835 T/S

Transmission has constant four-wheel drive and enables mechanical lock of both differentials.

Connection shaft is, through tractor, intended for drive of towed or carried implements, has gearing and functions with speed, conditioned by two gear ratios, driven by tractor engine revolutions.

Gearbox is synchronised with 4 gears in 2 speed groups with inverter, which enable change of movement direction, 8 gears forward and 4 reverse gears, 12 gears total.

14. Air filter

Air filter prevents entry of larger particles in engine suction system.

15. Exhaust

Exhaust (silencer) is intended for guiding exhaust gases and reducing noise in the environment.

16. Radiator

Radiator is intended for dissipation of heat, which is created in working engine due to internal combustion.

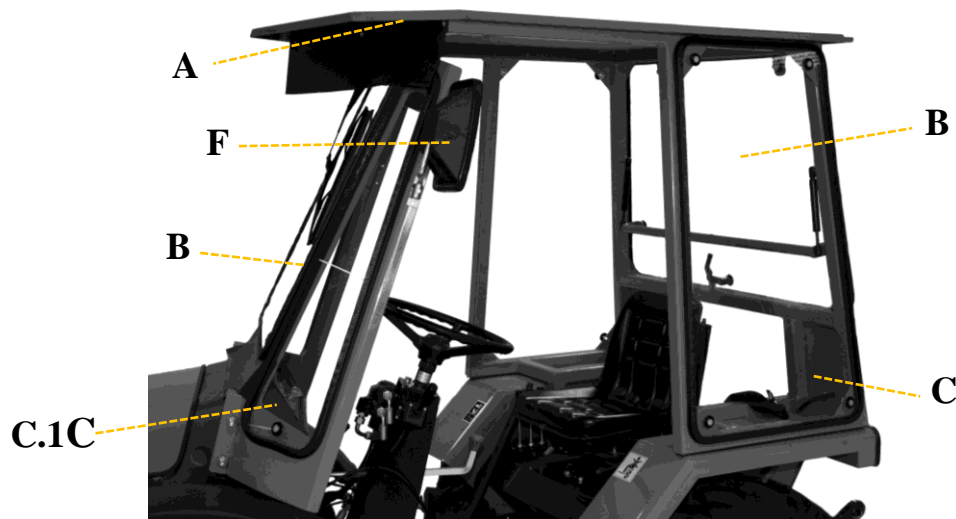
17. Battery

Battery is intended for electrical supply of different elements of the tractor.

4.2 DESCRIPTION OF MAIN SAFETY COMPONENTS**4.2.1 CABIN**

Figure presents main cabin components. Cabin is available in two types:

Cabin for version AGT 830/835

**– A) Cabin**

Due to articulated construction of tractor AGT 830/835, the cabin is of open type and is also divided in movement point (movable front part and fixed rear part).

For the cabin to be in compliance with roll-over requirements, the tractor must be fitted additionally with roll bar!



WARNING: Protective cabin is not tested against falling objects or material protrusion, therefore, it is NOT CERTIFIED and does not conditions of use as protective equipment FOPS – falling object protective structure and OPS – operator protective structure!

– **B) Front windshield**

Made of tempered glass and is installed fixed into cabin frame (opening is not possible). Front windshield is fitted with one central fitted wiper.

– **B.1) Rear windshield**

Made of tempered glass. Rear windshield is fitted on a hinge (1) and opens from out from below. Opening is done by gas springs (2), which automatically open windshield to maximum travel of gas spring, after releasing bottom lever (3) up.

– **C) Side window (rear)**

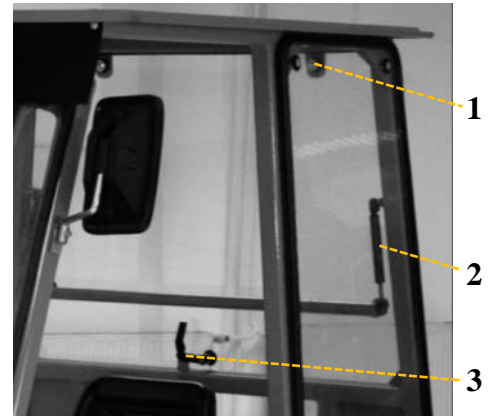
Made of tempered glass and is installed fixed into cabin frame (opening is not possible).

– **C.1) Side window (front)**

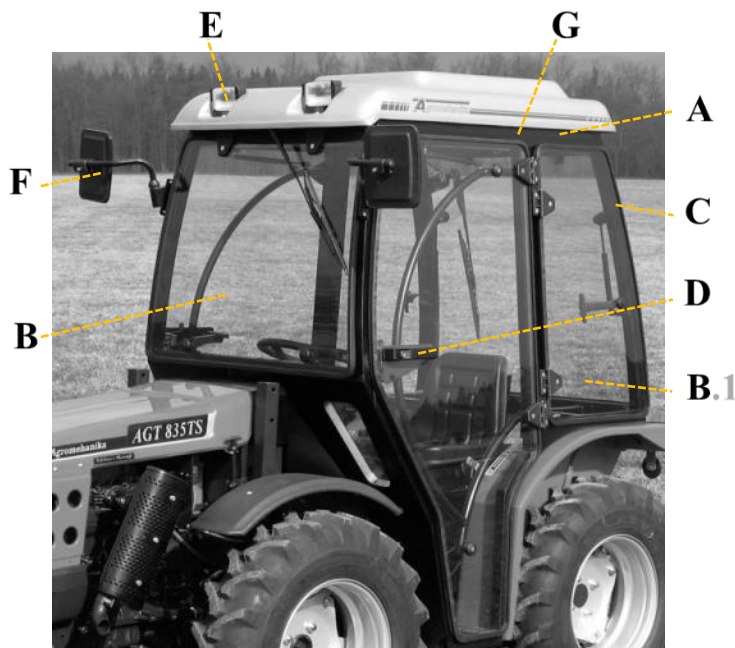
Made of tempered glass and is installed fixed into cabin frame (opening is not possible).

– **F) Rear-view mirrors**

To adjust rear-view mirrors, see description in the next chapter for tractor version AGT 835.



Cabin for version AGT 835, AGT 835 T/S



– **A) Cabin**

Cabin is installed on four points; in the rear, on left and right sleeve, and in the front, on intermediate part of transmission, which enables easier disassembly or assembly in case of repair or replacement. The cabin has its own control elements, which are independent of other tractor elements.

For the cabin to be in compliance with roll-over requirements, the tractor must be fitted additionally with roll bar!

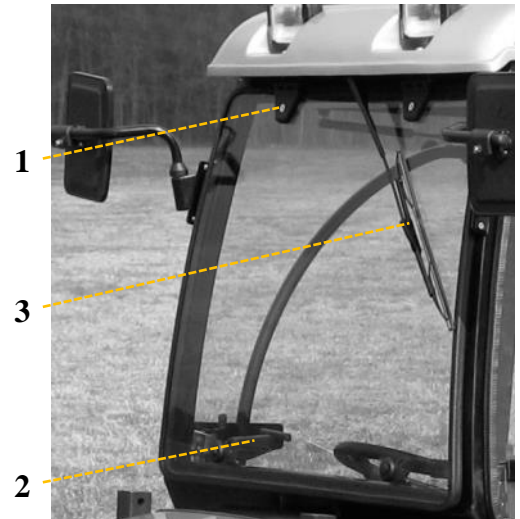


WARNING: Protective cabin is not tested against falling objects or material protrusion, therefore, it is NOT CERTIFIED and does not conditions of use as protective equipment FOPS – falling object protective structure and OPS – operator protective structure!

– B) Front windshield

Front windshield is made of tempered glass and it opens out from below, through top hinge (1) and bottom mechanical lever (2).

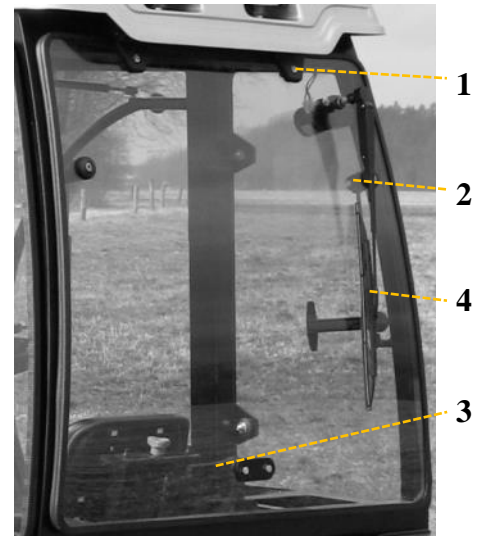
Front windshield is equipped with one central fitted wiper (3), controlled by individual connection in the cabin.



– B.1) Rear windshield

Rear windshield is made of tempered glass and it opens like front windshield, through top hinge (1) outwards from below. The only difference is that it does not open with mechanical levers, but with gas springs (2), which automatically open the windshield to maximum travel of gas spring after releasing bottom lever (3) up.

Rear windshield is equipped with one wiper (4), fitted on the right side and controlled by individual connection in the cabin.



– C) Side window (rear)

Side window is made of tempered glass and it opens to the side through lateral hinges (1) and mechanical lever (2).

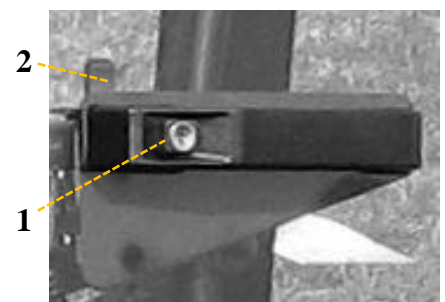
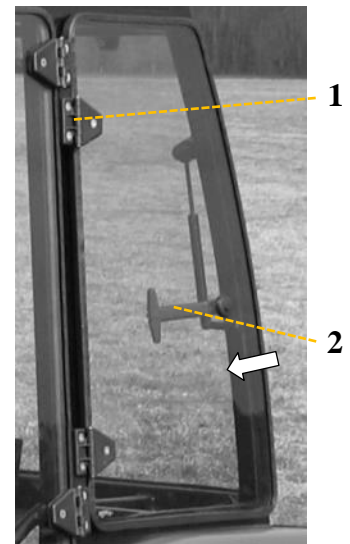
– D) Doors

Doors are installed on both sides of tractor cabin. They are designed to enable the best possible entry and exit for the user or operator.

Each door is equipped with a lock.

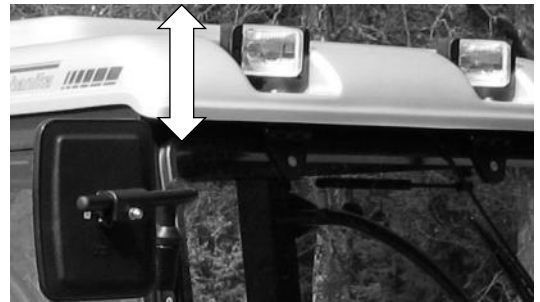
If the lock is unlocked:

- To open the doors from the outside, press button (1) on the handle and pull the doors towards yourself.
- To open the doors from the inside, pull the handle (2) on the mechanism towards yourself and open the door.



– E) Work lights

Lights can be manually adjusted under different angles for optimal lighting of certain area.



– F) Rear-view mirrors

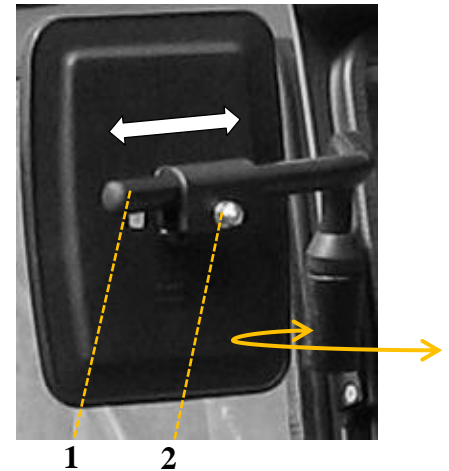
Set rear-view mirrors accordingly for safe control of the tractor and implement during driving.

Rear-view mirrors are set correctly, when the driver see sides of the tractor and implement without trouble.

Rear-view mirror setting:

– Horizontal setting

To set the mirror horizontally, unscrew bolt (1) on holder, then move the mirror on the bar (2) left or right, until you set desired position. When the setting is done, tighten the bolt on the holder.



Mirror bar also enables turning around the axle. You can turn them completely in or out in case of tight space. With each move, bars lock into certain intermediate position.

– Setting mirror for defined angle

Because the mirror is fixed in the centre of the holder, the mirror can be set at will at different angles (option of turning for 360°, forward or backward, left or right).



– G) Rotation light (option)

Rotation light is used on tractor with tractor implements exceeding tractor width or on tractors with carried tractor implements, rear edge of which reaches more than 1.5 m over the rear edge of the tractor.

In this case, an additional warning light is used, which is installed on the rear part of the implement.



4.2.2 ROLL BAR

The tractor is, as standard, equipped with two roll bars, which, together, form suitably safe protection for the driver in case of any accident or tractor roll-over.


	<p>IMPORTANT: Roll bars (ROPS) have been tested according to standard O.E.C.D. and offer suitable protection for the driver or user in case of roll-over.</p>
---	--

Figure shows main components of tractor with roll bar.

- A) Front roll bar (ROPS)


Front roll bar is constructed so that it can be moved to horizontal position.

Do this only when work requires it, on flat ground, with no danger of rolling over and on a short distance.

In case of lowered roll bar, the driver must not fasten his seat belt. Therefore, he must be very careful when driving, because there is no protection with any safety element again possible roll-over. The driver or user must not, in any case, drive the tractor with lowered roll bar on roads intended for public road traffic.



	<p>WARNING: When the roll bar is lowered, the driver MUST NOT use the safety belt!</p>
---	---

	<p>WARNING: The tractor is not to be used:</p> <ul style="list-style-type: none"> - if the roll bar is not installed properly; - if the roll bar is damaged; - if modifications have been made to the roll bar. <p>In this case, replace the roll bar with a new one!</p>
---	--

– B) Rear roll bar (ROPS)

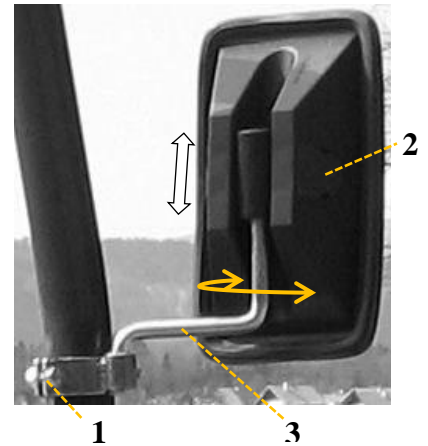
– C) Single rear-view mirror

Set rear-view mirror accordingly for safe control of the tractor and implement during driving.

Rear-view mirrors are set correctly, when the driver see the rear of the tractor and implement without trouble.

Setting rear-view mirror:

- Setting mirror for certain angle
Mirror bar enables turning around the axle. You can turn it completely in or out in case of tight area. With each desired move, you must unscrew bolt (1) on the joining point of bar and holder first.
- Vertical setting
As the mirror is fixed in the centre point of the holder, you can set the mirror also vertically (movement option up or down).
To set the mirror, first remove both plates (2), unscrew the bolt on the holder and then rotate the mirror on the bar (3) left or right, until you set the desired position.
After setting, screw the bolt back and fix the plates.



4.2.3 SAFETY BELT

This is a two-point safety belt, as it is fixed in two points of the seat and holds the tractor driver over his waist.

At first, the safety belt is in setting position, which means that it must be set to correct length before first use, according to user's body.

Fasten the safety belt by inserting the head (fixing element) (1) in the buckle (2). Undo the safety belt by pressing the red button (3) on the buckle.



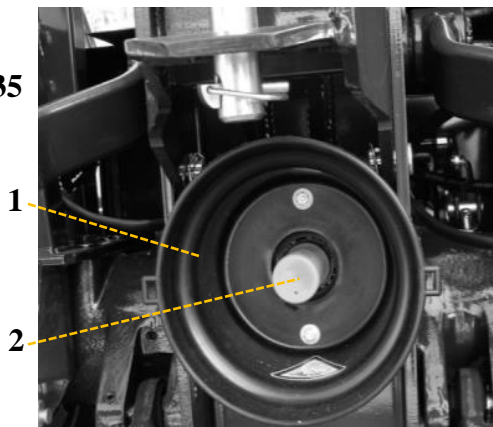
WARNING: When driving the tractor, always use safety belt, unless the roll bar is lowered!

4.2.4 PROTECTIVE COVER OF CARDAN DRIVE

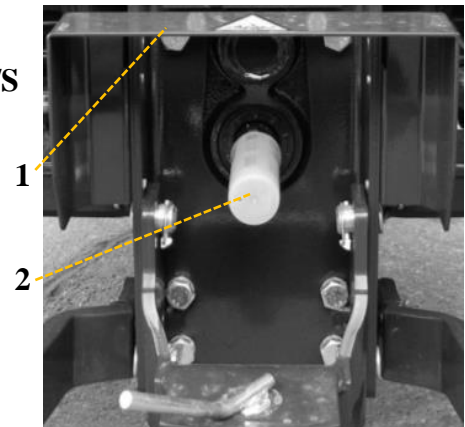
Protective cover of cardan drive (1) prevents the operator to come into contact with rotating connection shaft (2).

Protective cover is manufactured in accordance with Directive 86/297/EEC.

AGT 830/835



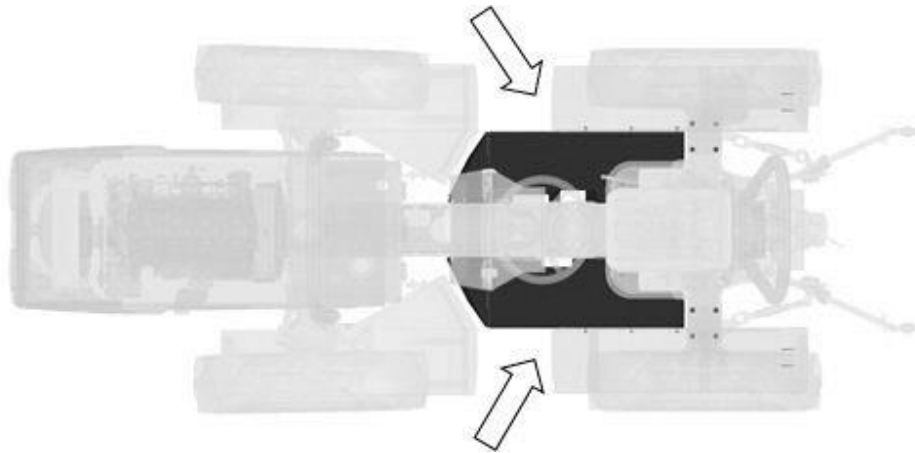
AGT 835 T/S



4.3 DRIVER'S SEAT

4.3.1 ACCESS TO DRIVER'S SEAT

- To climb into the tractor and exit it, always use the step and suitable gripping points.
- Access to driver's seat is possible from left or right.



- Entry area and driver's seat must be clean, without any objects on them, which could interfere with further use.



WARNING: The seat can only be occupied by the driver or operator. Do not ascend or exit the tractor, if it is running!

4.3.1 DRIVER'S SEAT

Driver's seat with mechanic suspension is certified in accordance with Directive 78/764/EEC, including Directive 97/54/EC.

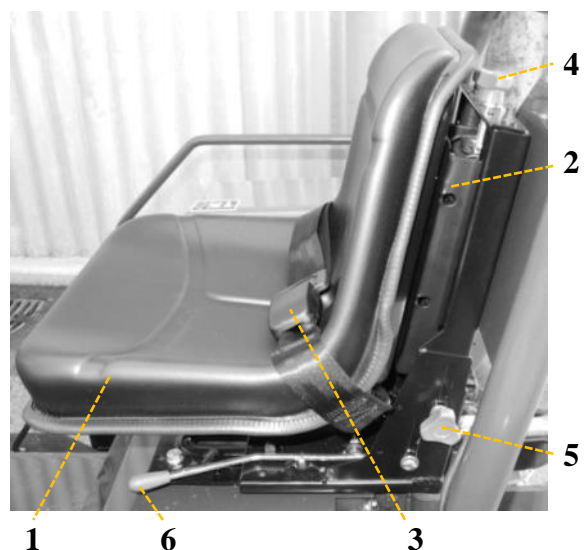
Shell form of the seat is designed to provide the user with good grip when driving on uneven or sloping ground.

Metal construction of the seat is protected against corrosion in accordance with quality standards of motor vehicle industry.

Because the seat has mechanical suspension with hydraulic shock absorber, it enables suitable comfort and protects the driver from excessive vibration.

Seat description:

- 1) Seat with polyurethane fill with black synthetic leather cover for easy washing;
- 2) Mechanical suspension with hydraulic absorber;
- 3) Two-point fixing safety belt;
- 4) Lever for setting hardness of hydraulic absorber;
- 5) Lever for setting seat height;
- 6) Lever for setting seat length.



Seat properties:

- Seat automatically adjusts to driver's weight (from 55 to 120 kg);
- Suspension system travel is 82,5 mm;
- Seat position can be set vertically up to 60 mm (height).
- Seat position can be set horizontally up to 165 mm (length).

4.4 DESCRIPTION OF HYDRAULICS

The main element of hydraulics, through which all hydraulic elements are supplied, is the hydraulic pump, which is connected directly to the engine and connects steering head with priority valve, which supplies tractor steering, lift elements and, through control elements, also other distributors or implements.

In tractor version AGT 830/835, lifting and lowering of implements, fixed in three-point system, is performed through one-way functioning hydraulic cylinder, installed under the driver's seat (see hydraulic scheme).

In tractor version AGT 835 T/S, lifting and lowering of implements, fixed in three-point system, is performed through two one-way functioning hydraulic cylinder, installed on the rear part of transmission, behind the driver's seat (see hydraulic scheme).

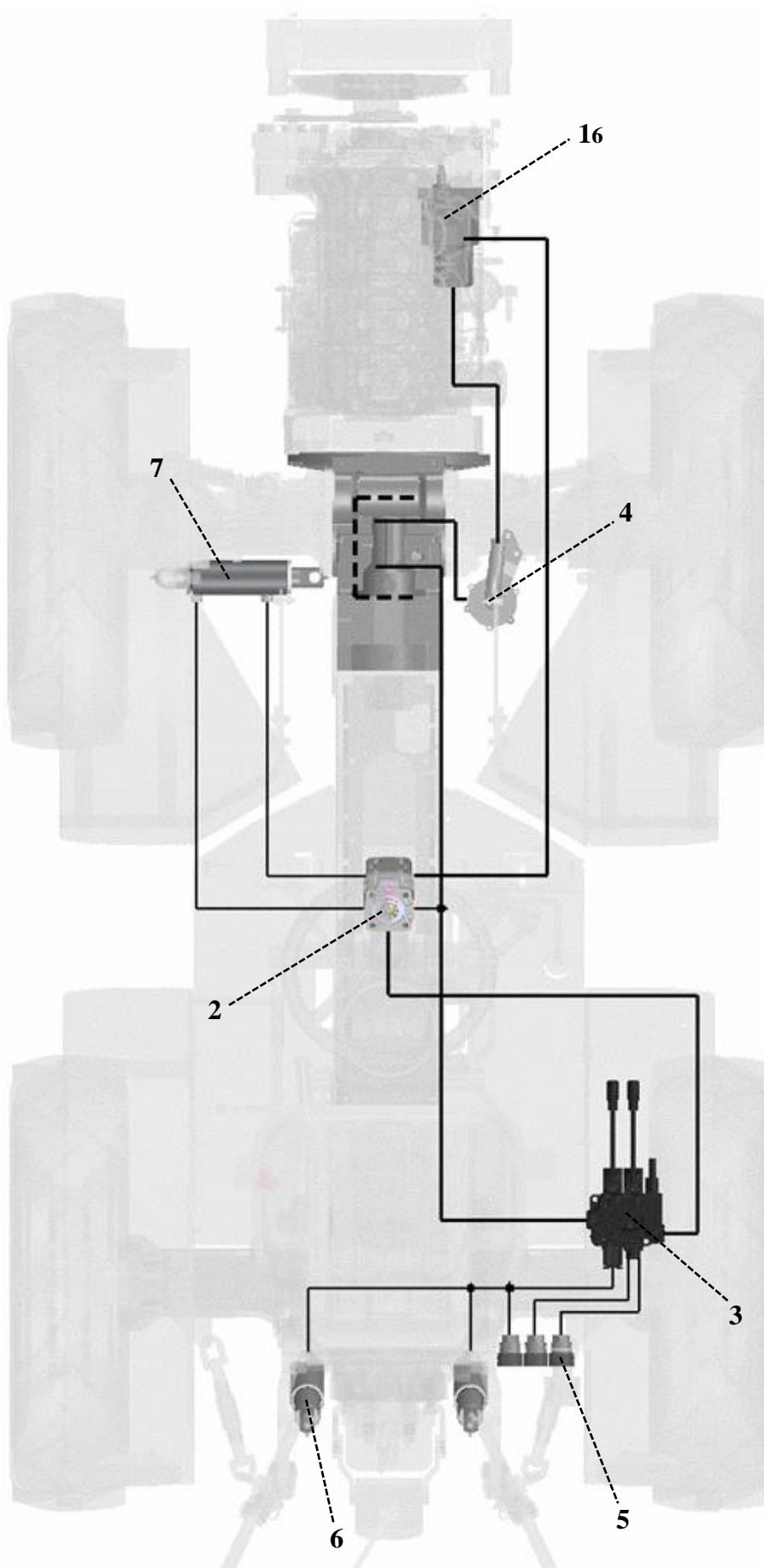
Hydraulic pump supplies oil from the front part of transmission (or gearbox housing in tractor version AGT 830/835) through filter to control elements.

Hydraulic steering is consisted of:

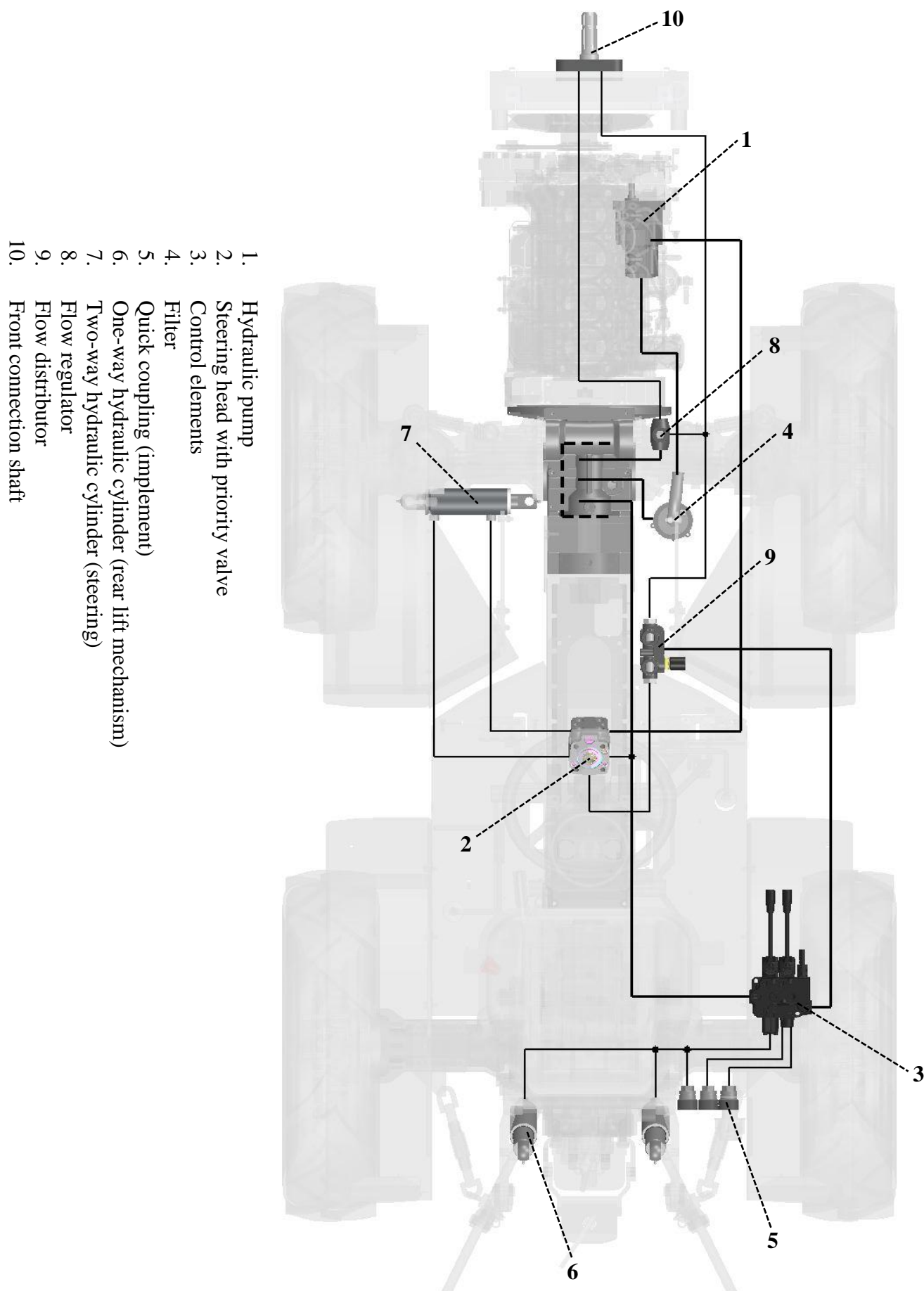
1. **Hydraulic pump**; pressure, required for operation of hydraulic system, is enabled by pump with capacity 7.8 cm³, with max. 21 l/min flow at 2800 rpm, and pressure bar;
2. **Steering head with priority valve**; intended for steering of tractor and control elements (cylinders, couplings);
3. **Control elements**; intended for lifting or lowering rear hydraulics or activation of quick couplings (implements);
4. **Filter**; prevents oil particles to enter the pump and is installed on the suction line between the pump and gearbox housing;
5. **Quick coupling (implement)**; optionally, the tractor can be fitted with many quick couplings, according to requirements of the user;
6. **Rear hydraulic cylinder**; controls rear hydraulic lift mechanism;
7. **One-way hydraulic cylinders** (tractor version AGT 830/835); intended for steering the tractor left or right.
8. **Two-way hydraulic cylinder** (tractor version AGT 835 T/S); intended for steering the tractor left or right.
9. **Pressure regulator** (tractor version with front connection shaft); intended for regulation of flow to hydrostatic clutch of connection shaft. Pressure regulator is factory set to 12 bar.
10. **Flow distributor** (tractor version with front connection shaft); redirects oil from pressure circuit of hydraulic system through pressure regulator to hydrostatic clutch, which activates and deactivates front connection shaft.
11. **Front connection shaft**; intended for driving implements with tractor.

4.4.1 HYDRAULIC SCHEME AGT 835 T/S

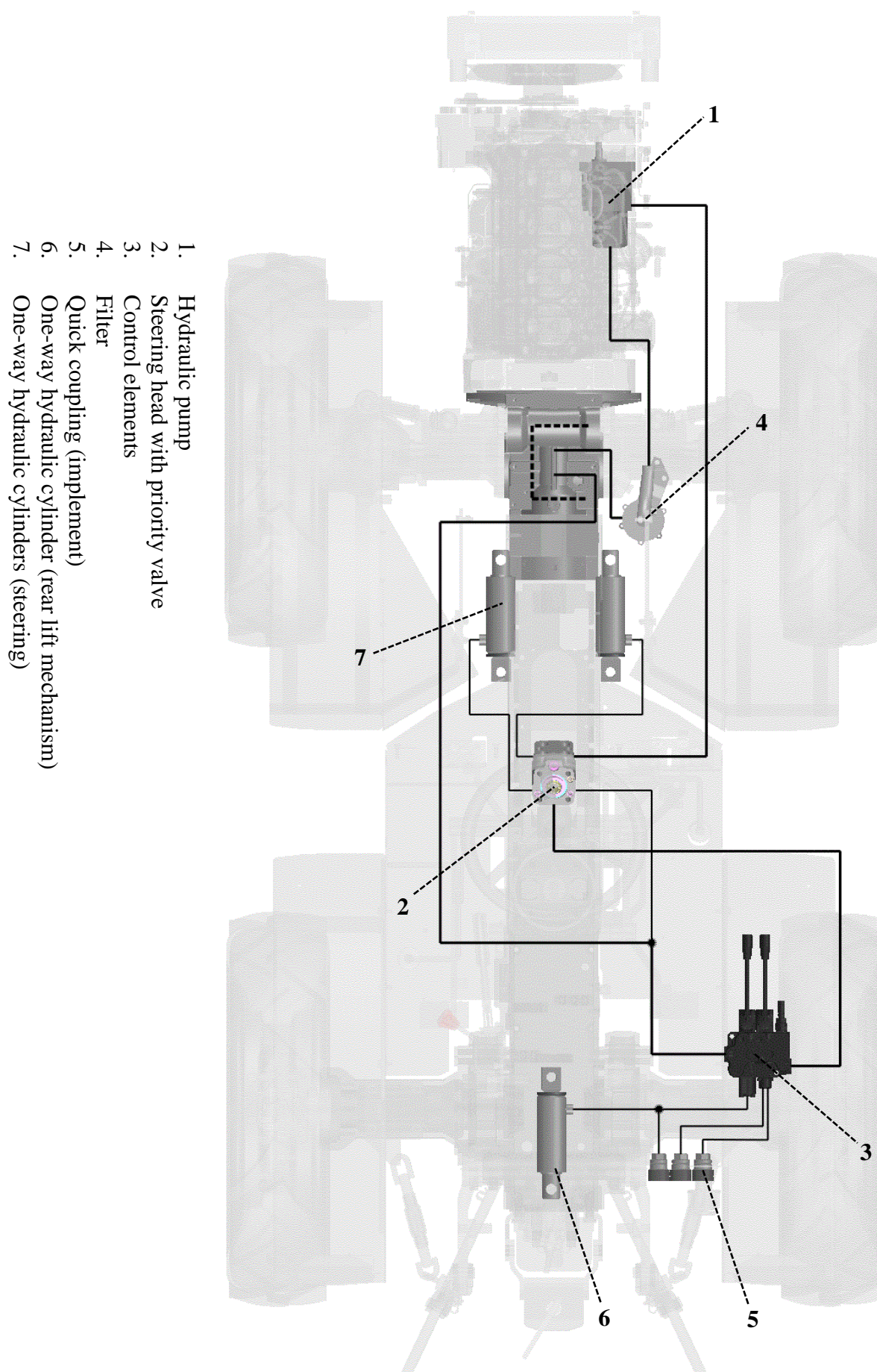
1. Hydraulic pump
2. Steering head with priority valve
3. Control elements
4. Filter
5. Quick coupling (implement)
6. One-way hydraulic cylinder (rear lift mechanism)
7. Two-way hydraulic cylinder (steering)



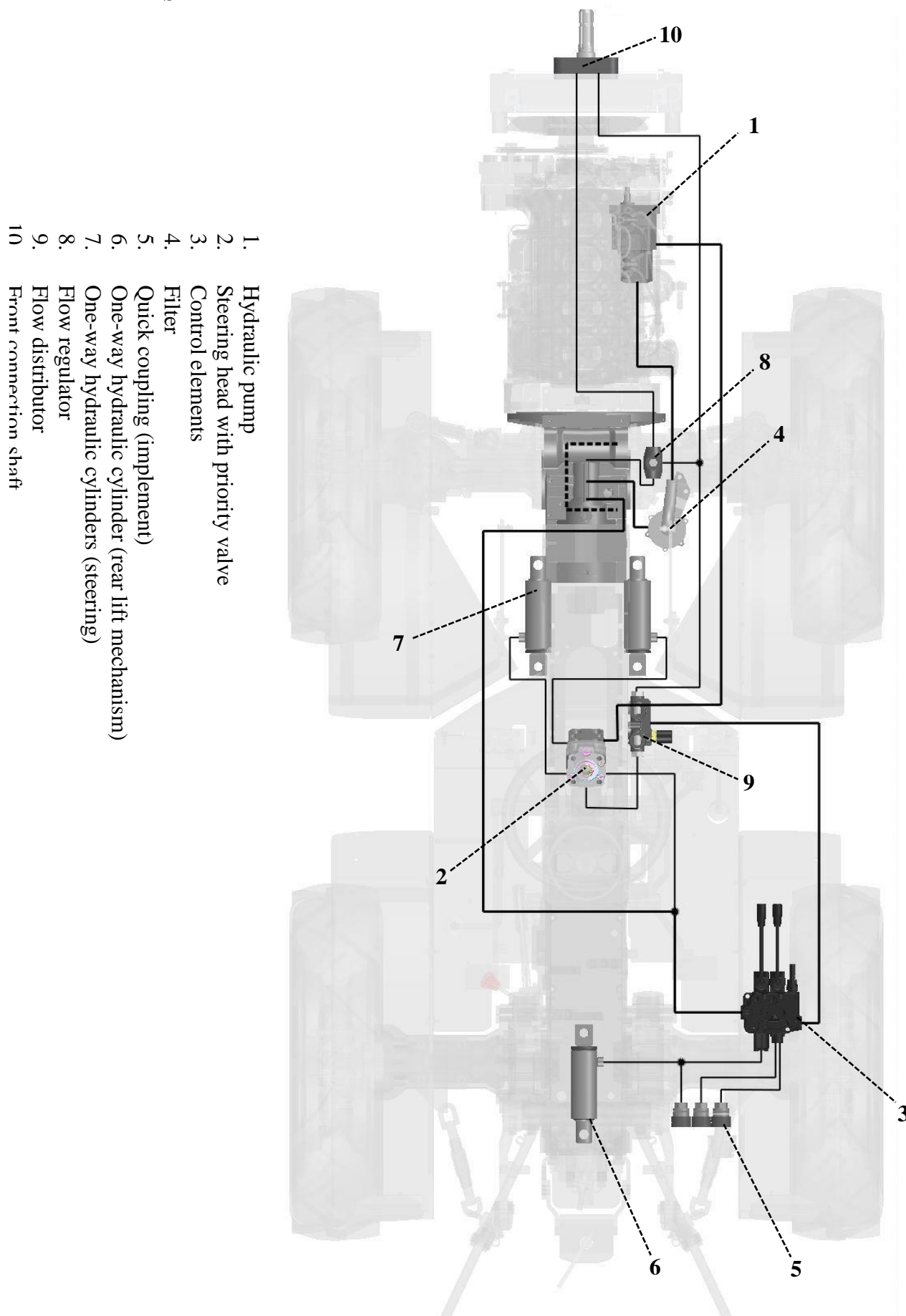
4.4.2 HYDRAULIC SCHEME AGT 835 T/S WITH FRONT CONNECTION SHAFT



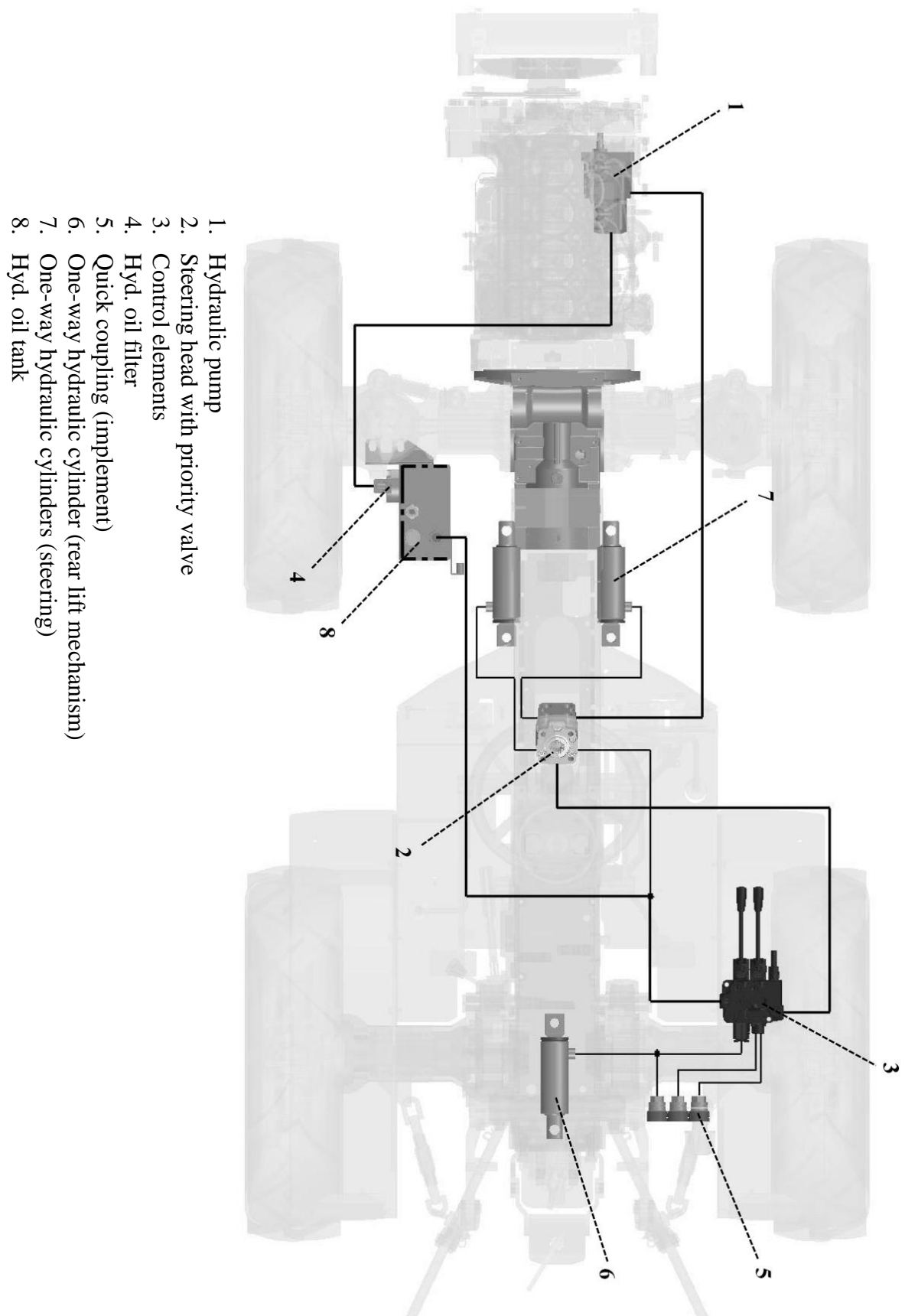
4.4.3 HYDRAULIC SCHEME AGT 830/835



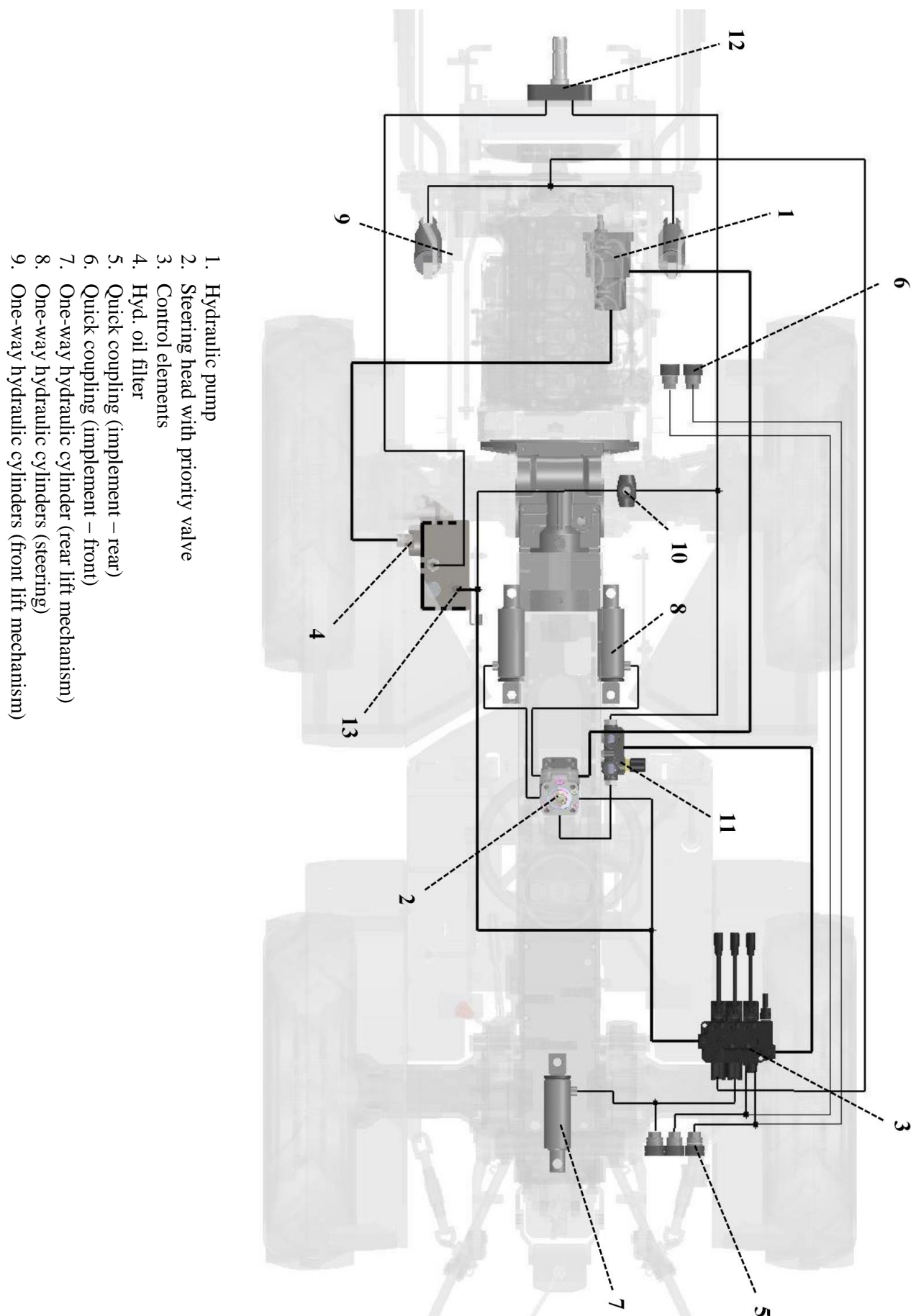
4.4.4 HYDRAULIC SCHEME AGT 830/835 WITH FRONT CONNECTION SHAFT



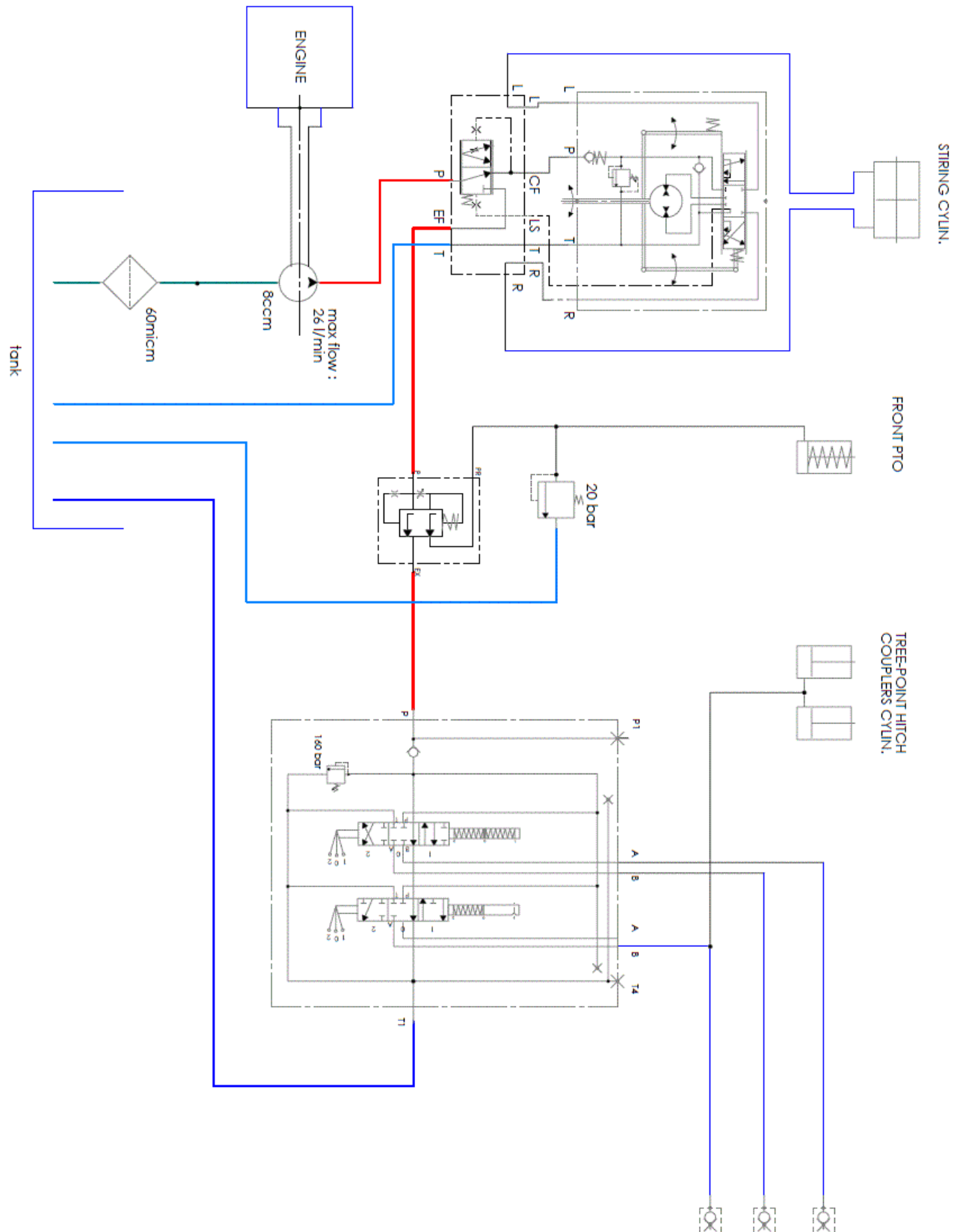
4.4.5 HYDRAULIC SCHEME AGT 835 WITH SEPARATED HYDRAULIC OIL TANK



4.4.6 HYDRAULIC SCHEME AGT 835 WITH FRONT CONNECTION SHAFT, FRONT HYDRAULICS AND SEPARATED HYDRAULIC OIL TANK



4.4.7 HYDRAULIC SCHEME AGT 830-835-835 T/S



4.4.8 FRONT HYDRAULIC LIFT SYSTEM (OPTION)

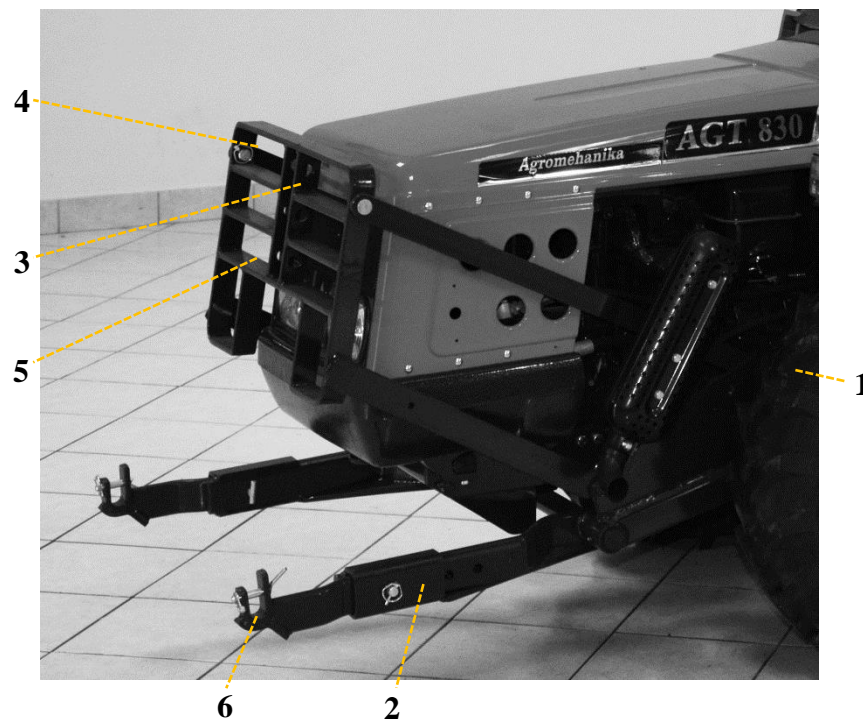
The tractor can be, as option, equipped with front three-point lift mechanism, controlled by two one-way functioning hydraulic cylinders, and is fitted with connection for quick coupling for connection to hydraulic system of work implement.

Front three-point lift mechanism is controlled by control elements on the right side of the tractor, near the seat.

Work implement on three-point lift mechanism can be fastened in floating position and follows ground contour freely or is fastened rigid in certain position.

Description of main components:

1. **Hydraulic cylinder;** controls front three-point lift mechanism,
2. **Front connection arms;** enable connection of different types of implements,
3. **Top connection shaft (top link);** enables connection to third point of implement,
4. **Safety frame;** protects engine cover, radiator and engine from possible damage, and also functions as resistance for connection of top connection shaft in third point of front lift mechanism,
5. **Front hydraulic connection**
6. **Pin;** enables simple and fast connection of work implement to front lift mechanism. On lower connection arms, two versions of pins are used, standard and pin with spring, which are described in detail in chapter "CONNECTING AND DISCONNECTING IMPLEMENT ON FRONT HYDRAULIC LIFT MECHANISM".



4.4.9 REAR HYDRAULIC LIFT MECHANISM

The tractor is, for towing implements, fitted, as standard, with category I three-point hitch. Three-point hitch is consisted of two lower connection arms and top connection shaft.

Lower connection arms are, through adjustable lift shafts, connected to lift arms, which are, in tractor version AGT 835 T/S, controlled by two one-way functioning hydraulic cylinders, and, in tractor version AGT 830/835, only with one-way functioning hydraulic cylinder.

Lower hydraulic arms also have two lateral tensioners on each side, which function as limiters of transverse movement of three-point hitch with lifted carried implements. As all component elements of three-point hitch are joint-fastened, this enables flexibility in all directions.

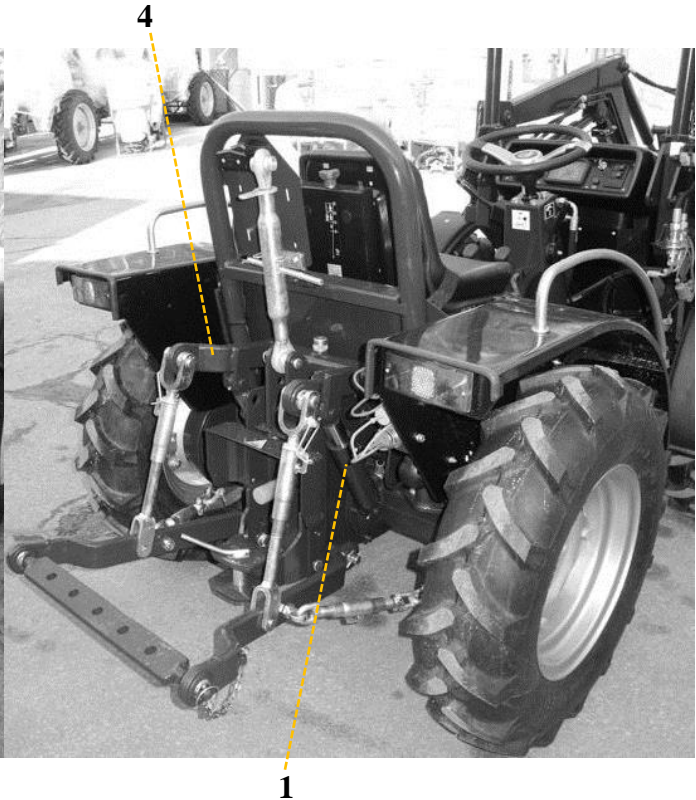
Description of main components:

1. **Hydraulic cylinder**; controls rear three-point lift mechanism,
2. **Lower connection arms**; enable connection of different types of implements,
3. **Top connection shaft (top link)**; enables connection to third point of implement,
4. **Lift arms**; enable lifting or lowering three-point lift mechanism,
5. **Lateral tensioner**; limits horizontal movement of three-point lift mechanism,
6. **Lift shaft**; adjustable height and connects lift arms with lower connection arms,
7. **Rear hydraulic connection**; installed quick couplings for connection of work implement with hydraulics

AGT 830/835



AGT 835 T/S



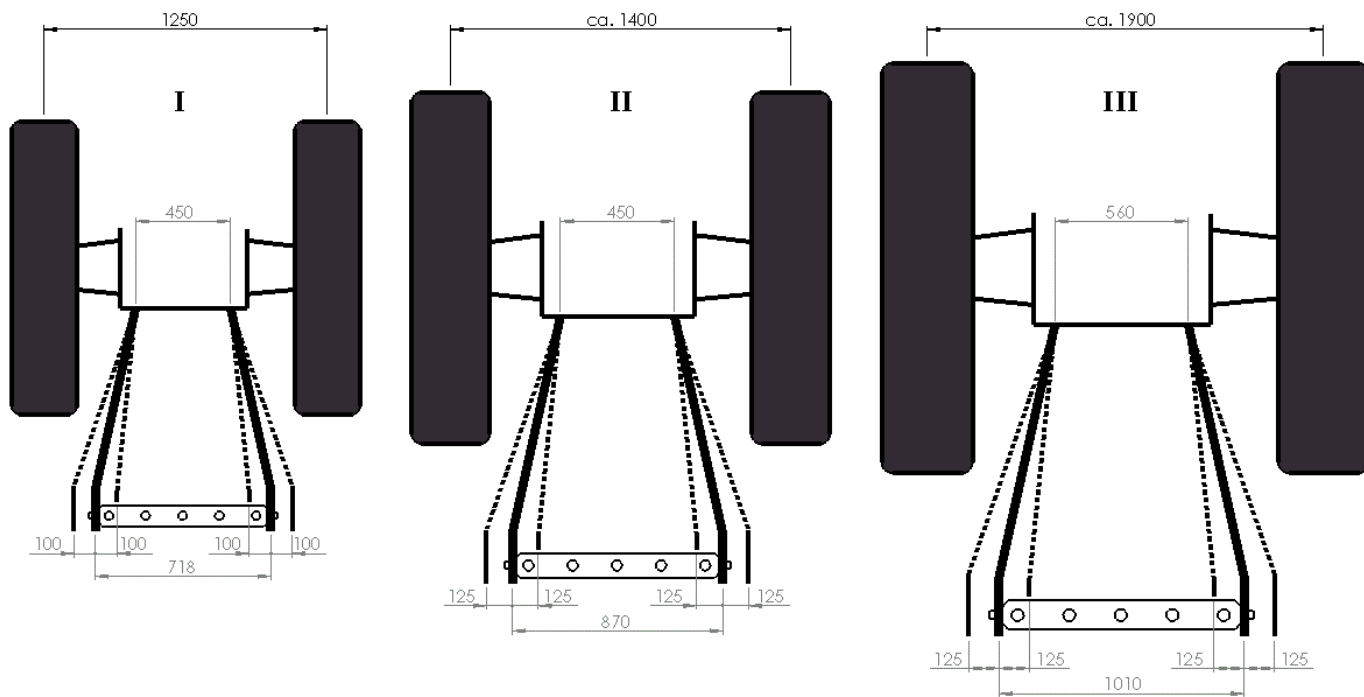
Lower connection arms use connection with ball joint, where the ball has standardized bore, in which a bolt is inserted, which is fitted on work implement, which we want to connect.

Connection to top connection shaft can be done in two versions:

- mechanically adjustable with ball joint (standard) in which bolt is inserted or
- hydraulic with ball connection or joint (option)

Due to different size of tractors and work implements, three-point connection shafts are, as standard, divided into three categories.

Three-point connection shaft categories



Tractor connection points – hole diameter for fixing pin	Lower connection shaft	Top connection shaft
	d4	d2
Kategorie I	22,4	19
Kategorie II	28,7	25,5
Kategorie III	37,4	31,7

4.5 DESCRIPTION OF INSTRUMENTS AND CONTROL ELEMENTS

Chapter is divided in several categories for simpler description and easier understanding of all tractor control elements.

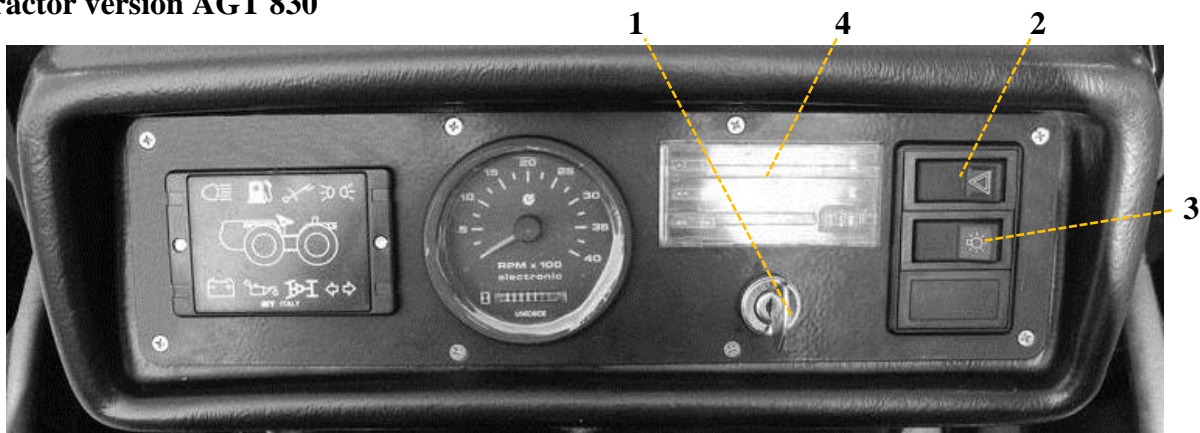
- Dashboard
 - Control elements
Detailed description is provided in "DESCRIPTION OF DASHBOARD CONTROL ELEMENTS".
 - Instruments and control lights
Detailed description is provided in "DESCRIPTION OF INSTRUMENTS".
- Controls for driving
Detailed description is provided in "DESCRIPTION OF CONTROL ELEMENTS FOR DRIVING".
- Controls for work
Detailed description is provided in "DESCRIPTION OF CONTROL ELEMENTS FOR WORK".
- Controls for hydraulics
Detailed description is provided in "DESCRIPTION OF CONTROL ELEMENTS FOR WORK".

4.5.1 DASHBOARD

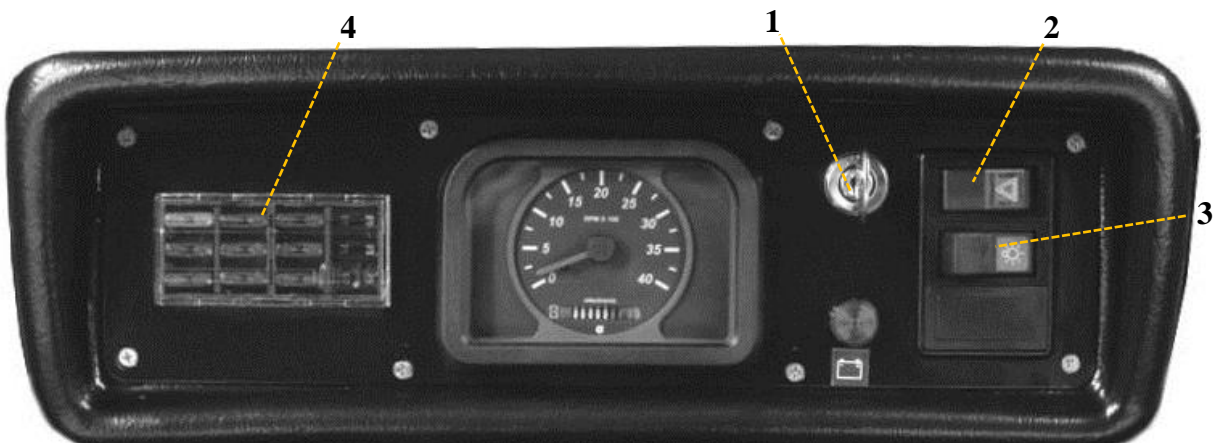
Dashboard is divided into two parts – one part sends requested visual information to the driver of the tractor, and the other part is intended for various devices for control and required control of the driver of the tractor.

DESCRIPTION OF DASHBOARD CONTROL ELEMENTS

Tractor version AGT 830



Tractor version AGT 835 and AGT 835 T/S



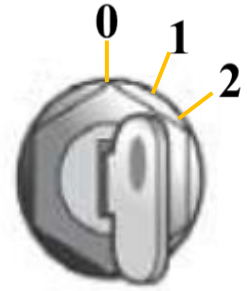
1. Main ignition switch

Activates electrical system and starts tractor engine. Key can be turned to following positions:

0 – Deactivation of electrical system, you can remove the key.

1 – Activation of electrical system. Warning lights for oil in engine and electrical voltage activate on the dashboard, as well as control light of glow plugs, which means that, in this position, also glow plugs in the engine begin to heat.

2 – Engine start, hold key in position 2 until it starts. When you release the key, it automatically returns to position 1.



2. Hazard warning signal

If you press the switch, you activate a warning signal and all four direction indicators start blinking.

Activating hazard warning signal

- In position 1, hazard warning signal is deactivated (control light on the switch is off).
- In position 2, hazard warning signal is activated (control light on instruments during blinking, light on the switch is on).



3. Switch for lights

Press the switch to activate certain light level. Lights are turned only if the main ignition switch is turned on (key must be in position 1).

Activating lights

- In position 1, lights are off (control light on the switch is off).
- In position 2, position lights turn on (kontrolna control light on the switch is on).
- In position 3, low beam lights turn on (control light on the switch is on).



4. Fuses

See chapter "ELECTRICAL SYSTEM – FUSES".

5. Lever for activation of direction indicators, lights, sound signal (horn) and high beam shutter



- To activate right direction indicator, move lever up (to position 1).
- To activate left direction indicator, move lever down (to position 2).

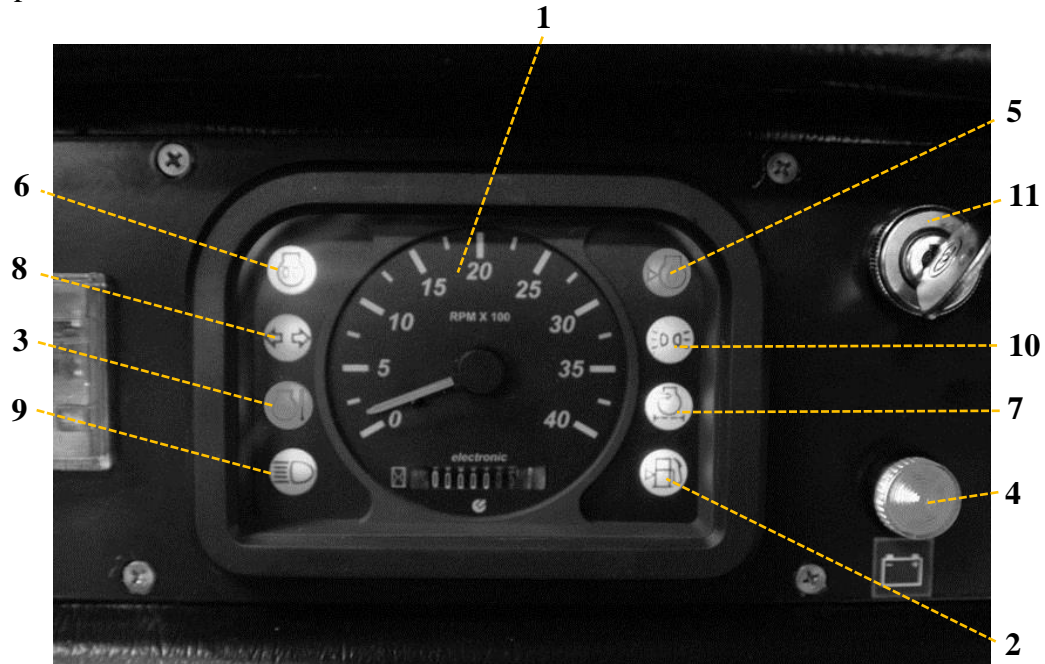
When direction indicators are activated, control light on the dashboard also flashes. To deactivate direction indicators, move the lever back to central position.

Move the lever forward (away from you) and back (towards you) to activate certain light levels:

- In position 3, low beam lights turn on, but stay on only if the main ignition switch is turned on (key must be in position 1) and switch for lights is turned on.
- In position 4, high beam lights turn on, but stay on only if the main ignition switch is turned on (key must be in position 1) and switch for lights is turned on.
- If you press switch (5), you activate sound signal (horn).

INSTRUMENTS AND CONTROL LIGHTS

Instruments or indicators display current work status of the tractor, and control lights inform or warn the operator about the work status of the tractor.



1. Tachometer

Tachometer displays engine revolutions in rev./min. Complete range of tachometer scale is 40×100 revolutions. Under the tachometer scale is work hour counter, which functions only when the tractor engine is running.

2. Fuel warning light (yellow)

When the fuel warning light turns on, this means that there is only spare capacity of fuel remaining (less than 5 l). Fuel tank capacity is 21 l.



WARNING: Do not leave the engine running, if the fuel tank is almost empty. If you interrupt the supply system due to lack of fuel, injection circuit must be bled!

3. Warning light for cooling liquid temperature

Work temperature of tractor engine is 85 °C.

When starting or if the engine is cold, do not overload the tractor and do not accelerate rapidly, but always wait for the engine to properly heat to work temperature before full load.

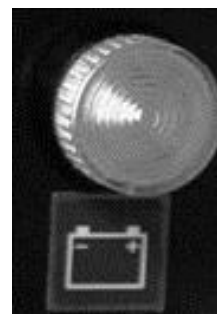


WARNING: If the warning light for cooling liquid temperature turns on, immediately lower the load on the engine and leave it running in idle. When the temperature drops, shut down the engine and inspect the cooling system. In case of trouble, consult a qualified mechanic!

4. Warning light for electrical voltage (red)

Warning light turns on before engine start or when contact key is in position 1. After engine start or engine operation, the light turns off.

If the warning light for electrical voltage turns on after start or during engine operation, immediately turn off the engine, check the condition and tension of drive belt of alternator. If the belt is in good condition, the alternator could be faulty. Consult a qualified mechanic.

**5. Warning light for engine oil pressure (red)**

Warning light turns on before engine start or when contact key is in position 1. After engine start or engine operation, the light turns off.

If the warning light for engine oil pressure turns on, immediately turn off the engine and check oil level. If the oil level is under "min" mark, refill oil. If the warning light stays on or oil level drops again, consult a qualified mechanic.

6. Control light for glow plugs (yellow)

Control light turns on before engine start or when contact key is in position 1. Control light stays on for about 5 seconds, until glow plug reaches adequately high temperature for igniting mixture (oil) in engine cylinder. Glow plug is deactivated and the control light turns off. When the control light turns off, you can start the engine.

7. Warning light for air filter (yellow)

If the warning light is turned on, the air filter is clogged. In this case, the air filter or the inserts must be cleaned or replaced. Access the filter under engine cover (see chapter "MAINTENANCE").

8. Control light for direction indicators (green)

If the control light is turned on, lateral left or right direction indicators, which are used to signal direction during driving, are turned on.

9. Control light for high beam lights (blue)

If the control light is turned on, high beam lights, intended for using the tractor at night with lower visibility, are on.

9. Control light for position and low beam lights (green)

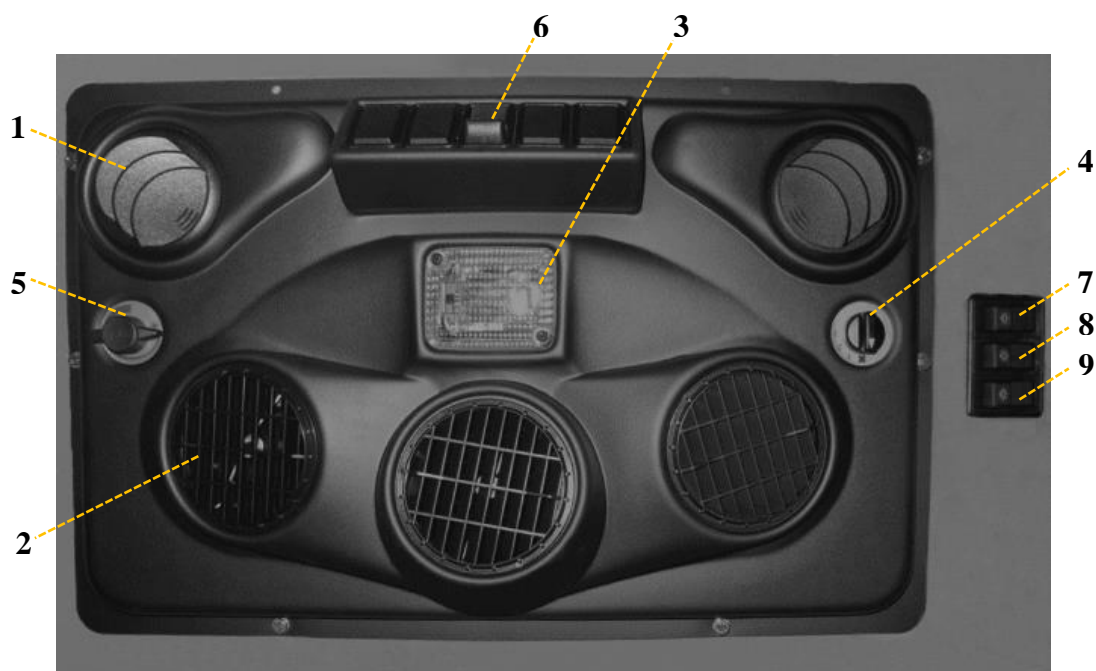
If the control light is turned on, position lights, which illuminate the dashboard, and low beam lights, intended for tractor use, are on.

11. Main ignition switch

See description in previous chapter.

4.5.2 DESCRIPTION OF CONTROL ELEMENTS (CABIN) – TRACTOR VERSION AGT 835 T/S)

Under the cabin roof is an installed ventilation device, which supplies fresh air into the cabin. Ventilation device can also heat air. Setting of air supply is controlled by the driver or user by using control elements, which are described further on.



1. Adjustable slots for internal air circulation

If the slots are closed, cold or warm air comes from under the roof only through supply slots and circulates in the cabin. If the slots are partially or fully open, air exits the cabin.

2. Adjustable slots for air supply

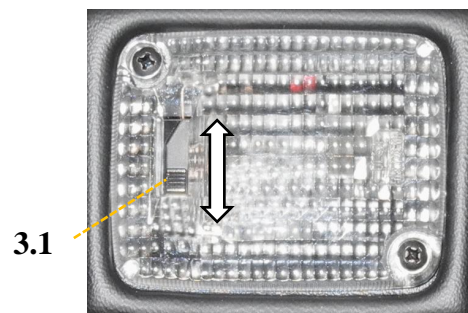
Slots enable supply of fresh air into the cabin through the fan. To change air flow direction, slots turn rotationally and adapt to driver or user needs.

3. Internal cabin light

Internal light illuminates driver's area in the cabin.

3.1 Internal light switch

Press the switch forward and backward to turn internal light on/off.



4. Fan on/off switch

Use the switch to set 3 speed levels of fan rotation.

5. Temperature regulation switch

Use the switch to set heating power in the tractor cabin.

6. Wiper on/off switch, on front windshield.

7. Front work lights on/off switch

8. Rotation light on/off switch

(optional, if a rotation light is installed on the tractor cabin)

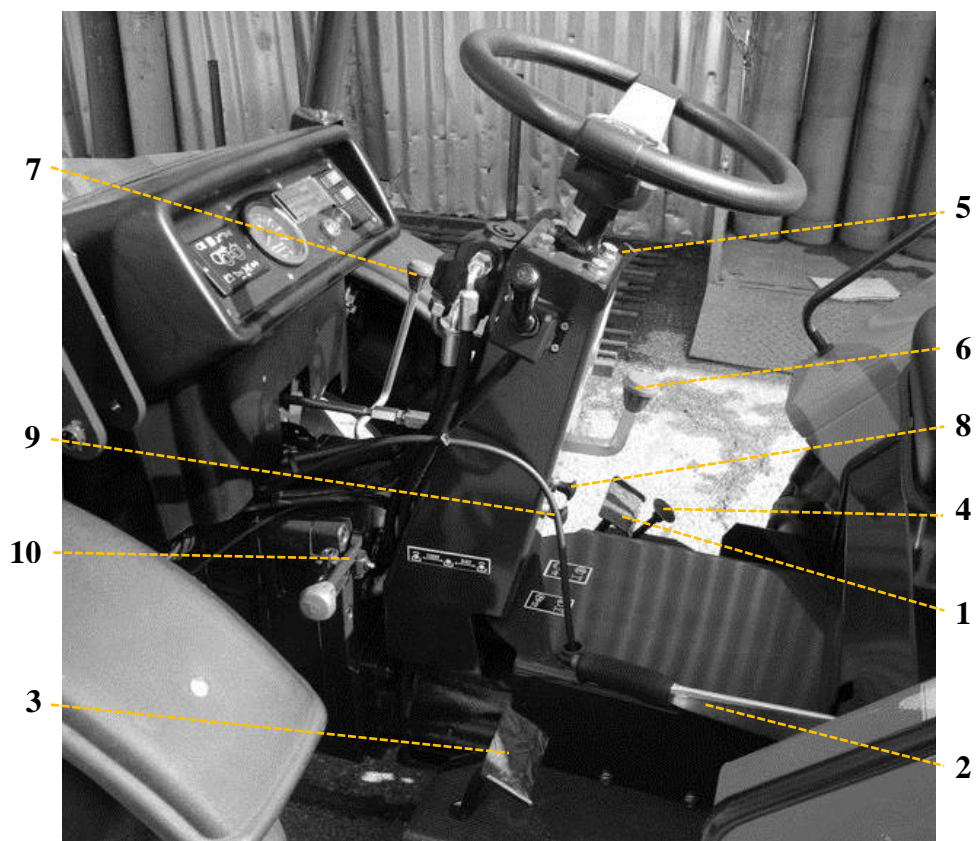
9. Rear work lights on/off switch

10. **Wiper on/off switch**, on rear windshield or on front windshield for tractor version AGT 830/835



4.5.3 DESCRIPTION OF CONTROL ELEMENTS FOR DRIVING (PEDALS)

TRACTOR VERSION AGT 830/835



1. Foot brake

The tractor is fitted with drum brakes on rear wheels, which, because of mechanical connection of front and rear part of the tractor, also cause braking of front wheels.

Work brake can also be activated by pressing the foot pedal (1) on the right side of the tractor.

2. Handbrake

Handbrake functions through lever completely independent of work brakes. Lever of handbrake or parking brake (2) is on the left side of the tractor, at driver's foot, and is activated by pulling the lever up. Release it by pressing the button on the end of brake lever and releasing the lever to its lowest position.

It is intended mostly for blocking the wheels, when the tractor is stopped, when idling or when the tractor is completely stopped.

3. Clutch pedal

Clutch pedal controls the clutch when taking off and shifting. Clutch control is performed with pedal (3) on the left side of the driver's seat.

When using the tractor, be careful of correct clutch pedal travel! (see chapter "SETTING CLUTCH PEDAL").

4. Throttle pedal

By using the throttle pedal, you change the number of revolutions of the tractor.

5. Throttle lever

By moving the throttle lever (up and down) you can set the number of engine revolutions. When the throttle lever is fixed, it enables the driver to keep constant engine revolutions on the tractor.

Under the lever is a level scale, which shows the driver approximate value of load on the tractor engine. Greater area on the scale is the throttle lever, the greater the engine revolutions, the more it is under load and vice versa.



If the throttle lever is set on one point, with constant number of revolutions and you increase number of revolutions with throttle pedal, the number of revolutions increases until you keep the pedal depressed. When you step off the pedal, number of engine revolutions drops back to starting position, set by throttle lever.

6. Lever for changing speed groups (reducer)

With lever for changing speed groups (6), installed in the middle of steering wheel column, you can select between the following options of driving mode:

- If you move the lever to far position from the driver (in position "rabbit", according to scheme on tractor), quick transmission level is activated.
- By pulling the lever to middle position, the tractor moves in reverse with the same transmission levels as with previous fast travel. Reverse driving is possible only with lever positioned in the middle.
- If you push the lever to extreme position towards the driver (in position "turtle" according to scheme on tractor), slow transmission level is activated;

Neutral positions are between given work positions.

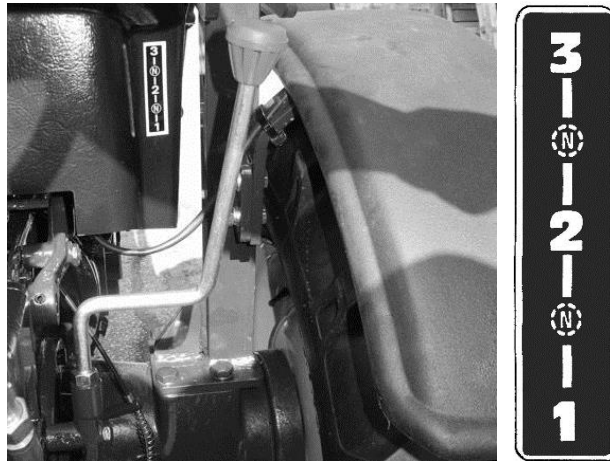


7. Gearshift lever

Numbers (1 to 3) mark transmission levels in the gearbox or tractor speeds. This means that driving with lever in level 1 is the slowest and in level 3 the fastest.

Shift lever (7) is located on the right side of steering wheel column. There are 5 marked positions – three work and two neutral.

Combination of these three work positions of shift lever and positions of lever for activation of reducer enables option of selecting 6 gear ratios forward and 3 reverse.



8. Lever for front differential lock on/off

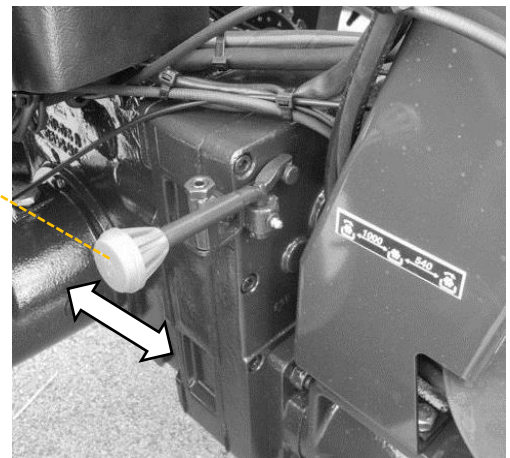
Pull the lever to activate differential lock on front axle. Release lever by pressing the lower button on the housing and the differential is unlocked.

9. Lever for turning engine off

The lever is installed only if an air cooled engine is installed in tractor version AGT 830/835, which you must additionally activate to completely stop the engine.

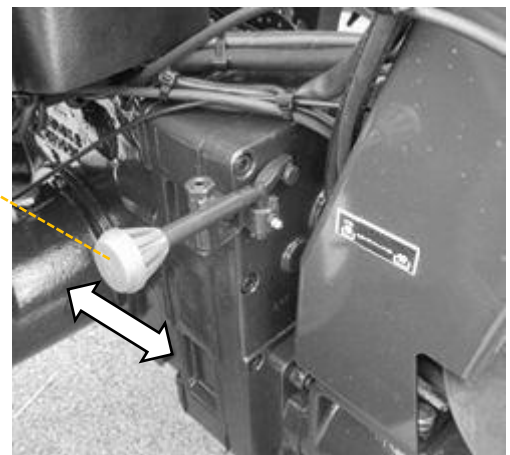
10. Lever for connection shaft (PTO) control (up to year 2016)

To activate connection shaft, move lever (1) to one of desired speeds, which you can select between 1000 and 540 revolutions.



11. Lever for connection shaft (PTO) control (from year 2016)

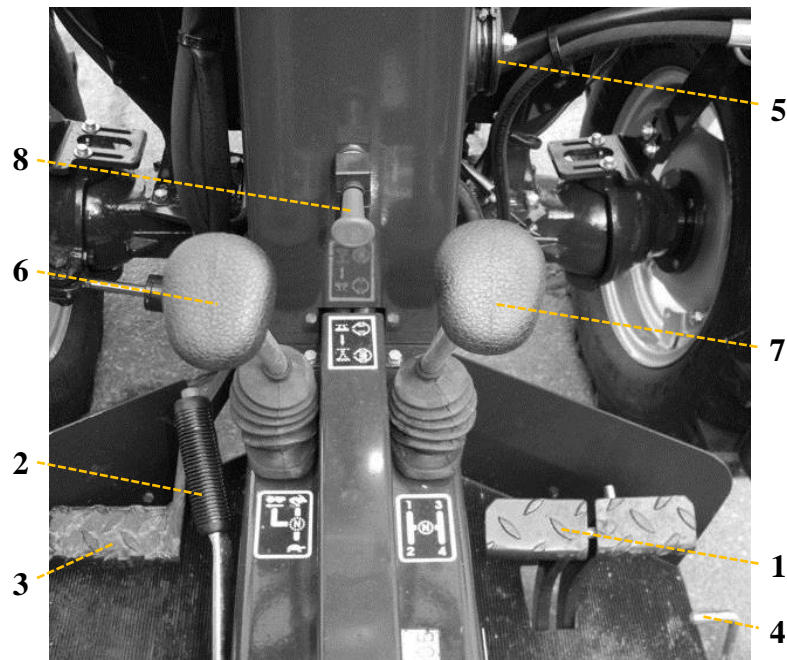
To activate connection shaft, move lever (1) forward (in travel direction). Speed of connection shaft (PTO) is 750 rev./min



Always use clutch when shifting lever!

TRACTOR VERSION AGT 835 T/S

Description of control elements if functionally equal to tractor version AGT 830/835, apart from exceptions, described below.



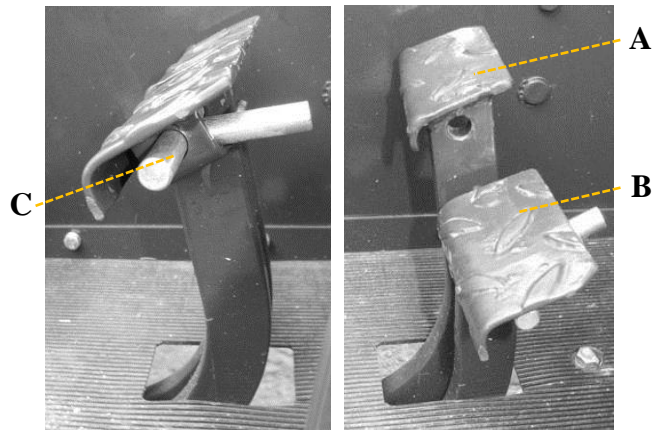
1. Foot brake

Two drum brakes on rear wheels, which are activated with two independent brake pedals.

A – brake pedal, braking of rear left wheel

B – brake pedal, braking of rear right wheel

Pedals can be connected with a pin (C), which, if connected, enables distributed tractor braking on all four wheels or, in case of separated pedals, independent braking of rear left wheel (A) or rear right wheel (B).



WARNING: Separated pedals are intended exclusively for work with tractor. When driving on public roads, make sure that the brake pedals are connected!



WARNING: When driving uphill, both brake pedals must be connected!

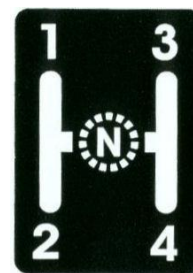
6. Lever for changing speed groups (reducer)

- Position "rabbit" activates fast transmission level
- Position "turtle" activates slow transmission level
- Position "tractor" activates reverse movement of tractor
- Position "N" activates neutral position (tractor does not move)



7. Gearshift lever

Numbers (1 to 4) mark transmission levels in the gearbox or tractor speeds. This means that driving with lever in level 1 is the slowest and in level 4 the fastest.



8. Lever for front differential lock on/off

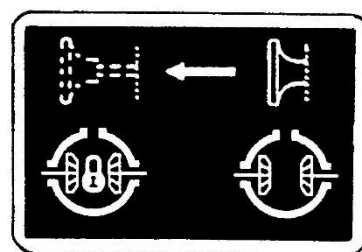
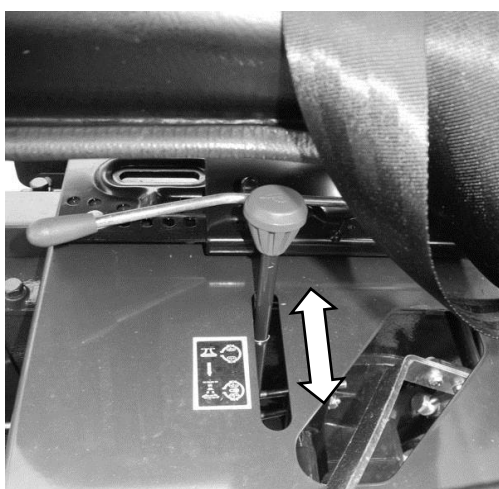
Pull the lever to activate differential lock on front axle. Release lever by pressing the lower button on the housing and the differential is unlocked.



WARNING: When the differential lock is on, DO NOT turn the tractor, as this may cause damage to tractor!

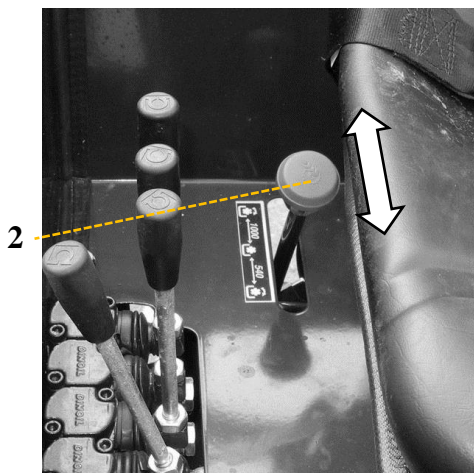
9. Lever for rear differential lock on/off

Move the lever to activate differential lock on rear axle. Lock is activated until you hold the lever. When you release it, the lever automatically returns to original position by spring.



10. Levers for connection shaft (PTO) control

This tractor version has two levers for control of connection shaft installed. First lever (1) enable activating/deactivating connecting shaft and is positioned on the left side of the tractor, next to the driver's seat. Second lever (2) is used to set desired speed of connection shaft and is located on the right side of the tractor, next to the driver's seat.



Use lever (2) to choose between to speed levels:

- C connection shaft rotates with 1000 rpm
- D connection shaft rotates with 540 rpm



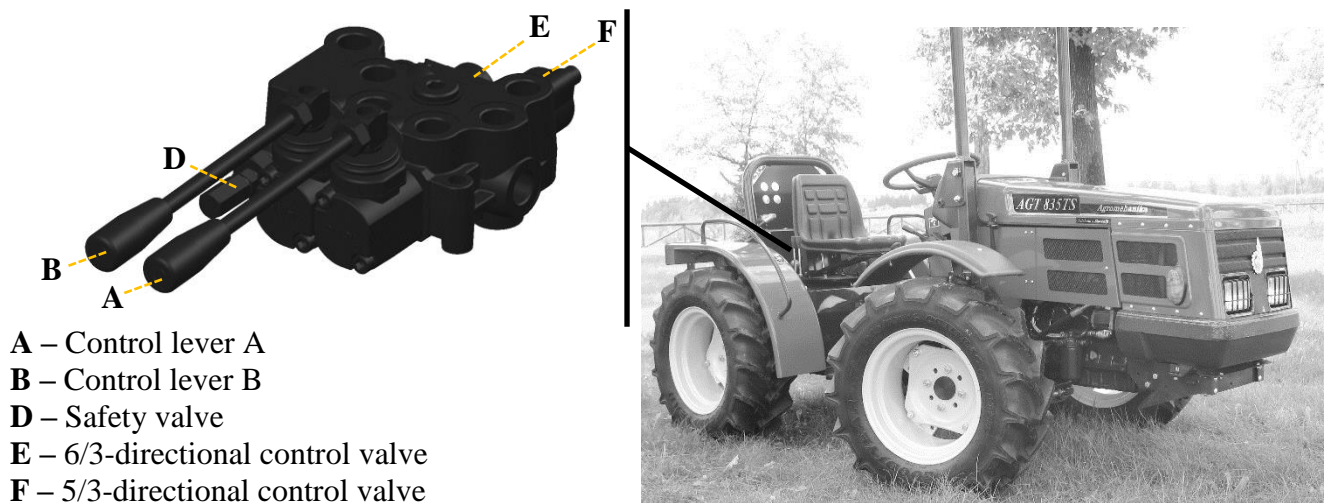
WARNING: If you are not using the connection shaft, the lever must always be in neutral position!

Information regarding connection shaft rotation speed are provided in chapter "TECHNICAL DATA – CONNECTION SHAFT".

4.5.4 DESCRIPTION OF CONTROL ELEMENTS FOR HYDRAULICS

Control element is a steering unit with control levers, with which we direct oil flow from tractor's pressure circuit to hydraulic outputs of internal or external hydraulic users.

Tractors are, as standard, equipped with control element with three control levers. If the tractor has, as option, an added front hydraulic lift mechanism, control element with four control levers is installed. Each lever performs certain function through control valve.



CONTROL VALVES

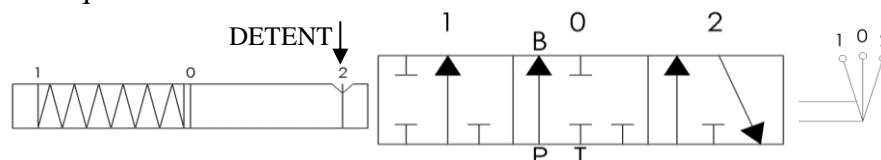
Control valves control oil flow from pressure line to a certain implement. There are three types of control valves: ONE-WAY, TWO-WAY or ONE/TWO-WAY.

One-way functioning 5/3-directional control valve

One-way functioning control valve is connected only to one hydraulic conductor per implement, where the conductor is for pressure and return line (when the valve lever is in position 2 "reverse").

Control lever has three position:

- Position "1" – supply of oil under pressure (lift), control lever returns to neutral position automatically
- Position "0" – neutral position
- Position "2" – oil discharge (float position), control lever is stuck – manual shift into neutral position required



Stop device (DETENT)

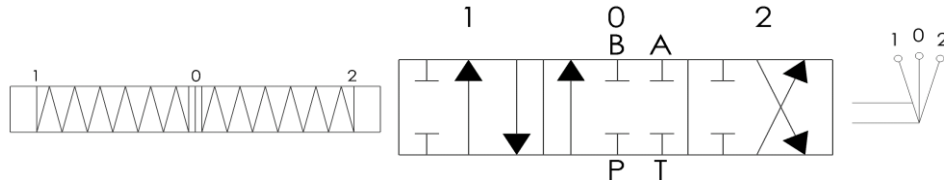
Mechanically shuts active control valve, if you push the control lever to the end in certain direction. Valve can return (release in neutral position) only manually with control lever. If the valve is not fitted with a stop device, it always returns to NEUTRAL position, when the operator releases the control lever.

Two-way functioning 6/3-directional control valve

Two-way functioning control valve is for control of implements with two-way functioning hydraulic cylinder.

Control lever has three positions:

- Position "1" – supply of oil under pressure, control lever returns to neutral position automatically
- Position "0" – neutral position
- Position "1" – supply of oil under pressure, control lever returns to neutral position automatically



Standard tractor version is fitted with two one-way functioning 5/3-directional control valves:

- For control of rear hydraulic lift mechanism

and one two-way functioning 6/3-directional control valve:

- For control of implements with two-way functioning hydraulic cylinder.



IMPORTANT: If the control valves are not being used, control levers must always be set to neutral position.

CONTROL ELEMENT (TWO CONTROL LEVERS)

Below is a description of distribution of functions according to control levers.

CONTROL OF REAR HYDRAULIC LIFT MECHANISM (SINGLE)

Control lever A

Control lever redirects oil from pressure circuit through one-way functioning 3-directional control valve directly to both one-way functioning hydraulic cylinders in tractor version AGT 835 T/S or to one one-way functioning hydraulic cylinder in tractor version AGT 830/835, to control rear hydraulic lift mechanism.

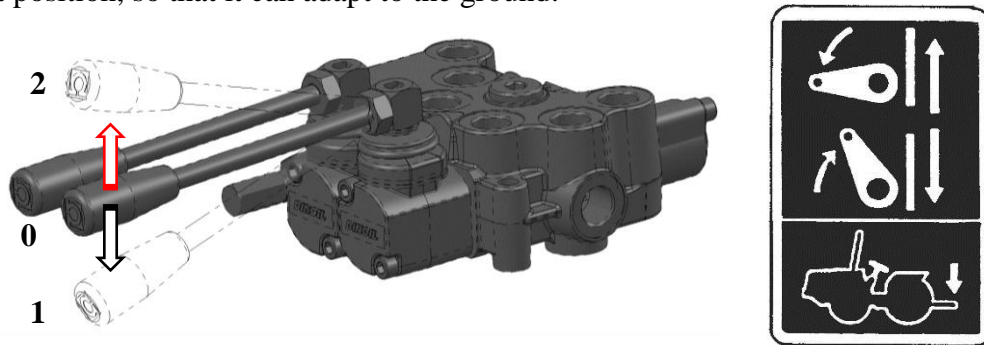
Along with redirecting oil to cylinders of rear hydraulic lift mechanism, control lever enables supply to hydraulic output or quick coupling, for control of external hydraulic connections with one-way functioning hydraulic cylinder (e.g. dump trailers etc.).

This means that the control lever, in this hydraulic connection, controls function of lifting or lowering of rear lift mechanism, as well as implement with hydraulic system for tilting, depending on current work requirements of the user.

Operation (position of levers from driver's side):

- If you move the lever away from yourself to position 1, lift mechanism rises. When you release it, the lever on the control element automatically returns to neutral position 0, and the lift mechanism remains in this lift position.
- If you move the lever towards yourself to position 2, lift mechanism starts to lower. Even when you release it, the lever remains fixed in position 2. Therefore, you must always manually move it to position 0, if you want to cancel lowering of lift mechanism.

When the control lever is in position 2, and the lift mechanism is completely lowered, implement shifts to float position, so that it can adapt to the ground.

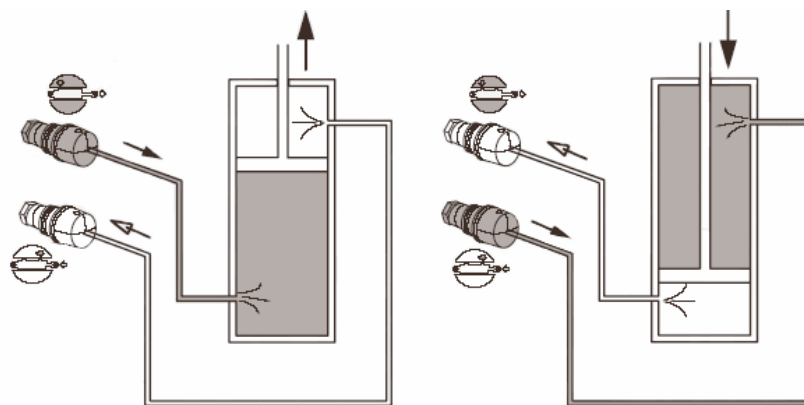


CONTROL OF HYDRAULICS THROUGH QUICK COUPLING (DOUBLE)

Control lever B

Control lever redirects oil from pressure circuit through two-way functioning directional control valve through hydraulic output or quick coupling for control of external hydraulic connections with two-way functioning hydraulic cylinder.

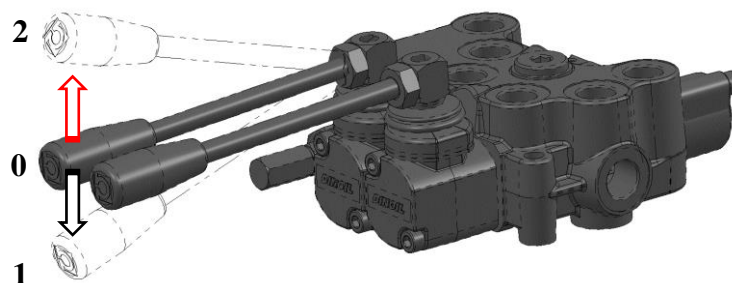
This applies to standard tractor version, without installed front hydraulic lift mechanism. If the front hydraulic lift mechanism (option) is installed, along with two quick coupling at the rear, there are also two quick couplings installed on the front of the tractor. In this case, oil is supplied under pressure through control lever to both pairs of quick couplings simultaneously.



Operation:

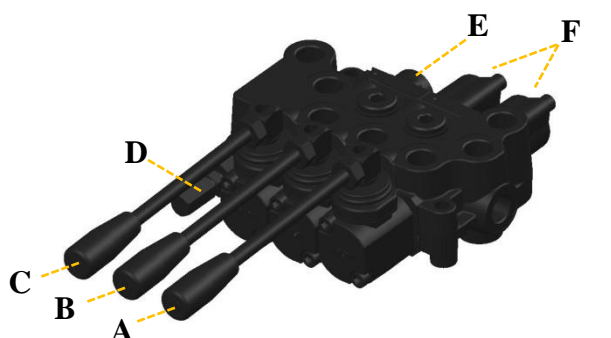
- When you move the control lever for operation of control valve into one of the positions (1 or 2), the piston in the valve moves in a way that oil from the pressure line flows only through one connection and from return through other connection and vice versa, if you shift the control lever in other direction.

When you release it, the lever on the control element automatically returns back to neutral, regardless of previous position.



CONTROL ELEMENT (THREE CONTROL LEVERS)

Control element with three levers is functionally controlled in the same manner as control element with two levers. The only difference is an additional control lever, which controls the front hydraulic lift mechanism completely independently from other functions. Below is a description of distribution of functions according to shift levers.

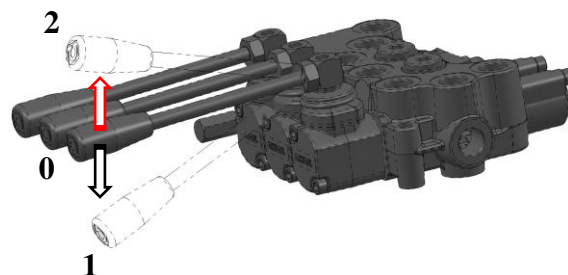


- A** – Control lever A
- B** – Control lever B
- C** – Control lever C
- D** – Safety valve
- E** – 6/3-directional control valve
- F** – 5/3-directional control valve

CONTROL OF FRONT HYDRAULIC LIFT MECHANISM (SINGLE)

Control lever A

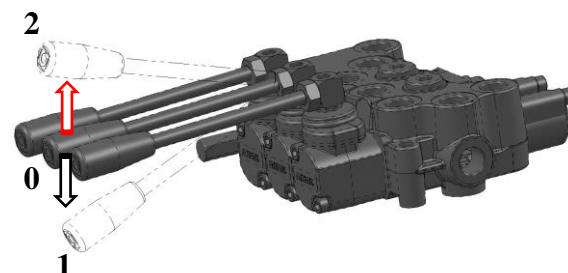
Control lever A functions through one-way functioning three-directional control valve. For control lever operation, see description in previous chapter.



CONTROL OF REAR HYDRAULIC LIFT MECHANISM (SINGLE)

Control lever B

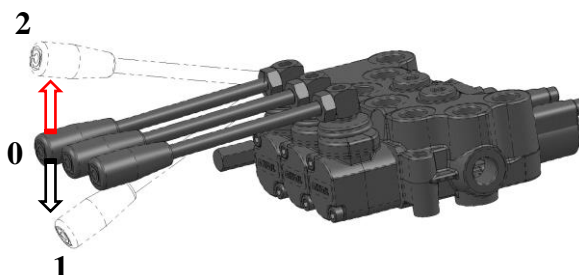
Control lever B functions through one-way functioning three-directional control valve, the same as lever A. For control lever operation, see description in previous chapter.



CONTROL OF HYDRAULICS THROUGH QUICK COUPLING (DOUBLE)

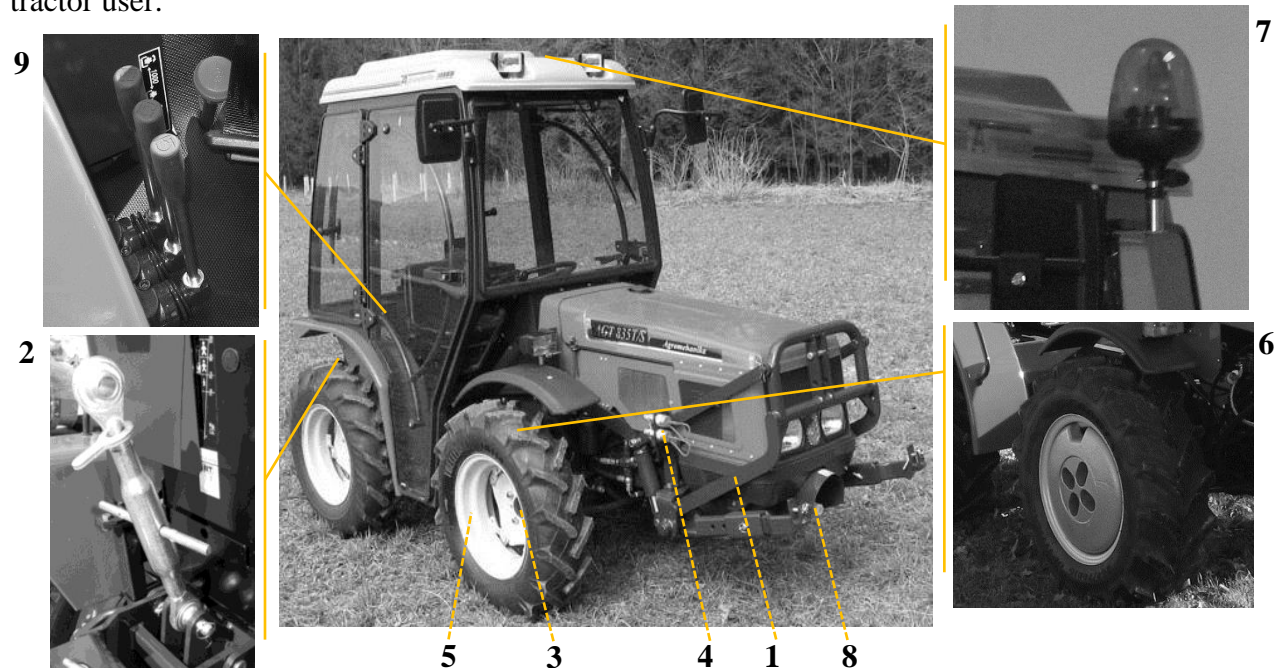
Control lever C

Control lever C functions through two-way functioning three-directional control valve, the same as lever B, described in previous chapter.



4.6 OPTIONAL EQUIPMENT

This chapter describes optional equipment, which can be installed according to demands of the tractor user.



- | | |
|---------------------------------|--|
| 1. Front lift mechanism | 2. Hydraulic top connection shaft (top link) |
| 3. Wheel extensions | 4. Front hydraulic connection (quick coupling) |
| 5. Wheel dimensions | 6. Weights |
| 7. Rotation light | 8. Front connection shaft (PTO) |
| 9. Control elements (hydraulic) | |

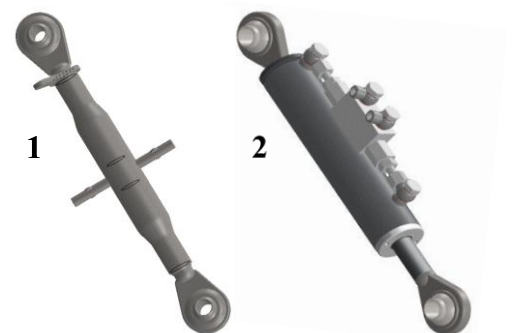
4.6.1 FRONT LIFT MECHANISM

Front lift mechanism if of three-point type with adjustable connection arms, on which a plug if fixed manually with bolt and pin.

4.6.2 HYDRAULIC TOP CONNECTION SHAFT

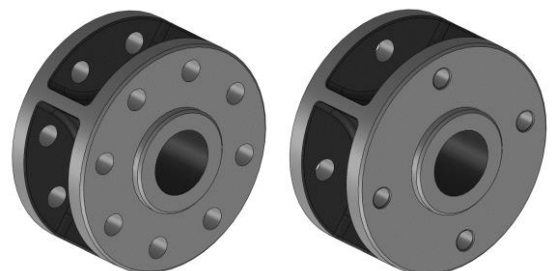
- 1 **Standard (mechanic) top connection shaft**
- 2 **Hydraulic top connection shaft (top link)**

Enables hydraulic adjustment of top connection shaft or crossbar for connection on third point of implement through shift lever, directly from the driver's seat.



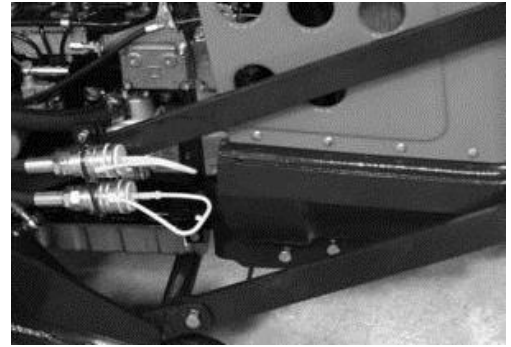
4.6.3 WHEEL EXTENSIONS

Wheel extensions are intended for additional widening of tractor wheelbase. **Length of each extension is 80 mm.** As option, user can choose between two extension types, with different hole positioning (four or eight) and with or without internal thread for short or long screws, depending on tractor version.



4.6.4 FRONT HYDRAULIC CONNECTION

Front hydraulic connection has quick couplings, which are intended for connection of work implement with hydraulics.



4.6.5 WHEEL DIMENSIONS

The tractor can be, as option, fitted with wheels of different dimensions. Basic dimensions are described further on, but there is also option of adjusting rims for different track width.

- Adjustable rims (4.5x16, 5.5x16, W8x16). To set track with adjustable rims, see chapter Technical data.
- Fixed rims (13LNx15, 9x15)

4.6.6 WEIGHTS

Weights are intended to increase stability of the tractor, when work implements are fitted. For standard tractor version, two types of weights are used:

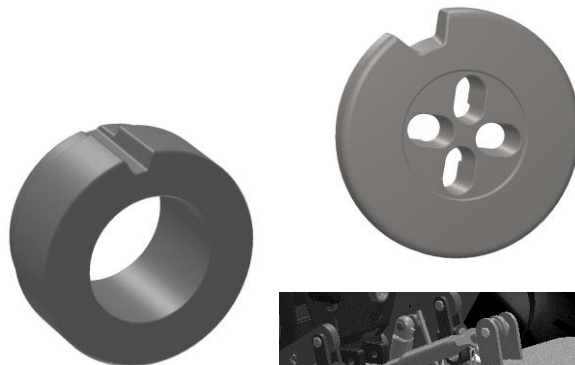
Wheel weights – are installed on all four wheels, front and rear, on exact defined points with four screws. As option, two versions of wheel weights are used, depending on dimensions of wheels, which are fitted on the tractor.

Wheel weight (40 kg), wheel dimensions:

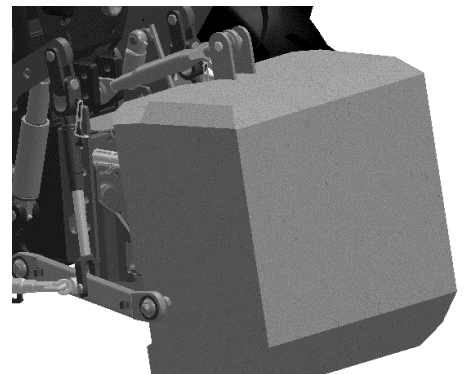
- 4.5x16
- 5.5x16
- W8x16

Wheel weight (50 kg), wheel dimensions:

- 13LBx15
- 9x15



Concrete weight of 150 kg is fitted on three-point hitch of rear hydraulic lift mechanism.



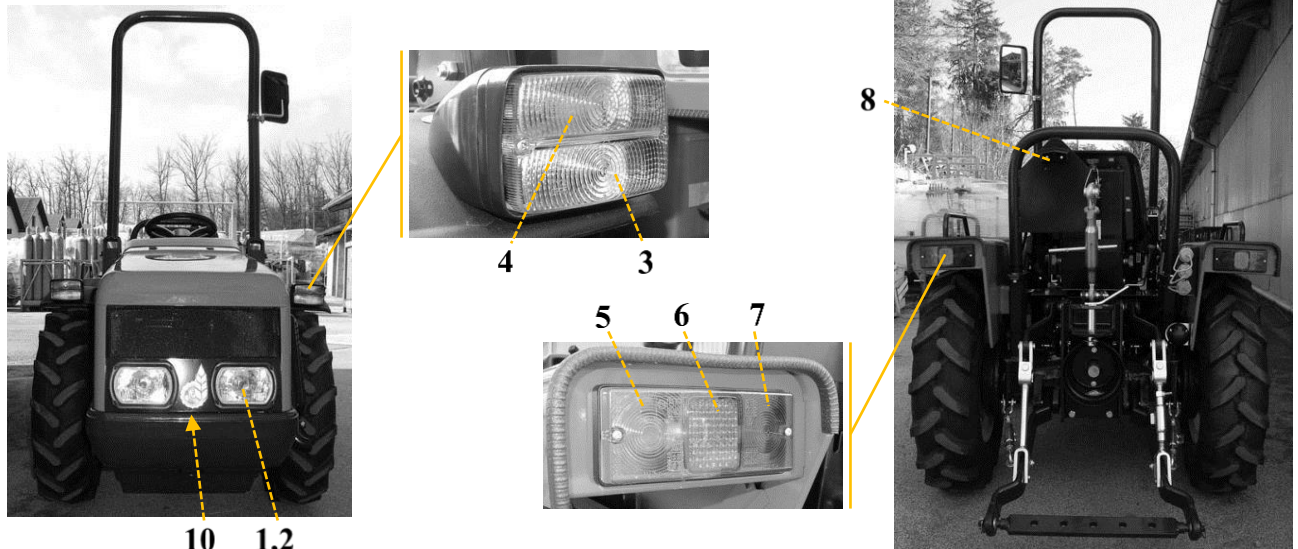
DANGER: During assembly and disassembly of wheel weights, be careful that your body parts do not get crushed!

4.6.7 ROTATION LIGHT

As option, tractor can be fitted with a rotation light, on cabin or roll bar, depending on tractor version.



4.7 DESCRIPTION OF DEVICES FOR USING THE TRACTOR IN ROAD TRAFFIC



Headlights

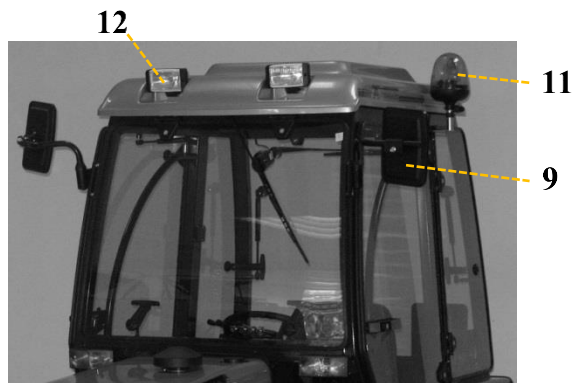
1. Low beam
2. High beam

Side lights

3. Position lights
4. Front indicators

Rear lights

5. Rear indicators
6. Reflectors
7. Low beam and brake light
8. Plate light (always on with light switch on in any position)



To turn lights on or off, see chapter "DESCRIPTION OF INSTRUMENTS AND CONTROL ELEMENTS".

9. Rear-view mirror
10. Horn
11. Rotation light (option)
12. Work lights

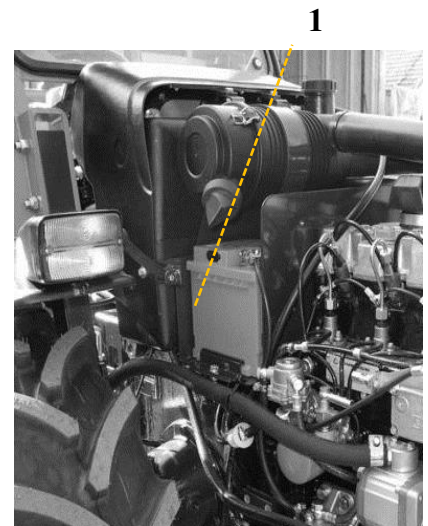
4.8 ELECTRICAL SYSTEM

4.8.1 BATTERY

Battery with rated voltage 12 V is an electrical power source for complete electrical supply of internal equipment of the tractor. Characteristics of the battery are described in chapter "TECHNICAL DATA".

Be careful that the battery is always clean and all contact connection well fastened and greased. We recommend that you lubricate all contacts, before fastening them, with lubricating grease, as this greatly reduces the risk of corrosion.

Launching or starting the engine must be performed according to instructions for start-up (see chapter "TRACTOR START-UP").



Access

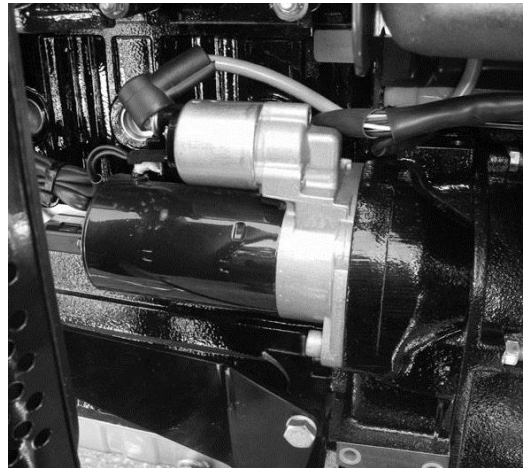
To access the battery, raise the cover. The battery is on the tank, right at the beginning. Occasionally check electrolyte level (amount must be between MIN and MAX mark), add distilled water, if required, if provided for by battery version. In the winter and at low external temperatures, when not using the tractor for a longer period of time, remove the battery from the tractor and store it in a warm area.

4.8.2 ELECTRIC STARTER

Electric starter is an electromotor, which is connected to engine flywheel through a sprocket. Electrical supply is provided directly from the battery. Characteristics of electric starter are described in chapter "TECHNICAL DATA".

Upon engine start-up, current with great power is used. Therefore, note the following, when using the starter:

- Starter can be engaged, without break, for maximum 10 seconds.
- If the engine does not start, wait at least 10 seconds before trying to start it again.
- If the engine does not start after several start-up attempts, stop start-up procedure and find the cause of the problem.

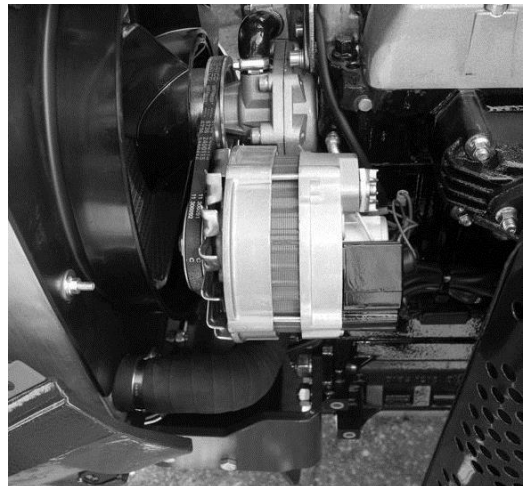


4.8.3 ALTERNATOR

Alternator ensures constant maintenance of required charge or voltage of battery, and it operates only when sie gut mechanisch fixiert ist.

- It is properly mechanically fastened.
- It is properly connected to the battery.
- Electrical installation is not damaged.

Alternator operation control is performed by control light on the dashboard. If the alternator is working properly, control light is off during normal operation. Characteristics of alternator are described in chapter "TECHNICAL DATA".



4.8.4 FUSES

Fuses are on the back of the dashboard.

If a fuse is blown, remove fuse-box cover and replace burnt fuse. If the fault repeats, have the electrical system inspected by an expert.

Before replacing burnt fuse:

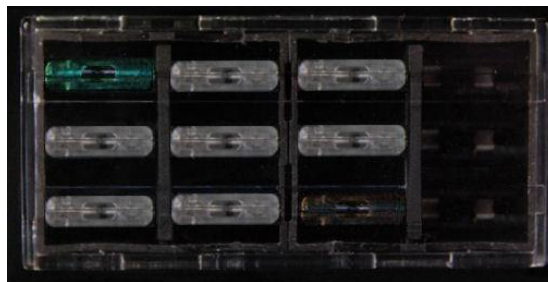
- Move contact key to position.
- If possible, remedy the problem, which caused the fuse to blow.
- Replace burnt fuse.



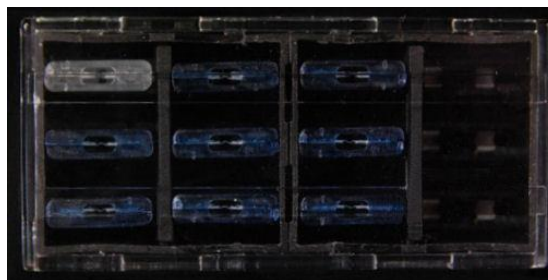
IMPORTANT: When replacing a fuse, use a new fuse with the same properties, as provided on the electrical console of the tractor!

Fuse distribution**TRACTOR VERSION AGT 830**

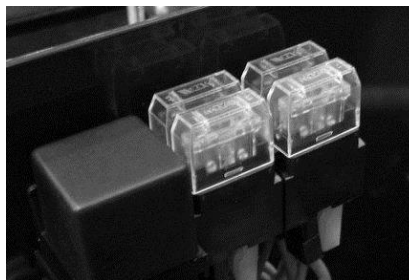
F1	F2	F3	-
F5	F6	F7	-
F9	F10	F11	-

**TRACTOR VERSION AGT 835 and AGT 835 T/S**

F1	F2	F3	-
F5	F6	F7	-
F9	F10	F11	-

**INSTALLED CABIN (only for tractor version AGT 835 T/S)**

F4	F13
F8	F12



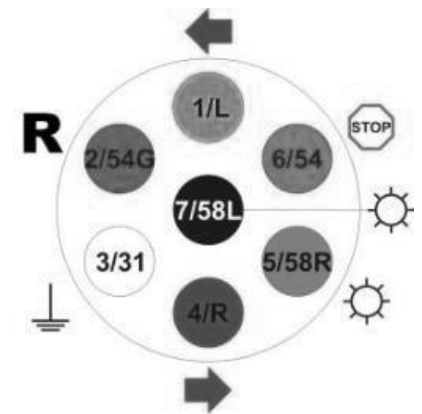
TRACTOR	FUSE DESIGNATION	FUSE NAME	DESCRIPTION OR FUNCTION
AGT 830	F1	Fuse 30 A	Ignition, lock
	F2	Fuse 25 A	Left position light
	F3	Fuse 25 A	Headlights, high beam
	F5	Fuse 25 A	Hazard warning signal
	F6	Fuse 25 A	Right position light
	F7	Fuse 25 A	Sound signal (horn), brake light
	F9	Fuse 25 A	Indicators
	F10	Fuse 25 A	Headlights, low beam
	F11	Fuse 7,5 A	Instruments and control lights
AGT 835 AGT 835 T/S	F1	Fuse 25 A	Ignition, lock
	F2	Fuse 15 A	Left position light
	F3	Fuse 15 A	Headlights, high beam
	F4	Fuse 15 A	Cabin illumination
	F5	Fuse 15 A	Hazard warning signal
	F6	Fuse 15 A	Right position light
	F7	Fuse 15 A	Sound signal (horn), brake light
	F8	Fuse 20 A	Windshield wiper, cabin heating
	F9	Fuse 15 A	Indicators
	F10	Fuse 15 A	Headlights, low beam
	F11	Fuse 15 A	Instruments and control lights
	F12	Fuse 20 A	Rear work lights, rotation light (option)
	F13	Fuse 15 A	Front work lights

4.8.5 SOCKET FOR CONNECTIONS (ISO 1724)

Socket has seven poles and is intended for electrical connection of implements (carried or towed) to the tractor.

Distribution of poles on the socket

POS.	DESIGN.	DESCRIPTION OR FUNCTION
1	L	Indicator – left
2	54 G	Spare
3	31	Grounding
4	R	Indicator – right
5	58 R	Side light and plate – right
6	54	Brake lights
7	58 L	Side light – left



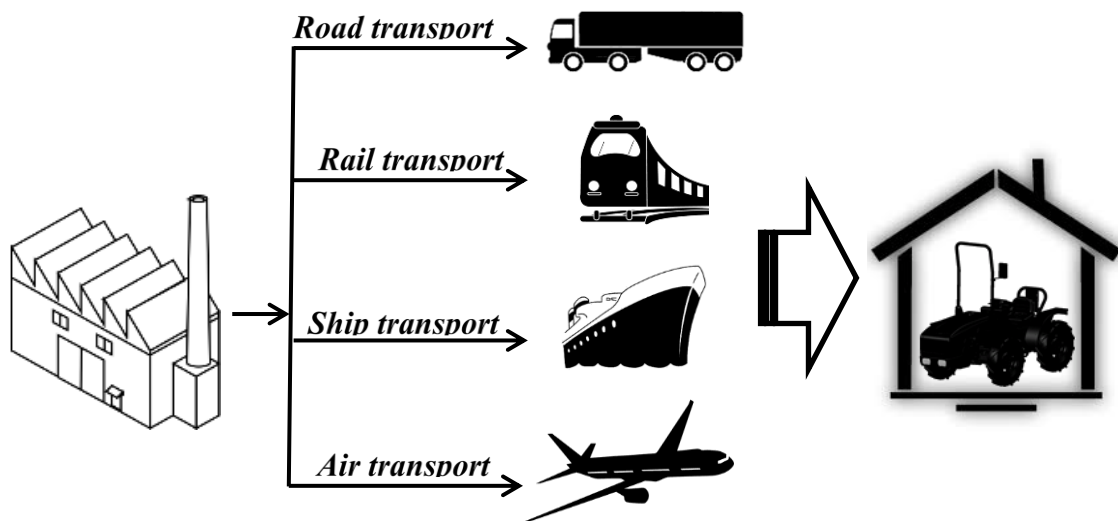
5 TRACTOR TRANSPORT

When transporting the tractor, the user must act in accordance with instructions of the manufacturer, which are provided in the instructions for use.



IMPORTANT: Loading and unloading of the tractor must be done very carefully to prevent injury to persons or damage to machines.

There are several options of transporting the tractor with different means of transport, which depend on end destination.



5.1 LOADING

For loading the tractor on transport vehicle, use a ramp, to which you can drive a vehicle, or loading ramps, which be secured to transport vehicle and the ground. If you are using loading ramp for loading, ensure that they comply with the load and have suitable wheelbase.

Load the tractor only from driver's seat or with tow-bar or chain on a winch.

Loading procedure:

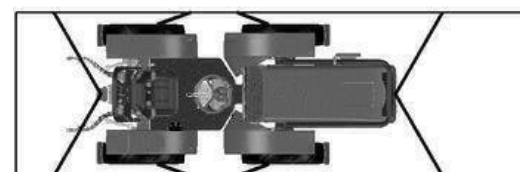
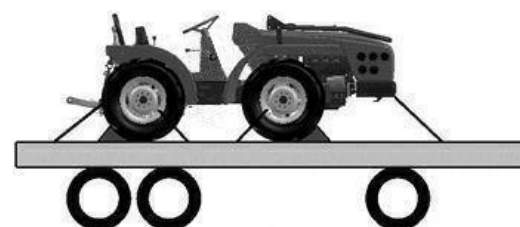
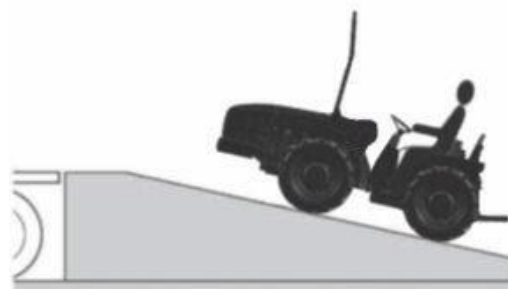
- Start the tractor.
- Raise the rear hydraulic lift mechanism to highest point. If the tractor is fitted with front hydraulics lift mechanism, raise it as well.



For control of lift mechanisms see chapter "DESCRIPTION OF CONTROL ELEMENTS FOR HYDRAULICS".

- Slowly drive the tractor up the ramp or loading ramps onto the transport vehicle. The driver must be familiar with the procedure of loading the tractor on transport vehicle, to ensure adequate safety.
- When you have stopped the tractor on the transport vehicle, shut down the engine and engage the parking brake. Before removing the key, shift the tractor to lowest gear.

Before transporting, secure the tractor with safety wedges and use belts to fasten it. If there are problems with space, you can lower the roll bar on the tractor.



IMPORTANT: When loading the tractor on the transport vehicle, use suitable loading ramps!



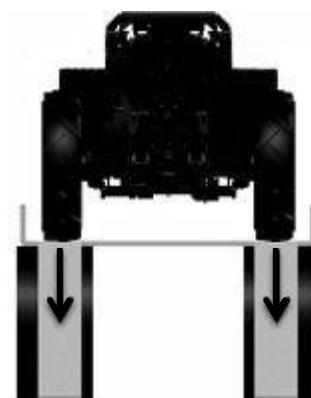
WARNING: Tractor must not exceed maximum permissible dimensions of means of transport!

5.2 UNLOADING

Procedure of unloading the tractor is performed in opposite order of loading. Before driving the tractor off the transport vehicle, ensure that the loading ramps are:

- Suitable for the load;
- Set at correct wheelbase (see figure);
- Secured to transport vehicle and the ground.

Drive the tractor off the transport vehicle.



WARNING: If you unload the tractor from transport vehicle with engine off, the steering wheel is stiffer and turns with greater difficulty, because the hydraulic system is not functioning!

5.3 TOWING

Towing the tractor is possible in the event of malfunction or when transporting by loading the tractor onto transport vehicle with a winch.

Towing hook is on the front right part of the tractor, immediately behind engine cover.



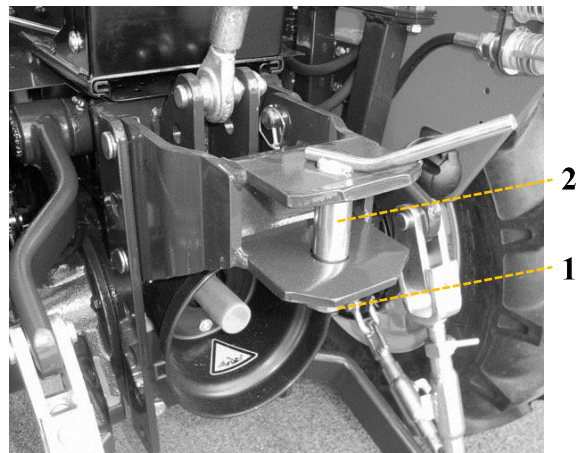
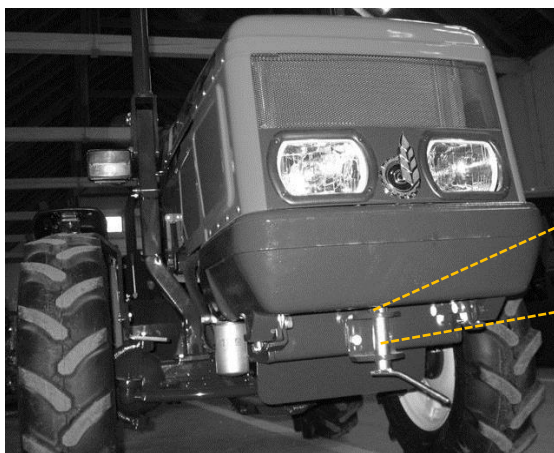
WARNING: Do not use front towing hook for towing other implements!



IMPORTANT: If you have a front hydraulic lift mechanism installed, towing hook cannot be installed in its original place!

Procedure of connecting the tractor to towing vehicle:

- Approach towing vehicle to the tractor, so you can fasten towing bar without problems.
- Remove safety pin (1) on the bolt and pull the bolt (2) out of towing hook.
- Connect the towing bar to the towing vehicle and the tractor.
- Replace the bolt back into the towing hook of the tractor and secure it with pin. Perform similar procedure on the towing vehicle.
- After connecting the tractor to towing vehicle, shift control levers to neutral position and release handbrake.



If possible, keep the engine running during towing to use the steering wheel easier. Otherwise, the steering wheel is stiff and turns hard because hydraulics is not functioning.



WARNING: Before towing, always check that main bolts on the tractor and towing vehicle are inserted correctly and suitably blocked with safety pin!



IMPORTANT: Always tow with towing vehicle of suitable power for towing the tractor, and only on short distances with maximum speed of 10 km/h!

6 TRACTOR SETTINGS

Person, authorized for tractor settings, must heed to basic safety instructions and conduct measures, which ensure required safety in the place of work.

All tractor settings must be performed with the engine off, unless specified otherwise.

Stopping the tractor safely

- Place the tractor on flat ground. If not possible, secure the tractor with safety wedges under the wheels and ensure safe placement.
- Move shift lever to first gear and engage handbrake.
- Move the lever for connection shaft to neutral position.
- If there is a carried implement on the tractor, lower hydraulic lift mechanism and put the implement on the ground.
- If there is a towed implement on the tractor, engage implement brake. If it does not have one, set safety wedges under the wheels of implement.
- Shift hydraulic control levers on control element in neutral position.
- Turn off the engine and remove key.

6.1 SEAT AND STEERING WHEEL

6.1.1 SEAT SETTINGS

Setting the seat by length

If you push lever (1) up, you can move the seat forward or backward and adjust it to your size or personal desires. When you have set it, release the lever, which automatically locks and blocks the seat.

Setting the seat by height

Set seat height with two adjustment knobs (2) according to following procedure:

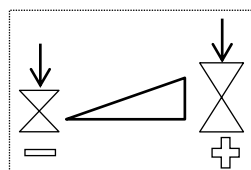
- Unscrew adjustment knobs on both sides of seat mechanism.
- Manually move seat to desired height.
- Screw adjustment knobs back.

Setting hydraulic damping

Seat damping can be set individually according to terrain, on which you are working or driving.

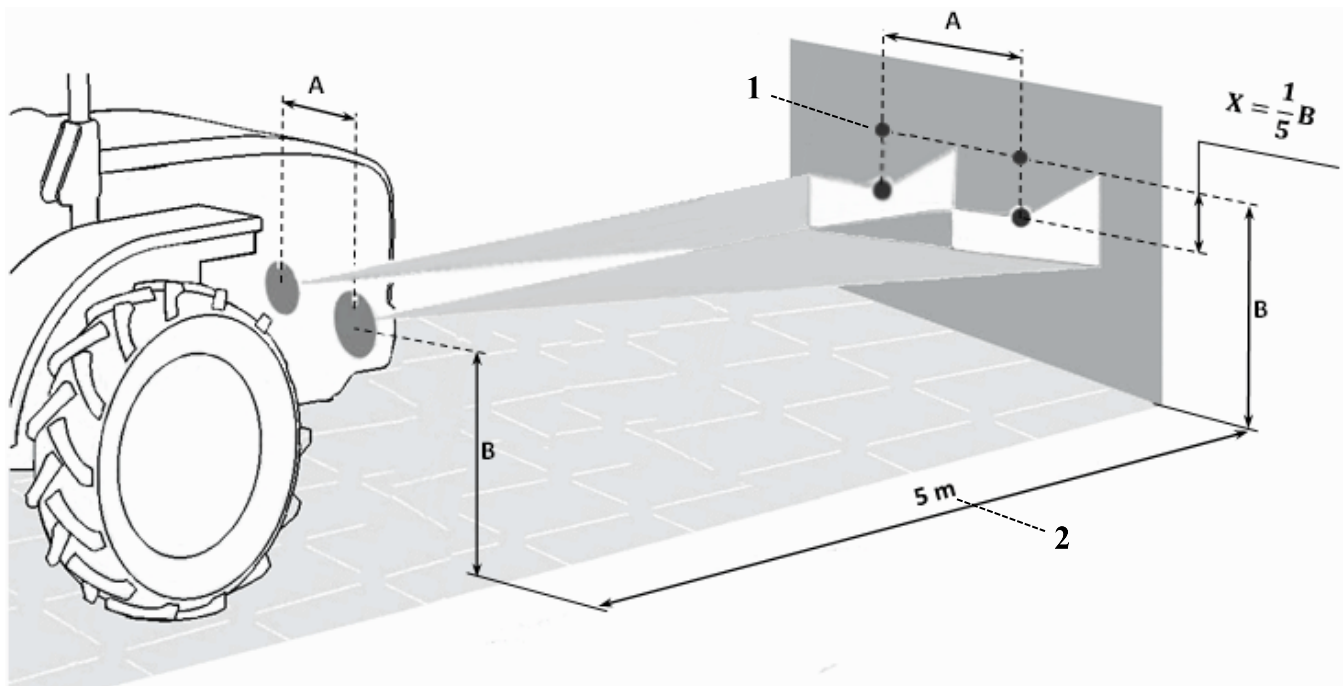
Damping is set with adjustment knob (3) on top of seat mechanism:

- If you turn the knob to the right (clockwise), damping stiffens (+).
- If you turn the knob to the left (counter-clockwise), damping softens (-).



6.2 LIGHTING SETTINGS

6.2.1 SETTING HEADLIGHTS



- 1 – projection points at the height of headlight middle on wall
- 2 – distance between headlights on tractor and wall
- A – distance between headlights
- B – height of headlights
- x – distance between the middle of light beam and horizontal axis



IMPORTANT: Bear in mind that the figure is for countries with traffic on the right side of the road. In countries with traffic on the left side of the road, projection area of lights must be symmetrical on the wall.

Tips of bright field, which are seen on the wall, must always be directed toward the edge of the road.

To set headlights, place the tractor on horizontal ground, with properly inflated tyres and front wheels straight. Place the tractor with low beam headlights to a distance of 5 m from the wall and check that the position of lights is correct (see figure). In case of incorrect position, set lights.

Settings

To be able to determine projection points of headlights on the wall, drive the tractor with low beam headlights on towards the wall, mark centre of light beams and drive the tractor back to distance of 5 m from the wall.

Align the headlights horizontally and vertically with screws, as shown in the figure. To access them, follow the procedure below:

- Remove all four screws (1) on each light.
- Remove protective frame of lights (2).
- Set position of lights by tightening or loosening bottom two screws (3).
- When the lights are set, replace the protective frame of lights and fasten it with screws.



When the setting is completed, distance of projection points on the wall must be the same as the distance between headlights.



IMPORTANT: If you are driving in road traffic, lights must be properly set, so that you do not obstruct other drivers!

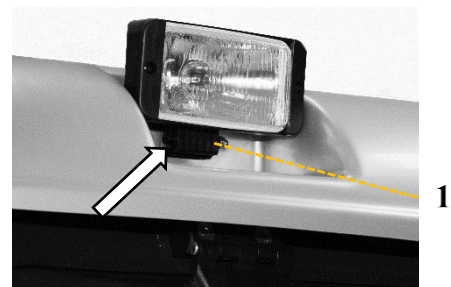
6.2.2 SETTING TOP (WORK) LIGHTS (WITH INSTALLED CABIN)

Top lights on the cabin can be set manually at different angles.

Setting

You can set the lights manually. If it is not possible, follow the procedure below:

- First, loosen screw (1) on the flexible part of the light.
- Set position of light manually to desired angle of lighting.
- Tighten screw (1).



IMPORTANT: Lights are intended only for help during work. When you are driving in road traffic, turn off these lights, so that you do not blind other drivers.

6.3 SETTING REAR HYDRAULIC LIFT MECHANISM

With this tractor model, you can connect implement of category I with correct setting. When connecting an implement for the first time, it is important to check that the weight does not exceed maximum allowed axle load of tractor. If you believe that the tractor is too unstable with connected implement, install suitable weights to increase stability.

SETTING

Setting of rear hydraulic lift mechanism must be performed every time you connect an implement, which has differently distributed connection points as the previous implement.

Drive the tractor to the implement, which you want to install and drop lower connection arms to height of connection points of implement. Stop the tractor and ensure required safety.

Rear hydraulic lift mechanism can be, according to requirements, set in following ways:

- Setting of lower connection arms.
- Setting of lift bar (left/right).
- Setting of top connection shaft or cross bar (top link).
- Setting of lateral tensioner.

6.3.1 SETTING OF LOWER CONNECTION ARMS

With setting of lift bars, you regulate height of lower connection arm. If you extend the lift bar when setting, height of lift of lower connection arms reduces; if you reduce the lift bar with setting, height of lift increases.

According to installed implements, you can regulate the height of only one lift bar.

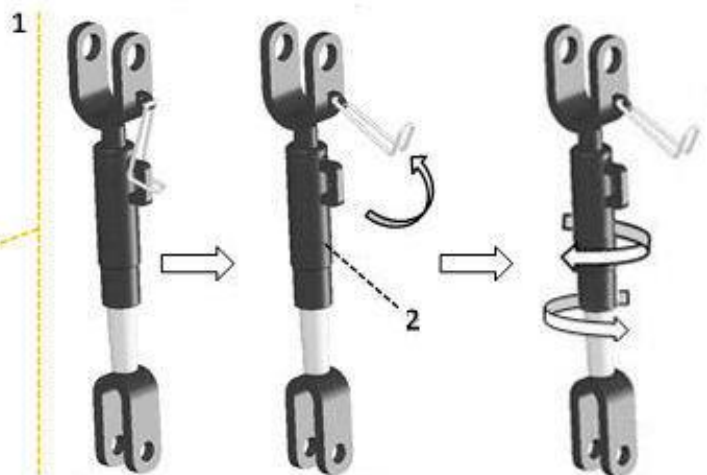
Standard lift bar

Setting of lift bar:

- Release safety lock (1) on the handle.
- Rotate the handle (2) clockwise to extend the lift bar or rotate it counter clockwise to shorten the lift bar.
- When the desired height of lift bar is set, close safety lock (1) and block handle (2).
- Repeat the procedure on the other side.

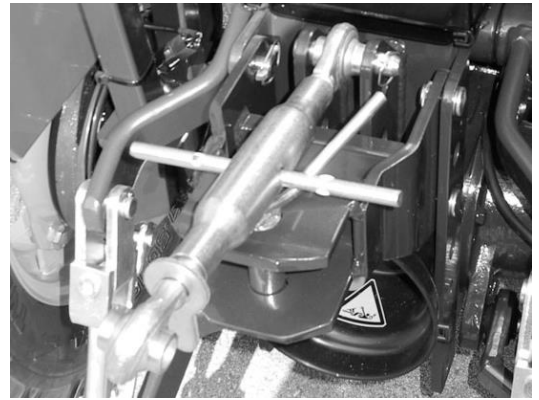


WARNING: If you have set the lift bar, before work, always check that the safety lock is closed and handle properly blocked!



6.3.2 SETTING OF TOP CONNECTION BAR (TOP LINK)

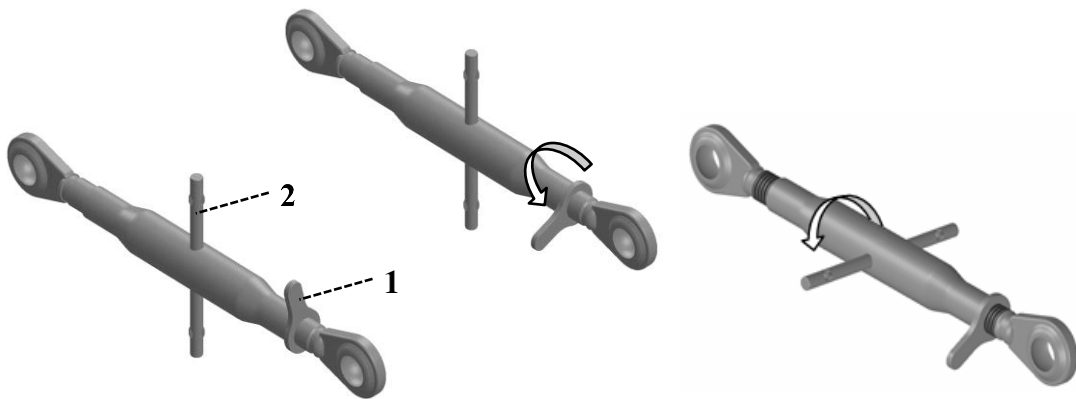
When connecting an implement to the tractor, you must perform the setting of top connection bar. By setting length of top connection bar, you regulate angle of incidence of the implement according to surface level. If you extend the top connection bar during setting, the angle of incidence of implement decreases; if you shorten the top connection bar during setting, the angle of incidence of implement increases.



Standard (mechanic) top connection bar

Setting of top connection bar:

- Loosen safety lever (1) by unscrewing it.
- Rotate the handle (2) in centre part of bar clockwise to extend the connection bar. Rotate it counter clockwise to shorten the connection bar.
(only if the connection bar is fastened on the tractor in point, when the safety lever is on the implement side; if the connection bar is fastened the other way, the setting with turning the lever reverses)
- Once the desired length of connection bar is set, screw the safety lever (1) back and block further rotation of handle (2) in central part of the bar.



WARNING: If you have set the top connection bar, before work, always check tightness of safety lever!



WARNING: Never extend the top connection bar excessively, so that both connection parts of the bar have minimum length of thread, because they can fall out under load and cause serious work injuries!

Hydraulic top connection bar

Lift bar is set with hydraulic control lever on control element. By moving the lever up/down, you shorten or extend the bar, and direction of operation depends on connection on hydraulic couplings.

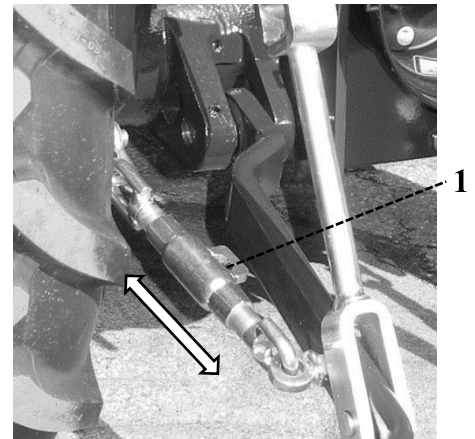


6.3.3 SETTING OF LATERAL TENSIONER

Lateral tensioner limits or prevents transverse movement of implement. It is set, when the implement is already installed on the tractor.

Set the lateral tensioner by turning the handle (1). When you turn the handle (1) clockwise, the lateral tensioner closes or shortens; if you turn the handle in opposite direction, the lateral tensioner opens or extends.

Lateral tensioners are set randomly according to work, whether the user wants moving or fixed fastened implement.



6.4 SETTING OF FRONT HYDRAULIC LIFT MECHANISM (OPTION)

When connecting an implement for the first time, it is important to check that the weight does not exceed maximum allowed axle load of tractor. If you believe that the tractor is too unstable with connected implement, install suitable weights to increase stability (see chapter "TRACTOR LOAD CALCULATIONS").

SETTING

Setting of front hydraulic lift mechanism must be performed every time you connect an implement, which has differently distributed connection points as the previous implement.

Drive the tractor to the implement, which you want to install and drop lower connection arms to height of connection points of implement. Stop the tractor and ensure required safety.

Front hydraulic lift mechanism can be, according to requirements, set in following ways:

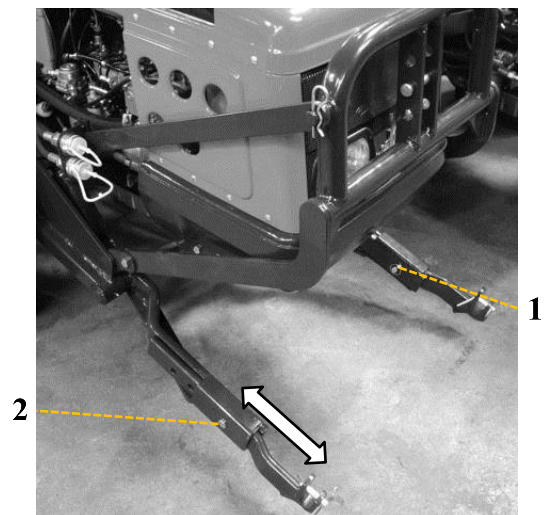
- Setting of lower connection arms.
- Setting of top connection shaft or cross bar.

6.4.1 SETTING OF LOWER CONNECTION ARMS

Standard connection

Procedure for setting lower connection arms:

- First, remove safety pin (1) and pull out bolt (2).
- Release the arm, which you then set to different position (in and out).
- Once the desired arm position is set, insert bolt (2) back and block it with corresponding safety pin (1).
- Repeat the procedure on other connection arm.



WARNING: If you have set lower connection arms, before work, always check that the bolts are correctly inserted and properly blocked with safety pin!

6.5 SETTING OF REAR TOWING HOOK

Towing hook is intended for connection of towed implements, such as single- or double-axle trailers.

When you are performing connection for the first time, it is important to check that the towing hook on the tractor corresponds to towing and vertical load in point of connection of towed implement. If you believe that the tractor would be too unstable with installed implement, install suitable weights to increase stability.

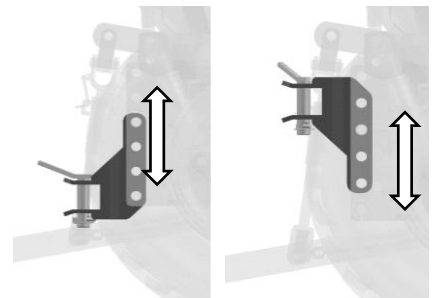
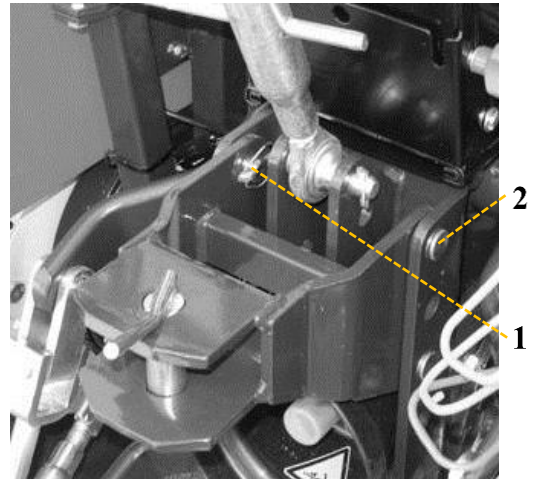
(see chapter "TRACTOR LOAD CALCULATIONS").

Setting of rear towing hook must be performed every time you connect an implement, which has differently distributed points as the previous implement.

To make the connection of towed implement easier, the towing hook is designed to enable height setting.

To set height of towing hook:

- Drive the tractor to implement, which you want to connect.
- Remove safety pin (1) on all four bolts.
- Remove bolts (2).
- Set height of towing hook to desired position. If not possible any other way, let somebody help you with the setting.
- When the setting is done, insert bolts (2) and block them with corresponding safety pins (1).



WARNING: If you have set rear towing hook, before work, always check that the bolts are correctly inserted and properly blocked with safety pin!



DANGER: If the towing hook is damage, do not connect towed implement!

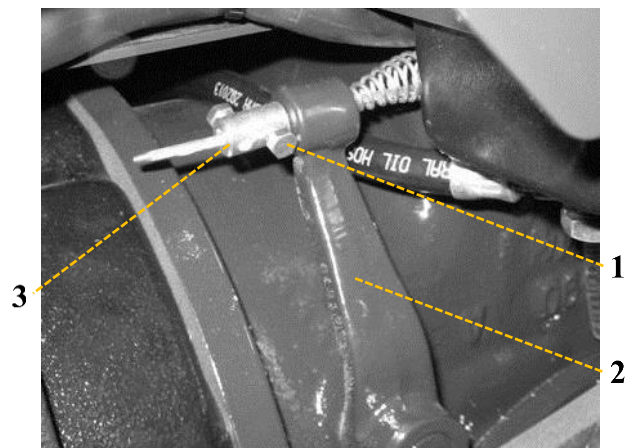
6.6 SETTING OF CLUTCH PEDAL

Clutch discs eventually wear out, which makes clutch pedal travel too tight, therefore, it is recommended to occasionally check the pedal or its travel by depressing it.

If the pedal travel is too tight, it must be according to following procedure:

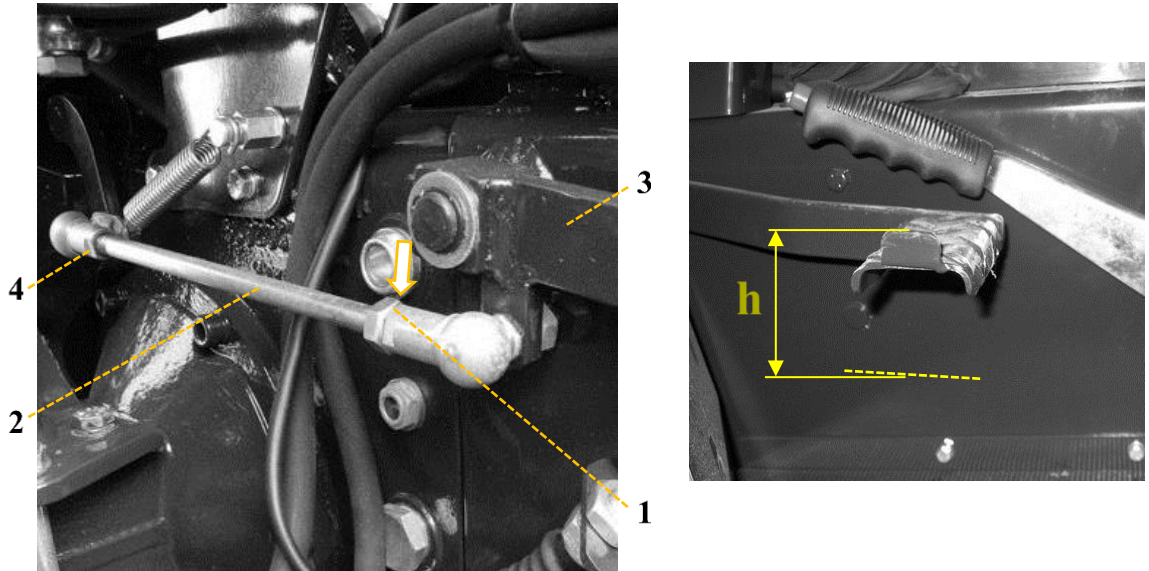
Tractor version AGT 830/835

- Unscrew bolts (1).
- Push lever (2) and set safety guide (3) to desired length to achieve suitable travel of pedal.
- Tighten bolts.
- Depress the pedal to check it. Clutch pedal must, for proper functioning of disc in the clutch, have approximately 10 mm of free travel upon pressure. Otherwise, repeat the procedure.



Tractor version AGT 835 T/S

- Use suitable tool to remove safety (1).
- Remove lever (2) from pedal lever (3).
- Unscrew safety bolt (4) on lever.
- Set the lever to suitable length by turning it, to achieve suitable free travel of the pedal.
- Tighten safety bolt (4).
- Set lever back on pedal lever and secure it with safety (1).
- Depress the pedal to check it. Clutch pedal must, for proper functioning of disc in the clutch, have approximately 10 mm of free travel (h) upon pressure. Otherwise, repeat the procedure.

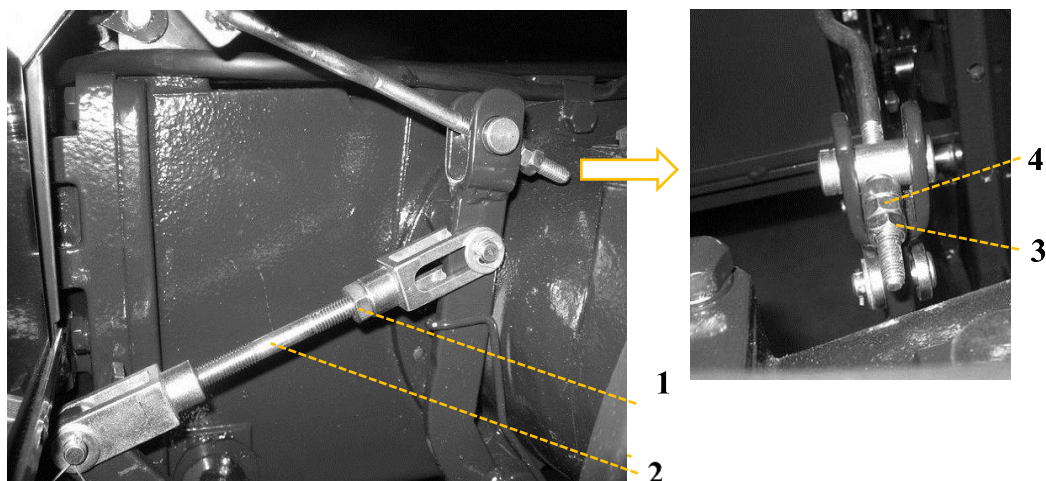


WARNING: Do not use the tractor, if the pedal travel is too tight, as this can cause serious wear due to tight fit of discs, which can consequentially cause clutch malfunction!

6.7 BRAKE SETTING

Brake wear out during tractor use, which eventually contributes to greater travel of pedal or lever of handbrake, which is also noticeable as reduced braking effect when braking. Therefore, it is recommended to set the brakes again. Perform brake setting according to following procedure:

TRACTOR VERSION AGT 830/835

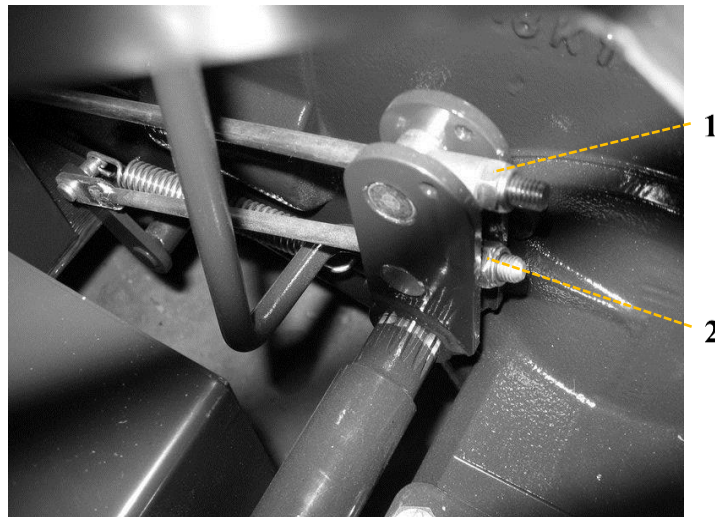


Foot brake setting

- Unscrew safety nut (1).
- Rotate lever (2) to set suitable free travel of pedal.
- Tighten safety nut (1).
- Depress the pedal to check it. Brake pedal must have approximately 20 mm of free travel (h) upon pressure.
- Correct setting is performed when, during tractor movement in neutral position, wheels do not block or brakes do not overheat. Otherwise, repeat the procedure.

Handbrake setting

- Unscrew safety nut (3).
- Rotate nut (4) to set suitable travel of handbrake lever.
- Tighten safety nut.
- Pull the lever to check it. Handbrake lever must have about two free teeth of travel, before the brake begins functioning. If the lever does not have sufficient travel upon pull, it must be set again.

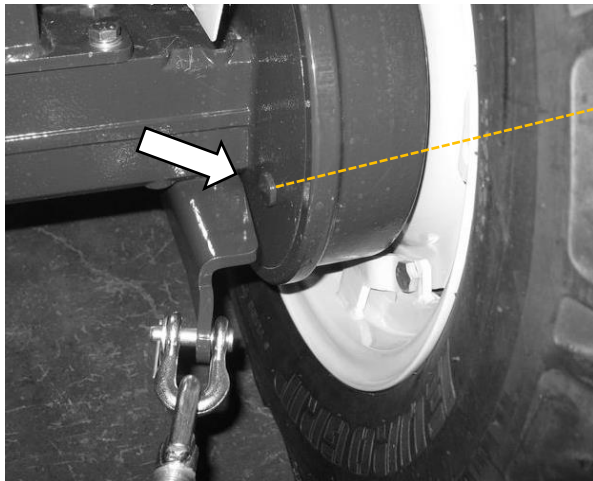
TRACTOR VERSION AGT 835 T/S**Foot brake setting (pedal stroke)**

- Rotate nut (2) to set suitable free travel of pedal.
- Depress the pedal to check it. Brake pedal must have approximately 20 mm of free travel (h) upon pressure.
- Correct setting is performed when, during tractor movement in neutral position, wheels do not block or brakes do not overheat. Otherwise, repeat the procedure.

Foot pedal fine adjustment

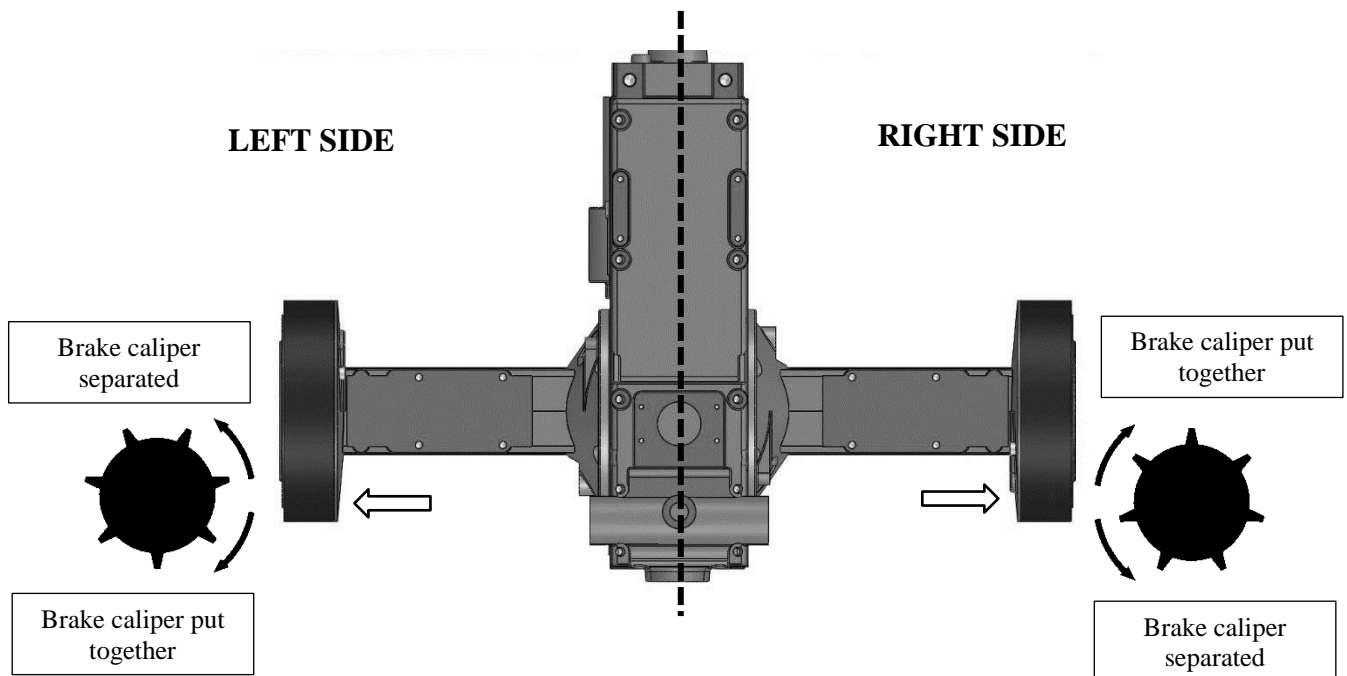
Fine adjustment is performed on brake drums on the rear axle of the tractor, by rotating the adjusting nut (2). This is done by the following procedure:

- Remove the protective plug (1);
- For setting the desired spacing of the caliper you need to use the right tool (screwdriver), and rotate the adjusting nut (2). By turning the nut counterclockwise direction you separate the brake caliper, while by turning in the clockwise direction the brake caliper is put together (see diagram);
- After completing the adjustment procedure, reinstall the protective plug;



- You have made correct setting if while tractor is moving in the neutral position, wheels do not block or brakes are not overheated, otherwise repeat the process.

Brake adjustment diagram



Handbrake setting

- Rotate nut (4) to set suitable travel of handbrake lever.
- Pull the lever to check it. Handbrake lever must have about two free teeth of travel, before the brake begins functioning. If the lever does not have sufficient travel upon pull, it must be set again.



WARNING: Do not perform brake setting so that the pedal or lever has insufficient travel, as this may overheating or even, during use, malfunction of brakes!



DANGER: During moving in neutral position, one person must always be in the tractor to ensure timely stopping in case of uncontrolled movement!



IMPORTANT: If you have not yet performed such or similar work, it is recommended that this is done by qualified persons!

7 USING THE TRACTOR

Upon first use, the driver can use the tractor only once he has read the instructions for use and maintenance, familiarized himself with operation of control elements and performed a test drive of the tractor. Knowledge of operation of all control elements is important for correct use of the tractor.

7.1 USING THE ROLL BAR

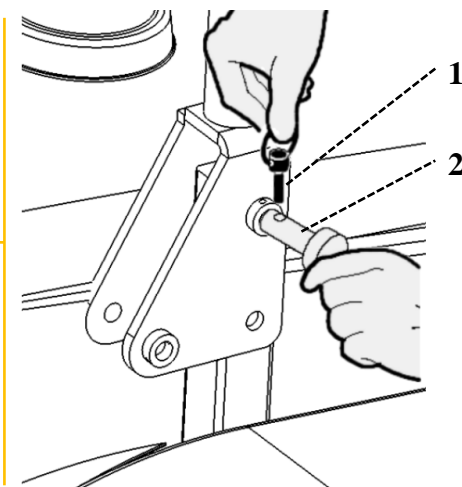
Before beginning work, always check that the roll bar is installed correctly in upright position. Lower the roll bar only when work requires it, and only in areas with no risk of rolling over.



DANGER: If you drive the tractor with lowered roll bar, do not use safety belt!

Procedure for lowering roll bar:

- Remove safety pin (1) and pull out bolt (2).
- Lower roll bar.
- Insert bolt (2) and safety pin (1) back and block the roll bar.
- When you have finished work, raise the roll bar and lock it into place in reverse order.



WARNING: In case of damage to or incorrect installation of roll bar, do not use the tractor for work!

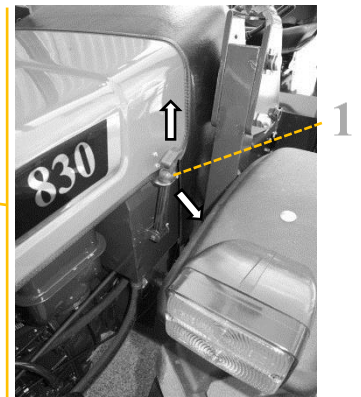
7.2 TRACTOR COVER

Raising tractor cover:

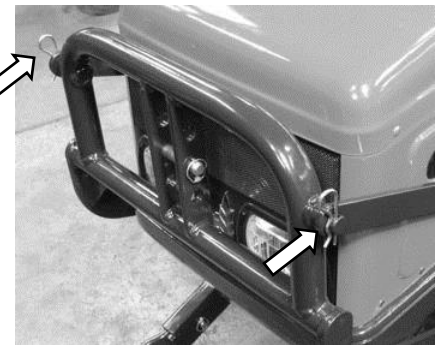
- Pull slightly and move to the side to release engine cover holders (1).
- Lift engine cover (2).

Lowering tractor cover:

- When you have finished working, lower the engine cover.
- Make sure that the rubber fits perfectly around the tank.
- Fit holders back to cover pins.



In case of installed front hydraulic lift mechanism, it is required, when opening engine cover, to release safety guard of front hydraulic lift. To do this, pull out carrying bolts and lower the guard to the ground.



7.3 USING TRACTOR HYDRAULICS

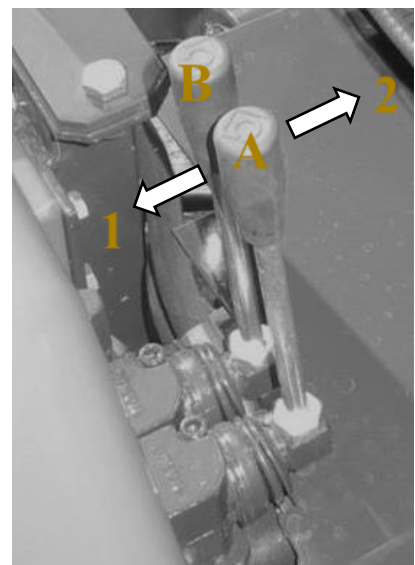
7.3.1 OPERATION OF LIFT MECHANISM

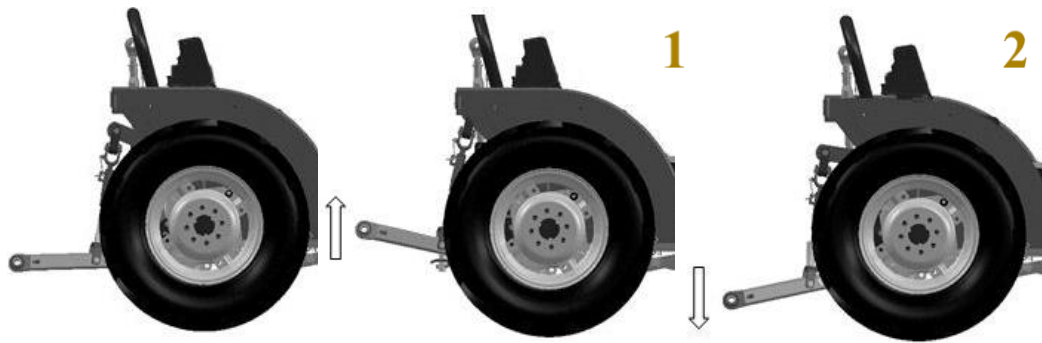
Operation is done with the help of hydraulics, which, with control element levers, controls hydraulic cylinders and lifts or lower hydraulic mechanism, see chapter "DESCRIPTION OF HYDRAULICS".

7.3.2 USING REAR HYDRAULIC LIFT MECHANISM

For control of rear hydraulic lift mechanism, control lever (A) is used. In case of installed front hydraulic lift mechanism (control element with three control levers), control lever (B) is used for control of rear hydraulic lift mechanism.

For operation, move control lever (A) in position (1), and the mechanism starts rising; in position (2), the mechanism starts lowering. For detailed description see chapter "DESCRIPTION OF CONTROL ELEMENTS FOR HYDRAULICS".

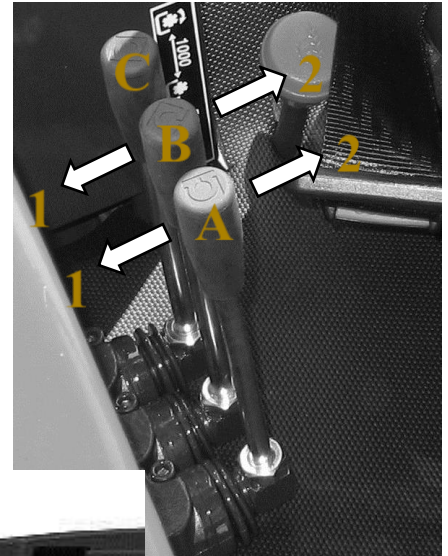




7.3.3 USING FRONT HYDRAULIC LIFT MECHANISM

For control of front hydraulic lift mechanism (control element with three control levers), control lever (A) is used.

For operation, move control lever (A) in position (1), and the mechanism starts rising; in position (2), the mechanism starts lowering. For detailed description see chapter "DESCRIPTION OF CONTROL ELEMENTS FOR HYDRAULICS".



7.4 TRACTOR START-UP

Tractor, which you have purchased, is ready for immediate use, but we recommend not loading the tractor to full capacity for **AT LEAST 20 WORKING HOURS**, because all moving parts have to settle properly. By adhering to this, you ensure effective and long use of the tractor.

In the first hours of operation, take following notes into account:

- When the engine is started, leave it running in idle for a few minutes.
- Do not expose the engine to excessive load in the beginning. If you do, do it gradually.
- Before shutting the tractor off, leave the engine running for a few moments.
- During the first working hours, regularly check engine oil level. After 50 hours of operation, change oil and oil filter.

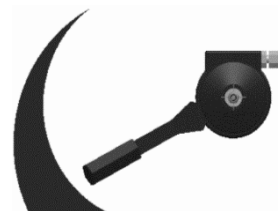
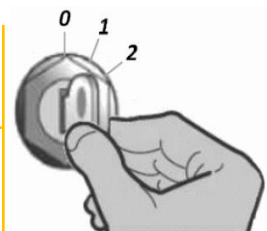
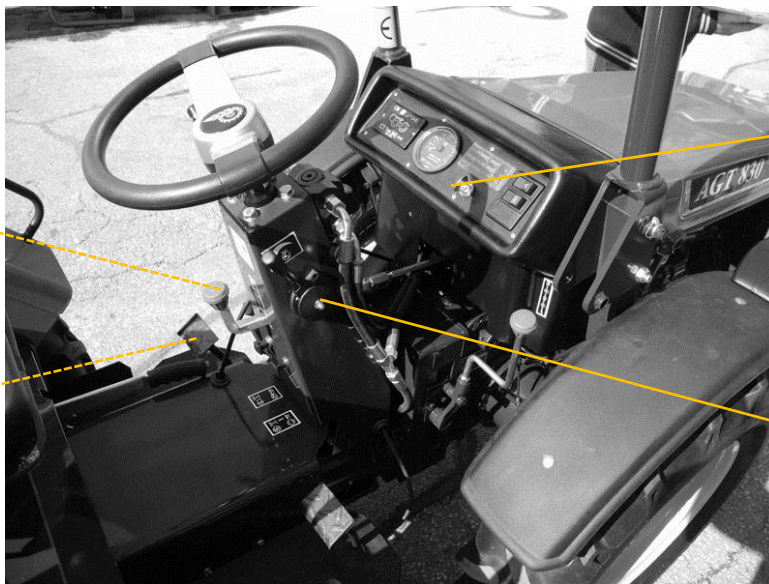
7.4.1 TRACTOR START-UP

Before starting the tractor, always check that there is enough oil in the engine, enough liquid in the radiator and enough fuel in the tank. All users, which are connected to electrical system (lights, wipers, fans etc.), must be turned off. Move the lever for change of driving direction (inverter) to neutral position. Use following procedure to start the tractor:

- Before start-up, move lever for connection shaft to neutral position (see chapter "DESCRIPTION OF CONTROL ELEMENTS FOR WORK – CONNECTION SHAFT").
- Move throttle lever (2) to middle of its travel.
- Depress clutch pedal (3).
- Insert key in main ignition switch and turn it to position 1. Control lights of electrical voltage, oil pressure in engine and glow plugs turn on.
- Wait for the control light of glow plugs to turn off and turn the key to position 2. When the engine starts, release the key (key automatically returns to position 1).
- Slowly release the clutch pedal and reduce throttle lever to minimal number of revolutions (it is recommended to perform this phase in 15 seconds after engine start-up).

If the engine does not start:

- To restart the engine, turn the key to position 0 and repeat the procedure.
- Before next start-up, wait at least 10 seconds for the starter to cool.
- Do not try starting the engine several times in a row to avoid damaging the starter.
- It is also recommended that you do not start the engine more than 6 times to avoid discharging the battery.



7.4.2 TRACTOR SHUTDOWN

If the tractor was exposed to longer period of load during work, leave it running in idle before shutting it down.

To shut the tractor down, follow procedure below:

- Deactivate connection shaft by shifting lever to neutral position.
- Reduce throttle lever to minimal number of revolutions.
- Move lever for change of driving direction (inverter) to neutral position.
- Pull lever for handbrake.
- Shut the engine off by turning the key to position 0 on main ignition switch and remove key.

7.4.3 TRACTOR START-UP WITH BATTERY AID

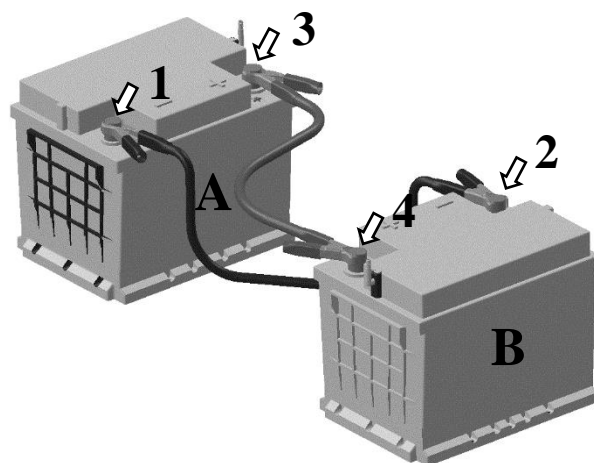
When the tractor does not start due to weak battery, you can use the battery of another vehicle. Both have to have rated voltage (12 V DC) and equal or greater current. Before connecting the tractor,

ensure that the devices comply, especially if you are connecting with auxiliary battery, to check correct installation of cables (grounding, connection of connectors) on other vehicle and sufficient amount of electrolyte in battery.

Turn off all unnecessary users of electrical energy with corresponding control elements and make sure that control levers are in neutral position, handbrake engaged and ignition key in position 0.

Perform the connection procedure in the following manner:

- Use suitable cables with protected connectors.
- Connect connector on the cable to positive pole of battery (+ or red colour) (3) and then to positive pole of auxiliary battery (4).
- Then connect the connector of second cable to negative pole of battery (– or black colour) (1) and then to negative pole of auxiliary battery (2).
- Start the engine on other vehicle and increase number of revolutions to approximately $\frac{1}{4}$ of power.
- Start the engine on the tractor according to normal procedure (see chapter "TRACTOR START-UP").



A - prazni akumulator

B - pomožni akumulator

If you have still not succeeded in starting the engine after this procedure, wait a few moments for the starter to cool and try again. Repeat this a few times (4-5 times), and if the engine still does not start, there is trouble with engine operation or electricity (consult a qualified mechanic regarding the problem).

	<p>WARNING: Always make sure that connection cables are correctly connected to batteries of other vehicles and tractor to avoid short-circuit!</p>
	<p>WARNING: Batteries release explosive gases during operation, therefore, prevent open flame or sparks in their vicinity. Battery acid is very corrosive – avoid contact!</p>

7.5 STARTING CONNECTION SHAFT (PTO)

Connection shaft is intended for direct drive of implement with tractor. Connection shaft drive can be done through engine revolutions. **Activate and deactivate lever for connection shaft only with clutch depressed.**

7.5.1 STARTING CONNECTION SHAFT

Perform connection shaft start procedure according to following procedure:

Tractor version AGT 830/835

Start the engine. To activate connection shaft (PTO), first, depress clutch and set lever for speed level selection of 540 or 1000 revolution to desired position (see chapter "DESCRIPTION OF CONTROL ELEMENTS FOR WORK – CONNECTION SHAFT").

When the lever is set to desired speed, slowly release the clutch until the connection shaft activates.

Tractor version AGT 835 T/S

Activate connection shaft with lever under the left fender (see chapter "DESCRIPTION OF CONTROL ELEMENTS FOR WORK – CONNECTION SHAFT"), which is used also for shorter deactivation during work, mostly at the end of lot when turning. Lever has two positions. In lower position, the connection shaft is deactivated, and in top position, it is activated.

Lever for speed level selection is on the right side, under the seat:

- Neutral position is in the middle.
- Move lever down for 540 rpm.
- Move lever up for 1000 rpm.

With each shift of gear level, stop the tractor, reduce engine revolutions to minimum and depress clutch. Move lever to desired position and slowly release clutch.



WARNING: If you have installed an implement on the tractor, before start-up, always check that safety pins of cardan shaft are locked, before starting the connection shaft!

7.5.2 CONNECTION SHAFT ROTATION

Connection shaft rotation is independent of driving direction (rotation direction when looking at the shaft).



If you are not using the connection shaft during work for more than 15 minutes, it is recommended that you turn it off by moving the lever to neutral. This prevents unnecessary turning of components of drive assembly.

7.5.3 CONNECTION SHAFT SHUTDOWN

Procedure of connection shaft shutdown is performed as follows:

- Depress clutch.
- In tractor version AGT 830/835, move lever to neutral position (see chapter "DESCRIPTION OF CONTROL ELEMENTS FOR WORK – CONNECTION SHAFT").
- In tractor version AGT 830/835, move both levers to neutral position (see chapter "DESCRIPTION OF CONTROL ELEMENTS FOR WORK – CONNECTION SHAFT").
- If you want to disconnect implements from the tractor, shut the engine off and activate handbrake.



WARNING: After connection shaft shutdown, vital parts of the implement still rotate due to their inertia weight. Wait and do not approach cardan shaft until it stops completely!

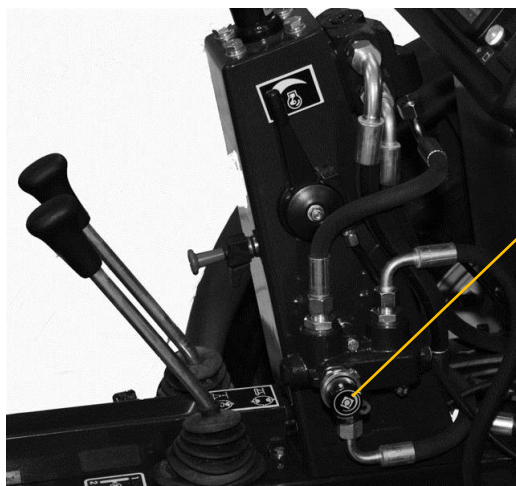
7.6 STARTING FRONT CONNECTION SHAFT (OPTION)

Front connection shaft is manufactured in special housing, together with hydrostatic clutch and reducer. Drive is executed from main engine shaft and, with the help of reducer, output number of revolutions on cardan shaft is 1000 rpm at engine 2650 rpm.

7.6.1 CONNECTION SHAFT STARTING

Cardan shaft starting is executed through hydrostatic clutch and is activated by hydraulic valve, installed on the right side of steering wheel column. Valve can be opened by turning the knob counter-clockwise, and the front connection shaft starts rotating. After connection shaft start, open valve by turning the knob all the way (to safety). By turning the knob clockwise, the valve is closed and connection shaft stopped.

Hydraulic system of front connection shaft has a built-in safety valve, which is set to 12 bar.



WARNING: Do not try to adjust the safety on the knob, as this may cause, due to excessive oil flow when using front connection shaft, a fault in functioning of rear hydraulics on lift mechanism!

7.6.2 CONNECTION SHAFT ROTATION

Connection shaft rotation is independent of driving direction (rotation direction when looking at the shaft).

If you are not using the connection shaft during work for more than 15 minutes, it is recommended that you turn it off by turning the knob. This prevents unnecessary turning of components of drive assembly.



7.7 PREPARATION OF TRACTOR FOR ROAD

Tractor can be used on the road only when it is technically flawless and has passed roadworthiness test and is registered, where the driver must be holder of corresponding driver's license.

Before driving on the road, all moving parts must be secured. If you are using the tractor with an implement, which exceeds allowed dimensions, fit it with safety designations. During driving, implement must be fixed in top position.

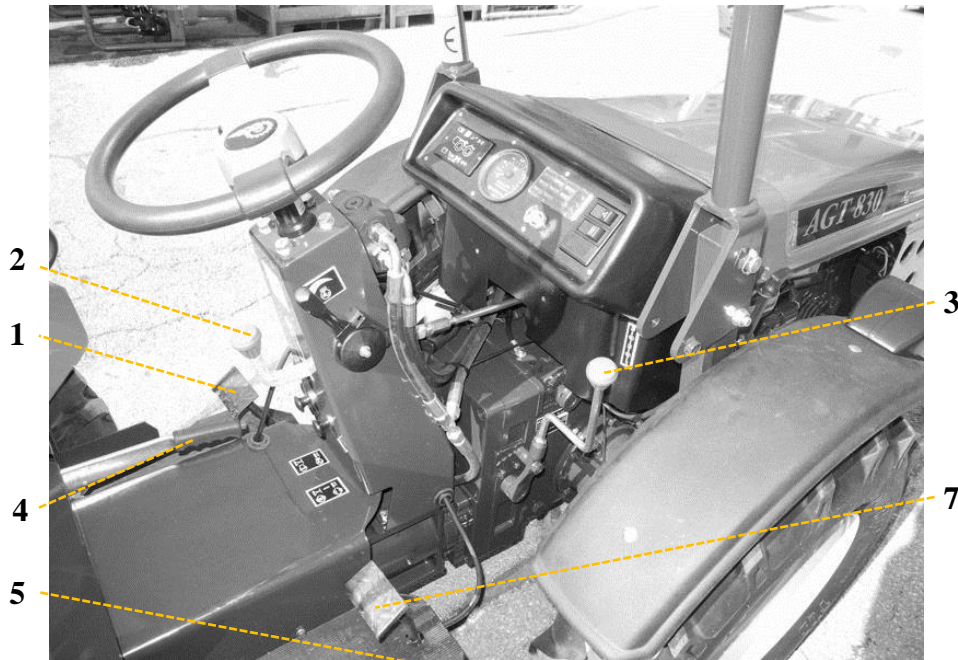
When driving the tractor on the road, always:

- Check flawless operation of light signalling and instruments.
- Connect brake pedals, so that braking during driving is distributed to all four wheels (see chapter "DESCRIPTION OF CONTROL ELEMENTS FOR DRIVING – PEDALS").
- Unlock differential.

7.7.1 DRIVING THE TRACTOR

To start driving the tractor, heed to recommended start-up procedure, described below:

- Depress clutch pedal (1) and hold it.
- Start tractor engine (see chapter "TRACTOR START-UP").
- Use lever (2) to select speed group and driving direction.
- Use lever (3) to select desired gear.
- Release handbrake (4).
- Slowly release clutch pedal (1) (engine revolutions as low as possible) and gently depress throttle pedal (5), until the tractor starts off.



When releasing the clutch pedal, when the gearbox is in certain gear, be careful not to release the pedal suddenly. After tractor start-up, completely release clutch pedal, do not depress it slightly, as this can greatly wear clutch discs.

To balance tractor speed during driving, use suitable control levers and pedals for throttle, clutch and brake (7).



IMPORTANT: Never keep the clutch pedal depressed for a long time. In such case, move the lever for changing driving direction to neutral position and release clutch pedal!

7.7.2 STOPPING THE TRACTOR

Tractor must always be stopped or parked where it does not obstruct or endanger other participants in road traffic. When stopping the tractor, follow the procedure below:

- Release throttle pedal to reduce tractor speed.
- To stop the tractor, depress clutch pedal and brake pedal.
- Move shift lever to lowest gear.
- Turn off switch of rear connection shaft (if you are using it).
- Engage handbrake.
- Shut the engine off by turning the key to position 0 (see chapter "TRACTOR SHUTDOWN").

7.8 IMPLEMENT

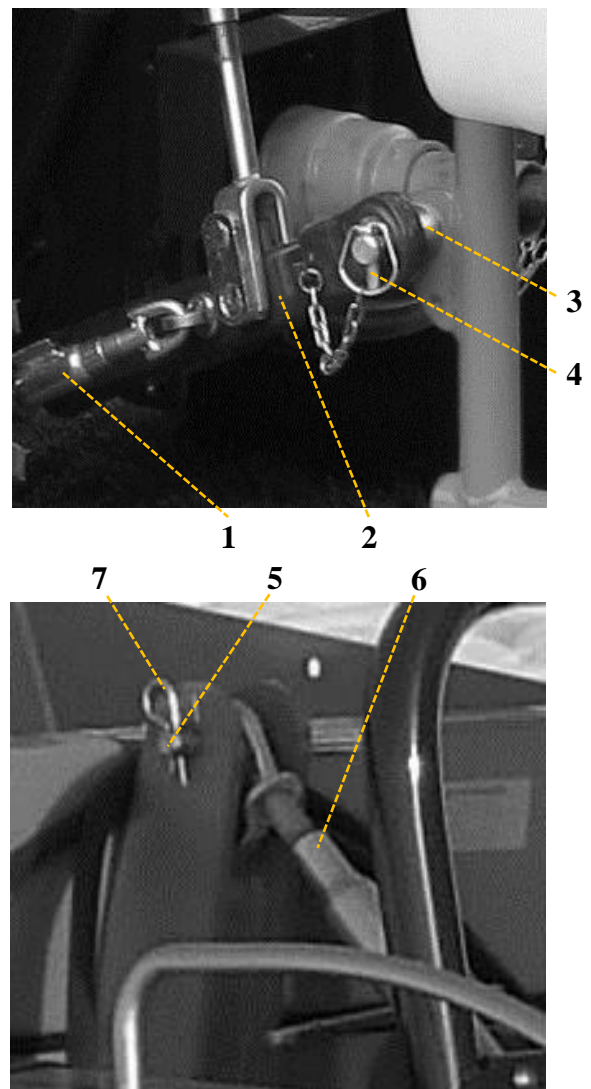
7.8.1 CONNECTION AND DISCONNECTION OF IMPLEMENT ON REAR HYDRAULIC LIFT MECHANISM

Connection and disconnection of implement on rear hydraulic lift mechanism of the tractor is normally done by the user, but it is possible for somebody else to help, who indicates the driver or user the accuracy of nearing the tractor to the implement. During connection or disconnection, this person must always be in an area with no direct danger of contact. Connection or disconnection of implement on the tractor is always performed on flat and solid ground.

Connection procedure is described by assuming that the rear hydraulic lift mechanism is already adjusted to implement. Otherwise, setting must be performed again (see chapter "SETTING REAR HYDRAULIC LIFT MECHANISM").

Connect the implement to tractor as follows:

- Move the tractor to the implement.
- Use the lever on control element to set lower connection arms to same height as connection on the implement.
- Stop the tractor and ensure adequate safety.
- Unscrew lateral tensioners (1), until the arms are loose (see chapter "SETTING LATERAL TENSIONER").
- Install lower connection arms (2) to bolt of implement (3) and secure with safety pin (4).
- Use the bolt (5) to install top connection bar or cross bar (6) to third point of implement and secure with safety pin (7).
- Use the lever on control element to raise the implement. If the implement is not parallel to the surface, set proper length of top connection bar (see chapter "SETTING OF TOP CONNECTION BAR OR CROSS BAR").
- Fold support legs on the implement (if any).
- Tighten lateral tensioners to prevent implement oscillation (see chapter "SETTING LATERAL TENSIONER").
- Connect all electrical and hydraulic connections of the implement to tractor connection system.
- Connect cardan shaft to connection shaft of tractor and implement (see chapter "CONNECTING REAR CARDAN SHAFT").



WARNING: When you have set the cardan shaft, always check that the safety pins are securely locked. Incorrect installation can cause serious injury, even fatal!

Disconnection

When disconnecting, take into consideration that the ground for this procedure is flat and solid, that the implement is positioned well and stable in independent position, and make sure that it does not obstruct and endanger others.

Disconnect the implement from the tractor as follows:

- Stop the tractor.
- Lower support legs (if any).
- Use the lever on control element to lower implement to the ground.
- Shut down tractor engine.
- Disconnect all electrical and hydraulic connections from tractor connection system.
- Disconnect cardan shaft from the connection shaft of tractor and implement (see chapter "DISCONNECTING REAR CARDAN SHAFT").
- To remove top connection bar or cross bar from third point of implement, first remove the safety pin and then bolt.
- Disconnect top connection bar from the implement and install it back on the safety on the tractor (if any). Otherwise, disconnect it also from the tractor and place it on a suitable spot.
- Unscrew lateral tensioners, so that arms become loose again.
- Remove safety pins and disconnect lower connection arms from implement bolts.
- Remove implement.



WARNING: During connection and disconnection be careful of crushing of body parts!

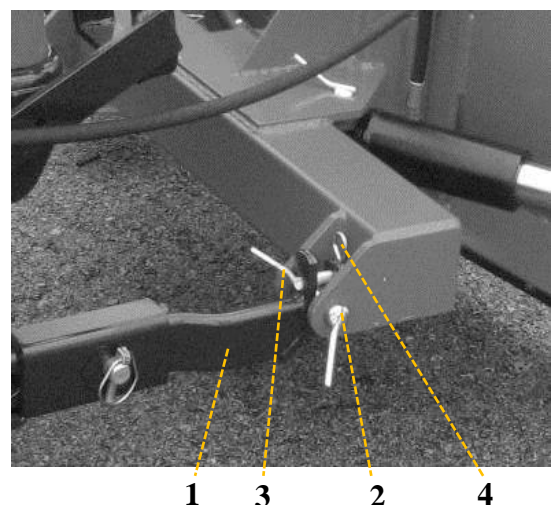
7.8.2 CONNECTION AND DISCONNECTION OF IMPLEMENT ON FRONT HYDRAULIC LIFT MECHANISM

Connection and disconnection of implement on front hydraulic lift mechanism of the tractor is normally done by the user, but it is possible for somebody else to help, who indicates the driver or user the accuracy of nearing the tractor to the implement. During connection or disconnection, this person must always be in an area with no direct danger of contact. Connection or disconnection of implement on the tractor is always performed on flat and solid ground.

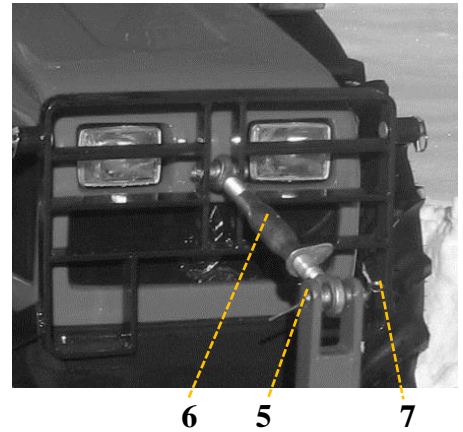
Connection procedure is described by assuming that the front hydraulic lift mechanism is already adjusted to implement. Otherwise, setting must be performed again (see chapter "SETTING FRONT HYDRAULIC LIFT MECHANISM").

Connect the implement to tractor as follows:

- Move the tractor to implement.
- Use the lever on control element to raise lower connection arms (1) so that pins on ends precisely fit under the bolt (2) on the implement.
- Fix lower connection arms on the implement by inserting bolt (3) in the pin and blocking it with safety pin (4).
- Use bolt (5) to install top connection bar or cross bar (6) to third point of implement and secure it with safety pin (7).



- Use the lever on control element to raise the implement. If the implement is not parallel to the surface, set proper length of top connection bar (see chapter "SETTING OF TOP CONNECTION BAR OR CROSS BAR").
- Connect all electrical and hydraulic connections of implement to tractor connection system.
- If you own tractor version with built-in front connection shaft, you can, according to work requirements, also connect cardan shaft to tractor and implement (see chapter "CONNECTION OF REAR CARDAN SHAFT").
- Fold support legs (if any).



Disconnection

When disconnecting, take into consideration that the ground for this procedure is flat and solid, that the implement is positioned well and stable in independent position, and make sure that it does not obstruct and endanger others.

Disconnect the implement from the tractor as follows:

- Stop the tractor.
- Lower support legs (if any).
- Use the lever on control element to lower implement to the ground.
- Shut down tractor engine.
- Disconnect all electrical and hydraulic connections from tractor connection system.
- Disconnect cardan shaft from connection shaft of tractor and implement (see chapter "DISCONNECTION OF FRONT CARDAN SHAFT").
- Disconnect top connection bar from implement and tractor.
- Remove pins and lower lower connection arms.
- Remove implement.

7.8.3 CONNECTION AND DISCONNECTION OF IMPLEMENT ON REAR TOWING HOOK

Connection and disconnection of implement on rear towing hook of the tractor is normally done by the user, but it is possible for somebody else to help, who indicates the driver or user the accuracy of nearing the tractor to the implement. During connection or disconnection, this person must always be in an area with no direct danger of contact. Connection or disconnection of implement on the tractor is always performed on flat and solid ground.

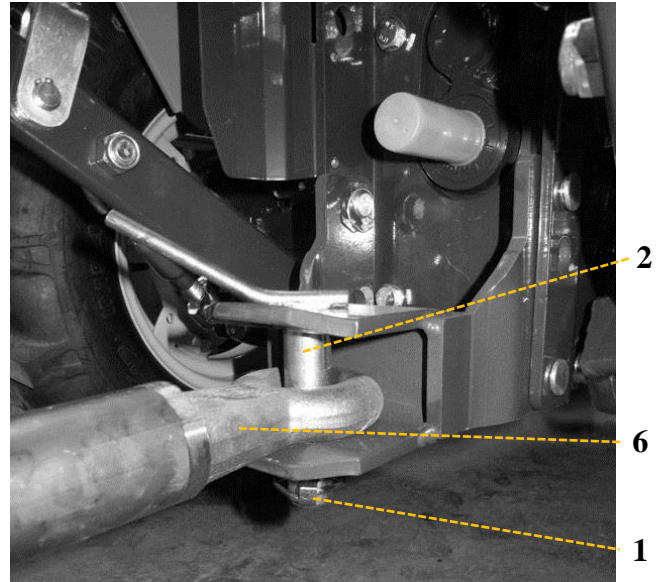
Connection procedure is described by assuming that the towing hook is already adjusted to implement. Otherwise, setting must be performed again (see chapter "SETTING HEIGHT OF REAR TOWING HOOK").

Connect towed implement as follows:

- Remove safety pin (1) on towing hook and remove bolt (2).
- Move the tractor to the implement.
- Set third support leg (3) so that the towing hook on the implement is at the same height as the towing hook on the tractor.
- Drive tractor back to point of bolt connection (hole in towing bar of implement is centrally aligned with hole of towing hook on the tractor).
- Shut down tractor engine.
- Insert bolt (1) and secure it with safety pin (2).
- Lift third support leg of the implement.

- Connect all electrical and hydraulic connections of the implement to tractor connection system.
- Remove safeties of implement or release handbrake.

Cardan shaft can be connected only, if the geometry of connection bar fits the connection and towing hook on the tractor is not set too high.



WARNING: When installing towed implement, always check that the bolt is correctly inserted and secured with safety pin!

7.9 CARDAN SHAFT (NOT DELIVERED)

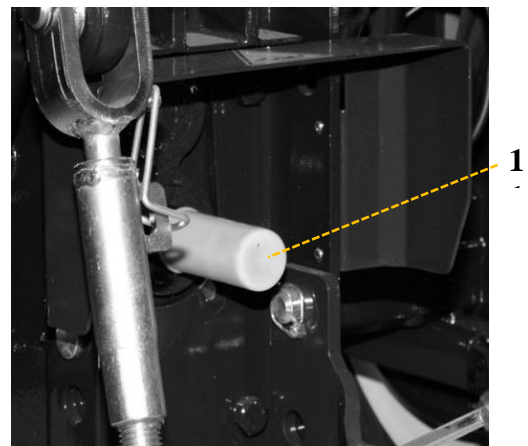
7.9.1 CONNECTION AND DISCONNECTION OF CARDAN SHAFT

Before connecting the cardan shaft, always shut down the tractor. When installing cardan shaft, output connection shaft can be manually turned, when the tractor engine is shut down, and lever for connection shaft in neutral position (see chapter "DESCRIPTION OF CONTROL ELEMENTS FOR WORK – CONNECTION SHAFT").

Connecting cardan shaft

Connection of cardan shaft to the tractor and implement (carried or towed) is performed as follows:

- Remove cardan shaft protection (1).
- Install cardan shaft to connection shaft of implement first, and then to connection shaft of tractor.
Push and pull cardan shaft forward and backward, until the safety pin locks. In the end, make sure that the safety pin is securely locked.
- Make sure that protective elements are in place and cover all rotating parts.
- Secure protected elements with chain to secure them from rotating.

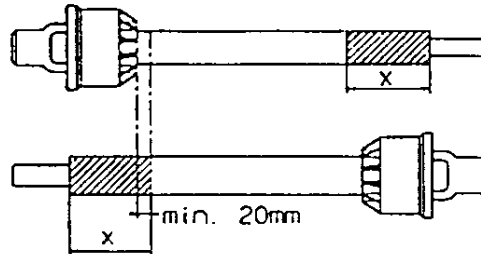


WARNING: Do not use cardan shaft without protective elements!

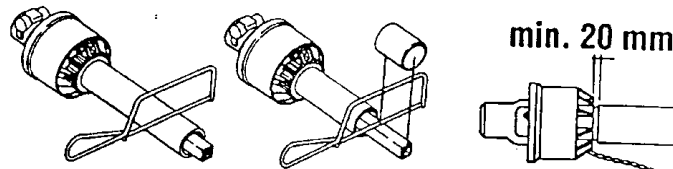


DANGER: If you connect the cardan shaft to tractor first and it suddenly engages, it can cause serious injury or death due to swinging!

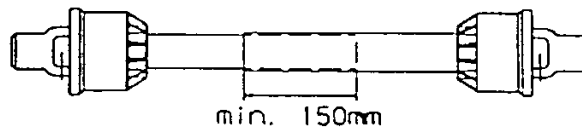
If the cardan shaft is too long and needs to be shortened, disassemble it and install each part individually on connection shaft of the tractor and connection shaft of the implement.



Measure the length, for which you have to shorten the cardan shaft, and mark position for cutting. Use proper tools to shorten both parts equally and do not forget to sand cut edges.



Install profiles and join both parts of cardan shaft.



WARNING: Reciprocal covering of cardan tubes must be minimum 150 mm!

Disconnecting cardan shaft

Disconnect cardan shaft from the tractor and implement (carried or towed) as follows:

- Remove chain, which secures protective elements from rotating.
 - Press the safety pin to disconnect cardan shaft from connection shaft on the tractor. Place the cardan shaft on a suitable place to avoid damaging it.
- Always disconnect the cardan shaft from tractor connection shaft first and then from implement connection shaft.**
- Install protection of connection shaft.

7.10 CONNECTION OF TRACTOR

7.10.1 CONNECTION OF HYDRAULIC COUPLINGS

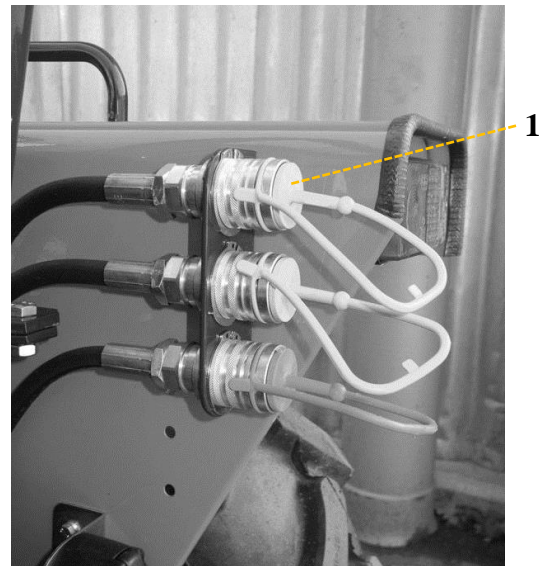
Before installing hydraulic connection tubes to hydraulic couplings, make sure that there is no residual pressure in the hydraulic system by moving the lever up/down on the control element, with tractor engine off. Check that hydraulic couplings and hydraulic connection tubes are not damaged, and their length between the tractor and implement for unobstructed manoeuvring during work.

Hydraulic coupling is female, ½" in dimension, and enables connection of male connection tube, in accordance with system PUSH-PULL (ISO 7241-1), which means that the coupling automatically blocks male connection tube when pushing to connect and automatically releases male connection tube when pulling to disconnect

Rear hydraulic couplings

To connect hydraulic connection tubes:

- Remove safety covers (1) on hydraulic couplings.
- Insert hydraulic connection tubes (2) into hydraulic couplings of the tractor.
- After settings, start tractor engine and check that the hydraulic system operates perfectly.
- To level pressure in hydraulic cylinder of implement, move the lever on control element (up/down) a few times.



To disconnect hydraulic connection tubes:

- Shut down tractor engine.
- Release pressure from hydraulic system.
- Remove hydraulic connection tubes (2). Press tube forward to coupling and then pull it back hard to release it from the coupling.
- Install corresponding safety covers (1) back in hydraulic couplings. Before installing the covers back into couplings, clean them thoroughly.

Front hydraulic couplings (option)

Installation of hydraulic connection tubes to front hydraulic couplings is the same as the procedure above.



WARNING: Hydraulic couplings must always be clean and protected with protective covers!

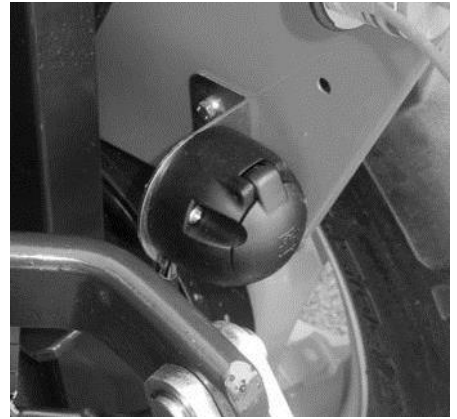


DANGER: Never connect or disconnect hydraulic connection tubes, when the engine is running!

7.10.2 ELECTRICAL CONNECTION

Perform electrical connection as shown in figure. First, lift safety flap on electrical connection of tractor and insert the cable. Disconnect in reverse order.

Before starting work, check operation of all electrical installation on the implement.



WARNING: Before connecting electrical installation of implement, the tractor must be shut down with ignition key removed from the main switch!

7.11 INSTALLING WEIGHTS AND EXTENSIONS

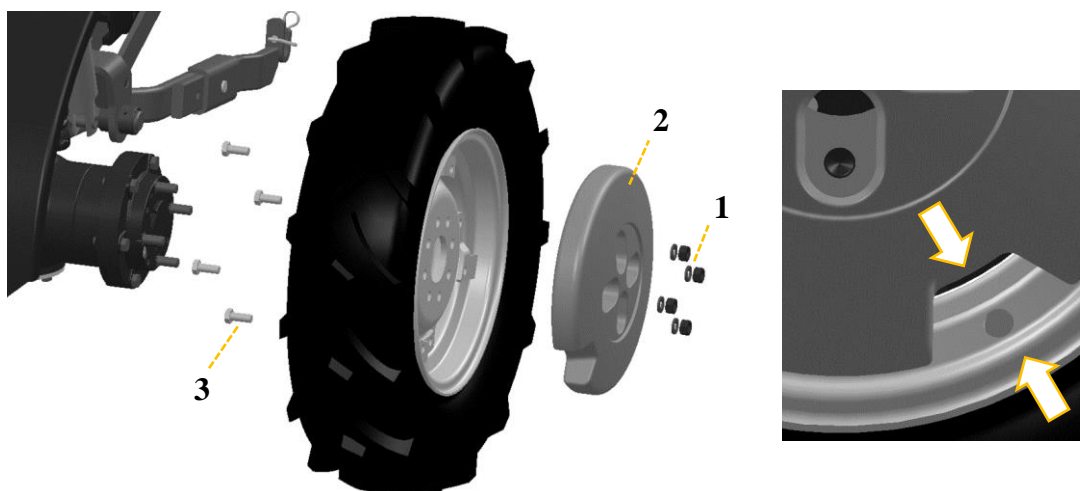
Installation and removal of weights or extension on the tractor can only be performed in places with ensured adequate safety (suitably equipped workshops).

7.11.1 INSTALLATION OF 40 KG WHEEL WEIGHTS

Due to too great external diameter, installation of 40 kg weight on 15 inch wheels is not possible. For these wheel dimension, 50 kg weights are used, which are narrower in external diameter.

Installation is performed as follows:

- Unscrew wheel nuts (1).
- Remove wheel (see chapter "INSTALLATION OF WHEELS").
- Install the weight (2) on external side of free wheel and fix it with bolts (3) from the other side.
- When installing weights, be careful that the notch precisely covers the valve for inflating tyres.
- Install the wheel back on the tractor.
- Tighten wheel nuts.
- Check that weights are installed correctly and repeat the procedure on other wheel.

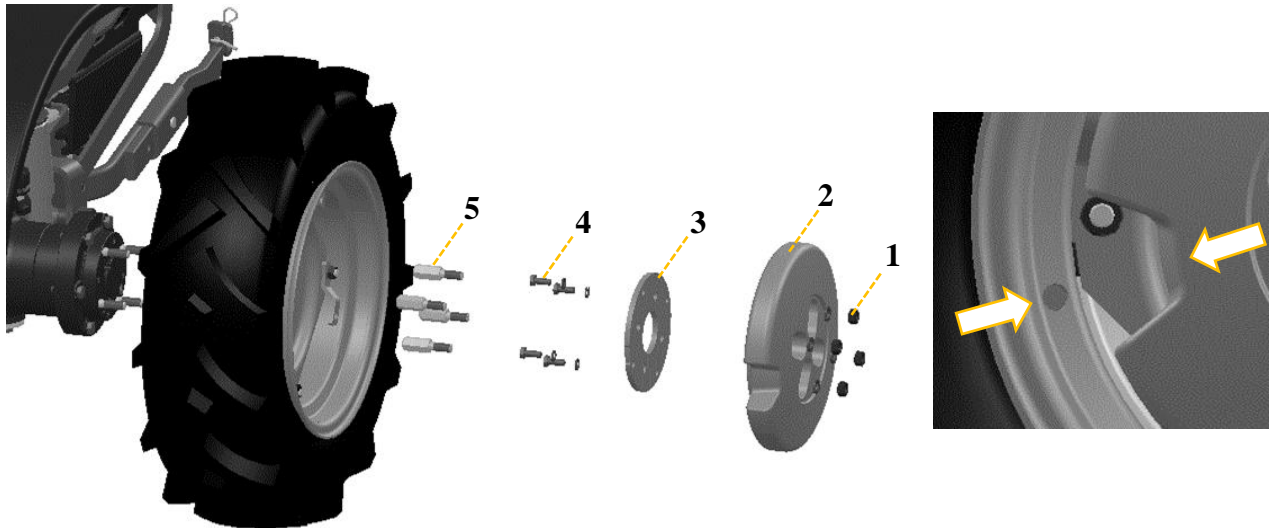


Remove weights in reverse order.

If the base plate on the rim is turned inward, then an additional spacer plate with special wheel spacer bolts is required for correct installation of wheel weights.

Installation is performed as follows:

- Unscrew wheel nuts (1) and remove wheel (see chapter "INSTALLATION OF WHEELS").
- Install plate (3) on the internal side of the weight (2) and secure it with bolts (4).
- When installing the plate on the weight, make sure that the notches align.
- Install the wheel back. Use special wheel spacer bolts (5) for securing it.
- Install weight (2) on wheel spacer bolts.
- When installing weight, make sure that the notch correctly covers valve for inflating tyres.
- Tighten wheel nuts (6).
- Check that weights are installed correctly and repeat the procedure on other wheel.



WARNING: When installing or removing weights, be careful to avoid crushing of body parts!



WARNING: Always install weights so that the tractor is equally distributed on both sides!

7.11.2 INSTALLATION OF 50 KG WHEEL WEIGHTS

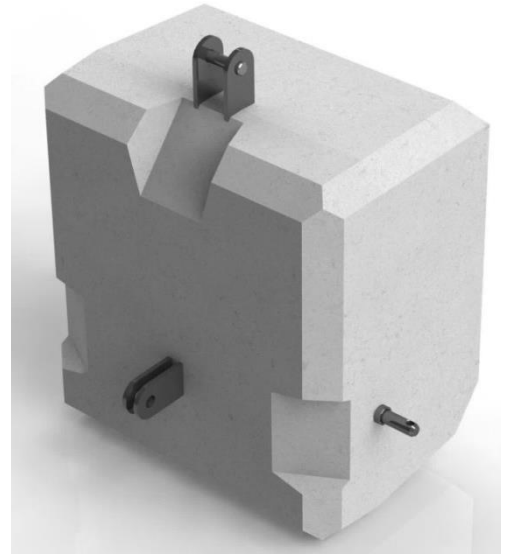
Intended for 15 inch rims!



7.11.3 INSTALLATION OF 340 KG REAR WEIGHT

Installation of rear weight is performed the same as with connection of implement to rear hydraulic lift mechanism (see chapter "CONNECTION AND DISCONNECTION OF IMPLEMENT TO REAR HYDRAULIC LIFT MECHANISM").

During driving, rear hydraulic lift mechanism with weight must be raised, and when stopping the tractor, always lower the weight to the ground.



WARNING: After installing rear weight, always check that lower connection arms and top connection bar are correctly inserted on bolts and properly secured with safety pins!

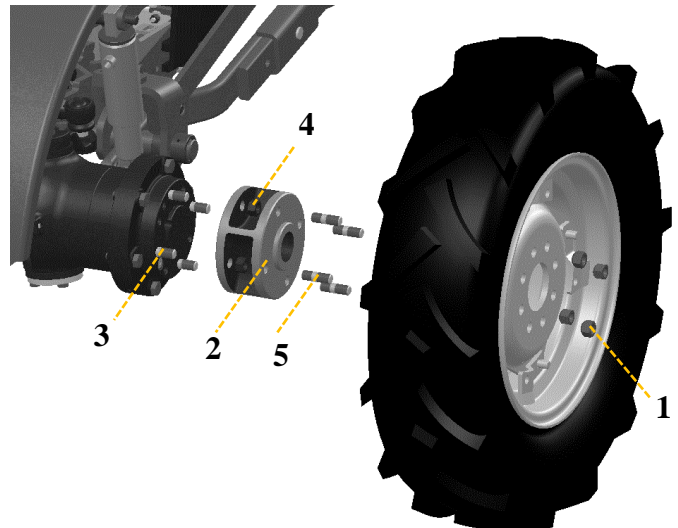
7.11.4 INSTALLATION OF WHEEL EXTENSIONS

Wheel extensions are installed symmetrically on tractor axle, directly on bolts of wheel reducer. There are two types:

1st type of wheel extension: adapted for short bolts (50 mm) with thread hole on the other side for wheel installation.

Installation is performed as follows:

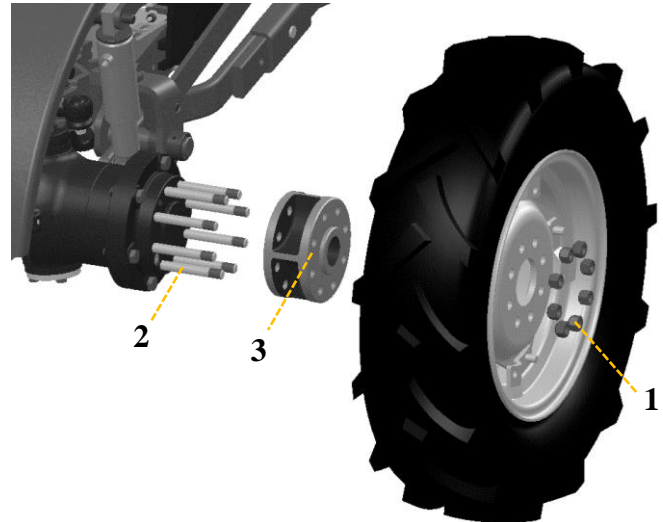
- Unscrew wheel nuts (1).
- Remove wheel (see chapter "INSTALLATION OF WHEELS").
- Install wheel extension (2) on bolts of wheel reducer (3) and tighten it with nuts (4).
- Install the wheel on bolts on extension (5). Beforehand, install bolts on extension (it is recommended that you lubricate bolts with protection before screwing them into extension).
- Tighten wheel nuts (1).



2nd type of wheel extension: adapted for long bolts (130 mm with thru-hole without thread).

Installation is performed as follows:

- Unscrew wheel nuts (1).
- Remove wheel (see chapter "INSTALLATION OF WHEELS").
- Replace short bolts with long (2) (it is recommended that, before reassembly, you clean thread holes and lubricate bolts with protection before screwing them into extension).
- Install wheel extension (3) on bolts of wheel reducer (2).
- Install the wheel on extension and tighten wheel nuts (1).



When installing wheels, use correct tightening torque.



WARNING: When installing wheel extension on the tractor, it is possible that the wheel (when turning) touches body parts of the tractor!

7.12 LONGER STANDSTILL AND RESTART

Storing before winter.

7.12.1 LONGER TRACTOR STANDSTILL

If you are not going to use the tractor for a longer period of time, ensure following measures and operation of certain vital elements:

- Start the engine and leave it running in idle for some time or until it warms up.
- Shut the tractor down, discharge old engine and replace it with new oil of the same type and also replace the oil filter.
- Clean the radiator and, if required, fill it with suitable cooling liquid.
- Fill the fuel tank with diesel fuel to prevent unnecessary condensate.
- Check fuel filter state and replace it, if required.
- Clean air filter.
- Remove battery, clean it and check charge. If required, charge the battery and store it in a dry and cold place.
- Use water to clean external tractor surfaces and, in case of scratches, paint them with suitable paint, to prevent rust.
- Metal surfaces, which cannot be painted, protect with lubricant or anti-corrosion agent.

Store the tractor in a dry protected area. If you are going to store the tractor outdoors, cover it with protective impermeable sheet. Because of tyres, it is recommended that you place the tractor where it is protected from direct heat and sunlight.

7.12.2 RESTARTING THE TRACTOR

Before restarting the tractor after a longer period, check all vital elements and make sure that they are in perfect working condition. It is especially important to perform following procedures before next use:

- Remove protective sheet (if the tractor was covered).
- Install charged battery back in its place and connect it.
- Check levels of all fluids (oil, cooling fluid, fuel).
- Check hydraulic system (sealing, hydraulic oil level).
- Start the engine and leave it running in idle for some time or until it warms up.
- Check effectiveness of all safety elements on the tractor.
- Check tyre pressure.
- If the tractor is dirty, clean it, especially driver's area.



WARNING: Do not start the tractor in closed areas or areas with poor ventilation, because exhaust gases can be very dangerous and can cause suffocation!

7.13 FILLING THE TANK

Tank capacity is 33 litres.

Use only diesel fuels, which meet the standards, provided by engine manufacturer (for detailed information see instructions for use of the engine).

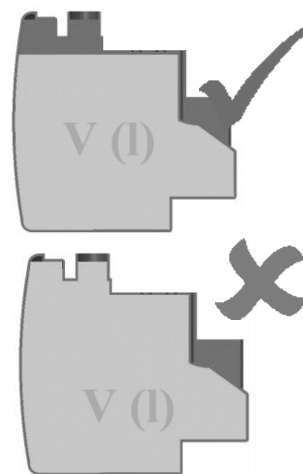
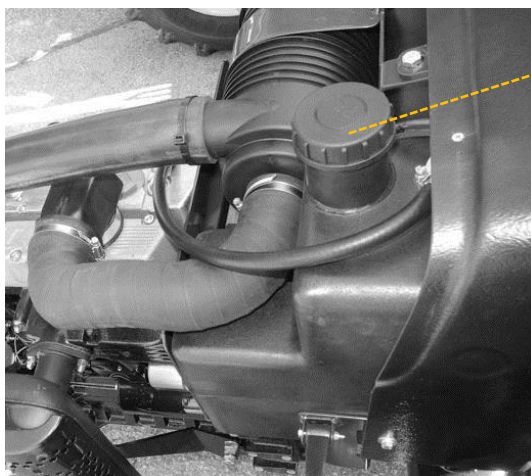


WARNING: Because the fuel is flammable, if it spills on hot surfaces or electrical parts, it can inflame and cause fire, therefore, never refuel near sparks or fire. Never smoke during refuelling!

It is recommended that you never empty the tank completely, as this breaks fuel supply in the entire system and must be bled.

Refuel as follows:

- Stop tractor engine.
- Unscrew cap on the tank (1).
- Fill tank with fuel (do not fill fuel to the edge).
- Reassemble the cap.



WARNING: Never refuel, when the tractor is running!



IMPORTANT: Do not leave the tank empty for too long, as this accelerates condensation!

8 TRACTOR MAINTENANCE

8.1 WHEELS

Due to size and load on tractor wheels, bear following points in mind when changing wheels:

- Before changing wheels, set the tractor on hard, flat surface.
- Engage parking brake and prevent the tractor from moving with safety wedges.
- Remove key to prevent unauthorized operation.
- When removing rear wheels, prevent movement of front axle with safety wedges or vice versa.

8.1.1 TRACTOR LIFT POINTS

Figure shows recommended lift points for lifting tractor with a hoist.



Figure of lower rear side of tractor

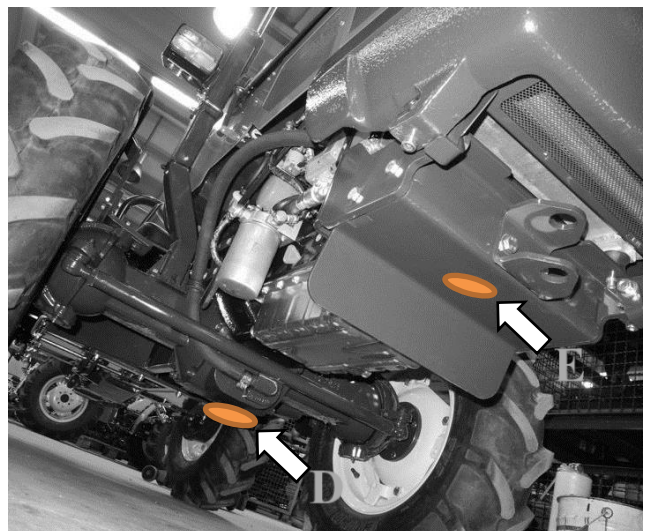


Figure of lower front side of tractor

A, B, C – Lift of rear part of the tractor.

D – Lift in centre of front axle, e.g. for lifting front part of the tractor.

E – Lift in point of front connection plate, e.g. for lifting front part of the tractor.



IMPORTANT: Lifting on axles is possible, but only if you use a suitable base, which fits sleeve housing. Otherwise, the tractor can slip and cause serious injury!

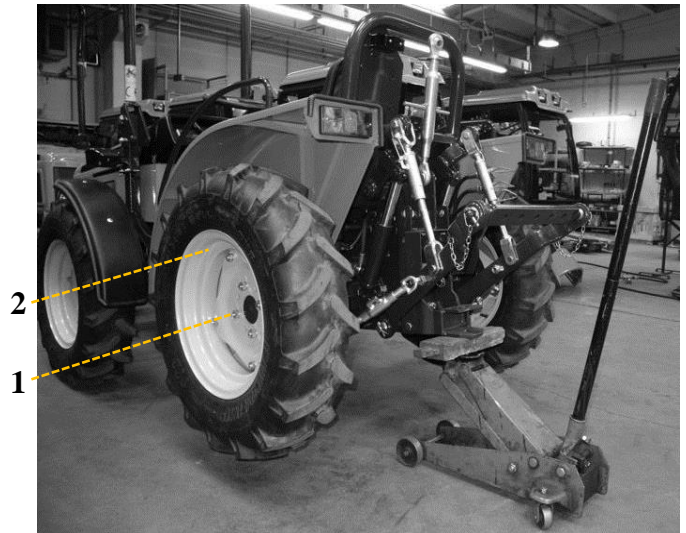
8.1.2 WHEEL MOUNTING

When lifting, use stable hoist with adequate lifting power. During lifting of the tractor, use only recommended lifting points (see chapter "TRACTOR LIFTING POINTS").

When installing wheels, support the tractor – use a suitable wheel support.

When the wheel is completely off the ground, stop lifting of the tractor, unscrew all nuts (1) and remove wheel (2).

When reassembling wheels, make sure that you use correct tightening torque.



WARNING: Do not start the tractor until you have completed changing the wheel!



WARNING: During removal of wheel, make sure that the tractor is supported safely. During changing of wheel, make sure that there are no persons in danger area!

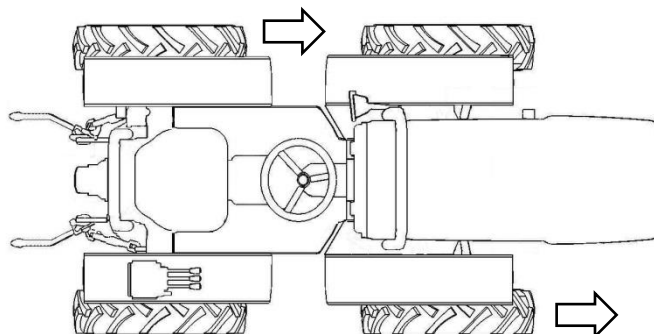
After setting track or just changing wheels, check tightness of nuts and, in case of setting, also bolts on rims on front and rear wheels with set torque:

- Front wheels, bolts on rims **M14x1.5 ⇒ 150 Nm (15 kgm)**
- Rear wheels, bolts on rims **M14x1.5 ⇒ 150 Nm (15 kgm)**
- Front wheel nuts **M16x1.5 ⇒ 210 Nm (21.4 kgm)**
- Rear wheel nuts **M16x1.5 ⇒ 210 Nm (21.4 kgm)**

Regularly check tightness of nuts on front and rear wheels according to set torque!

8.1.3 TYRES

Installation or removal of tyres must be performed by an expert with proper tools and heeding to safety instructions of tyre and rim manufacturer. If you are inflating the tyres yourself, use a connection with suitably long tube, which ensures sufficient distance from the tyres, so that you do not stand near it. For long life period and functioning, regularly check tyres (crack, cuts, protrusion, damaged rims etc.) and maintain pressure in them. Pressure in front and rear tyres is provided in chapter "TECHNICAL DATA".





WARNING: Never overinflate the tyres!

Tyre tread must be for road, always turned in direction of driving the tractor. With adjustable rims, where track can be changed, wheel can be moved to left and right.

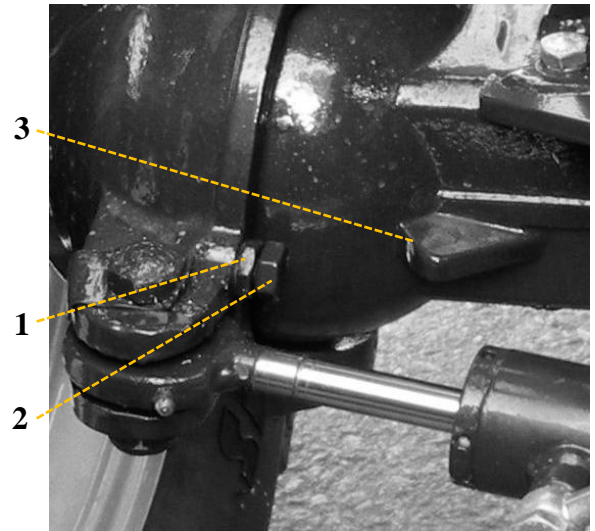
8.1.4 REST OF WHEEL END POSITION

Tractor version AGT 835 T/S

Rest is a safety of steering mechanism for unforeseen load, when the wheel is turned to bend end position.

Adjust rest as follows:

- Engage handbrake.
- Additionally secure tractor movement with safety wedges.
- Use hoist to lift front end of the tractor and fix it properly with supports.
- Turn the steering wheel to the left and right to end position of steering mechanism.
- Unscrew safety nut (1) and set bolt (2) to sleeve housing (3).



Tractor version AGT 830/835

This tractor version does not have a rest. End position of bend is limited by hydraulic cylinders, when they reach end point of travel.



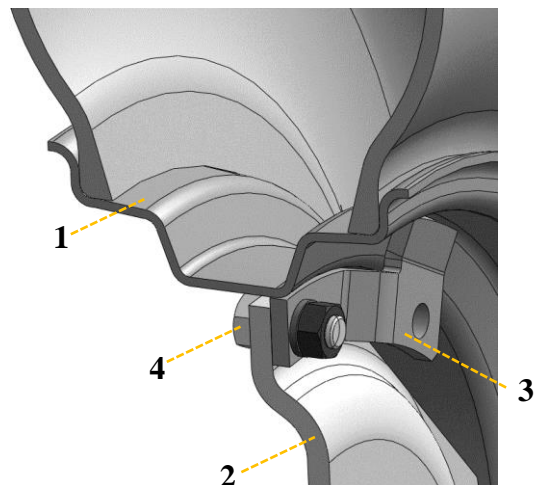
IMPORTANT: Rest is intended only for protection and must not touch sleeve at normal turning.

8.1.5 TRACK SETTING

Connective plate is asymmetrically welded to rim and enables fitting of base plate to two different positions on one side. If you turn the base plate and fit it to other side of connective plate, you get four possible ways of fitting rim and base plate.

If you install complete rim on wheel hub with inward or outward turned base plate, you get eight different distances between wheel centre and fitting surface of hub. This means eight different widths of track (see chapter "TYRE DIMENSIONS").

1. Rim
2. Base plate
3. Connective plate
4. Fastening bolt (spring washer and nut)



8.2 ELECTRICITY

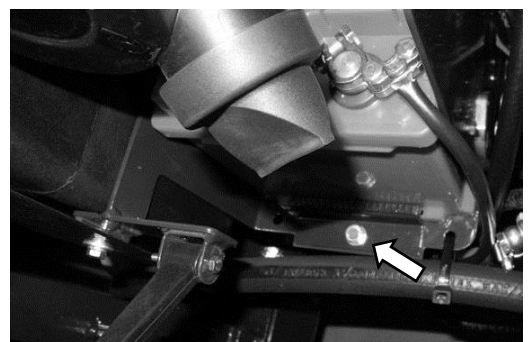
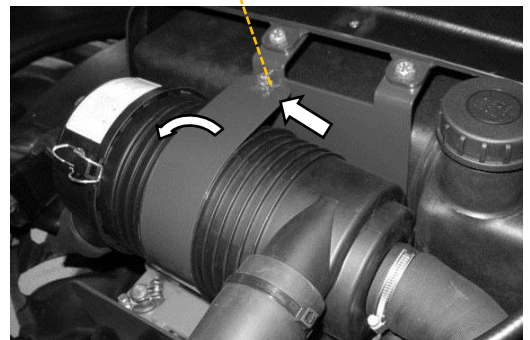
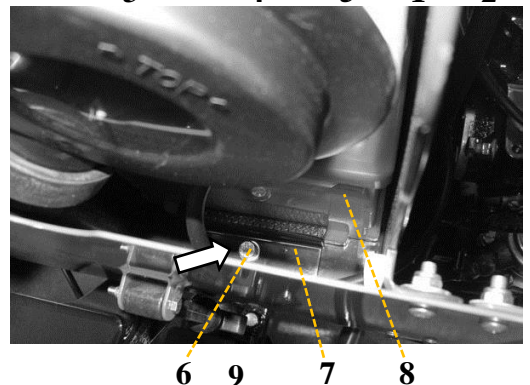
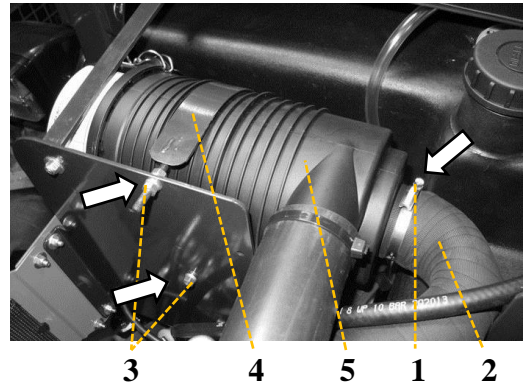
8.2.1 REPLACING THE BATTERY

Check battery charge or electrolyte level. If the battery is exhausted, replace it. With the new battery, check that dimensions and capacity match, as it must be equal or higher than the original.

Procedure of changing the battery:

Tractor version AGT 830/835

- Open tractor cover (main ignition switch must be off – position 0).
- If you have used the tractor, wait for it to cool down sufficiently.
- Unscrew nut (1) on clamp of air hose and remove hose (2) from filter housing.
- Unscrew nuts (3) on air filter holder (4).
- Remove air filter holder and air filter (5).
- Unscrew nut on holder (6).
- Remove battery holder (7).
- Unscrew and remove clamps, first from negative pole and then from positive.
- Remove battery (8) and install new battery.
- Reassemble clamps, first to positive pole (it is recommended to grease the clamp before assembly) and then to negative pole.
- Fit holder back to base.
- Tighten nut.
- Follow reverse order of the above to install the air filter.



Tractor version AGT 835 T/S

Procedure of changing the battery is similar to the one described above, only difference is that this tractor version does not require air filter to be removed, as it moves forward after unscrewing nut (9) and enables free path for removing air filter.

Do not throw away used batteries in the trash, but take them to designated collection points, which recycle them in accordance with legislation in force.



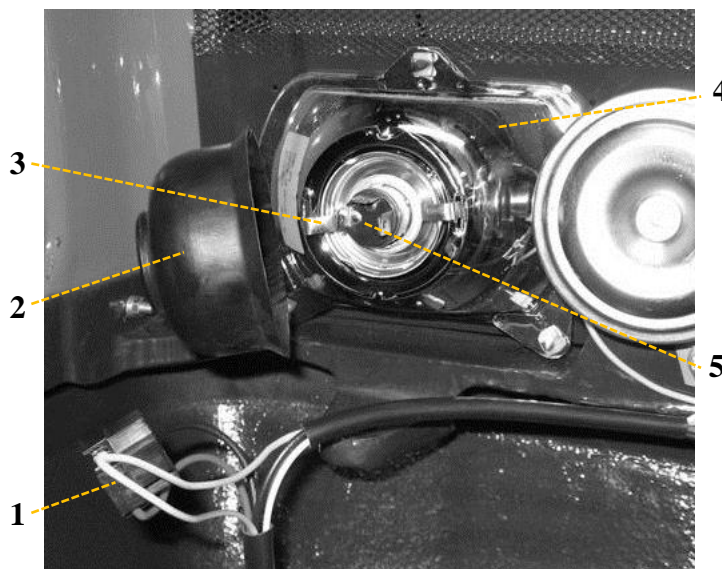
WARNING: Always make sure that clamps are connected correctly to the battery (+ and –) to prevent short circuit!

8.2.2 CHANGING BULBS

Front headlights

Change the bulb as follows:

- Raise engine cover.
- Pull out connector (1).
- Remove rubber protective cover (2).
- Slightly turn spring safety of bulb (3) to the left and remove it from headlight housing (4).
- Pull out bulb.
- Insert new bulb. Make sure that it is turned correctly (position pins must fit precisely to corresponding notches in headlight housing).
- Reassemble spring safety, turn it to the right and close (bulb fixed).
- Assemble rubber protective cover and make sure that it fits correctly to headlight housing.
- Insert connector back to bulb disc contacts.
- Close engine cover.

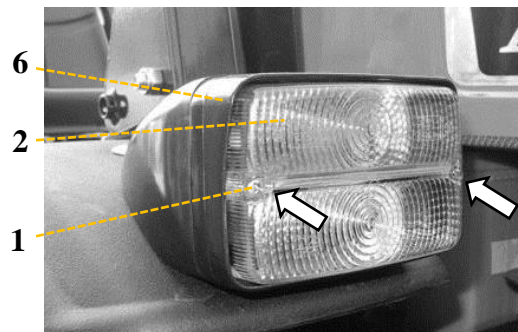


Front headlights, for road traffic, use bulbs of type H5 12V 45/40W ⇒ two-pole bulb (high – low beam).

Side lights

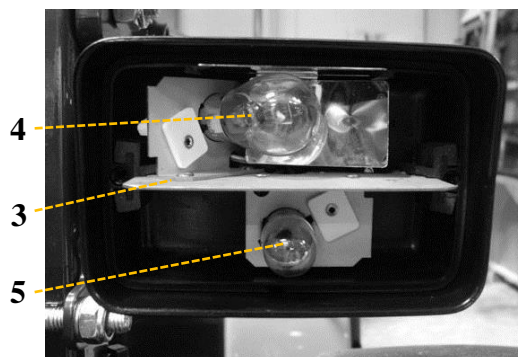
Change the bulb as follows:

- Use a screwdriver to evenly unscrew screws (1) on each side.
- Remove transparent part of light (cover) (2).
- For easier changing, you can move the bulb holder (3) outwards.
- Gently press on the bulb (4 or 5), which you want to replace and, at the same time, turn it counter clockwise.
- Pull out the bulb and replace it with a new one.
- Insert new bulb all the way and fix it with gentle pressure and turning in clockwise direction.
- Assemble transparent part of light (cover) and fasten it with two screws on light housing (6).



Side light is constructed from two parts, where two types of bulbs for position and indicator are installed:

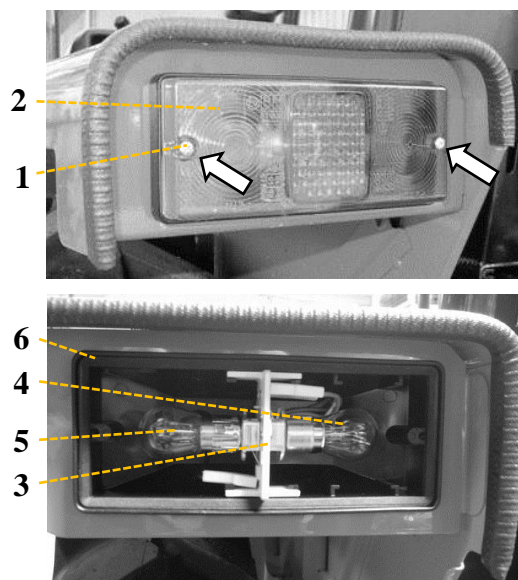
- Position light (4), bulb type R5 12V 5W (single cord)
- Indicator (5), bulb type P21 12V 21W (single cord)



Rear lights

Change the bulb as follows:

- Use a screwdriver to evenly unscrew screws (1).
- Remove transparent part of light (cover) (2).
- For easier changing, you can move the bulb holder (3) outwards.
- Gently press on the bulb (4 or 5), which you want to replace and, at the same time, turn it counter clockwise.
- Pull out the bulb and replace it with a new one.
- Insert new bulb all the way and fix it with gentle pressure and turning in clockwise direction.
- Assemble transparent part of light (cover) and fasten it with two screws on light housing (6).



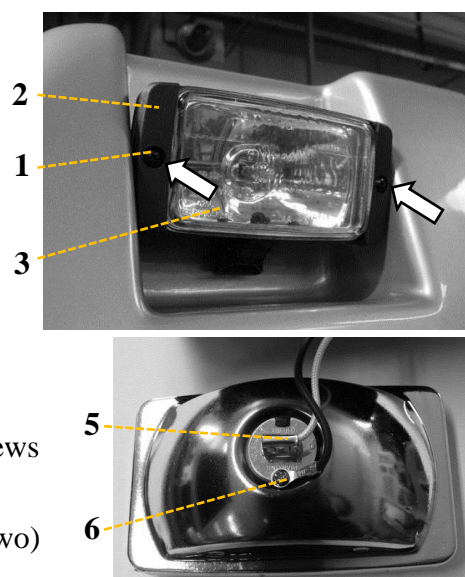
Rear light is constructed from two parts, where two types of bulbs for position, brake light and indicator are installed:

- Position and brake light (4), bulb type P21 12V 21W (double cord)
- Indicator (5), bulb type P21 12V 21W (bulb type)

Work lights (cabin)

Change the bulb as follows:

- Use a screwdriver to unscrew screw (1) on each side.
- Remove light holder (2).
- Remove light (3) from the housing (4) and disconnect bulb cable (5).
- On the rear side, unscrew screw (6), which holds the bulb.
- Pull out bulb and replace it with a new one.
- Insert new bulb and fix it with screw (6).
- Reconnect bulb cable and light back to light housing.
- Install light holders (2) and screw the lights with screws (1).



Work lights are fitted with bulb type H3 12V 55W ⇒ front (two) and rear (two).

Internal light (cabin)

Change the bulb as follows:

- Use a screwdriver to unscrew screws (1) and remove cover (2).
- Remove bulb from contacts and replace it with a new one.
- Reassemble the cover and screw it with screws.

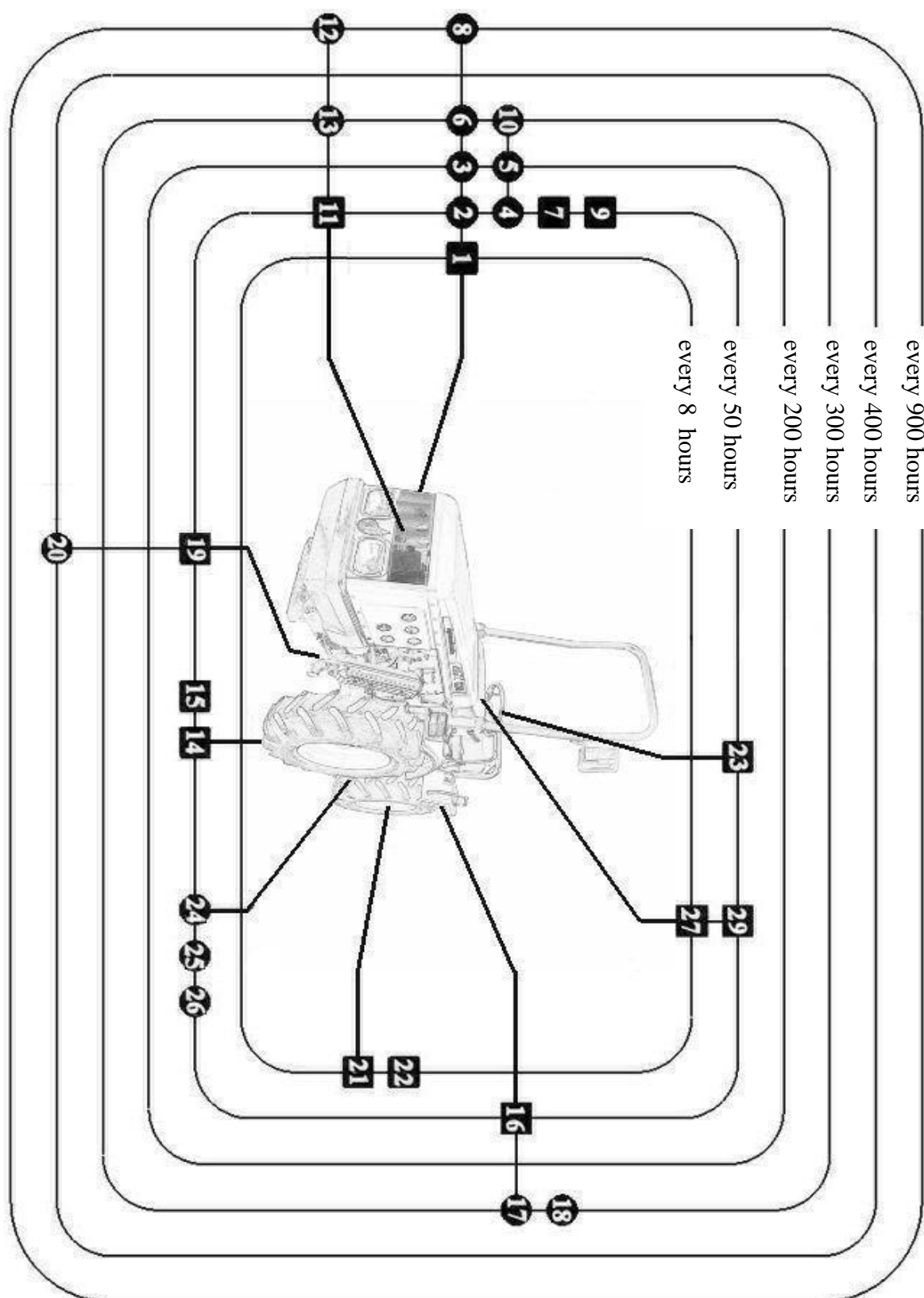


Internal light is fitted with bulb type K 12V 10W.



IMPORTANT: Installed bulbs can be replaced only with bulbs of same type with equal technical properties!

8.3 MAINTENANCE TABLE



	If required	Every 8 hours	Every 50 hours	Every 200 hours	Every 300 hours	Every 400 hours	Every 900 hours
ENGINE							
1. Check engine oil level		•					
2. First change of engine oil			•				
3. Change of engine oil - or once a year				•			
4. First change of oil filter			•				
5. Change of oil filter				•			
6. Change of fuel filter					•		
7. Check belt tension			•				
8. Change belt	•						•
9. Check air filter	•		•				
10. Change air filter insert	•				•		
COOLING SYSTEM							
11. Check cooling liquid level	•		•				
12. Change cooling liquid - or every three years							•
13. Clean radiator grill	•				•		
WHEELS							
14. Check tyre pressure	•		•				
15. Tighten wheel bolts	•		•				
TRANSMISSION AND HYDRAULIC SYSTEM							
16. Check oil level in gearbox			•				
17. Change oil in gearbox - or every 400 hours, depending on working conditions					•	•	
18. Change hydraulics oil filter - or every 400 hours, depending on working conditions					•	•	
AXLE FRONT PART							
19. Check oil level in differential			•				
20. Change oil in differential						•	
BRAKES							
21. Check braking		•					
22. Check free travel of handbrake and brake pedal		•					
HYDROSTATIC STEERING WHEEL							
23. Check hydraulic conductors	•		•				
LUBRICATION (MACHINE PARTS)							
24. Rear hydraulic lift bar axle (tractor version AGT 830/835)	•		•				
25. Front axle joint (tractor version AGT 835 T/S)	•		•				
26. Tractor bend axle (tractor version AGT 830/835)	•		•				
ELECTRICAL SYSTEM							
27. Check device functioning (lights, controls, indicators etc.)		•					
28. Change fuses, bulbs etc.	•						
29. Check battery	•		•				

8.4 CLEANING THE TRACTOR

Clean the tractor with water jet and be careful not to point to electrical parts, and especially at parts of the engine, where the air filter, alternator and starter are installed. If you decide to clean the engine, protect these parts with suitable covers.

As cleaning agent, use biologically degradable cleaning agents, which can be mixed with water.



WARNING: DO NOT use aggressive chemical agents or solvents based on hydrocarbons, especially not for plastic parts and painted surfaces!

Dry the tractor with compressed air, which is also suitable for cleaning or blowing out dusty areas. After cleaning, lubricate all greasers to protect slide surfaces from corrosion.

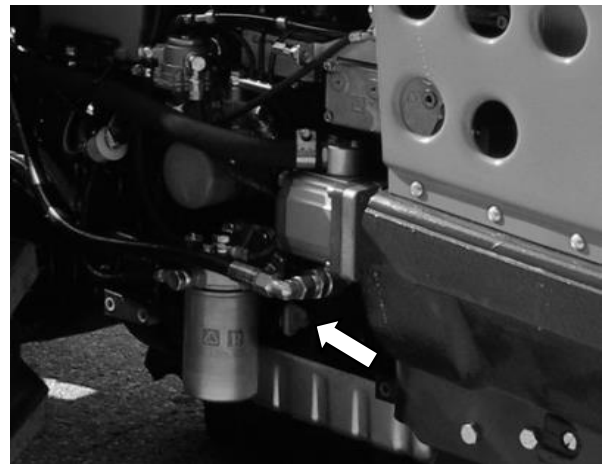
8.5 ENGINE MAINTENANCE

8.5.1 CHECKING ENGINE OIL LEVEL

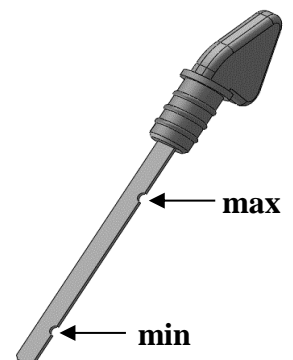
When checking engine oil level, tractor must always be parked on horizontal ground.

Check oil level as follows:

- Shut tractor engine off (contact key in position 0).
- If you have used the tractor, wait for it to cool down sufficiently.
- Pull out measuring stick. Stick is on the right side of the engine, below, next to fuel filter.



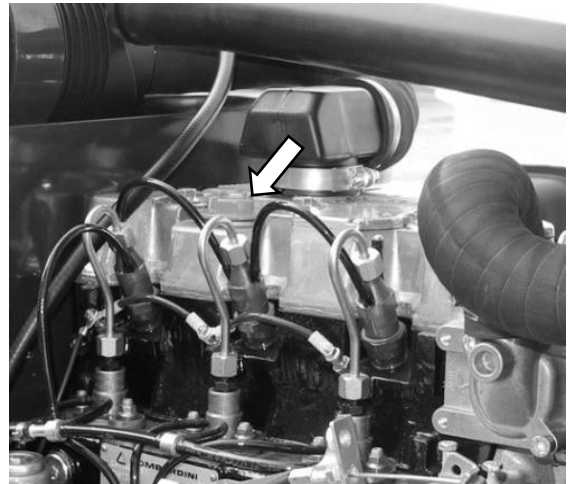
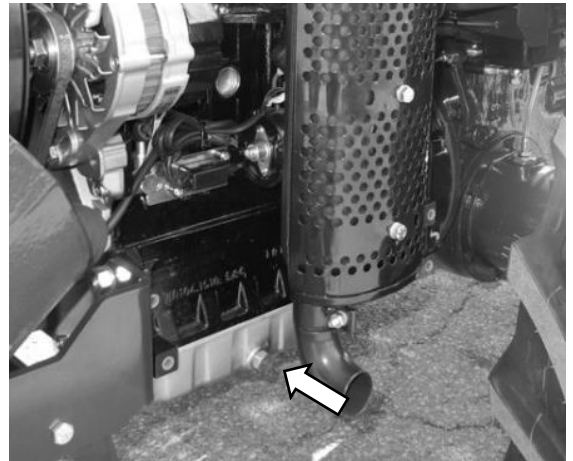
- Check oil level (min/max) and fill, if required, but not over max mark.
- When you have finished, insert measuring stick back in its place.



8.5.2 CHANGING ENGINE OIL

Change engine oil when the engine is still warm, as follows:

- Shut tractor engine off (contact key in position 0).
- Open engine cover.
- Set container for used oil under discharge on engine sump.
- Unscrew discharge plug and wait for old oil to flow in the container.
- Install new gasket (Cu) on the plug and screw it back on the sump.
- Change oil filter (see chapter "CHANGING OIL FILTER").
- Unscrew oil cap on top of the engine.
- Fill defined engine oil (suitable viscosity, according to requirements – see chapter "TECHNICAL DATA – OILS") to top mark on measuring stick (see chapter "CHECKING ENGINE OIL LEVEL").
- Screw oil cap and run the engine briefly. Check sealing of oil filter and plug on the sump.
- Turn off engine, check oil level again and add it, if required

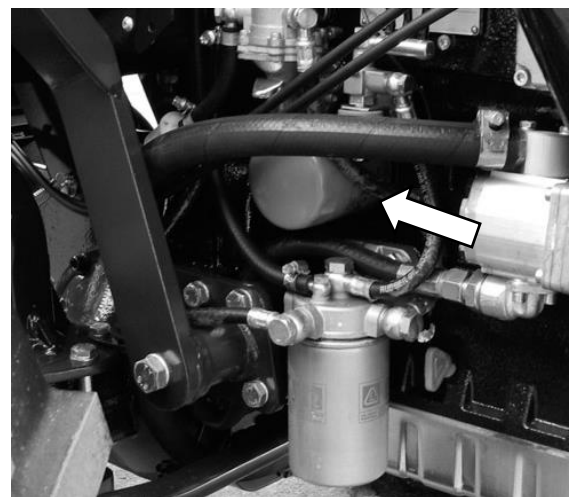


WARNING: Do not dispose of waste oil in the environment. Use designated containers in accordance with legislation in force!

8.5.3 CHANGING OIL FILTER

Change oil filter as follows:

- Shut tractor engine off (contact key in position 0).
- If you have used the tractor, wait for it to cool down sufficiently.
- Discharge oil (see chapter "CHANGING ENGINE OIL").
- Set container of suitable capacity under the filter.
- Use proper tools to unscrew oil filter and clean fitting surface.
- Oil gasket of new filter with engine oil.
- Securely tighten the filter by hand, you can also use tools. **If you are using tools, do not tighten the filter excessively!**
- If there is oil on engine surfaces, clean it.

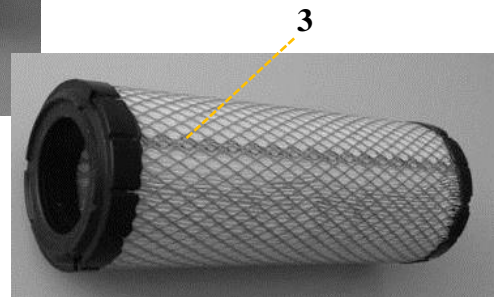
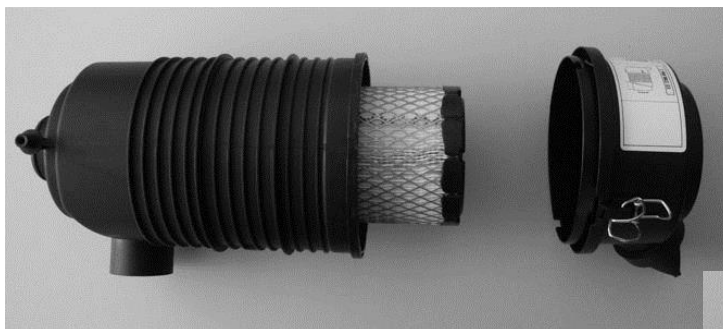
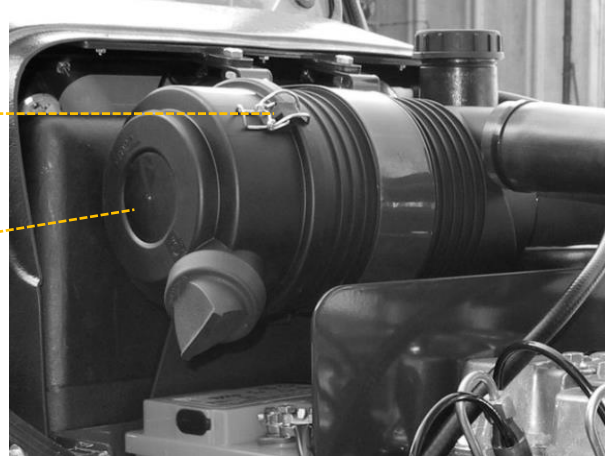


8.5.4 CHANGING AIR FILTER

When the filter is clogged, control light comes on. Filter insert must be cleaned or replaced.

Procedure of changing the air filter:

- Shut tractor engine off (contact key in position 0).
- If you have used the tractor, wait for it to cool down sufficiently.
- Open engine cover.
- For easier work when changing filter insert, it is recommended to remove complete air filter from the tractor. Disassembly procedure is described in chapter "ELECTRICITY – CHANGING BATTERY".
- Release clamps (1) and remove filter cover (2).
- Remove filter insert (3) from housing.
- Use dry cloth to clean interior of filter housing.
- Install filter insert back into the housing. Side, where the filter is open, must fit perfectly to hole in housing interior.
- Replace cover (2) and close clamps (1).

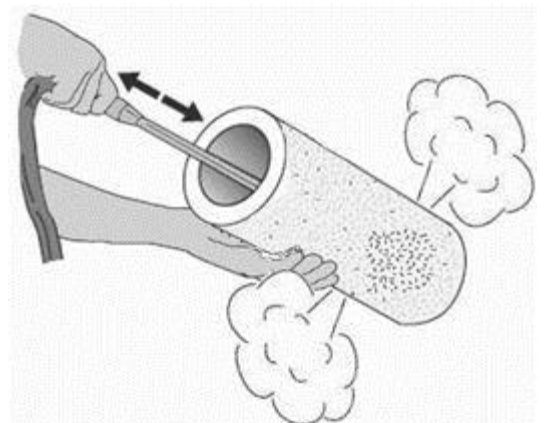


8.5.5 CLEANING AIR FILTER

If you are using the tractor in very dusty environment, it is recommended to regularly check, if the filter is clogged, and clean it, if required.

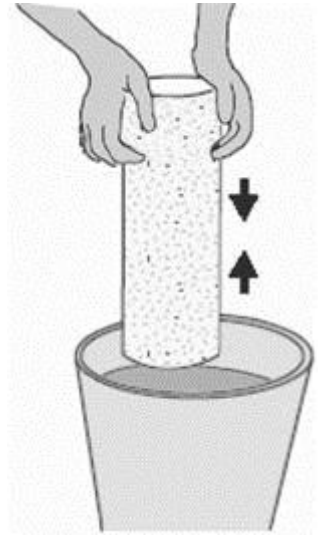
Cleaning filter insert with compressed air

Point compressed air jet directly to inside of filter insert, where air pressure must not exceed 5 bar. Move blowing nozzle across the entire surface, along paper folds, until all of the dust is removed. Be careful not to damage the filter.



Cleaning filter insert with water

Use this method of filter cleaning, when the filter is clogged with oil particles. Submerge the filter several times into a mixture of water and filter cleaning agent (see manufacturer's instructions for correct mixture of cleaning agent). Wash out filter insert with water jet from inside out, where water pressure must not exceed 2.5 bar, and allow it to completely dry at room temperature.



After cleaning, check filter condition for damages (holes, cracks) and replace it, if required. Filter must be replaced after six cleanings or 300 work hours of tractor. Internal filter insert is not cleaned, but it is replaced after three cleanings of external filter insert or 300 work hours of tractor.



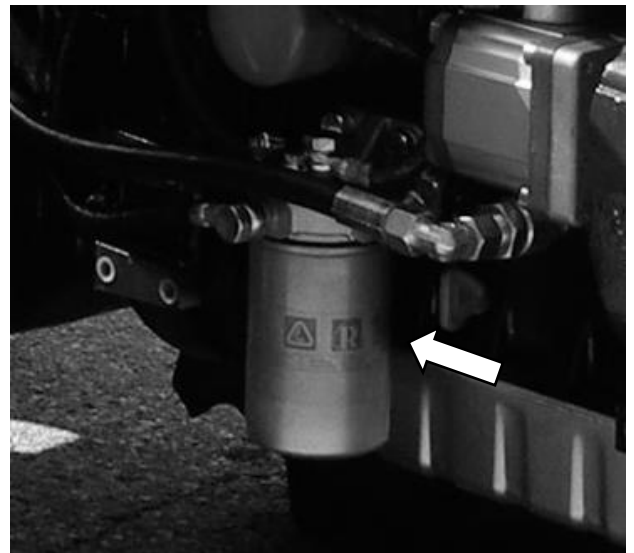
WARNING: When cleaning filter of dust and other particles, which can come into contact with eyes and respiratory paths, always use safety goggles and safety mask!

8.5.6 CHANGING FUEL FILTER

Due to deposits and water, which gather in the filter during tractor operation, fuel filter must be replaced every 300 working hours.

Change the fuel filter as follows:

- Shut tractor engine off (contact key in position 0).
- If you have used the tractor, wait for it to cool down sufficiently.
- Use proper tools to unscrew fuel filter.
- Use fuel to lubricate gasket of new filter.
- Fill the filter with fuel and tighten it by hand, and you can also use tools at the end. **Do not tighten filter excessively!**
- Start the engine briefly that the pump pushes air in conductors through nozzles.

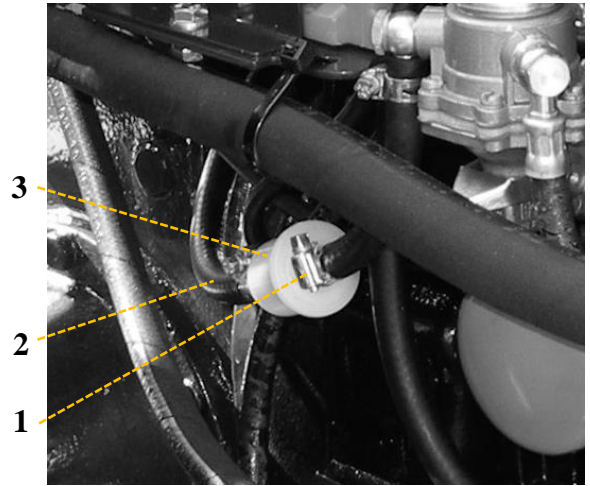


Auxiliary filter is installed in front of the pump and prevents larger particles to flow in fuel circuit. If you have a great amount of particles through the transparent housing, change the filter.

DO NOT clean the auxiliary filter!

Change auxiliary filter as follows:

- Unscrew clamps (1).
- Remove supply hose (2), which comes from the tank and close it with a plug.
- Remove filter (3) and replace it with a new one (make sure that flow direction is turned correctly).
- Remove plug from supply hose and install it back on the filter.
- Tighten both clamps (1).



8.5.7 CHECKING/CHANGING BELT

Before checking or changing the belt, the engine must always be turned off (contact key must be removed from main ignition switch). If you have used the tractor, wait for the engine to cool down.

Checking belt tension

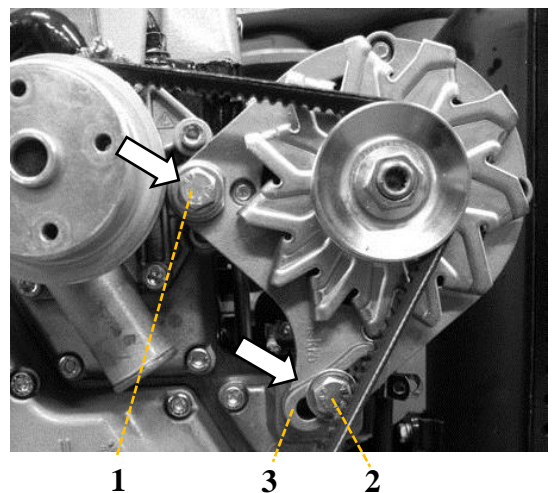
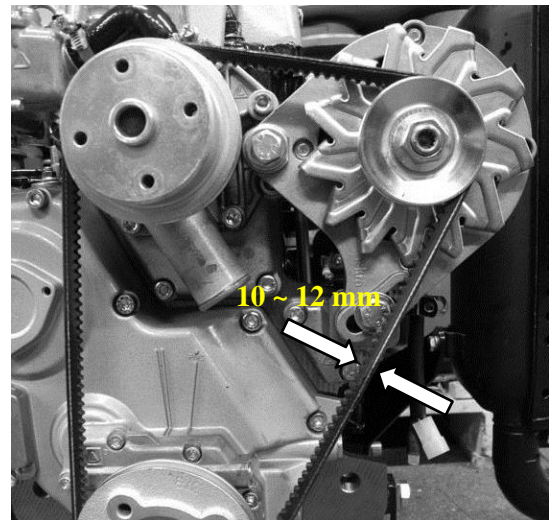
Check belt tension by pressing on the centre of longest part of the belt (between drive shaft and alternator). Correctly adjusted belt should drop between 10 and 12 mm. If it drops more, then you must tension the belt.

Setting belt

Set the belt by first loosening fastening screws (1 and 2) on the alternator. Move the alternator to tension the belt properly.

Changing belt

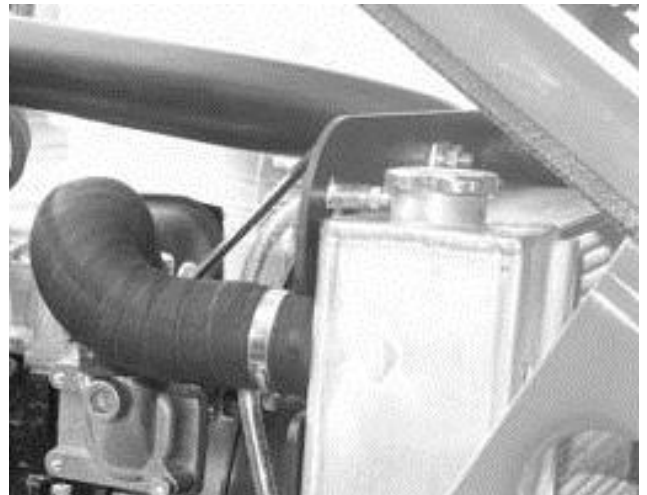
Change the belt by first loosening fastening screws. Move the alternator to its end point on guide (3) and remove the belt. Install new belt and tension it by moving the alternator.



8.6. MAINTENANCE OF COOLING SYSTEM

8.6.1 CHECKING COOLING LIQUID LEVEL

Shut down tractor engine and open the cover. Radiator is on the front side in front of the engine. Cooling liquid level with engine shut down should be between 10 and 20 mm from radiator edge. Higher is not recommended, due to expansion during operation.

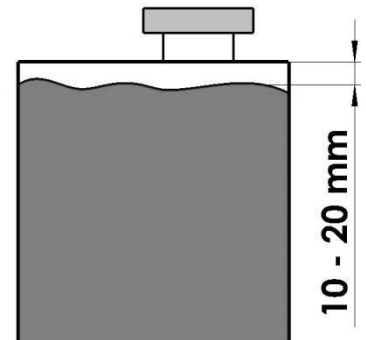


8.6.2 DISCHARGE AND ADDING COOLING LIQUID

If the cooling system does not have enough cooling liquid, it must be added. Make cooling liquid with mixture of water and anti-freeze according to manufacturer's instructions, in accordance with desired temperature. Fill cooling liquid in expansion container.

Filling procedure:

- Unscrew cap on expansion container.
- Fill cooling liquid up to 10-20 mm.
- Close cap.



DANGER: Never open the cap on expansion container or radiator, when the engine is hot. Cooling system operates under pressure and there is a risk of steam or boiling liquid squirting, which can cause injury to yourself or others in the area!



IMPORTANT: Check concentration of liquid mixture in the tractor's cooling system at least once a year with suitable instrument.

Discharge of cooling liquid out of engine

Screw for discharging cooling liquid is on the left side of engine block.

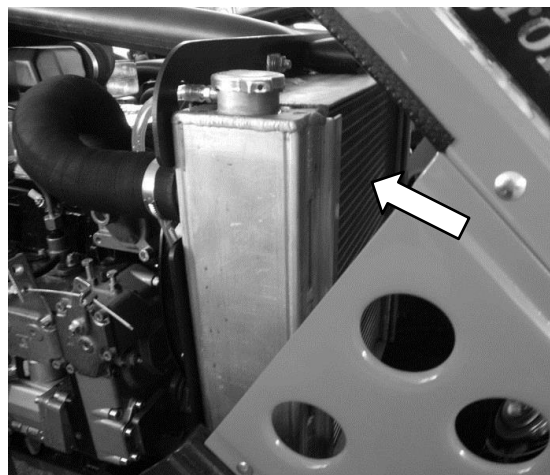


8.6.3 CLEANING RADIATOR

Regularly check cleanliness of radiator fins to ensure adequate aeration and correct cooling. If the fins are clogged, it can cause overheating, due to insufficient cooling, and, consequentially, malfunction of engine parts, which are exposed to load.

If cooling fins require cleaning, follow the procedure below:

- Shut tractor engine off (contact key in position 0).
- If you have used the tractor, wait for the engine to cool down sufficiently.
- Open engine cover.
- Clean radiator fins with compressed air.
- Close engine cover when work is completed.



WARNING: Do not approach compressed air jet too close to cooling fins to avoid damaging them!



WARNING: When cleaning the radiator of dust and other particles, which can come into contact with eyes and respiratory paths, always use safety goggles and safety mask!

8.7 CHECKING WHEELS

8.7.1 CHECKING TYRE PRESSURE

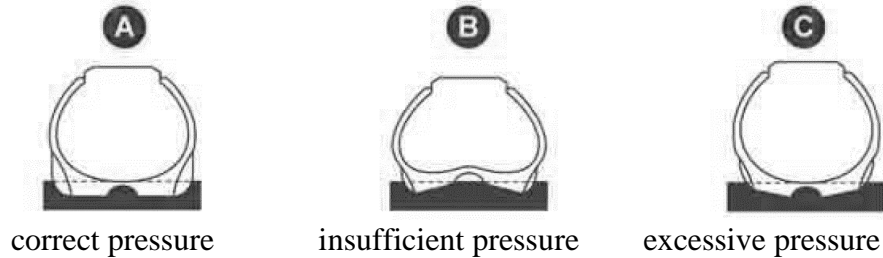
Check tyre pressure as follows:

- Stop the tractor.
- Shut down tractor engine (contact key in position 0).
- Visually check tyres for possible wear.
- Check tyre pressure.

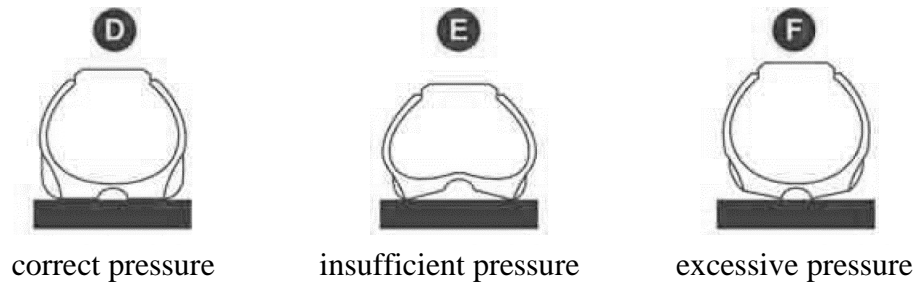
Always check tyre pressure without installed weights and implements.

When inflating tyres with air, always consider type of installed tyre and its dimensions, type of work, which you will be doing, and with which installed equipment.

Tyre pressure for use of tractor on soft surface



Tyre pressure for use of tractor on hard surface



Tyre pressure for using tractor on soft surface, e.g. soil

A Correct tyre pressure: correct tyre pressure for required task, enables good grip, soil penetrates tyre tread during driving, tread remains clean.

B Insufficient tyre pressure: insufficient tyre pressure for required task, provides poor results, because grip to ground is poor, soil does not penetrate tyre tread properly during driving, tyre surface can be damaged, especially when towing with great force.

C Excessive tyre pressure: excessive tyre pressure for required task, provides poor results, because grip to ground is poor, because tyre tread is aggressive, ground can be damaged, and there is a great chance of damaging tyres in the event of impact.

Tyre pressure for using tractor on hard surface, e.g. road

D Correct tyre pressure: correct tyre pressure for required task, enables optimal preservation of load layer and reduces tyre tread wear.

E Insufficient tyre pressure: insufficient tyre pressure for required task, can cause uneven tread wear and tyre damage, tractor is very unstable during driving.

F Excessive tyre pressure: excessive tyre pressure for required task, can cause uneven tread wear, great chance of damaging tyres in the event of impact, and uncomfortable ride.



IMPORTANT: Instructions provide pressure for optimal work conditions, but there can be deviations, which depend on surface type and load of the tractor, which you must consider before inflating tyres!

8.8 MAINTENANCE OF TRANSMISSION

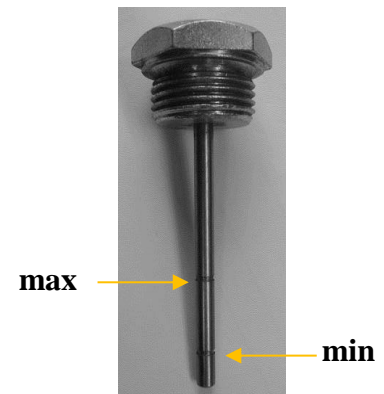
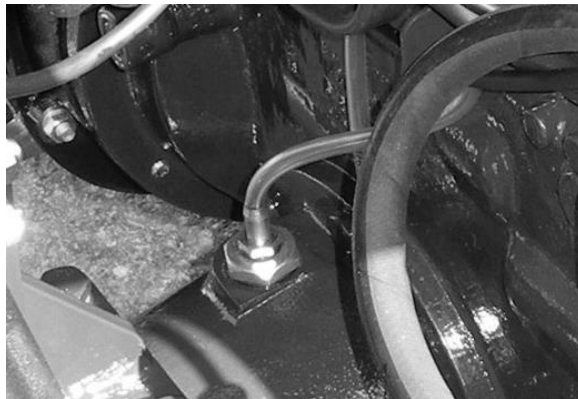
8.8.1 CHECKING OIL IN GEARBOX

When checking oil level in gearbox, the tractor must always be parked on horizontal ground, with lowered lift mechanism (front and rear) and other equipment, which uses oil in gearbox, lowered.

Before checking, tractor engine must be shut down (contact key in position 0) and handbrake engaged. Follow procedure below to perform check:

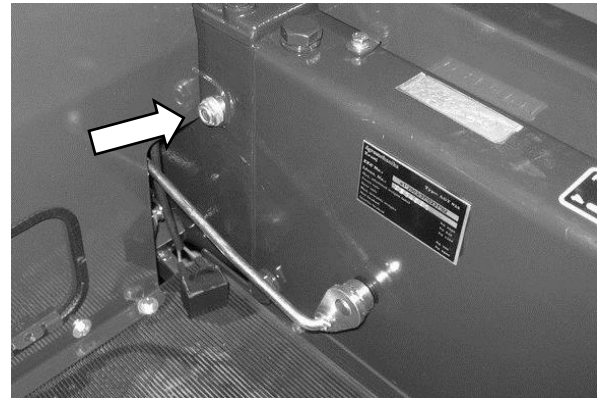
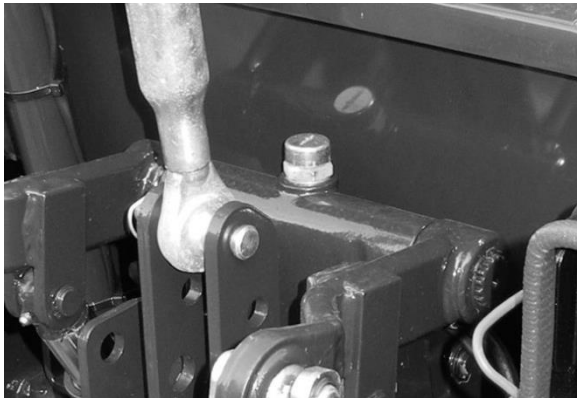
Tractor version AGT 830/835

- Remove vent pipe, so that it is loose.
- Unscrew screw with measuring stick. The screw is on the top part of front left sleeve.
- Check oil level (min/max) and fill, if required, but not over max mark.
- When you have finished, fit the screw back in its place and reinstall vent pipe.



Tractor version AGT 835 T/S

For control of oil in gearbox, tractor has an oil level indicator on the right side of the gearbox, right under the seat, which shows, if the gearbox has sufficient oil capacity. If oil cannot be seen, it must be added to amount, so that it is seen on the indicator.



8.8.2 CHANGING OIL IN GEARBOX

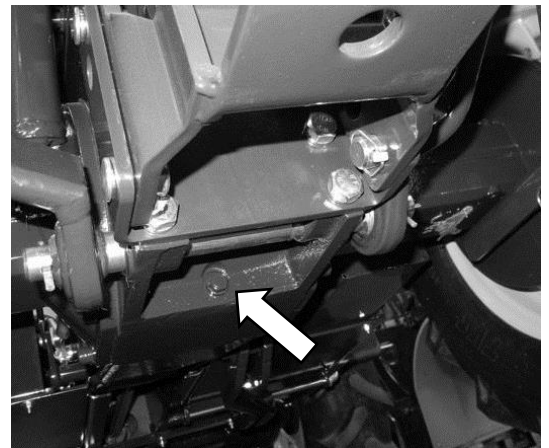
Before changing oil, start the engine and perform a few hydraulic functions to heat the oil. Park the tractor on horizontal ground and lower all hydraulic lift mechanisms (front and rear) and other equipment, which uses oil in gearbox. Before changing oil, tractor engine must be shut down (contact key in position 0), all control elements must be moved to neutral position and handbrake must be engaged. Change oil in gearbox as described:

Tractor version AGT 830/835

- Set container for used oil under discharge under gearbox.
- Unscrew discharge screw and wait for old oil to flow in the container.
- Install new gasket (Cu) on the screw and screw it back in the gearbox.
- Replace hydraulics oil filter (see chapter "CHANGING HYDRAULIC SYSTEM OIL FILTER").
- Unscrew screw with measuring stick on top part of front left sleeve (see chapter "CHECKING OIL IN GEARBOX").
- Through opening, where you have removed the screw, fill defined oil (suitable viscosity, according to requirements – see chapter "TECHNICAL DATA – OILS") to top mark on measuring stick (see chapter "CHECKING OIL IN GEARBOX").
- Screw screw with measuring stick, run engine briefly and perform a few hydraulic functions. At this time, check sealing of hydraulics oil filter and gearbox screw.
- Shut down engine, lower lift mechanisms (if you have controlled them) and re-check oil level. Add oil, if required.

**Tractor version AGT 835 T/S**

- Set container for used oil under discharge under gearbox.
- Unscrew discharge screw and wait for old oil to flow in the container.
- Install new gasket (Cu) on the screw and screw it back in the gearbox.
- Replace hydraulics oil filter (see chapter "CHANGING HYDRAULIC SYSTEM OIL FILTER").
- Unscrew plug on top part of gearbox, in the middle of housing of fastening shaft for lift arms movement (see chapter "CHECKING OIL IN GEARBOX").
- Through opening of unscrewed plug fill defined oil (suitable viscosity, according to requirements – see chapter "TECHNICAL DATA – OILS") until indicator shows oil (see chapter "CHECKING OIL IN GEARBOX").
- Screw plug, run engine briefly and perform a few hydraulic functions. At this time, check sealing of hydraulics oil filter and gearbox screw.
- Shut down engine, lower lift mechanisms (if you have controlled them) and re-check oil level. Add oil, if required.



WARNING: Do not dispose of waste oil in the environment. Use designated containers in accordance with legislation in force!

8.8.3 CHANGING OIL FILTER OF HYDRAULIC SYSTEM

Oil filter in gearbox must be changed according to defined intervals of work hours (see chapter "MAINTENANCE TABLE").

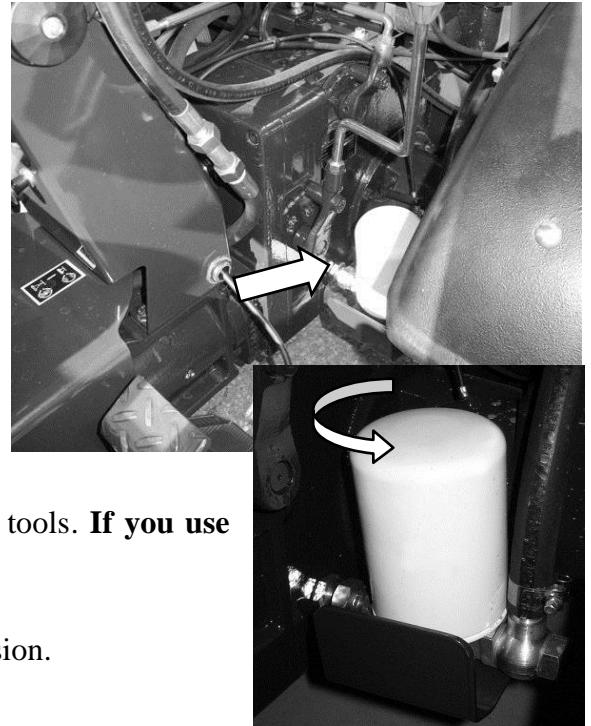
Tractor version AGT 830/835

Hydraulic oil filter is on the right side of the tractor, next to gearbox.

Changing oil filter:

- Shut tractor engine off (contact key in position 0), engage hand brake.
- Place container of suitable size under the filter.
- Use suitable tools to unscrew oil filter and clean fitting surface.
- Oil gasket of new filter.
- Firmly screw filter by hand, you can also use tools. **If you use tools, do not tighten filter excessively!**
- If there is remaining oil on surfaces, clean it.

Before changing oil filter, discharge oil from transmission.

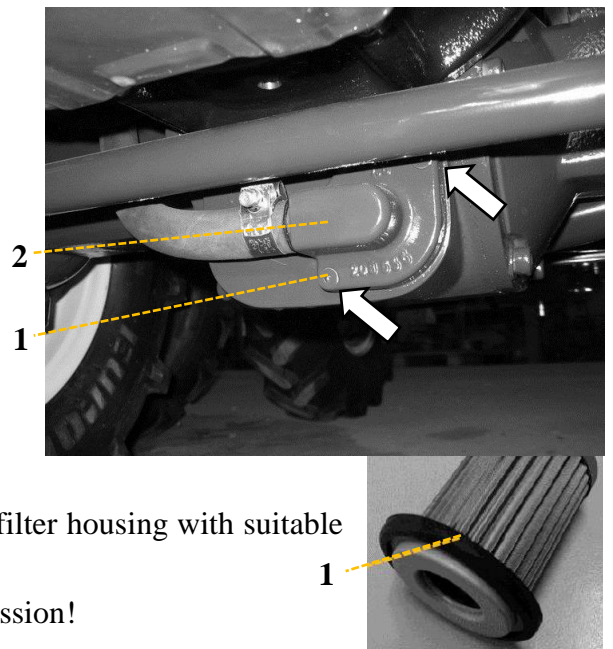


Tractor version AGT 830/835 T/S

Hydraulic oil filter is in the centre of front part of bridge, under steering bar.

Changing oil filter:

- Shut tractor engine off (contact key in position 0), engage hand brake.
- Remove Allen screws (1), which hold the housing (2). Move housing out, so that you can reach filter insert.
- Remove filter insert (3).
- Clean fitting surfaces of filter housing and bridge housing.
- Install new filter insert.
- Before installing, lubricate fitting surface of filter housing with suitable sealing agent and tighten it with screws.



Before changing oil filter, discharge oil from transmission!

Tractor version AGT 835 with separated hydraulic oil tank

Hydraulic oil filter is on the lower side of tank, behind front left wheel. For easier changing of filter (easier access), it is recommended to remove the wheel (see chapter ("INSTALLATION OF WHEELS")).

Procedure of changing oil filter is completely the same as with tractor version AGT 835 T/S, where you unscrew two Allen screws, remove housing and remove filter insert.

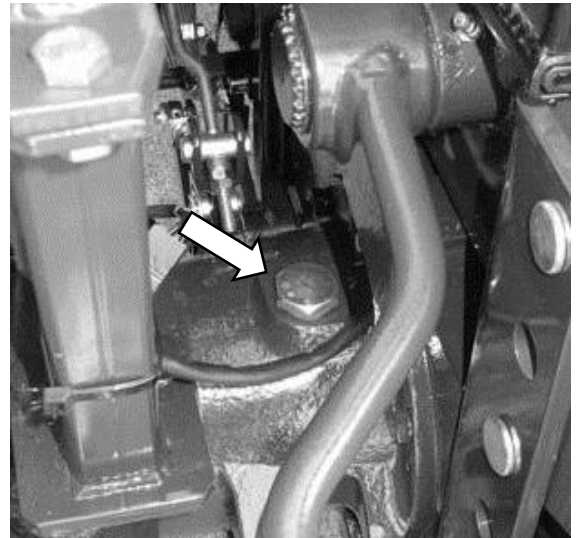


8.8.4 CHECKING OIL IN REAR BRIDGE (TRACTOR VERSION AGT 830/835)

When checking oil level in rear bridge, the tractor must always be parked on level ground, tractor engine shut down (contact key in position 0) and handbrake engaged.

Perform checking as follows:

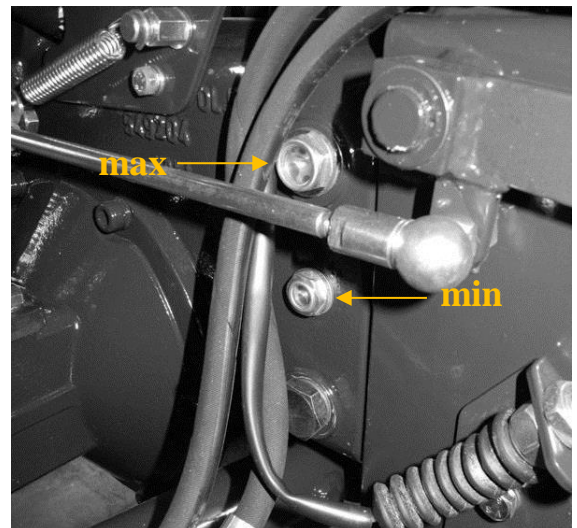
- Unscrew screw. The screw is on the top part of rear left sleeve.
- Check oil level on screw measuring stick. Oil must reach top mark "max". Add oil, if required, but not over the top mark.
- When you have finished, screw the screw back in its place.



8.8.5 CHECKING OIL IN FRONT BRIDGE (TRACTOR VERSION AGT 835 T/S)

When checking oil level in front bridge, the tractor must always be parked on level ground, tractor engine shut down (contact key in position 0) and handbrake engaged.

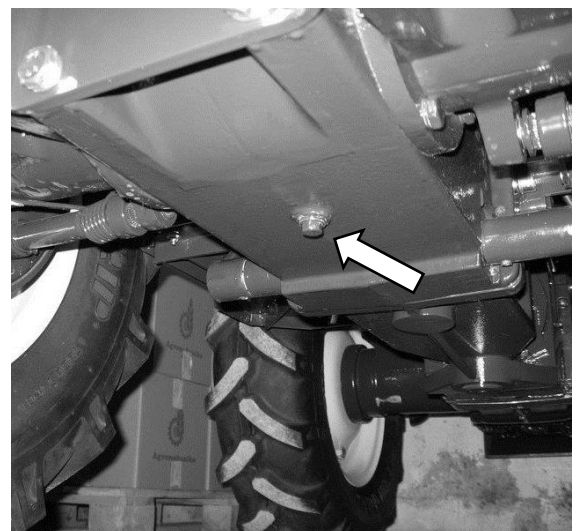
Check oil by visually inspecting oil level indicators, which are located on the left side of transmission, next to front sleeve. Top indicator shows maximum oil capacity, and bottom, smaller indicator shows minimum oil capacity.



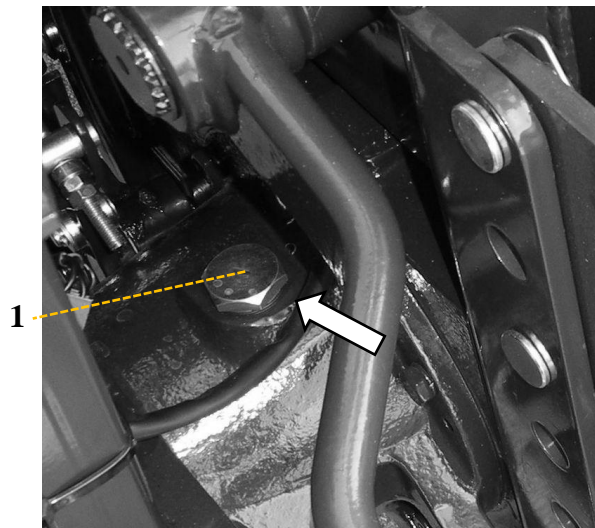
8.8.6 CHANGING OIL IN REAR BRIDGE (TRACTOR VERSION AGT 830/835)

Change oil in rear bridge as follows:

- Park the tractor on level ground.
- Shut tractor engine off (contact key in position 0) and engage handbrake.
- Place container for used oil under discharge on bottom side of rear bridge.
- Unscrew discharge screw and wait for old oil to flow in the container.
- Fit new gasket (Cu) on the screw and screw it back in the housing.



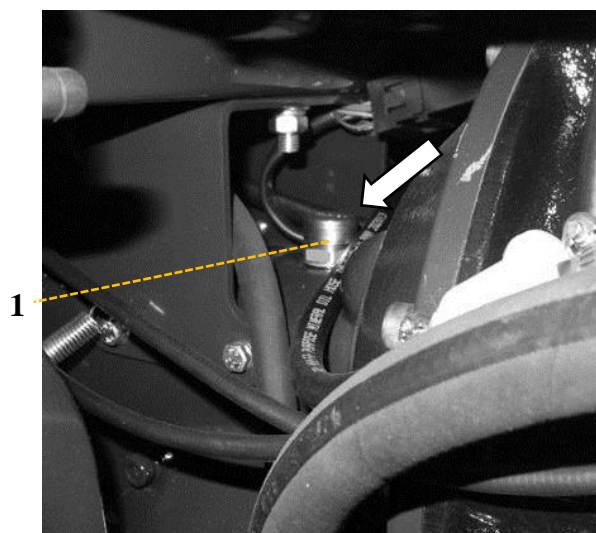
- Unscrew screw (1) on top part of rear left sleeve (see chapter "CHECKING OIL IN REAR BRIDGE").
- Through top opening of screw (1) fill defined oil (suitable viscosity, according to requirements – see chapter "TECHNICAL DATA – OILS") up to top mark "max" on measuring stick.
- Screw the screw for checking oil back.



8.8.7 CHANGING OIL IN REAR BRIDGE (TRACTOR VERSION AGT 835 T/S)

Change oil in front bridge as follows:

- Park the tractor on level ground.
- Shut tractor engine off (contact key in position 0) and engage handbrake.
- Place container for used oil under discharge on bottom side of rear bridge.
- Unscrew discharge screw and wait for old oil to flow in the container.
- Fit new gasket (Cu) on the screw and screw it back in the housing.
- Unscrew plug (1) on top part of front bridge.
- Through top opening of screw (1) fill defined oil (suitable viscosity, according to requirements – see chapter "TECHNICAL DATA – OILS").
- When filling, use guided hoses or hand pump to pump oil.
- During filling, check oil level on indicators. Do not fill oil excessively!
- Screw the plug back (1).



WARNING: Do not dispose of waste oil in the environment. Use designated containers in accordance with legislation in force!

8.9 MAINTENANCE OF HYDRAULIC SYSTEM

Only for newer tractor version AGT 835 with separated hydraulic oil tank!

Newer tractor version AGT 835 has its own hydraulic system, which, through additional tank on the front side of the tractor, right behind left sleeve, supplies hydraulic elements. This means that the oil in the hydraulic system is separated from gearbox oil, is different in specifications and is not used equally for both system, as is the case in previous tractor version.

Procedure of maintenance on the gearbox (checking oil, changing oil) is the same as with older tractor version (see chapter "CHECKING – CHANGING OIL IN GEARBOX"), which does not apply to the hydraulic system, which is separated and requires its own maintenance procedure, which is described in the following.

8.9.1 CHECKING OIL IN HYDRAULIC SYSTEM

When checking oil level in hydraulic system, the tractor must always be parked on horizontal surface, with lowered lift mechanism (front and rear) and other equipment.

Before check, shut down the engine (turn contact key in position 0) and engage parking brake.

Perform check as follows:

- Unscrew screw. The screw is on the top part of hydraulic oil tank.
- Check oil level on screw measuring stick. Oil must reach top mark "max". Add oil, if required, but not over the top mark.
- When you have finished, screw the screw back in its place.

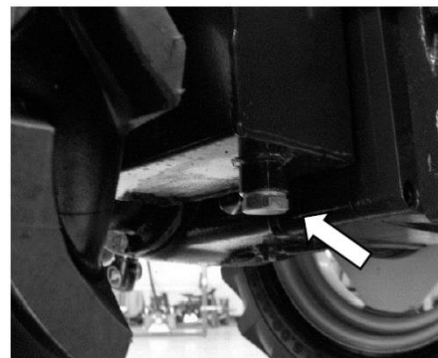


8.9.2 CHANGING OIL IN HYDRAULIC SYSTEM

Before changing oil in hydraulic system, adequately prepare the tractor for discharge (see chapter "CHANGING OIL IN GEARBOX").

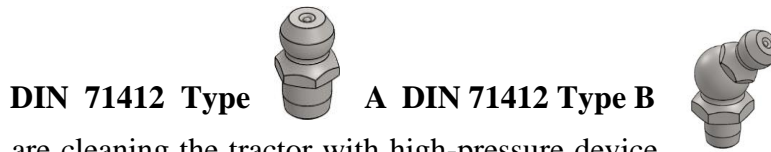
Change oil in gearbox as described:

- Set container for used oil under discharge under gearbox.
- Unscrew screw and wait for old oil to flow in the container.
- Install new gasket (Cu) on the screw and screw it back on the tank.
- Replace hydraulics oil filter (see chapter "CHANGING HYDRAULICS OIL FILTER").
- Unscrew plug with measuring stick on top part of tank (see chapter "CHECKING OIL IN HYDRAULIC SYSTEM").
- Through opening, where you have unscrewed the plug, fill defined oil (suitable viscosity, according to requirements – see chapter "TECHNICAL DATA – OILS") to top mark on measuring stick (see chapter "CHECKING OIL IN HYDRAULIC SYSTEM").
- Screw plug, run engine briefly and perform a few hydraulic functions. At this time, check sealing of hydraulics oil filter and screw on discharge tank.
- Shut down engine, lower lift mechanisms (if you have controlled them) and re-check oil level. Add oil, if required.



8.10 LUBRICATION POINTS ON TRACTOR

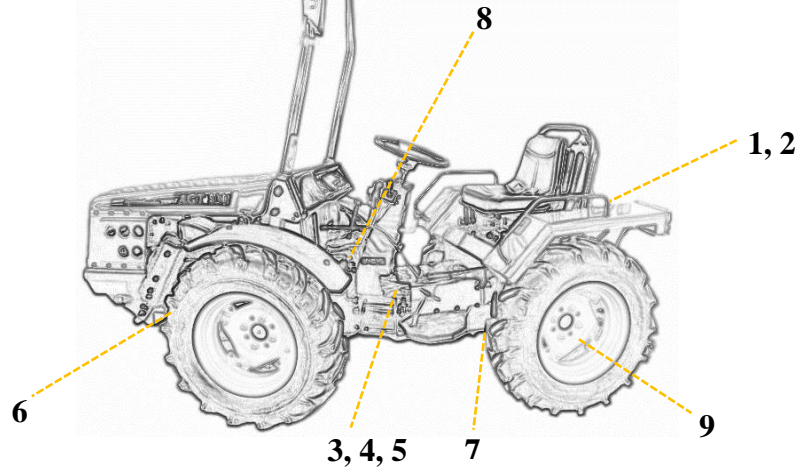
After every 50 working hours, thoroughly lubricate all moving parts of the tractor. Sleeves, transmission and lift mechanisms are fitted with greaser of type:



If you are cleaning the tractor with high-pressure device for washing, we recommend lubrication after each cleaning. Before lubrication, thoroughly clean greasers and lubrication pump to prevent mixing lubricant with dirt.

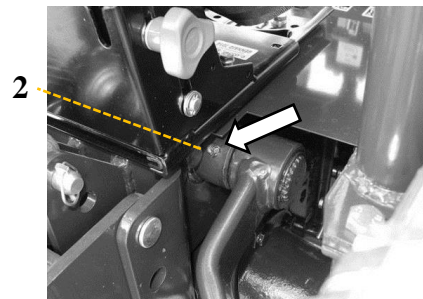
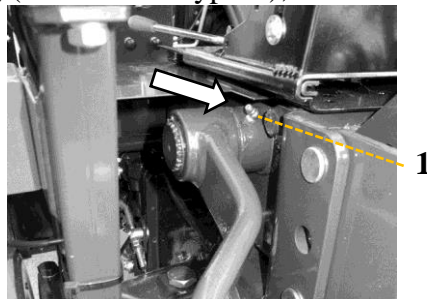
8.10.1 SCHEME OF LUBRICATION POINTS

Tractor version AGT 830/835



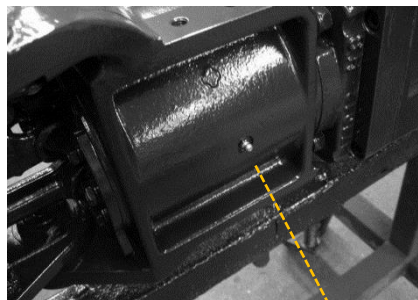
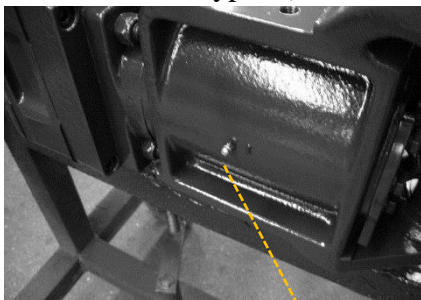
Rear lift mechanism

1. Lubrication of connection shaft of lift arms, greaser on the left part of housing of shaft fastening (DIN 71412 Type B);
2. Lubrication of connection shaft of lift arms, greaser on the right part of housing of shaft fastening (DIN 71412 Type B);



Transmission

3. Lubrication of articulated part of transmission, greaser on left part of housing (DIN 71412 Type A);
4. Lubrication of articulated part of transmission, greaser on right part of housing (DIN 71412 Type A);
5. Lubrication of articulated part of transmission, greaser on bottom part of housing (DIN 71412 Type A);

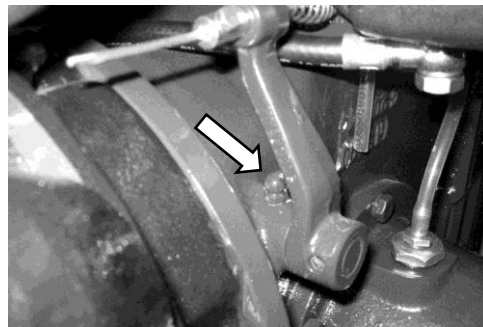


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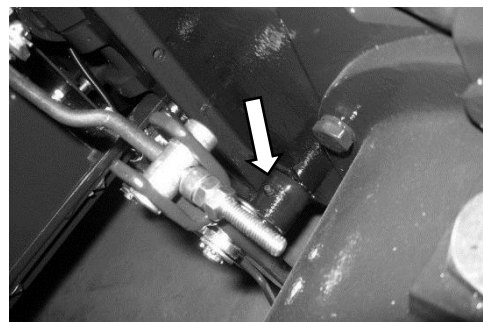
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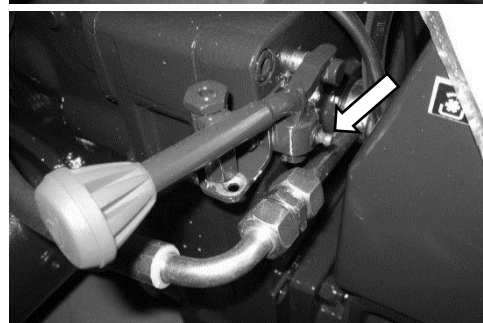
6. Lubrication of clutch lever axle, greaser behind lever on transmission housing (DIN 71412 Type B);



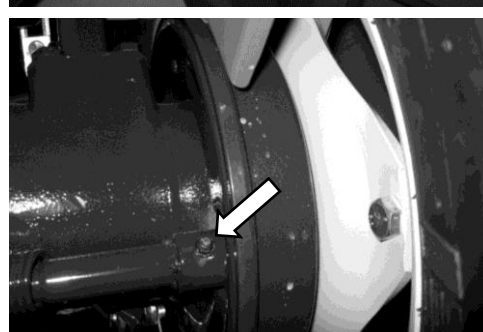
7. Lubrication of clutch lever axle, greaser on lever of housing of mechanism for tractor landing (DIN 71412 Type A);



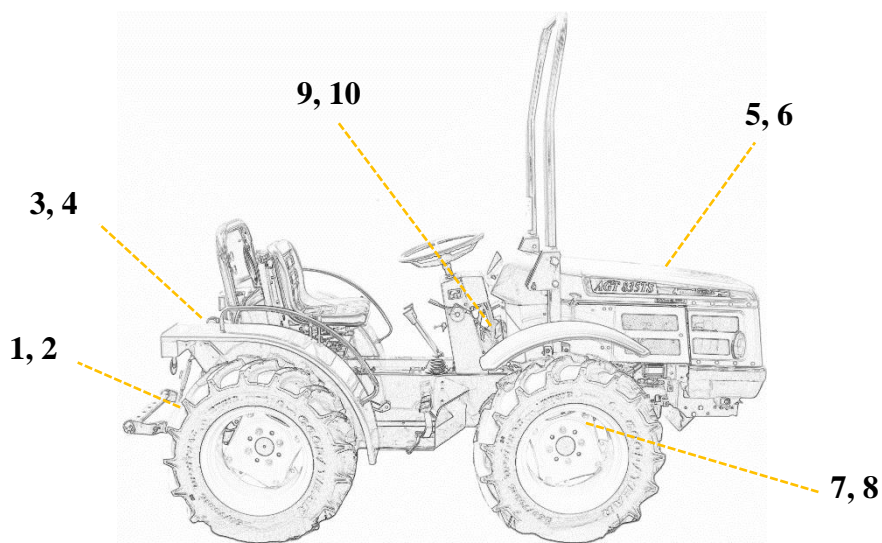
8. Lubrication of shift lever of connection shaft, greaser on gearbox housing on lever movement axle (DIN 71412 Type A);



9. Lubrication of brake lever, greaser on housing of lever part for drum brake (DIN 71412 Type A).

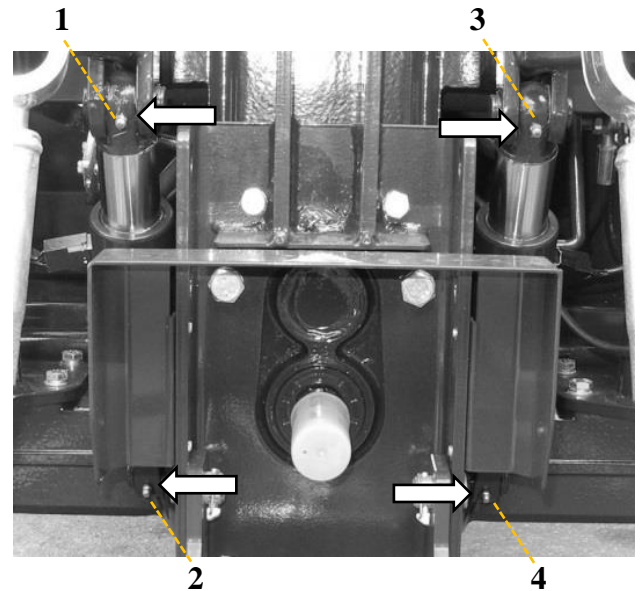


Tractor version AGT 830/835

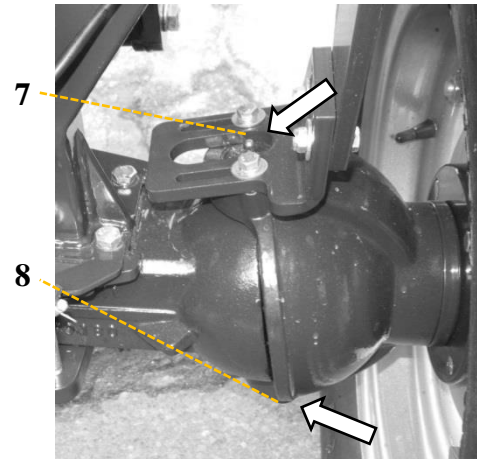
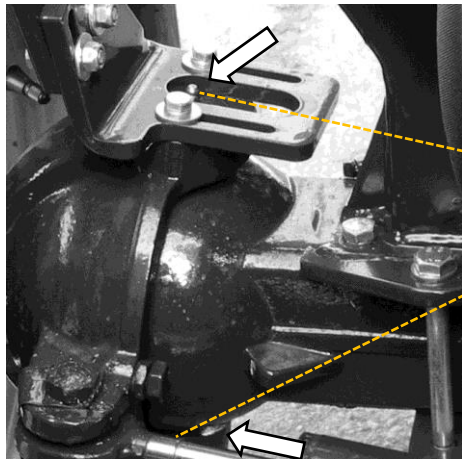


Rear lift mechanism

1. Lubrication of left rear hydraulic cylinder, greaser on top fastening of cylinder (DIN 71412 Type A);
2. Lubrication of left rear hydraulic cylinder, greaser on bottom fastening of cylinder (DIN 71412 Type A);
3. Lubrication of right rear hydraulic cylinder, greaser on top fastening of cylinder (DIN 71412 Type A);
4. Lubrication of right rear hydraulic cylinder, greaser on bottom fastening of cylinder (DIN 71412 Type A);

Front bridge

5. Lubrication of front left sleeve, greaser on top part of joint (DIN 71412 Type A);
6. Lubrication of front left sleeve, greaser on bottom part of joint (DIN 71412 Type A);
7. Lubrication of front right sleeve, greaser on top part of joint (DIN 71412 Type A);
8. Lubrication of front right sleeve, greaser on bottom part of joint (DIN 71412 Type A);



9. Lubrication of steering hydraulic cylinder, greaser on sleeve fastening (DIN 71412 Type A);
10. Lubrication of steering hydraulic cylinder, greaser on transmission fastening (DIN 71412 Type A);



9 TRACTOR OPERATION TROUBLESHOOTING

TROUBLES, CAUSES AND REMEDIES

In the following, information on searching and remedying possible trouble, which can occur during tractor operation, is provided.

To ensure better results with troubleshooting, it is recommended that these procedures are performed by an authorized mechanical workshop, where general inspection of the tractor can also be done.

* Work should be performed by an authorized mechanical workshop.

Trouble regarding engine operation

TROUBLE	CAUSE	REMEDY
Engine does not start.	Clogged fuel filter.	Clean or replace filter (see chapter "Engine maintenance").
	Air in fuel supply system.	Bleed the system.
	Faulty fuse of steering device.	Replace fuse (see chapter "Fuses").
	Empty diesel fuel tank.	Add fuel (see chapter "Filling tank").
	Incorrect fuel type.	Completely drain and clean tank and fuel lines. Add correct fuel type.
	Blocked electric valve of fuel injection pump	Check electrical valve of pump and replace it, if necessary.
	No supply to electric valve of pump.	Check current on valve connector. If there is no current, check steering device fuse. Contact authorized mechanical workshop. *
	Fuel pump is inefficient.	Check operation of fuel pump.
	Trouble in valve operation.	Contact authorized mechanical workshop. *
Starter does not turn.	Empty battery	Charge or replace battery (see chapter "Changing battery").
	Oxidized starter poles.	Clean and lubricate poles.
	Faulty starter.	Replace starter. *
	Faulty main fuse.	Replace fuse (see chapter "Fuses").
	Empty battery	Charge or replace battery (see chapter "Changing battery").
Engine makes abnormal noises.	Stroke and valve synchronization are incorrect.	Required setting, contact authorized mechanical workshop. *
	Low engine oil level.	Add oil (see chapter "Engine maintenance").

TROUBLE	CAUSE	REMEDY
Engine has no power.	Engine is overloaded.	Shift to lower gear, reduce towing load.
	Clogged air filter.	Clean or replace filter (see chapter "Engine maintenance").
	Clogged fuel filter.	Clean or replace filter (see chapter "Engine maintenance").
	Too much aeration on valve seats on head.	Required repair of engine head, contact authorized mechanical workshop. *
	Fuel pump operation interference.	Possible clogging, clean and bleed the pump, replace, if required. *
	Hole in suction or exhaust system.	Check and weld the hole, contact authorized mechanical workshop. *
	Air in fuel supply system.	Bleed the system.
Engine overheating (warning light turns on during use).	Too low cooling liquid level in the system.	Check for possible leaking of cooling system, add cooling liquid to suitable level (see chapter "Cooling system maintenance").
	Dirty or clogged radiator (cooling slots).	Clean cooling slots.
	Faulty thermostat.	Replace thermostat. *
	Clogged cooling system.	Clean cooling system (see chapter "Cooling system maintenance").
	Temperature indicator trouble.	Replace thermal switch. *
	Loose fan v-belt.	Check belt tension, tighten the belt, replace, if worn out (see chapter "Engine maintenance").
Low engine working temperature.	Thermostat trouble.	Replace thermostat. *
	Faulty indicator or thermal switch.	Check indicator or thermal switch.
Excessive use of engine oil	Incorrect oil viscosity.	Replace oil with defined.
	External oil leakage.	Repair (seal) joints and surfaces of leaking.
	Engine oil level too high.	Reduce engine oil level.
	Wear of valve guides, gaskets or piston rings.	Required greater engine intervention, contact authorized mechanical workshop. *

TROUBLE	CAUSE	REMEDY
Excessive fuel consumption.	Clogged air filter.	Clean or replace filter (see chapter "Engine maintenance").
	Engine is overloaded.	Shift to lower gear, reduce towing load.
	Dirty or faulty injection nozzles.	Clean or replace injection nozzles. *
	Incorrect setting of ignition on engine.	Required ignition setting, contact authorized mechanical workshop. *
Black smoke coming from exhaust system.	Damaged or clogged injection nozzles.	Clean or replace injection nozzles. *

Trouble regarding transmission operation

TROUBLE	CAUSE	REMEDY
Difficult shifting into gears.	Clutch does not open completely.	Set levers or replace clutch discs, contact authorized mechanical workshop. *
	Incorrectly set or worn out control elements.	Set joint or replace worn out parts. *
	Shifting fork or synchro in gearbox worn out.	Gearbox repair required, contact authorized mechanical workshop. *
Gear too loud.	Insufficient oil level.	Check oil level and add it, if required.
	Incorrect oil viscosity.	Replace oil with defined.
	Worn out bearings or broken components.	Contact authorized mechanical workshop. *
Gear jumps out of position.	Worn out synchro in gearbox or joints on levers of control elements. Joints not set correctly.	Gearbox repair or joint setting or replacement of its worn out parts required. *
	Worn out shifting fork in gearbox.	Required gearbox repair. *
	Worn out bearings.	Replace bearings, contact authorized mechanical workshop. *
Difficult shifting into gears.	Clutch does not open completely.	Set levers or replace clutch discs, contact authorized mechanical workshop. *
	Incorrectly set or worn out control elements.	Set joint or replace worn out parts. *

Trouble regarding brake system operation

TROUBLE	CAUSE	REMEDY
Unsatisfactory braking.	Worn out brake discs.	Replace discs. *
	Excessive lever travel.	Set levers.
	Damaged levers.	Replace levers. *
Parking brake difficult to engage.	Rust and dirt affect mechanism functioning.	Remove dirt and lubricate mechanism.
	Excessive lever mechanism travel.	Set mechanism.

Trouble regarding steering operation

TROUBLE	CAUSE	REMEDY
Difficult turning of steering wheel.	Insufficient oil pressure.	Replace pump. *
	Faulty hydraulic pump.	Replace pump. *
	Damaged hydraulic steering: <ul style="list-style-type: none"> Steering head Steering mechanism cylinder 	Check and replace, if required, components of hydraulic steering. *
Steering wheel does not enable precise steering.	Air in steering system.	Bleed the system.
	Worn out gaskets of steering cylinders.	Replace gaskets. *
	Clogged hydraulics oil filter.	Replace oil filter.

Trouble regarding hydraulic lift mechanism operation

TROUBLE	CAUSE	REMEDY
Hydraulic lift does not rise, even when moving the control lever.	Hydraulic mechanism overload, implement weight greater than maximum lift capacity of hydraulic lift mechanism.	Reduce weight, disconnect implement. Before connecting implement, ensure that its properties correspond to tractor characteristics.
	Insufficient oil level in gearbox.	Add oil (see chapter "Transmission maintenance").
	Insufficient hydraulic oil pressure.	Replace pump. *
	Faulty hydraulic pump.	Replace pump. *
Hydraulic mechanism does not bear selected work height of implement.	Faulty safety valve on control element.	Replace valve. *

Trouble regarding electrical system operation

TROUBLE	CAUSE	REMEDY
No supply in electrical system.	Faulty fuse.	Replace fuse (see chapter "Fuses").
	Empty battery.	Charge or replace battery.
	Oxidized battery poles.	Clean and lubricate poles.
Activated warning light for alternator (during engine operation).	Loose or damaged v-belt.	Tighten belt or replace it, if required (see chapter "Checking/changing belt").
	Faulty alternator	Replace alternator. *
Activated warning light on cooling liquid temperature indicator (during engine operation).	Dirty or clogged radiator (cooling slots).	Clean cooling slots.
	Insufficient cooling liquid level in system.	Add cooling liquid (see chapter "Cooling system maintenance").
	Faulty cooling system pump.	Replace pump. *
Activated warning light of air filter (during engine operation).	Clogged air filter.	Clean or replace filter (see chapter "Engine maintenance").
Activated warning light of oil pressure (during engine operation).	Low oil level.	Add oil (see chapter "Engine maintenance").
	Engine fault.	Stop the tractor, shut down the engine, and contact authorized mechanical workshop. *

Trouble in cabin

TROUBLE	CAUSE	REMEDY
Cabin heating does not work.	Insufficient cooling liquid level in system.	Add cooling liquid (see chapter "Cooling system maintenance").
	Faulty electrical fan.	Replace fuse, check fan and replace, if required. *

Trouble regarding tractor operation (general)

TROUBLE	CAUSE	REMEDY
Uneven tyre wear.	Insufficient tyre pressure.	Inflate tyres (see chapter "Checking tyre pressure").
Tractor rocks or jumps.	Uneven weight distribution.	Check for proper weight distribution (suitable weights).

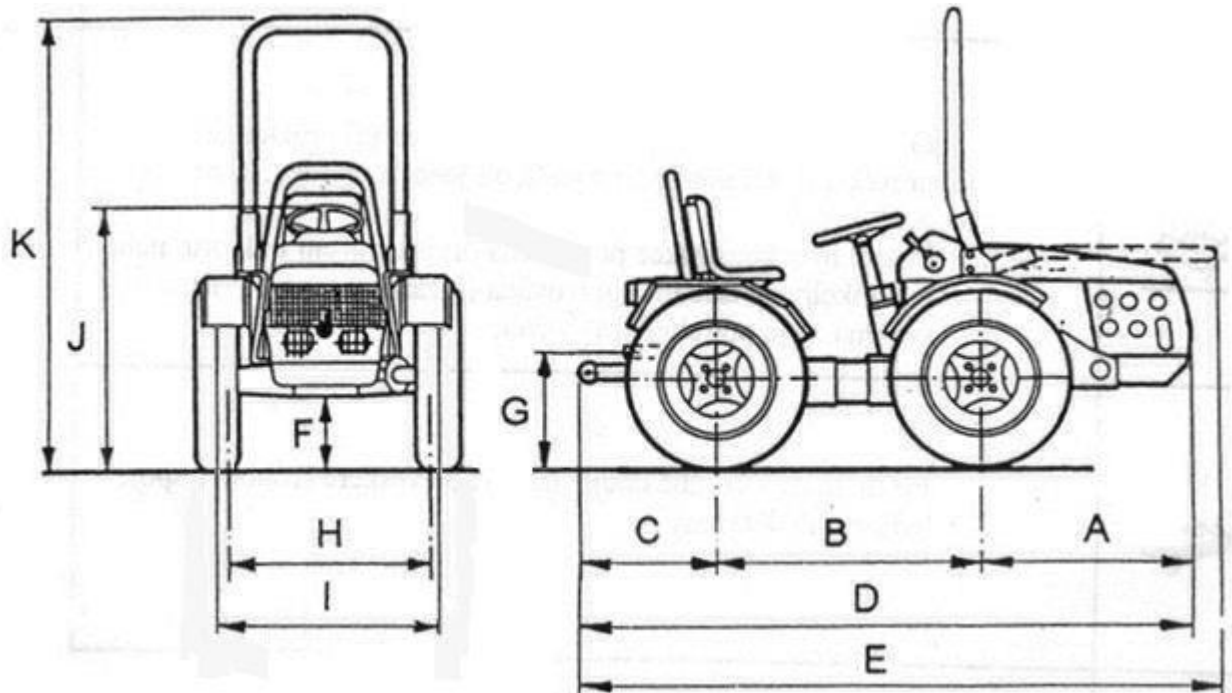
Trouble regarding connection shaft operation

TROUBLE	CAUSE	REMEDY
Mechanical clutch (only in tractor version AGT 835 T/S).	Clutch slips.	Replace clutch elements, contact authorized mechanical workshop*.

10 TECHNICAL DATA

10.1 TRACTOR DIMENSIONS

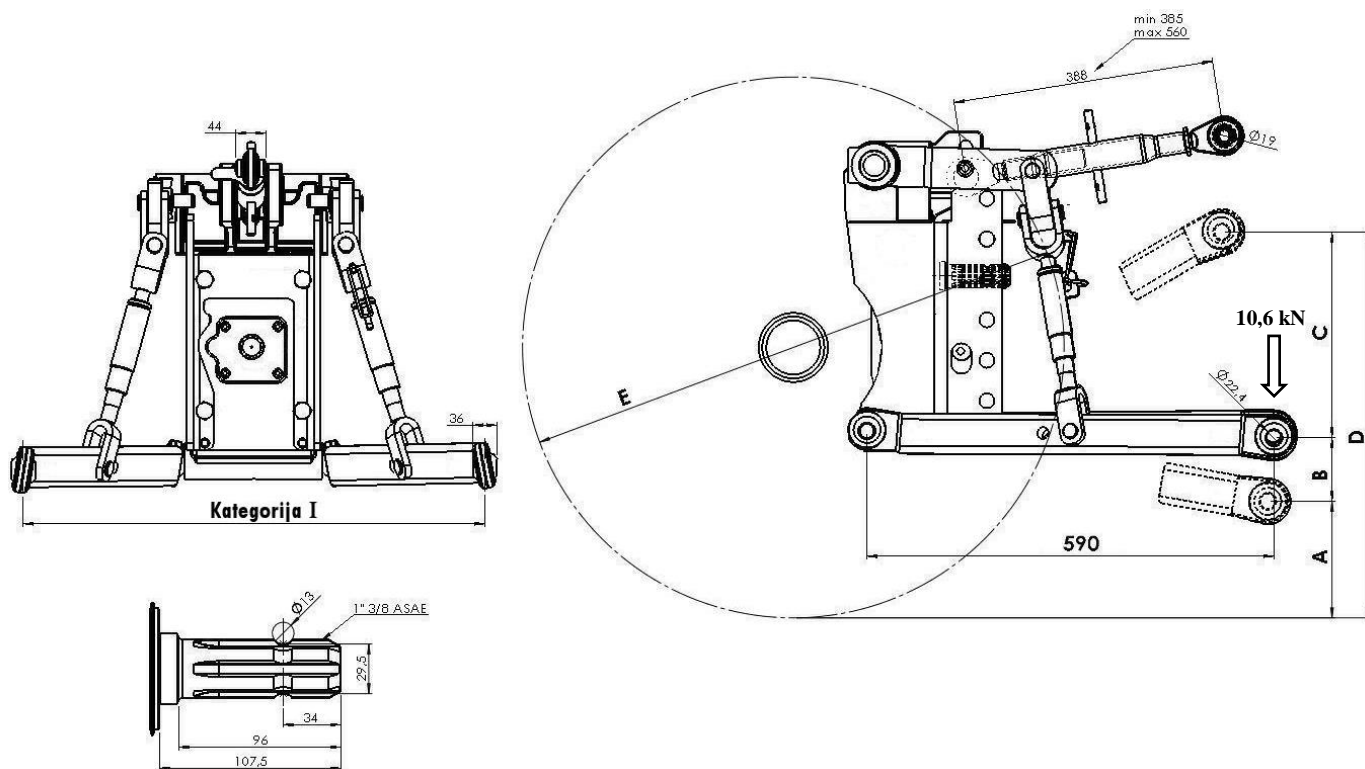
All measurements are in mm



				AGT 830/835		AGT 835 T/S		
A – distance between centre of front axle and end point of front part			standard		1020		1010	
			front hydraulics		1170		1230	
B – wheelbase						1240		
C – distance between centre of rear axle and end point on implement						760		
D – maximum length			standard		2895		3010	
			front hydraulics		3045		3230	
E – maximum length with lowered roll bar (without front hyd.)				2945		3060		
H – transmission axle distance			front axle		750		1000	
			rear axle					
AGT 830/835								
Tyres		K	K*	F	J	G	I	
6x16		1868	1821	214	1055	439	See chapter "TRACTOR AXLE LENGTHS"	
7,5x16		2000	1950	240	1130	470		
260/70 R16		1918	1870	224	1084	451		
31x15,5-15		1993	1942	239	1126	468		
27x10,5-15		1701	1659	180	961	400		
AGT 835 T/S								
Tyres		K	K*	F	J	G	I	
6x16		2036	1943	237	1111	439	See chapter "TRACTOR AXLE LENGTHS"	
7,5x16		2180	2080	263	1190	470		
260/70 R16		2090	1995	247	1141	451		
31x15,5-15		2172	2072	262	1186	468		
27x10,5-15		1854	1769	203	1012	400		

* with cabin

10.1.1 REAR LIFT MECHANISM DIMENSIONS



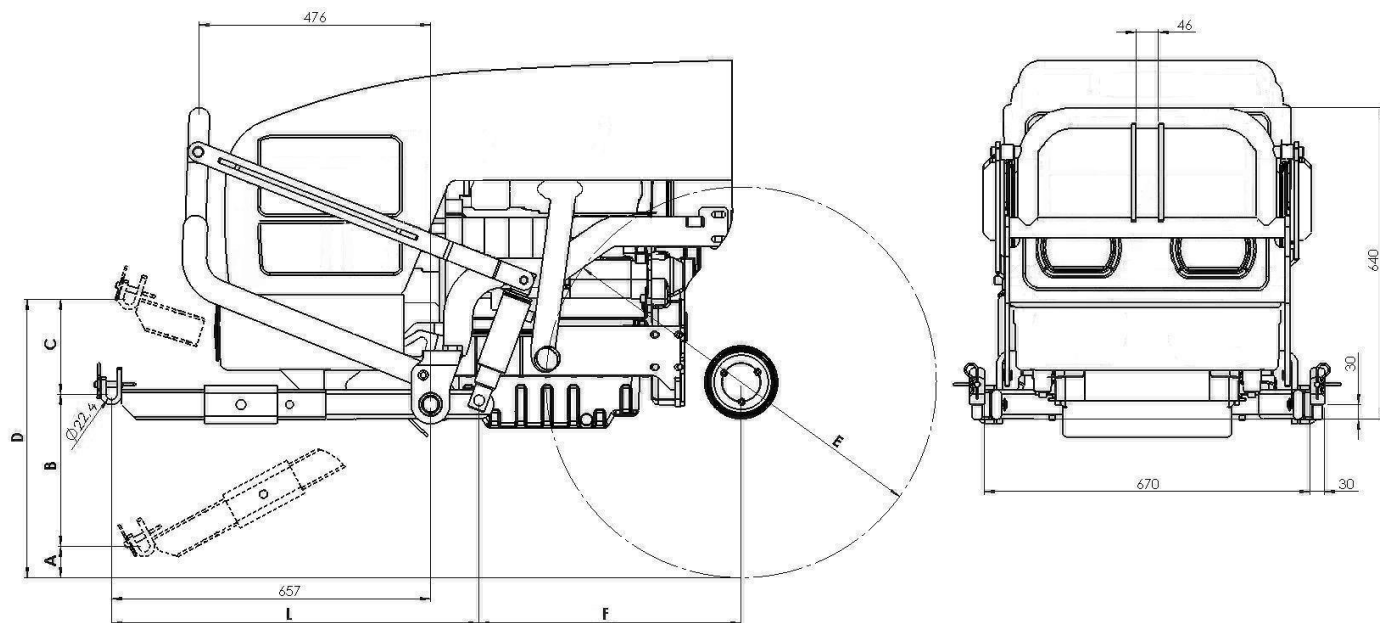
Height of rear lift mechanism according to tyres (measured from ground).
All measurements are in mm.

AGT 830/835					
Tyres	E	A	B	C	D
6x16	750	105	205	395	600
7,5x16	803	132			732
260/70 R16	770	115			715
31x15,5/15	800	130			730
27x10,5/15	683	38			638

AGT 835 T/S					
Tyres	E	A	B	C	D
6x16	750	228	55	360	643
7,5x16	803	255			670
260/70 R16	770	239			654
31x15,5/15	800	253			668
27x10,5/15	683	195			610

A – minimum height of rear lift mechanism
B – maximum arm lowering
C – maximum arm lifting
D – maximum height of rear lift mechanism
E – wheel diameter

10.1.2 FRONT LIFT MECHANISM DIMENSIONS



Height of front lift mechanism according to tyres (measured from ground). All measurements in mm.

AGT 830/835												
Tyres	E	F	L				A				B	
			L1	L2	L3	L4	A1	A2	A3	A4	B1	B2
6x16	750	550	706	756	806	856	40	16	- 8	- 32	194	218
7,5x16	803						66	42	18	- 6		
260/70 R16	770						50	26	2	- 22		
31x15,5/15	800						65	41	17	- 7		
27x10,5/15	683						6	- 18	- 42	- 66		
			B		C				D			
			B3	B4	C1	C2	C3	C4	D1	D2	D3	D4
6x16	750	550	242	266	246	261	276	291	480	495	510	524
7,5x16	803								506	521	536	551
260/70 R16	770								490	505	520	535
31x15,5/15	800								505	520	535	550
27x10,5/15	683								446	461	476	491

AGT 835 T/S												
Tyres	E	F	L				A				B	
			L1	L2	L3	L4	A1	A2	A3	A4	B1	B2
6x16	750	450	706	756	806	856	73	49	25	1	310	334
7,5x16	803						100	76	52	28		
260/70 R16	770						83	59	35	11		
31x15,5/15	800						98	74	24	0		
27x10,5/15	683						40	16	0	- 24		
			B		C				D			
			B3	B4	C1	C2	C3	C4	D1	D2	D3	D4
6x16	750	450	358	382	246	261	276	291	543	558	573	588
7,5x16	803								570	585	600	614
260/70 R16	770								553	568	583	598
31x15,5/15	800								569	584	598	613
27x10,5/15	683								510	525	540	555

E – wheel diameter

L1, L2, L3, L4 – length of adjustable arms

A – minimum height of front lift mechanism

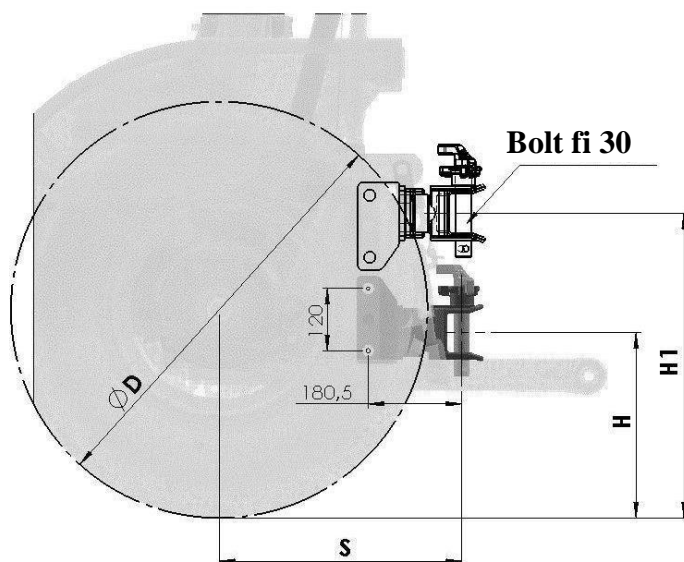
B – maximum arm lowering

C – maximum arm lifting

D – maximum height of front lift mechanism

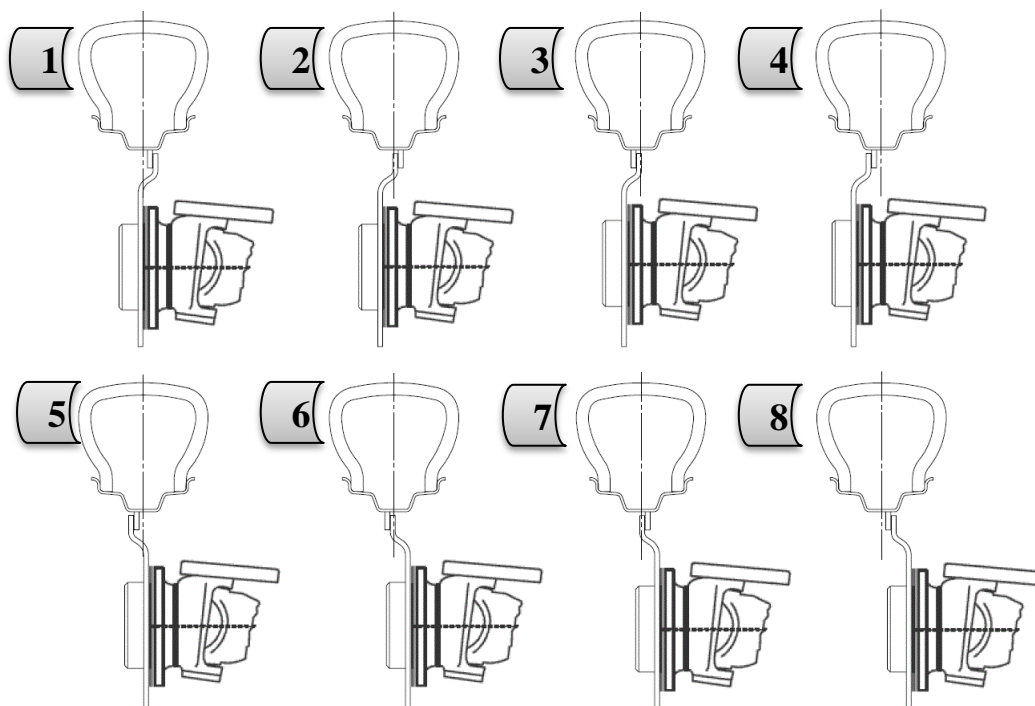
F – distance between wheel axle and front axle of hydraulic cylinder fastening

10.1.3 REAR TOWING HOOK HEIGHT



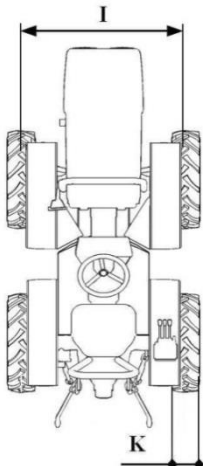
AGT 830/835 – AGT 835 T/S				
Tyres	Diameter (D) in mm	S	H	H1
6x16	750	390	313	633
7,5x16	803		340	660
260/70 R16	770		323	643
31x15,5/15	800		338	658
27x10,5/15	683		280	600

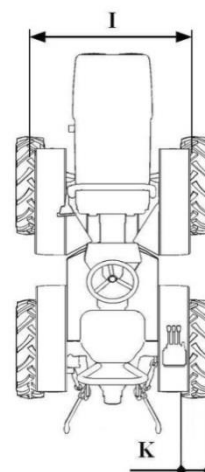
10.1.4 TRACTOR AXLE LENGTHS



Dimensions for axle length with adjustable rims.

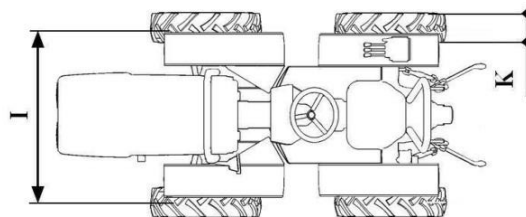
		AGT 830/835		AGT 835 T/S	
Type	DIMENSIONS (mm)	RIMS			
		5,5x16	W8x16	5,5x16	W8x16
		Tyres			
		7,5x16	260/70 R16	7,5x16	260/70 R16
1	I	800 *	862 *	1050 *	1112 *
2	I	735 *	792 *	985 *	1042 *
3	I	687 *	646 *	937 *	896 *
4	I	622 *	576 *	872 *	826 *
5	I	720 *	658 *	970 *	908 *
6	I	785 *	728 *	1035 *	978 *
7	I	833 *	874 *	1083	1124
8	I	898	944	1148 *	1194 *
	K	209	258	209	258





* Setting of rims is not suitable for installation on tractor, as there is a possibility of collision with transmission!

Dimensions for axle length with fixed rims.



		AGT 830/835			AGT 835 T/S	
RIMS		4,5x16	13LNx15	9x15	13LNx15	9x15
Tyres		6x16	31x15,5/15	27x10,5/15	31x15,5/15	27x10,5/15
DISTANCE		ET +10	ET -165	ET -104	ET -80	ET -54
Dimensions (mm)	I	730	1080	958	1160	1108
	K	170	394	267	394	267

ET – represents distance from centre of rim across width to internal fitting surface of rim or to surface, intended for fastening wheel to hub.



WARNING: At each change of axle length, make sure that the wheels do not touch the body or other parts of tractor during rotation or turning!



WARNING: When installing wheels, use correct torque to tighten nuts and bolts!

10.2 TYRES

10.2.1 TYRE PRESSURE

Tyres	Front pressure (bar)	Rear pressure (bar)
6x16	2,2	2,2
7,5x16	2,2	2,2
260/70 R16	2	2
27x10,5-15	0,8	0,8
31x15,5-15	0,8	0,8

10.3 TRACTOR WEIGHT

Table describes own weight of the tractor in driving condition, without implement or weights, with empty fuel tank and driver with his own weight (75 kg).

		AGT 830/835		AGT 835 T/S	
Description	Unit of measurement	Value			
		With roll bar	With cabin	With roll bar	With cabin
Total weight	kg	1150	1285	1040	1165
Weight on front axle	kg	730	745	670	690
Weight on rear axle	kg	420	540	370	475

10.3.1 MAXIMUM TECHNICALLY ALLOWED TRACTOR WEIGHT


AGT 830/835 – AGT 835T/S			
Maximum technically allowed weight (kg)		Maximum allowed load (kg)	
1940		2600	
Front axle	Rear axle	Front axle	Rear axle
840	1100	1300	1300

10.3.2 MAXIMUM LOAD ON AXLES AND IN CONNECTION POINT

Table describes weights for maximum allowed axle load and maximum vertical load in connection point (towing hook), according to tyre type.

AGT 830/835 – AGT 835 T/S				
Tyres	Axle load		Tyre load capacity (kg)	Maximum load on connection point (kg)
	Weight on front axle (kg)	Weight on rear axle (kg)		
7,5x16	1000	1200	675	450
260/70 R16			965	
27x10,5-15			820	
31x15,5-15			800	

Before installing towed implement, check table of maximum vertical and tensile load of tractor towing hook.

	WARNING: NEVER install (carried or towed) implements with technical characteristics, which are greater than the tractor!
---	---

10.3.3 MAXIMUM TENSILE LOAD OF CONNECTION POINT

Tractor can tow connections without brakes (trailers, cisterns etc.), implements with inertia brake or implements with independent mechanical brakes. Implement braking with independent mechanical brakes is performed by lever, installed on corresponding holder in the tractor.

AGT 830/835 – AGT 835 T/S	
Bremsart	Technically allowed weight of towed implement (kg)
Towed implement without independent brakes	500
Towed implement with independent (mechanical) brake	2500

10.4 WEIGHTS

Table shows type and amount of weights, which can be installed for better tractor stability and to increase towing power when using heavy implements.

AGT 830/835 – AGT 835 T/S							
Type	Material	Weight (kg)	Installation position	Fastening	Amount of weights (per wheel)	Amount of weights (per axle)	Amount of weights (maximum total weight on tractor) (kg)
Rear weight	Concrete	340	Rear lift mechanism	Connection points (bolts)	-	-	1 (150)
Wheel weights	Grey cast iron (SI)	40	kolo 6x16	Rim centre (4 bolts)	1	2	4 (160)
			kolo 7,5x16		1	2	
			kolo 260/70 R16		1	2	
		50	kolo 27x10,5-15		1	2	4 (200)
			kolo 31x15,5-15		1	2	

ALWAYS remove weights when disconnecting the implement to maintain tractor stability. If you leave weights on the tractor, when disconnecting implement, it becomes unstable.



WARNING: For proper tractor balance, install same amount of weights on both sides!

10.5 NOISE LEVEL

Table provides information on noise level, measured on the tractor under different operation conditions. Values were measured in accordance with testing method, in compliance with directives in force.

		AGT 830/835			AGT 835 T/S		
Description		Number of revolutions	Measured value dB (A)		Number of revolutions	Measured value dB (A)	
			With roll bar	With cabin		With roll bar	With cabin
Sound level in tractor surroundings	Sound level in tractor surroundings	3161	76,5		2893	80	79
	Sound level at tractor driving		75			82,5	81
Sound level in driver's seat	Sound level in driver's seat			86			86

10.5.1 DRIVER VIBRATIONS

Vibration level on driver's seat is calculated in accordance with standard in compliance with directive 78/764/EEC and subsequent amendments and can change, depending on driver's weight.

10.6 TECHNICAL DATA

TRACTOR TECHNICAL DATA		TRACTOR TYPE			
		AGT 830	AGT 835	AGT 835 T/S	
Engine		Lombardini LDW 9LD 625-2	Lombardini LDW 1603 B1	Yanmar 3TNV88-D	Lombardini LDW 1603 B1
Type		4-stroke, diesel			
Emission standard		EURO II	EURO III A		
Work capacity	cm³	1248	1649	1642	1649
Engine power	kW/KM	18,8 / 25,5	27 / 36,6	28,8 / 39	27 / 36,6
Max. torque	Nm	67 bei 2000 min ⁻¹	102 bei 1650 min ⁻¹	109,9 bei 1800 min ⁻¹	102 bei 1650 min ⁻¹
Injection		direct	indirect	direct	indirect
Max. number of revolutions	min ⁻¹	3000	2800	3000	2800
Cylinders/ aspiration	Nr./type	2/ atmosphärisch	3/ atmosphärisch		
Cylinder diameter/travel	mm	88 / 95	88 / 90,4	88 / 90	88 / 90,4
Compression ration		17.5:1	22:1	19:1	22:1
Fuel pump		Lombardini 629 6590.375	Lombardini 104.6590.376	Yanmar P/N 119225-52102	Lombardini 104.6590.376
Injectors		New Diesel NKLL87P -15240	Bosch DN0 SD 301	-	Bosch DN0 SD 301
Cooling		air	water		
Fuel consumption	g/kWh	186	280	243	280
CO ² emission	g/kWh	2,93	1,107	3,768	1,107
Fuel tank capacity	l	12	21		
Transmission		Constant 4-wheel drive			
Gearbox		not synchronised, 9 gears (6 forward / 3 reverse)	not synchronised, 9 gears (6 forward / 3 reverse)	Synchronized , 12 gears (8 forward / 4 reverse)	
Max. speed	km/h	19,8		33,7	30,8
Clutch		disc dry mechanical			
Rear connection shaft		standard 1 3/8" (34.9 mm) – 6 grooves DIN 9611			
Connection shaft speed	min ⁻¹	540/1000		540/1000	
Work brake		drum brakes, mechanical control with pedal			
Handbrake		mechanical control with lever on work brakes			
Differential lock		Mechanical control (only front lock)		Mechanical control (front and rear lock)	
Hydraulic system					
Oil filter insert	μ (mesh)	60			
Hydraulic pump					
Volume / max. pressure	cm³/bar	8 / 160			
Capacity at 3000 min ⁻¹	l/min	26			

TRACTOR TECHNICAL DATA		TRACTOR TYPE			
		AGT 830	AGT 835	AGT 835 T/S	
		Lombardini LDW9LD 625-2	Lombardini LDW 1603 B1	Yanmar 3TNV88-D	Lombardini LDW 1603 B1
Rear lift system		serial			
Type		three-point hitch			
Category		category I			
Control		hydraulic with lever			
Lifting capacity	kg	800			
Hydraulic connections		for single/double-acting cylinder for quick connection of work functions (3-4)			
Front lift system		optional			
Type		three-point hitch			
Category		category I			
Control		hydraulic with lever			
Lifting capacity	kg	400			
Hydraulic connections		for single/double-acting cylinder for quick connection of work functions (2)			
Front connection shaft		standard 1 3/8" (34.9 mm) – 6 grooves DIN 9611			
		control with hydrostatic clutch			
Electrical system					
Supply voltage	V	12			
Alternator	V-A	12-33	12-45	12-40	12-45
Electric starter	V-kW	12-1,7	12-2,2	12-2	12-2,2
Battery	V-Ah	12-66	12-73		
Lights					
Low beam	W	40			
High beam	W	45			
Position lights (front)	W	5			
Indicator	W	21			
Position lights (rear)	W	5			
Brake light	W	21			
Plate illumination	W	5			
Work light	W	55			
Internal light (cabin)	W	10			

10.6.1 OILS

	Engine	Gearbox and front bridge	Rear bridge	Hyd. oil tank
AGT 830 joint	15W40 3 L	Petrol GL 5 85W90-AC 10 L	Petrol GL 5 85W90-AC 10 L	Olma hydro VG 32 6.5 L
AGT 830 joint + fr. cardan				Olma hydro VG 32 7 L
AGT 835 joint	15W40 3.7 L	Olma transhydro 85W 11 L		-
AGT 835 joint + fr. cardan		Olma transhydro 85W 11.8 L		-
	Engine	Front bridge	Gearbox and rear bridge	
AGT 835 T/S	15W40 3.7 L	Agrotrak TDH premium 10W30 (Agip Rotra JD/F) 9.5 L	Petrol GL 5 85W90-AC 15 L	-
AGT 835 T/S + p. kardan		Agrotrak TDH premium 10W30 (Agip Rotra JD/F) 10.3 L		-

Fill drive elements only with defined oils or oils with equal specifications!

10.6.2 COOLING LIQUID

ECOLINIA cooling liquid, concentrate G11 (- 40 °C).

Cooling liquid capacity in tractor cooling circuit is approximately 6 litres.

10.6.3 LUBRICANTS

Lubricant	Description
FUCHS renolit bfx Colour: red	Calcium graphite lubricant <ul style="list-style-type: none"> • Grease for bearing, exposed to low speed, high load, mechanical restrictions and poor weather conditions. • Used for steering mechanism suspension, portable cardan, where reduced lubrication is required. • Not recommended for bearings, rotating at high revolutions.
INA GKS Colour: black	Calcium lubricant on mineral basis with colloid graphite <ul style="list-style-type: none"> • Suitable for lubrication of bearing and joints on agricultural, construction machinery, exposed to lower speeds and high loads.
INA bapleks T2 Colour: yellow	Barium complex lubrication grease <ul style="list-style-type: none"> • Used for lubrication of all types of bearings and parts, which come in contact with water.

10.7 CONNECTION SHAFT

During work, rotating axles of connection shaft on the tractor and implement must be aligned as best as possible. To ensure long life period of cardan shaft, it is recommended to avoid deflection angles, greater than 15°, during operation.

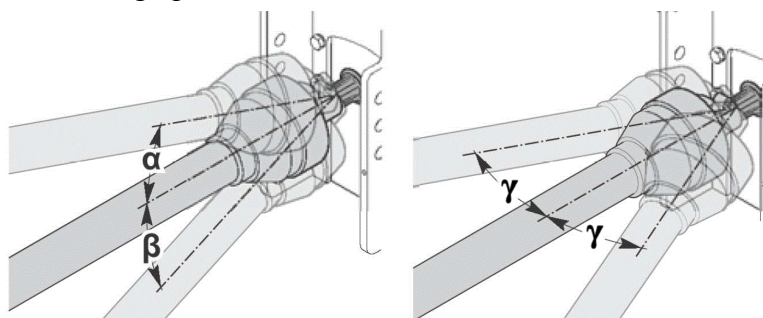


Table provides allowable deflection angles of cardan shaft on tractor, but you must first account for maximum allowable deflection angle of cardan shaft, provided by the manufacturer in instructions for use.

Description	Symbol	Greatest deflection
Vertical movement up	α	45°
Vertical movement down	β	30°
Side movement (with installed lift mechanism)	γ	35°
Side movement (without installed lift mechanism)	γ	55°

10.7.1 CONNECTION SHAFT PROPERTIES

Properties of connection shaft for mechanical drive:

- Connection shaft with independent mechanical steering (driven by engine), connection shaft rotates clockwise.
- Wedge shaft ASAE 1" 3/8.

10.7.2 CONNECTION SHAFT SPEED TABLE

TRACTOR VERSION AGT 830/835

Connection shaft, driven by engine										
Gear ration engine/connection shaft	i	Engine revolutions								
		1200	1400	1600	1800	2000	2200	2400	2600	2800
		Connection shaft revolutions								
Lever shifting (540)	4,34	276,3	322,4	368,4	414,5	460,5	506,6	552,6	598,7	644,7
Lever shifting (1000)	2,341	512,6	598,1	683,5	769	854,4	939,8	1025,3	1110,7	1196,2

TRACTOR VERSION AGT 835 T/S

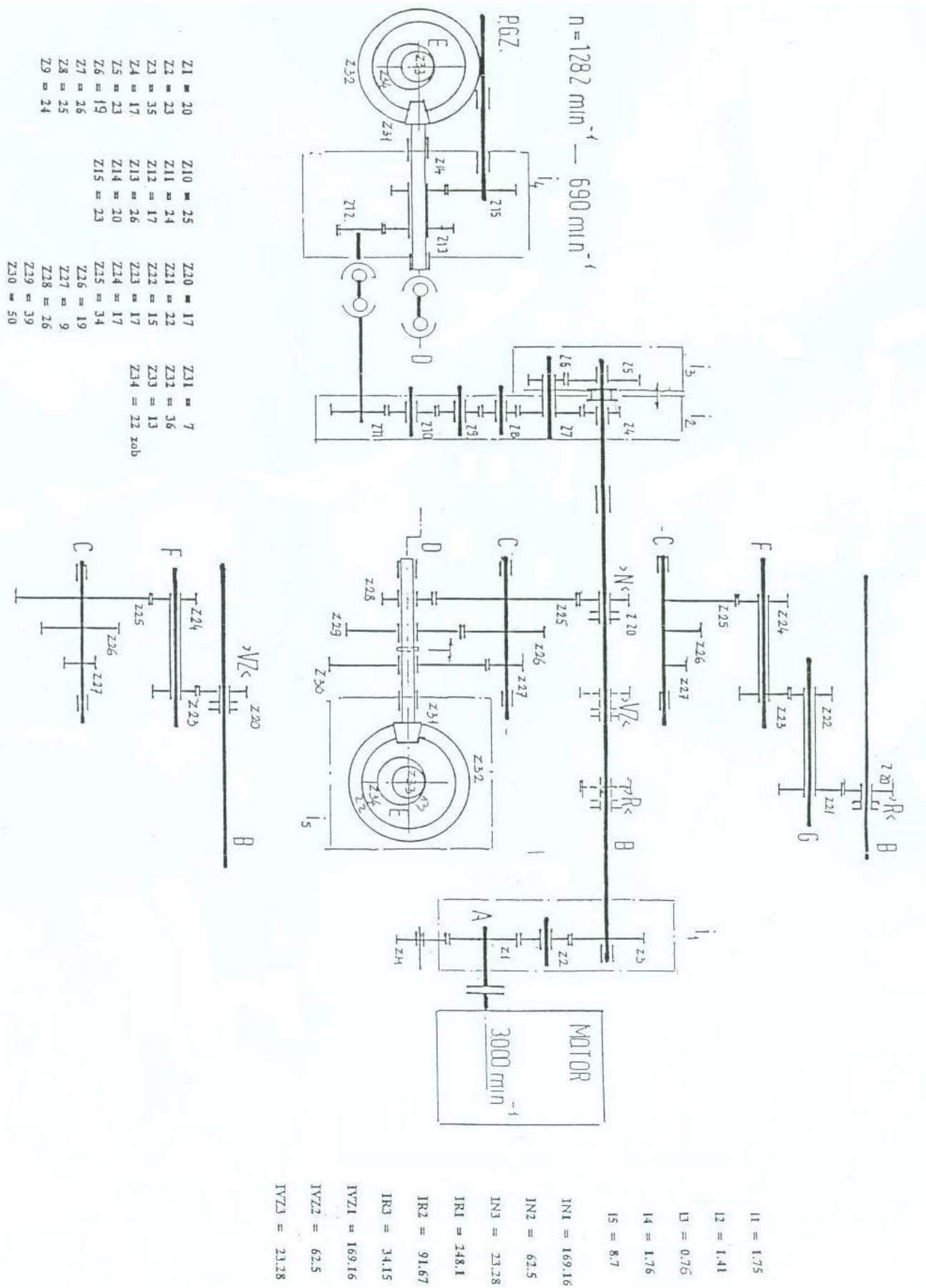
Connection shaft, driven by engine										
Gear ration engine/connection shaft	i	Engine revolutions								
		1200	1400	1600	1800	2000	2200	2400	2600	2800
		Connection shaft revolutions								
Lever shifting (540)	4,22	284,4	331,8	379,1	426,5	473,9	521,3	568,7	616,1	663,5
Lever shifting (1000)	2,357	509,1	594	678,8	763,7	848,5	933,4	1018,2	1103,1	1188

Connection shaft speed can be calculated also for engine revolutions, which are not provided in the tables, with the following equation:

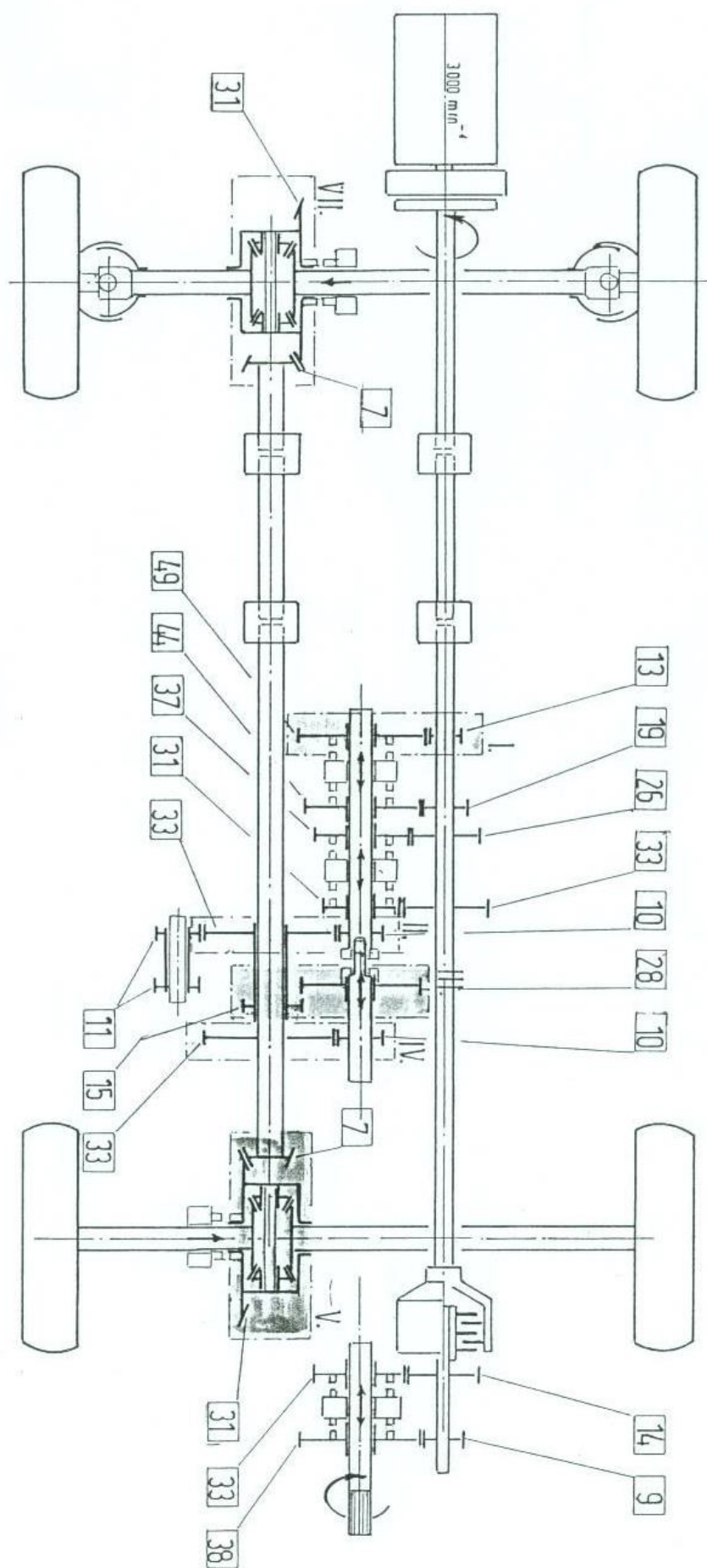
$$CONNECTION\ SHAFT\ REVOLUTIONS = \frac{NR.\ OF\ ENGINE\ REVOLUTIONS}{GEAR\ RATIO}$$

10.7 GEARBOX GEAR SCHEME

TRACTOR VERSION AGT 830/835



TRACTOR VERSION AGT 835 T/S



10.8.1 TRACTOR SPEED



Ž – turtle



Z – rabbit



R – reverse

Speed of tractor AGT 830 with engine "Lombardini LDW 9LD 625-2" with maximum torque and **2000 revolutions** of engine per minute.

AGT 830					
Tyre	Diameter (mm)	Gear	Ž	Z	R
7,5X16	803	1	1,22	1,79	1,79
		2	3,30	4,84	4,84
		3	8,86	12,99	12,99
6X16	750	1	1,14	1,67	1,67
		2	3,08	4,52	4,52
		3	8,27	12,13	12,13
260/70 R16	770	1	1,17	1,71	1,71
		2	3,17	4,64	4,64
		3	8,49	12,46	12,46
31X15,5-15	800	1	1,22	1,78	1,78
		2	3,29	4,82	4,82
		3	8,82	12,94	12,94
27X10,5-15	683	1	1,04	1,52	1,52
		2	2,81	4,12	4,12
		3	7,53	11,05	11,05

Speed of tractor AGT 835 with engine "Lombardini LDW 1603 B1" with maximum torque and **1650 revolutions** of engine per minute.

AGT 835					
Tyre	Diameter (mm)	Gear	Ž	Z	R
7,5X16	803	1	1,01	1,48	1,48
		2	2,72	3,99	3,99
		3	7,31	10,72	10,72
6X16	750	1	0,94	1,38	1,38
		2	2,54	3,73	3,73
		3	6,83	10,01	10,01
260/70 R16	770	1	0,96	1,41	1,41
		2	2,61	3,83	3,83
		3	7,01	10,28	10,28
31X15,5-15	800	1	1,00	1,47	1,47
		2	2,71	3,98	3,98
		3	7,28	10,68	10,68
27X10,5-15	683	1	0,86	1,25	1,25
		2	2,32	3,40	3,40
		3	6,22	9,12	9,12

Speed of tractor AGT 835 T/S with engine "Yanmar 3TNV88 – D" with maximum torque and **1800 revolutions** of engine per minute.

AGT 835 T/S					
Tyre	Diameter (mm)	Gear	Ž	Z	R
7,5X16	803	1	0,80	4,94	1,94
		2	1,31	8,05	3,16
		3	2,13	13,09	5,15
		4	3,22	19,84	7,80
6X16	750	1	0,75	4,62	1,81
		2	1,22	7,51	2,95
		3	1,99	12,23	4,81
		4	3,01	18,53	7,28
260/70 R16	770	1	0,77	4,74	1,86
		2	1,25	7,71	3,03
		3	2,04	12,56	4,93
		4	3,09	19,03	7,48
31X15,5-15	800	1	0,80	4,93	1,94
		2	1,30	8,02	3,15
		3	2,12	13,05	5,13
		4	3,21	19,77	7,77
27X10,5-15	683	1	0,68	4,20	1,65
		2	1,11	6,84	2,69
		3	1,81	11,14	4,38
		4	2,74	16,88	6,63

Speed of tractor AGT 835 T/S with engine "Lombardini LDW 1603 B1" with maximum torque and **1650 revolutions** of engine per minute.

AGT 835 T/S					
Tyre	Diameter (mm)	Gear	Ž	Z	R
7,5X16	803	1	0,74	4,53	1,78
		2	1,20	7,37	2,90
		3	1,95	12,00	4,72
		4	2,95	18,19	7,15
6X16	750	1	0,69	4,23	1,66
		2	1,12	6,89	2,71
		3	1,82	11,21	4,41
		4	2,76	16,99	6,68
260/70 R16	770	1	0,71	4,35	1,71
		2	1,15	7,07	2,78
		3	1,87	11,51	4,52
		4	2,83	17,44	6,85
31X15,5-15	800	1	0,73	4,51	1,77
		2	1,19	7,35	2,89
		3	1,94	11,96	4,70
		4	2,94	18,12	7,12
27X10,5-15	683	1	0,63	3,85	1,51
		2	1,02	6,27	2,46
		3	1,66	10,21	4,01
		4	2,51	15,47	6,08

Speed of tractor AGT 830 with engine "Lombardini LDW 9LD 625-2" with maximum torque and **3000 revolutions** of engine per minute.

AGT 830					
Tyre	Diameter (mm)	Gear	Ž	Z	R
7,5X16	803	1	1,83	2,68	2,68
		2	4,95	7,26	7,26
		3	13,29	19,49	19,49
6X16	750	1	1,71	2,50	2,50
		2	4,63	6,78	6,78
		3	12,41	18,20	18,20
260/70 R16	770	1	1,75	2,57	2,57
		2	4,75	6,96	6,96
		3	12,74	18,69	18,69
31X15,5-15	800	1	1,82	2,67	2,67
		2	4,93	7,23	7,23
		3	13,24	19,41	19,41
27X10,5-15	683	1	1,56	2,28	2,28
		2	4,21	6,17	6,17
		3	11,30	16,57	16,57

Speed of tractor AGT 835 with engine "Lombardini LDW 1603 B1" with maximum torque and **2800 revolutions** of engine per minute.

AGT 835					
Tyre	Diameter (mm)	Gear	Ž	Z	R
7,5X16	803	1	1,71	2,50	2,50
		2	4,62	6,77	6,77
		3	12,40	18,19	18,19
6X16	750	1	1,59	2,34	2,34
		2	4,32	6,33	6,33
		3	11,58	16,99	16,99
260/70 R16	770	1	1,64	2,40	2,40
		2	4,43	6,50	6,50
		3	11,89	17,44	17,44
31X15,5-15	800	1	1,70	2,49	2,49
		2	4,61	6,75	6,75
		3	12,35	18,12	18,12
27X10,5-15	683	1	1,45	2,13	2,13
		2	3,93	5,76	5,76
		3	10,55	15,47	15,47

Speed of tractor AGT 835 T/S with engine "Lombardini LDW 1603 B1" with maximum torque and **2800 revolutions** of engine per minute.

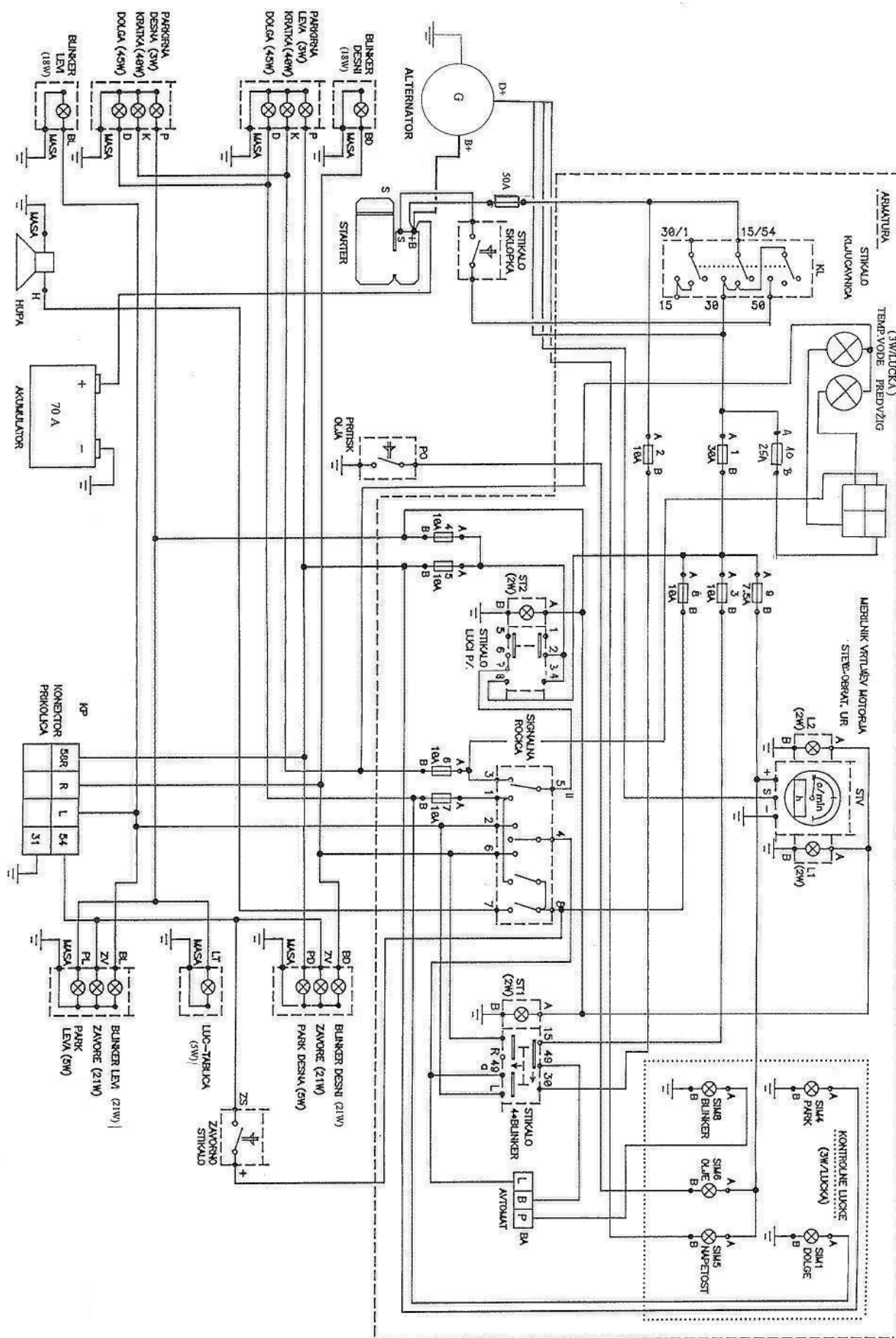
AGT 835 T/S					
Tyre	Diameter (mm)	Gear	Ž	Z	R
7,5X16	803	1	1,25	7,69	3,02
		2	2,03	12,51	4,92
		3	3,31	20,37	8,00
		4	5,01	30,87	12,13
6X16	750	1	1,17	7,18	2,82
		2	1,90	11,69	4,59
		3	3,09	19,02	7,48
		4	4,68	28,83	11,33
260/70 R16	770	1	1,20	7,37	2,90
		2	1,95	12,00	4,72
		3	3,17	19,53	7,68
		4	4,80	29,60	11,63
31X15,5-15	800	1	1,24	7,66	3,01
		2	2,02	12,47	4,90
		3	3,30	20,29	7,97
		4	4,99	30,75	12,08
27X10,5-15	683	1	1,06	6,54	2,57
		2	1,73	10,64	4,18
		3	2,81	17,32	6,81
		4	4,26	26,25	10,32

Speed of tractor AGT 835 T/S with engine "Yanmar 3TNV88 – D" with maximum torque and **3000 revolutions** of engine per minute.

AGT 835 T/S					
Tyre	Diameter (mm)	Gear	Ž	Z	R
7,5X16	803	1	1,34	8,24	3,24
		2	2,18	13,41	5,27
		3	3,54	21,82	8,58
		4	5,37	33,07	13,00
6X16	750	1	1,25	7,70	3,02
		2	2,03	12,52	4,92
		3	3,31	20,38	8,01
		4	5,01	30,89	12,14
260/70 R16	770	1	1,28	7,90	3,10
		2	2,09	12,86	5,05
		3	3,40	20,93	8,22
		4	5,15	31,71	12,46
31X15,5-15	800	1	1,33	8,21	3,23
		2	2,17	13,36	5,25
		3	3,53	21,74	8,54
		4	5,35	32,95	12,95
27X10,5-15	683	1	1,14	7,01	2,75
		2	1,85	11,41	4,48
		3	3,01	18,56	7,29
		4	4,57	28,13	11,05

10.9 ELECTRICAL CONNECTION OF TRACTOR

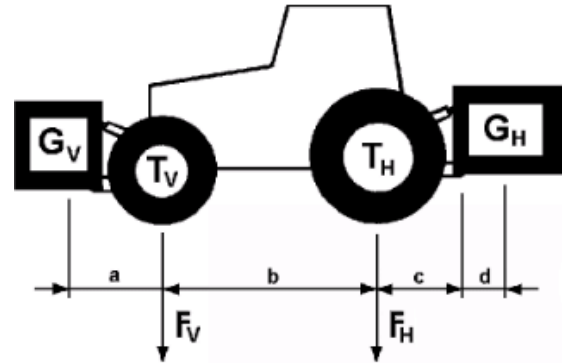
TRACTOR VERSION AGT 835



10.10 RECALCULATIONS OF TRACTOR LOAD

Combination of weight of tractor and connected implements on front and rear hydraulics must not exceed maximum allowed total weight, allowed axle load and tyre load capacity.

Front axle must always be loaded with at least 20 % of total tractor weight.



For calculation, the following data is required:

T_L - [kg] own weight of tractor

T_V - [kg] share of own weight of tractor on front axle

T_H - [kg] share of own weight of tractor on rear axle

G_H - [kg] total weight rear implement / rear weight

G_V - [kg] total weight front implement / front weight

a - [mm] distance between centre of gravity of front implement/weight and front axle

b - [mm] tractor wheelbase

c - [mm] distance between rear axle and axle of rear ball on lift lever

d - [mm] distance between axle of rear ball on lift lever and rear implement/weight

Rear implement or combination of front and rear implement

1) Calculation of minimum required load of front axle G_{Vmin}

$$G_{Vmin} = \frac{G_H \cdot (c + d) - T_V \cdot b + 0,2 \cdot T_L \cdot b}{a + b}$$

Front implement

2) Calculation of minimum required load of rear axle G_{Hmin}

$$G_{Hmin} = \frac{G_V \cdot a - T_H \cdot b + 0,45 \cdot T_L \cdot b}{b + c + d}$$

3) Calculation of actual load of front axle T_{Vtot}

(If the front implement with weight (G_V) on the tractor does not cause required load of front axle (G_{Vmin}), then you must weigh the front implement to achieve minimum load of front axle!)

$$T_{Vtot} = \frac{G_V \cdot (a + b) - T_V \cdot b - G_H \cdot (c + d)}{b}$$

4) Calculation of actual total weight G_{tot}

(If the rear implement with weight (G_H) on the tractor does not cause required load of rear axle (G_{Hmin}), then you must weigh the rear implement to achieve minimum load of rear axle!)

$$G_{tot} = G_V + T_L + G_H$$

5) Calculation of actual load of rear axle T_{tot}

$$T_{tot} = G_{tot} - T_{Vtot}$$

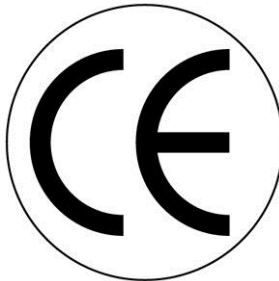
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