

ZETOR

6421 6441

7421 7441

8421 8441

1/2004

Operator's manual

<https://truckmanualshub.com/>

ZETOR



This operator's manual will help you to become familiar with the operation and maintenance of your new tractor. In spite of fact that many of you have reach experiences with operation of various tractors, please, read carefully all safety rules, operating instructions and the other information in this operator's manual. You will find a lot of new information and receive a perfect overview how to use the tractor with highest efficiency at various operations.

Your new tractor will be your reliable and long-time friend if observing the mentioned safety rules, tractor maintenance and safe operation

Manufacturer of Your tractor wishes you thousands of satisfactorily worked hours.

ZETOR
Brno

Information about technical specifications, design, equipment, material, and external appearance is valid in the time of printing this operator's manual. Manufacturer reserves all rights for changes.

CONTENTS

	Page
Location of serial numbers	7
Safety instructions for users	9
Preventive daily service	13
Acquaintance with tractor	21
Operation	51
Tractor running in	67
Transportation	73
Driving the agricultural machines	83
Hydraulic system	91
Hitches	103
Wheel tread setting	111
Ballast weights	121
Electrical installation	127
Tractor maintenance	137
Maintenance instructions	157
Adjustment	175
Main technical parameters	191
Index	215

The operator's manual contains description, operation and maintenance of standard and optional tractor equipment, which can the tractor equipped with. The option that is not a part of standard tractor equipment cannot be a subject of claim in case it is not assembled in the producer's factory. Service cheque book is not a part of operator's manual. This is a separate booklet that is passed to you at purchasing of your new tractor.

<https://truckmanualshub.com/>
TRACTORS Z 6421 - Z 8441

**TRACTORS WITHOUT FRONT
DRIVING AXLE (4 x 2):**

Tractor type	Engine output (kW)
Z 6421	45
Z 7421	53
Z 8421	60

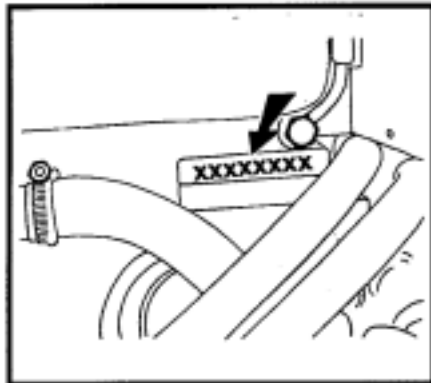
**TRACTORS WITH FRONT DRIVING
AXLE (4 x 4):**

Tractor type	Engine output (kW)
Z 6441	45
Z 7441	53
Z 8441	60

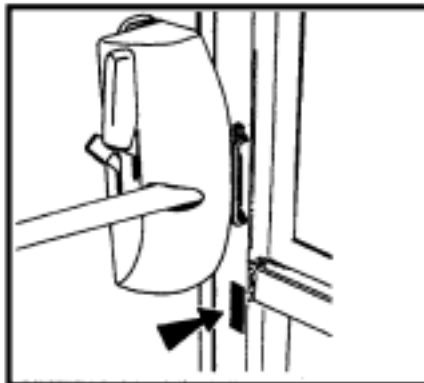


<https://truckmanualshub.com/>
LOCATION OF SERIAL NUMBERS

Engine serial No.



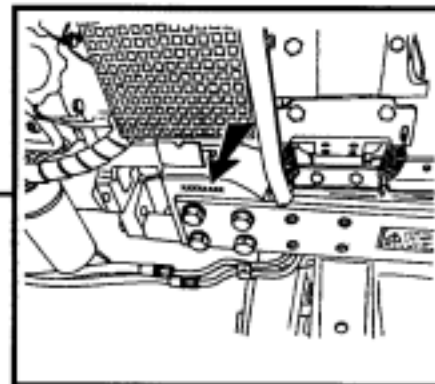
Cab serial No.



Tractor serial No. plate



Tractor serial No.



<https://truckmanualshub.com/>

LOCATION OF SERIAL NUMBERS

When you contact your authorized service dealer or the factory for order of service parts, always give the model and serial numbers of your tractor. For your convenience, write those numbers in the frames below.

Tractor model

Zetor 6421

Zetor 7421

Zetor 8421

Zetor 6441

Zetor 7441

Zetor 8441

Tractor serial number

Engine serial number

The "left", "right", "front" and "back" side of the tractor is determined by travelling direction.

Manufacturer reserves rights for changes of design and option, that improves the tractor features.



<https://truckmanualshub.com/>

SAFETY INSTRUCTIONS FOR USERS

Keep extreme attention when reading parts of operator's manual that are marked by these symbols.



You will find this symbol at all important warnings identifying the safety of tractor operation.

Keep these regulations and be extremely careful in these cases!

Inform your co-operators and other users about these messages.



Study carefully chapters marked by this symbol before starting with operating, servicing or adjusting the tractor.



You will find this symbol whenever important information on operation, adjustment and repairs of starter motor.

Keep these regulations and be extremely careful in these cases!



Chapters of this operator's manual marked by this symbol have relation to environment protection.

GENERAL SAFETY REGULATIONS

1. Only a trained operator having a valid driving license and being properly acquainted with operating and safety rules can operate the tractor.
2. Except of safety warnings mentioned in this operator's manual you must respect all general safety and traffic regulations of country where the tractor works.

PROPER CLOTHING

3. Do not wear loose clothing and free flying long hair.
4. Use suitable (prescribed) personal protection means (working boots, gloves etc.) at work.

STARTING ENGINE

5. Starting the engine when driving tractor downhill is forbidden.
6. Starting tractor by means of towing with another tractor or vehicle is allowed only when the pull bar is used.



7. Start the tractor from driver's seat only with the shifting lever in neutral position and with the clutch pedal depressed-down. Life hazard when starting by means of starter connector short circuit.
8. The key of the key switch must be in position "I".
9. When preheating engine by electrical heater, plug the heater first and connect the cable into electricity after. After

finishing of preheating disconnect the cable from electricity first.

OPERATION

10. Hoses of hydrostatic steering, brakes and fuel system must be checked and replaced in case of any damage indication. The damage indication is for example: cracks on hose surface, loosening of hose fittings (it is possible to verify it easy by pulling of hose from fitting) and mechanical damage of hose. It is necessary to replace the hoses with marked service life immediately after expiration of the marked service life.

11. Brake pedals must be latched at transportation with trailers and implementations on the road.

12. Brakes and steering must be permanently in perfect condition.

13. Driving downhill without shifted gear is forbidden!

14. Pay special attention when driving on hilly, muddy, sandy, icy and uneven terrain.

15. Do not exceed the max. specified inclination angle that is max. 11°. Respectively 12° for tractors with front driving axle.

16. Do not exceed the max. total weight of trailers mentioned in the tractor serial number plate or at the rear fender.

17. Do not use the differential lock when driving into the turning.

<https://truckmanualshub.com/>

SAFETY INSTRUCTIONS FOR USERS

18.It is forbidden to get out or into the driving tractor.

19.Reduce the travel speed to 15 km.h^{-1} when transporting agricultural implements hitched in the front three point hitch.

20.The front axle load must not be lower than 18 to 20 % of immediate total tractor set weight when transporting agricultural implements hitched in rear hitches.

21.Reduced gears 1R, 2R, 3R must not be used in case that tractors Z 7421, Z 7441, Z 8421, Z 8441 are implemented with machines and implements having a big traction resistance when engine speed is dropping and the tendency of engine is to be stopped.

22.Reduced gears 1R, 2R must not be used in case that tractors Z 6421, Z 6441 are implemented with such machines.

TRANSPORTATION OF PERSONS, OPERATION

23.Number of persons transported by tractor must not exceed number mentioned in tractor technical license.

24.Persons, that are not authorized to work with attached implement, must not stand between tractor and hitched implement (machine).

25.Make sure neither any person nor any obstacle allows driving before starting tractor move.

26.Max. allowed travel speed of tractor and trailer equipped with air trailer brakes is 30 km.h^{-1} . Only tractor models Z 6441, Z 7441, Z 8441 equipped with braked front driving axle can travel by max. allowed speed (tractor and trailer or semi-trailer) 40 km.h^{-1} .

TRACTOR RESCUE AND PUSHING

27.To recover the stack tractor use a tow bar or cable.



Never use chains! Rupture of the chains represents a mortal danger!

28.It is life dangerous to stand near the rope when recovering the tractor.

29.Front hook assembled on front tractor frame serves for pulling of the tractor alone only, i.e. without trailer or another implement.

30.Never use free wooden blocks or bars put between tractor and pushed subject when pushing other vehicles (trailers, implements etc.)

LEAVING OF TRACTOR

31.Do not park the tractor with attached implement in lifted position.

32.Do not forget to brake the tractor with parking brake (shift the gear), remove the key from key switch and lock the cab before leaving the tractor.

33.At tractor equipped with reversor gear, shift the reversor lever into forward drive position.

34.Usually use the left-hand side tractor door when leaving the tractor. Look round whether any vehicle is coming, that could jeopardize your safety when leaving the tractor.

35.Use steps and handles when leaving the tractor. When leaving the tractor by the right-hand side door pay attention being in space of shifting lever and hand throttle control.

36.Brake the tractor with parking brake before leaving tractor with running engine.

AT STOPPED ENGINE ONLY

37.All activities connected with refuelling, cleaning, lubricating and adjusting tractor or attached implement can be done at stopped engine and stopped moving tractor parts only, except of brake, hydraulics and charging function check.

38.It is always necessary to stop the engine before removing of hood. The engine can run in a closed building or room only when sufficient ventilation works. Exhaust gases are health dangerous.

PRINCIPLES OF FIRE PREVENTION

39.Refuel the tractor preferentially after finishing work and at stopped engine.

<https://truckmanualshub.com/>

SAFETY INSTRUCTIONS FOR USERS

40. Do not refuel the fuel tank up to the top in summer season. Wipe the fuel immediately when spilled.

41. Do not refuel the tractor nearby open flame and do not smoke.

42. Do not smoke and do not use open flame when inspecting the battery electrolyte level.

43. Keep properly the fire prevention regulations in areas with increased fire hazard (hay-lofts, straw-stocks etc.).

44. If the tractor is equipped with a fire extinguisher, keep it always ready for use.



HEALTH AND ENVIRONMENT PROTECTION

45. Tractors are not furnished with special filters of air that is sucked to the cab. Therefore the tractors are not intended for work with aerosols and other substances harmful to health. Kerosene, diesel fuel, mineral oils and other products from crude oil used for operation and maintenance of tractor may cause an injury in case of direct contact with skin and it can irritate mucous membranes, eyes, digestive or respiratory organs. Some of them can cause poisoning when swallowed.

46. The operators who enter in contact with oil products are obliged to keep safety and hygienic instructions consistently, make use of appropriate

protecting means, and work in well-ventilated rooms.



MANIPULATION WITH CRUDE-OIL PRODUCTS

47. After finishing work, wash yourself with a non-irritant agent and treat your hands with a suitable skin ointment or cream.

48. When connecting and disconnecting the quick couplers of hydraulic circuit, remove – with a piece of any cloth – the residual oil, which remains in the coupler socket or possibly at the plug.



WASTE DISPOSAL

49. When disposing the tractor or some of its parts (including the service liquids), as soon as their service life is over, every body is obliged to proceed in accordance with the provisions of the relevant laws and regulations. In the manufacturer's country it is the Law No. 185 / 2001 coll. on wastes (§ 36 to 38) together with its procedural regulations (particularly the decree of the Ministry of Environment No. 383 / 2001 coll. dealing with details on waste manipulation - § 18 and 19). The last tractor seller is obliged – by the Law on wastes – to inform the consumer – when selling the tractor – on the ways of taking back some of the

consumed parts of the tractor. In question are the oils and other service liquids, storage batteries, and tires. These components must be accepted back from the consumer free of charge.

PREVENTIVE DAILY SERVICE

50. Do this service every day or at least every 8 to 10 hours.

SAFETY CAB

51. If corrosion, crash or other accident cause damage of the frame of safety cab it is necessary to replace the cab.

AIR-CONDITIONING

52. In any case it is not allowed to disassemble, turn or manipulate in another way the screw joints of the air-conditioning system, because sudden leak of the coolant and quick local cooling may occur. Contact or freezing of components in hands may result in serious injury of some tissues.

53. The air-conditioning system is equipped with quick couplers, which allow separation of the cab from the tractor body if necessary, without any leak of the coolant. Entrust the interventions into the air conditioning system to the service specialists.

<https://truckmanualshub.com/>

SAFETY INSTRUCTIONS FOR USERS

ELECTRICAL INSTALLATION



54. *No additional interventions into the tractor electrical equipment (connection of other electrical appliances) are allowed because of its possible overloading!*

55. The values of electrical installation are:

Nominal voltage 12 V =

Ground minus pole (-) pole

Using of starting trucks or starting aid devices with different voltage or polarity causes serious failures of tractor.

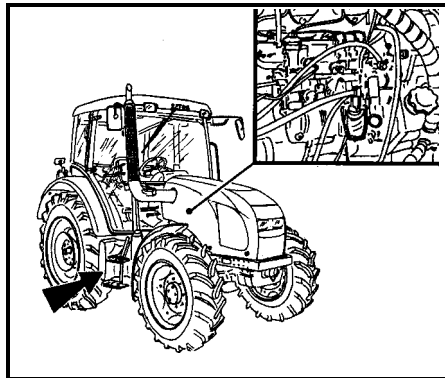
56. It is necessary to be careful when manipulating with the battery and to avoid short circuits. Turn off the battery switch at tractors equipped with this switch when manipulating with the battery.

57. Tractors Z 6421- Z 8441 must not be run with disconnected battery, because serious failure of tractor could occur.

PREVENTIVE DAILY SERVICE

Do this service every day or at least after every 8 to 10 operating hours.

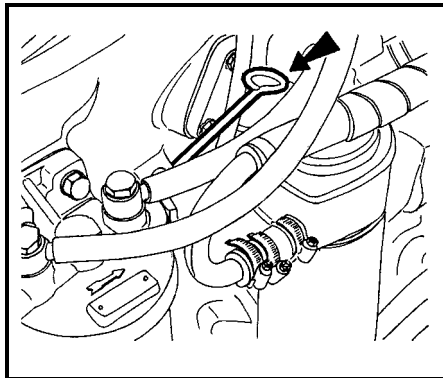




C103

FUEL SYSTEM LEAKAGE

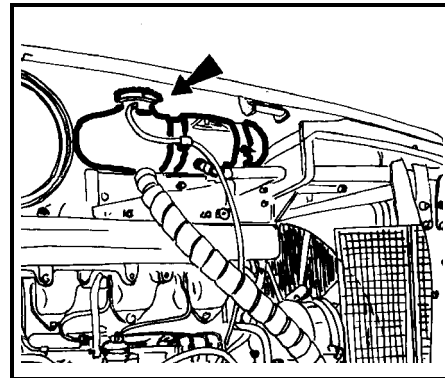
Check the fuel system for leakage including the draining plug of the fuel tank. Repair immediately any leaks.



C104

ENGINE OIL LEVEL

Oil dipstick is situated at the right-hand side of engine. After unscrewing and removing of oil dipstick check the engine oil level. Then check connections of lubrication system for leakage. Maintain oil level between the dipstick marks.



C105

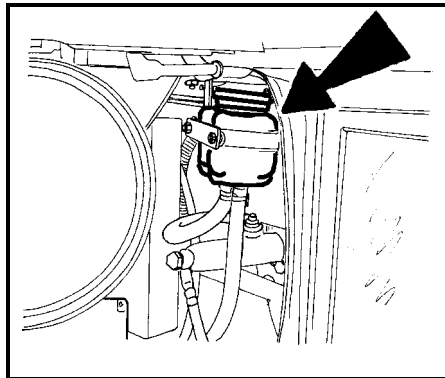
COOLING SYSTEM

Check connections of engine cooling system for leaks and coolant level in the expansion tank. The expansion tank is accessible after removing the right-hand side part of hood. Add the missing coolant up to the upper level that is marked with gauge mark MAX. Minimum permissible coolant level is marked with gauge mark MIN.



Release the overpressure filler cup only after cooling down of coolant. Danger of scalding!

PREVENTIVE DAILY SERVICE



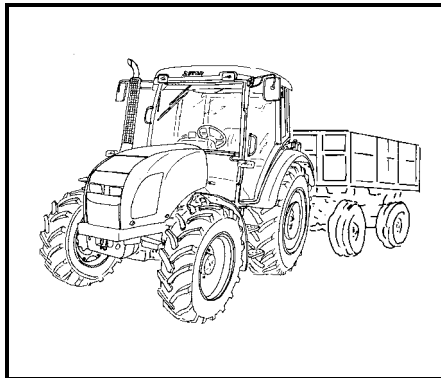
C106

FLUID SERVICE BRAKES

Check leaks of fluid brakes, fluid control of clutch and brake fluid level in the brake fluid expansion tank. The expansion tank is accessible after removing the left-hand side part of hood. Keep the brake fluid level within the range from $\frac{3}{4}$ of vessel volume (maximum level) up to $\frac{1}{2}$ of vessel volume (minimum level).



Keep absolute cleanness when handling with brake fluid. Daily before beginning of work with tractor check the brake fluid level.



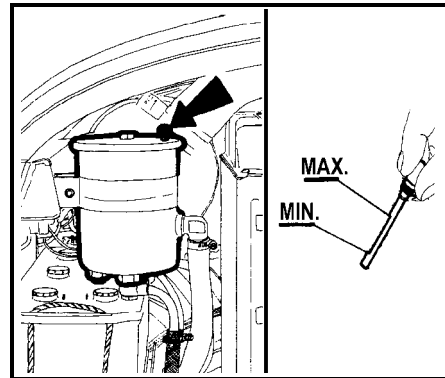
C107

AIR BRAKES OF TRAILER

Check the air brake system leak and air break efficiency of tractor with trailer.

HYDRAULIC BRAKES OF TRAILER

Check the hydraulic brake system leak and hydraulic break efficiency of tractor with trailer.



C108

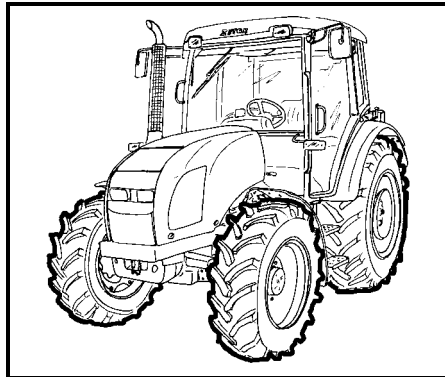
HYDROSTATIC STEERING

Check oil level in the hydrostatic steering oil tank with dipstick.

The hydrostatic steering oil tank is accessible after removing the left-hand side part of hood. In case of need refill oil up to the mark at the dipstick, which determines right oil volume.

Check state of all hoses of hydrostatic steering circuit for damage and oil leak. Retighten bolts and nuts of steering tie-rods and arms.

PREVENTIVE DAILY SERVICE



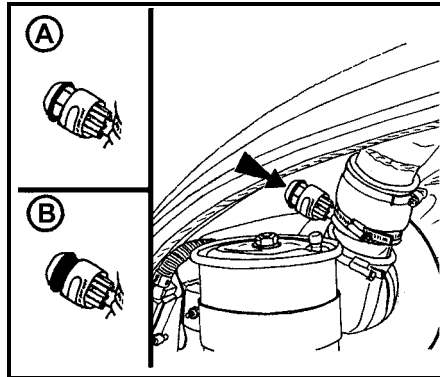
C109

TIRES AND WHEELS

Check the inflation air pressure of front and rear tires. Inflate them up to the recommended pressure according to operating conditions. Check, eventually retighten bolts of front and rear wheels (Connections rim / disc and disc / wheel shaft).



Never drive tractor with loosened bolts of wheels!



C110

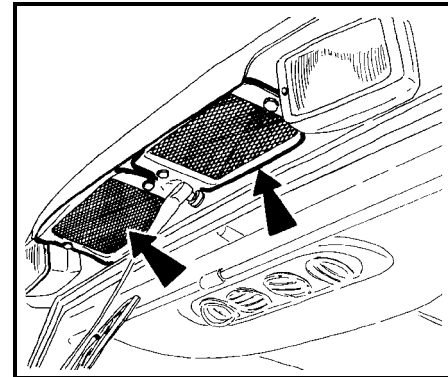
AIR CLEANER

After signalling of the clogging indicator it is necessary to perform maintenance of the cleaner.

The indicator is accessible after removing of the left-hand side part of tractor hood. It is situated near the suction pipe elbow.

Clogging is mechanically signalled with red field that appears after clogging of the filtration elements directly at the clogging indicator.

A	Cleaner is not clogged.
B	Cleaner is clogged, perform maintenance. See chapter Maintenance instructions.



C111

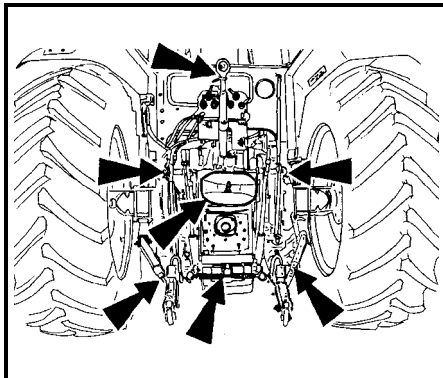
CAB FILTRATION

Check and eventually clean cab filters located under the roof in front part.

Filter exchange interval depends upon dustiness of working condition.

The partial regeneration of filters can be done by shaking-out or blowing by press air.

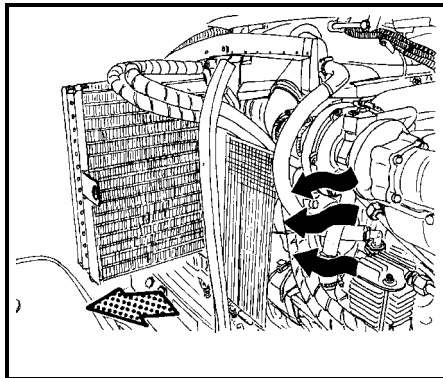
Cleaning or replacing of filtration elements can be performed after removing of grills located in front of cab roof.



C112

HITCHES

Check the state of hitches and attachments including the trailer.



C113

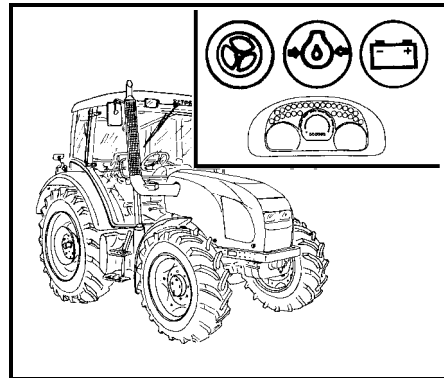
AFTER OPERATION WITH FRONT IMPLEMENTS

After operation with front implements:

- Check the connections of hydraulic control circuit of the front three-point hitch for leaks

Clogging of coolers:

- Remove the side part of hood
- *Loosen and pull the air-conditioning condenser to the left-hand tractor side.
- Clean the front part of engine radiator (air-conditioning condenser) by means of pressured air (blow air in direction from the engine).
- Remove the rest of impurities from the space under the bonnet (otherwise their repeated suction might appear).



C114

SHORT FUNCTIONAL TEST

Check if the control lamps of hydrostatic steering failure, engine lubrication and battery charging are “off” after engine starting. Check function and leaks of hydraulic circuits.

NOTE

NOTE

NOTE

ACQUAINTANCE WITH TRACTOR

<https://truckmanualshub.com/>

	Page
Safety cab	23
Door opening from outside.....	23
Door opening from inside.....	23
Rear window.....	24
Side window	24
* Tiltable roof lid	24
* Passenger's seat	25
Toolbox.....	25
Opening for implementation purposes	25
Rearview mirrors	25
Washer nozzle.....	26
Washer tank	26
Washer control	26
Driver's seat Mars Svratka.....	27
Adjustment for driver's weight.....	27
Longitudinal adjustment.....	27
Vertical adjustment	27
Driver's seat Grammer.....	28
Adjustment for driver's weight.....	28
Longitudinal adjustment.....	28
Control panel of heating, *air-conditioning, *radio.....	29
Control of heating valve (A)	29
Control of blower (B).....	29
*Air-conditioning switch (C)	29
Control of air circulation in cab (D).....	30
Right function of heating and air-conditioning system	30
Fast heating the cab space.....	30
Fast cooling the cab space	31
Operation of heating or air-conditioning during operation of tractor	31
Immediately after cooling down the cab	31
Heating and airconditioning outlets, *radio speakers	32
Defrosting the front windshield.....	32
Control panel on right cab pillar	32
Tiltable steering wheel	33
Angle adjustment.....	33
Telescopic adjusting	33

Tractor user must be properly acquainted with recommended operating and safety rules for safe tractor operation in advance. It is too late to do it within operation!

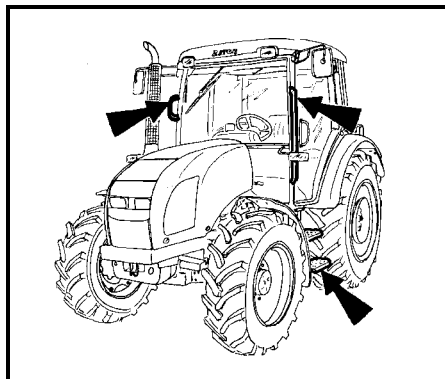
ACQUAINTANCE WITH TRACTOR

<https://truckmanualshub.com/>

	Page
Dashboard	35
Switches	36
Light switch (a)	37
Switch of grill and cab headlight (b)	37
Warning light switch (e).....	37
Front wheel drive switch (f)	38
Push button of rear, front differential locks (j)	38
Turn signal, headlight and horn toggle switch (k)	38
Key switch	39
Key in "0" position.....	39
Key in "I" position.....	39
Key in "II" position.....	40
Hand throttle control lever	40
Stopping device	40
PedalS and levers.....	41
*Torque multiplier	41
Signalisation of torque multiplier funktion.....	41
Safety rules for work with torque multiplier	41
Gear shifting lever.....	42
Gear shifting scheme.....	42
Shifting lever of road speed and reduced speed	42
PTO selection control lever	43
* PTO speed control lever 540 or 1000 rpm.....	43
* PTO speed control lever 540 or 540 E rpm	43
* Shifting lever of creeping speed reductor	44
* Reversor shifting lever	44
Parking brake lever, PTO shaft control lever and pick up hitch control lever.....	44
* Front PTO clutch valve control lever.....	45
Battery switch	45
Tractors with travel speed 40 km.h ⁻¹	45
Fuel tank.....	46
Draining plug of fuel tank	46
Average fuel consumption in litres per operating hour of Zetor tractor.....	46

<https://truckmanualshub.com/>

ACQUAINTANCE WITH TRACTOR



C12

SAFETY CAB

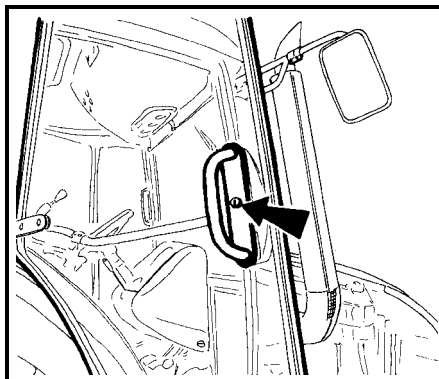


Generally use left side of the tractor for entering and leaving the cab.

Use steps for entering and leaving the cab and use handles.

Take high care in the space of the gear shifting lever and hand throttle control lever.

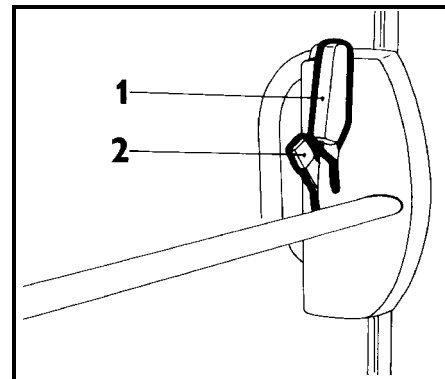
*Coloured (tinted) glasses of the cab can be ordered as an option.



C120

DOOR OPENING FROM OUTSIDE

Cab doors can be locked from outside. After unlocking depress the lock button and by pulling the handle open the door.



C121

DOOR OPENING FROM INSIDE

1. Lever for door opening from inside

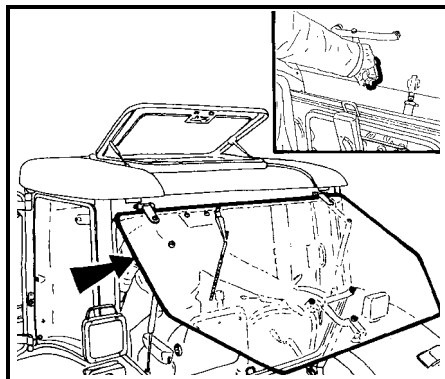
2. Lever for lock opening from inside

Door is kept in fully opened position with a gas strut.

Driving with opened door is not recommended because the door might be damaged.

<https://truckmanualshub.com/>

ACQUAINTANCE WITH TRACTOR



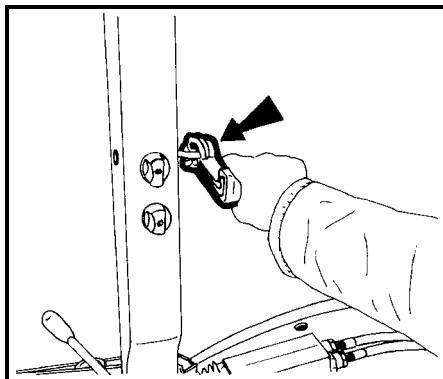
C122

REAR WINDOW

Rear window is equipped with handle and is kept in the open position by gas struts.



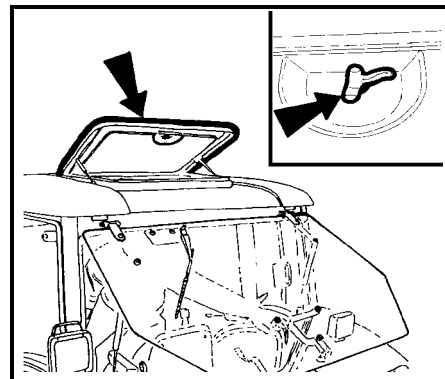
We recommend to latch the window in closed position when driving on uneven terrain - danger of window cracking. Before starting work with machines implemented in the rear three point hitch be sure that the interference between hitched implement and opened rear window is avoided at the maximum lifting of the rear three point hitch. In case of interference we recommend to work with closed window.



C123

SIDE WINDOW

A plastic latch locks the side window in half-opened position.



C124

* TILTABLE ROOF LID

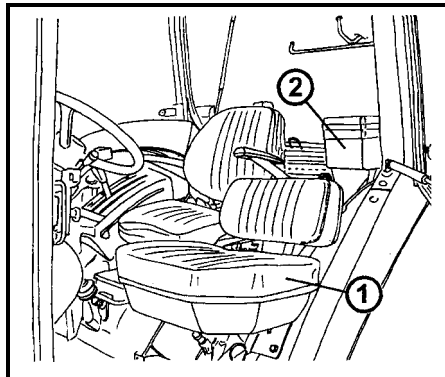
The tiltable roof lid can be opened by turning the arresting lever and by half-opening.



Tractor total height is increased when opened lid. Therefore always close the lid when passing through low profiles or when parking there.

<https://truckmanualshub.com/>

ACQUAINTANCE WITH TRACTOR



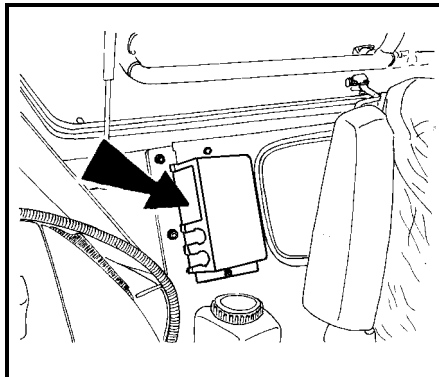
C125

*PASSENGER'S SEAT

Passenger's seat (1) is tiltable and is situated on the left cab fender. For facilitating the access to the driver's seat, it is possible to tilt the passenger's seat upwards.

TOOLBOX

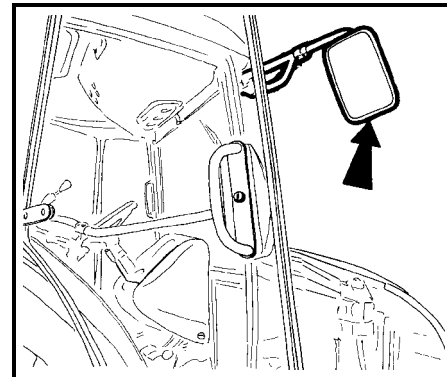
The toolbox (2) is situated at the left side of the driver's seat.



C126

OPENING FOR IMPLEMENTATION PURPOSES

The bottom window is rigid and is equipped with opening for connection of controls with attached implements.



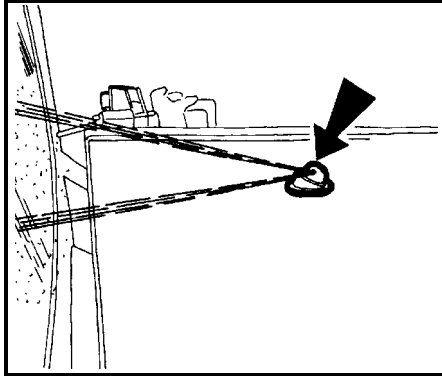
C127

REARVIEW MIRRORS

Adjust rearview mirrors before driving or starting the job to be able to see the entire road or the working field.

<https://truckmanualshub.com/>

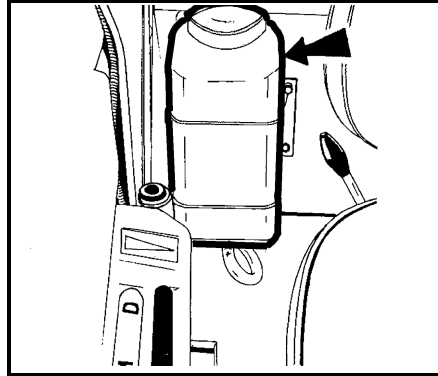
ACQUAINTANCE WITH TRACTOR



C128

WASHER NOZZLE

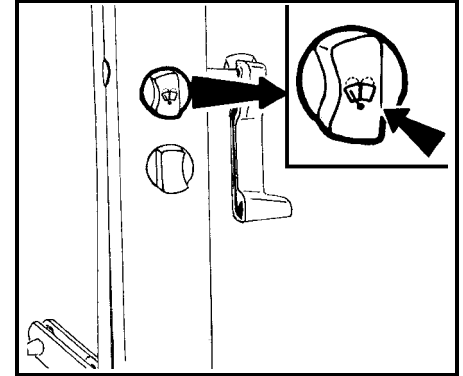
The washer nozzle is situated in the upper part of the hood and is adjustable by needle or steel wire of maximum diameter 0,8 mm.



C129

WASHER TANK

The washer tank is located inside the cab, on the right hand side of rear wall behind the driver's seat. The washer tank capacity is 2,5 litres. Antifreeze mixture for washers must be used in winter season for filling the washer tank.



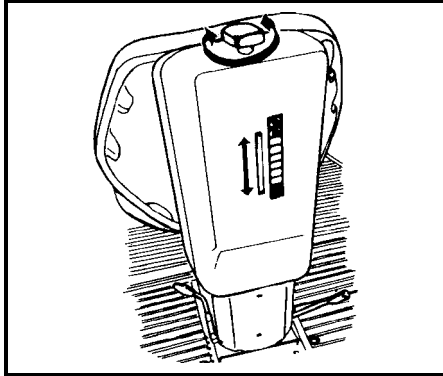
C130

WASHER CONTROL

The windshield washer sprays after pressing the switch of front two-speed wiper. This switch is located on the right cab pillar. Maximum time of uninterrupted operation of washer pump is 20 s.

<https://truckmanualshub.com/>

ACQUAINTANCE WITH TRACTOR



C131

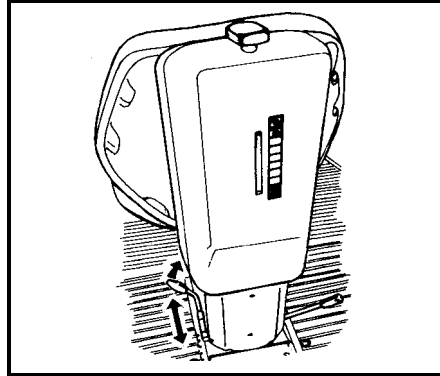
DRIVER'S SEAT Mars Svratka ADJUSTMENT FOR DRIVER'S WEIGHT

The suspended seat is adjustable for driver's weight from 50 up to 120 kg. Adjustment is done by turning of square knob. Weight indicator is located in the slot of rear seat cover. Spring stroke is 120 mm.



Do not adjust the seat when driving!

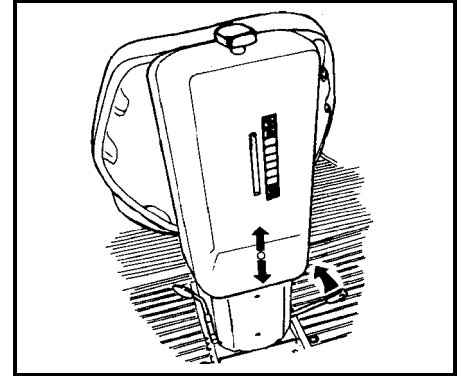
Danger of accident!



C132

LONGITUDINAL ADJUSTMENT

The seat can be longitudinally adjusted within range ± 75 mm (11 positions) after unlocking of left hand side lever.



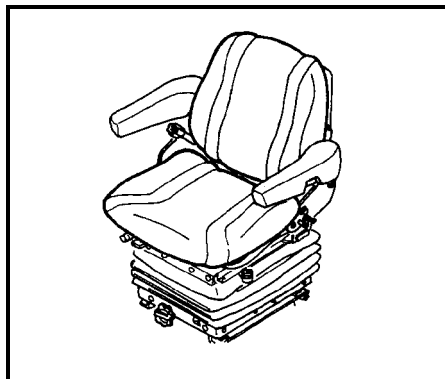
C133

VERTICAL ADJUSTMENT

Vertical seat adjustment is done by the right hand side lever; from the middle position to two marginal positions within range ± 30 mm.

<https://truckmanualshub.com/>

ACQUAINTANCE WITH TRACTOR



C134

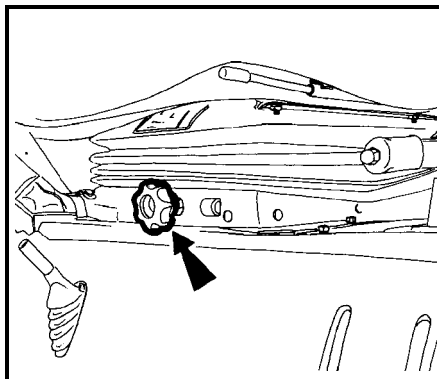
DRIVER'S SEAT GRAMMER

Tractor can be equipped with Grammer seat as an option.



Do not adjust the seat when driving!

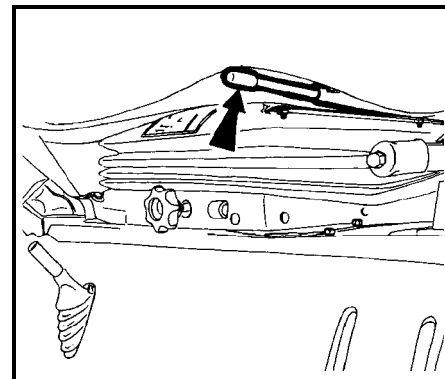
Danger of accident!



C135

ADJUSTMENT FOR DRIVER'S WEIGHT

Adjust the seat with a plastic knob located on the front part of the seat support.

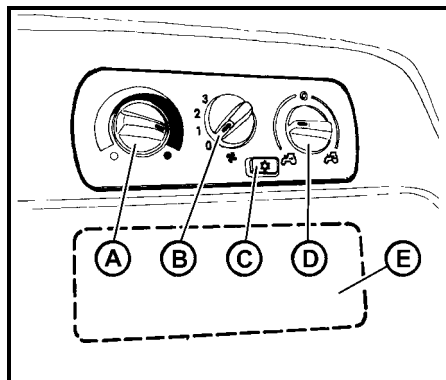


C136

LONGITUDINAL ADJUSTMENT

Adjust the seat longitudinal position with the lever located on the left hand side of the seat.

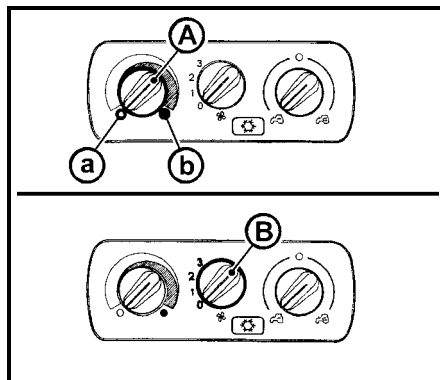
<https://truckmanualshub.com/>
ACQUAINTANCE WITH TRACTOR



C137

CONTROL PANEL OF HEATING, *AIR-CONDITIONING, *RADIO

- A - control of heating valve
- B - control of blower
- C - switch of air-conditioning
- D - control of air circulation in cab
- E - space for additional radio installation



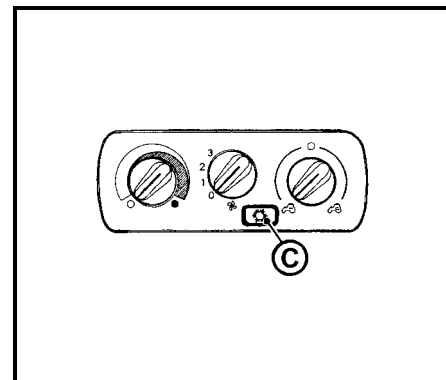
C138

CONTROL OF HEATING VALVE (A)

- a - heating valve closed
- b - heating valve open

CONTROL OF BLOWER (B)

- 0 - blower switched-off
- 1 - blower low speed
- 2 - blower middle speed
- 3 - blower maximum speed



C139

***AIR-CONDITIONING SWITCH (C)**

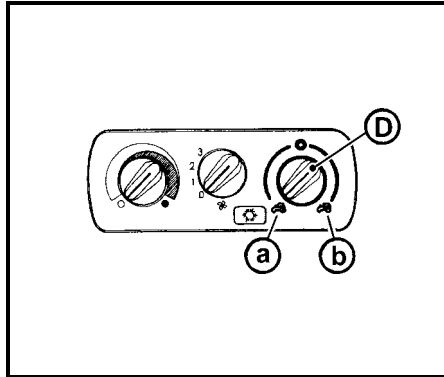
Switch-in and switch-off of the air-conditioning system is made by switch with symbol of flake (C).

By depression of the switch, the air-conditioning system is put into operation (symbol of flake lights).

By repeated depression of the switch, the air-conditioning system is put out of operation (symbol of flake does not light).

<https://truckmanualshub.com/>

ACQUAINTANCE WITH TRACTOR



C140

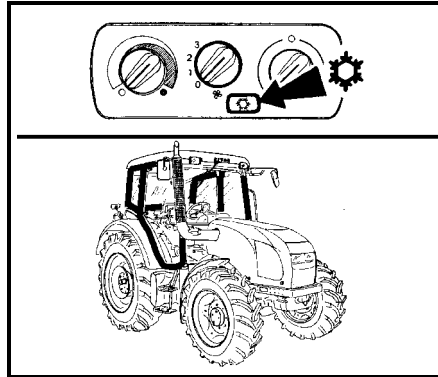
CONTROL OF AIR CIRCULATION IN CAB (D)

- a - surrounding (outer) air is sucked through filters into the cab - air suction from the cab is closed.
- b - air is sucked from the cab space and again blown into the cab (inner air re-circulation for fast temperature adaptation in cab).



In this position the air inlet from outside of the cab is fully closed and in the cab no overpressure, which prevents penetration of non-filtered air into the cab, is created!

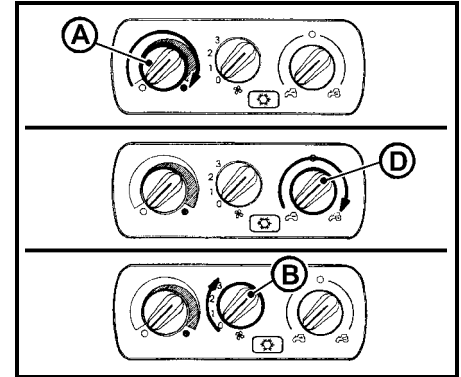
Use this position of the control only for urgently necessary time!



C141

RIGHT FUNCTION OF HEATING AND AIR-CONDITIONING SYSTEM

It is necessary to create overpressure in the cab for proper function of heating or air-conditioning. Therefore we recommend to shut all windows, doors and cab roof cover.



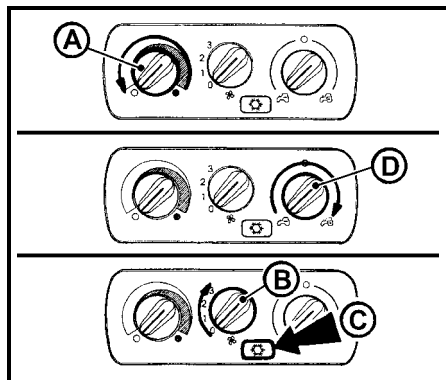
C142

FAST HEATING THE CAB SPACE

Process in the following way:

- 1 - Turn the control of the heating valve (A) to the right-hand position (heating valve fully open).
- 2 - Set the control of air circulation in the cab (D) to the position of inner re-circulation.
- 3 - Choose the desired blower speed (position 1, 2, 3) by the blower switch (B).
- 4 - Set outlets to desired angle to avoid direct blowing to persons in the cab.
- 5 - Switch over the control lever of the heating valve (A) to the left-hand position.

ACQUAINTANCE WITH TRACTOR

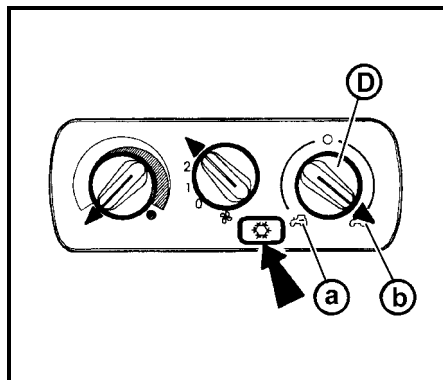


C143

FAST COOLING THE CAB SPACE

Process in the following way:

- 1 - Set the control of air circulation in the cab (D) to the position of inner re-circulation.
- 2 - Choose the desired blower speed (position 1, 2, 3) by the blower switch (B).
- 3 - Switch-in the air-conditioning system by the switch (C).
- 4 - Set outlets to desired angle to avoid direct blowing to persons in the cab (possible illness because of intensive cooling of parts of persons bodies).

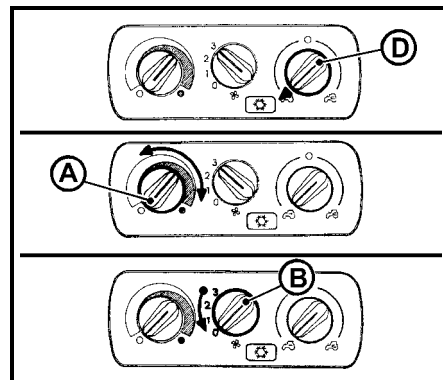


C144

OPERATION OF HEATING OR AIR-CONDITIONING DURING OPERATION OF TRACTOR

With inner air re-circulation switched-in, the inlet of fresh air is closed and it comes to breathing-up of cab space by the operators. This state can cause feelings of tiredness.

Note: When working, set the control (D) according to your individual requirements at temperature in a position between (a) and (b) so that the blower could suck air from outside of the cab through the filters.



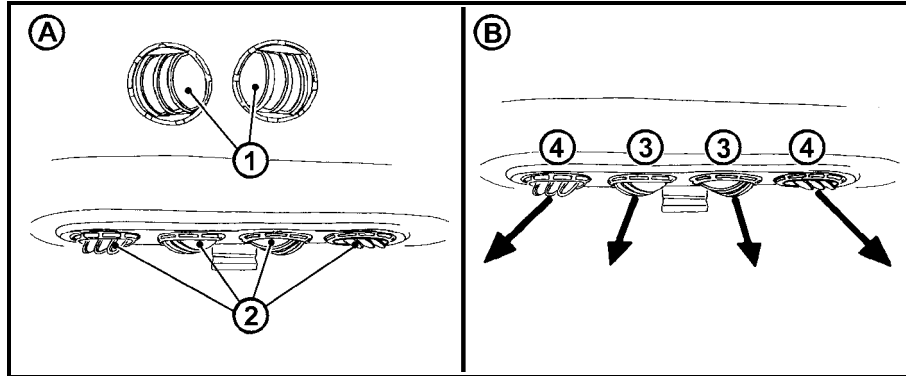
C145

IMMEDIATELY AFTER COOLING DOWN THE CAB

Immediately after cooling down the cab and reduction of the inner temperature to desired level we recommend:

- Switch over the control of air circulation (D) from position (b - air re-circulation) to position (a - outer air suction)
- Perform fluent regulating of air temperature with switched-in air-conditioning by means of half-opening of the heating valve (A). At this setting, air going into the cab from the outlets is not dried so intensively.
- You can perform fluent regulating of air temperature with switched-in air-conditioning by means of decreasing of blower power by switching the control (B) to position 1 or 2.

ACQUAINTANCE WITH TRACTOR



C146

HEATING AND AIRCONDITIONING OUTLETS, *RADIO SPEAKERS

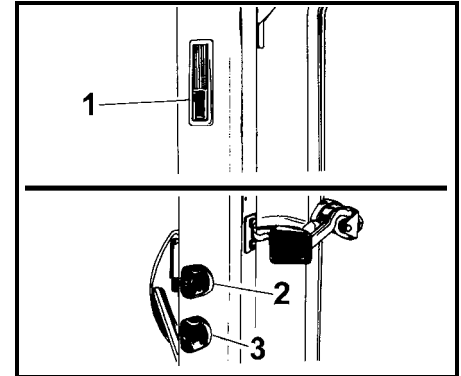
A - Adjustable outlets of heating (2) and *air-conditioning (1).

Radio speakers are installed only in case of preparation assembly for *radio).

DEFROSTING THE FRONT WINDSHIELD

B - For fast defrosting of the front windshield direct the middle outlets of heating (3) with angle of ca 45° towards the windshield. Direct the side outlets (4) with angle of ca 45° towards the cab corners.

After defrosting of the front windshield, direct the side outlets to towards the side glasses of the doors and defrost the glasses step by step. After defrosting, the outlets should be adjusted to such direction so that air could not directly blow to the driver but down to driver's legs.



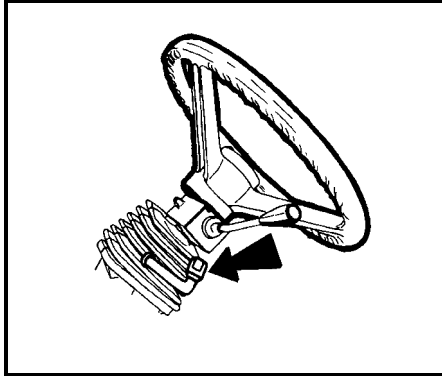
C147

CONTROL PANEL ON RIGHT CAB PILLAR

1. Cab lighting
2. Two-position switch of front windshield wiper and front washer control
3. Switch of rear window wiper

<https://truckmanualshub.com/>

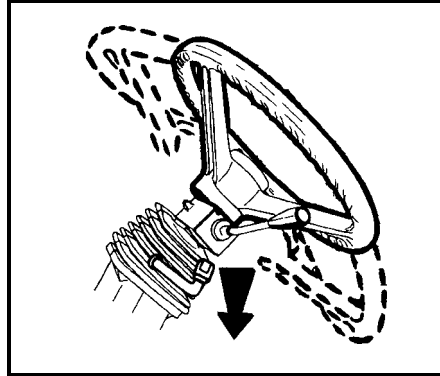
ACQUAINTANCE WITH TRACTOR



C148

TILTABLE STEERING WHEEL

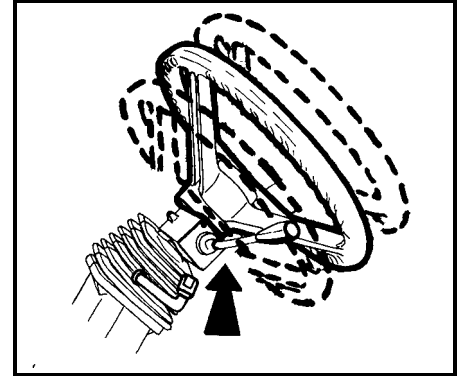
Tiltable steering column enables variable angle and height adjustment of the steering wheel. Both functions are operated by one lever.



C149

ANGLE ADJUSTMENT

Angle adjustment enables 10 positions with the step 4° in range: -16° up to $+24^{\circ}$ down. The adjustment is made after unlocking of the steering wheel arrest by movement of the lever in arrow direction.

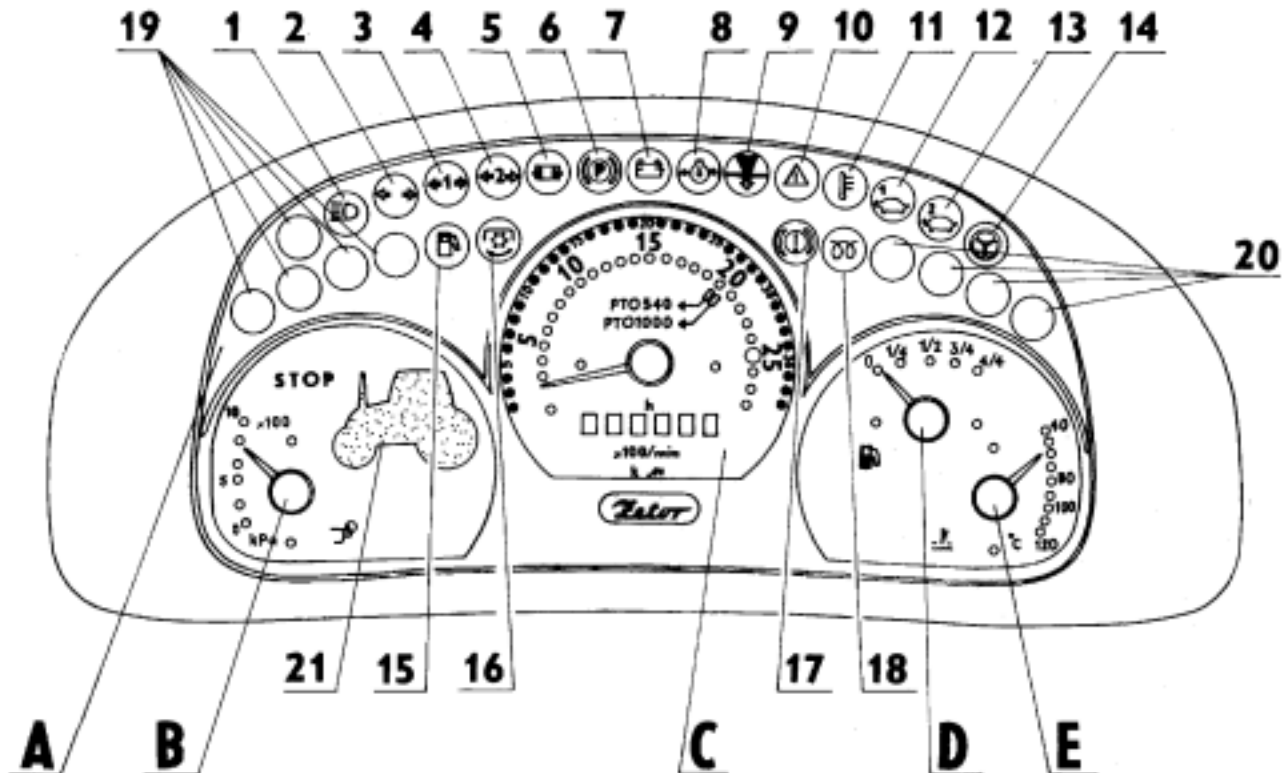


C150

TELESCOPIC ADJUSTING

Steering wheel is adjustable within range 0 - 80 mm in any angle position. The adjustment is made after unlocking of the steering wheel arrest by movement of the lever in arrow direction.

ACQUAINTANCE WITH TRACTOR



C151

<https://truckmanualshub.com/>

ACQUAINTANCE WITH TRACTOR

DASHBOARD

DESCRIPTION OF INSTRUMENTS

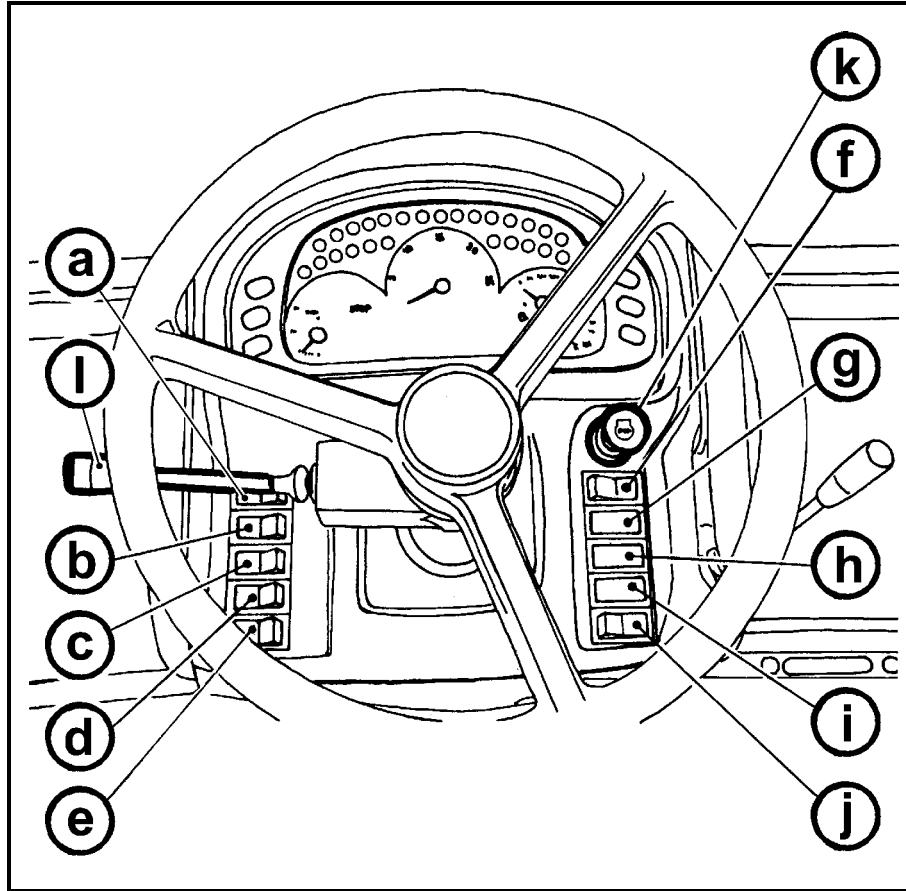
- A - indicator lights
- B - air pressure gauge
- C - tachometer with mechanical hour-counter
- D - fuel gauge
- E - coolant thermometer

INDICATOR LIGHTS

1. High beam light (blue). It lights if high beam head lights are "ON".
2. Turn signal indicator light (green).
3. Turn signal indicator light - first trailer (green)
4. Turn signal indicator light - second trailer (green).
5. Indicator light of min. air pressure in braking system (red). It lights if the air pressure of air trailer brakes drops under a critical margin i.e. 450 kPa.
6. Parking brake (red). It is "on" if the hand brake lever is "on".
7. Charging indicator light (red). When the engine is running, this is "on" in case of charging failure. When the engine stops, the indicator light must be „on“.
8. Lubrication indicator light (red). It is "on" if the engine oil pressure drops under 120 to 60 kPa, when the engine is running. When the engine stops, the indicator light must be „on“.
9. Free.
10. Indicator light of warning lamp (red).
11. Free.
12. Indicator of torque multiplier "on" (green)
13. Free.
14. Hydrostatic steering system failure
15. Fuel (orange). It lights if 1/6 to 1/10 of fuel tank capacity stays at the fuel tank.
16. PTO disengaging indicator light (red)
17. Free.
18. Glowing indicator light (yellow). It signalises operation of the engine start facilitating device.
19. Free.
20. Free.
21. Warning light (red). It lights if the air pressure drops under a critical margin i.e. 450 kPa or if the hand brake lever is „on“.

<https://truckmanualshub.com/>

ACQUAINTANCE WITH TRACTOR

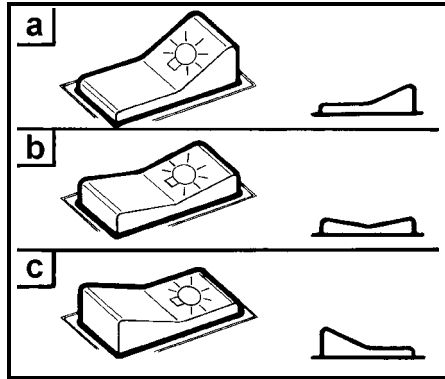


SWITCHES

- a - Light switch
- b - Switch of front grill light and roof light (low beam)
- c - Fog light switch (OFF - ON). Function of fog light is indicated by illuminated symbol at the switch
- d - Working light switch (OFF - ON). Function of working light is indicated by illuminated symbol at the switch
- e - Warning light switch
- f - Front wheel drive control switch. Engaged front wheel drive axle is indicated by illuminated symbol at the switch
- g - Plugged
- h - Plugged
- i - Plugged
- j - Differential lock (locks) button
- k - Stopping of engine run (stopping device)
- l - Toggle switch - turn signal, horn, lights, high and low beam headlight switch and acoustic horn

C152

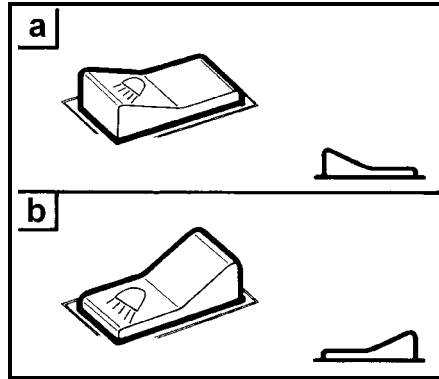
<https://truckmanualshub.com/>
ACQUAINTANCE WITH TRACTOR



C153

LIGHT SWITCH (a)

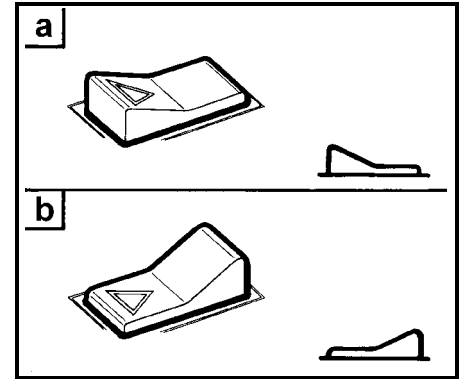
- a - Lights are "OFF"
- b - Clearance lights and tail lights, license plate light and illumination of instruments are "ON"
- c - All electrical appliances are connected as in "b" position. Moreover low and high beam lamps are "ON" (according to the position of toggle switch - turn signal, horn, lights, high and low beam headlight switch and acoustic horn)



C154

SWITCH OF GRILL AND CAB HEADLIGHT (b)

- a - Cab roof headlights are "OFF"
 - b - Cab roof headlights are "ON"
- The switch controls the headlights in the mask grill or in the tractor cab roof. Use the cab roof headlights only if the front grill headlights are covered by attached implement fitted in the front three point hitch. Symbol on the switch indicates that cab roof headlights are "ON". High beam can light in the grill only.

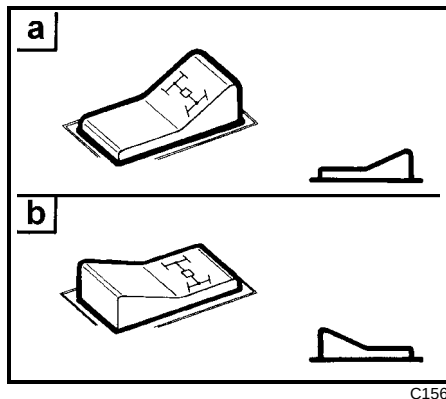


C155

WARNING LIGHT SWITCH (e)

- a - Warning lights are "OFF"
 - b - Warning lights are "ON"
- Flashing of indicator light on the dashboard indicates function of warning lights.

<https://truckmanualshub.com/>
ACQUAINTANCE WITH TRACTOR



C156

FRONT WHEEL DRIVE SWITCH (f)



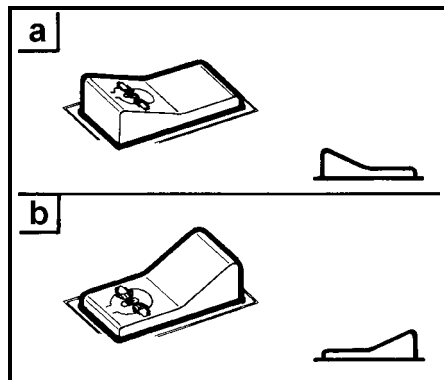
Use the front driving axle for increasing the pulling force of the tractor when rear wheels slip.

a - Front driving axle disengaged

b - Front driving axle engaged

Front driving axle is engaged at stopped tractor (braked tractor; stopped engine, switch key is switched-off).

In the basic position, the front driving axle is engaged (indicator lamp is "ON") and disengaging of the axle is made with the switch (indicator lamp is "OFF").



C157

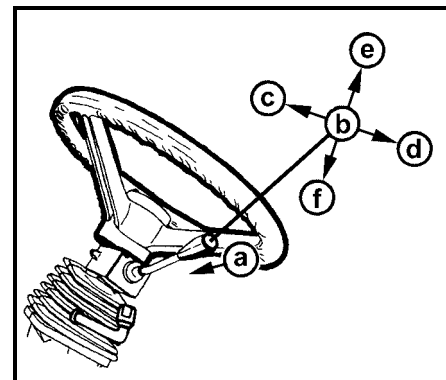
PUSH BUTTON OF REAR, FRONT DIFFERENTIAL LOCKS (j)

a - Differential lock disengaged

b - Differential lock engaged

The differential lock is engaged by pressing the differential lock push button that returns into the previous position after loosening. Illuminating of the symbol on the switch indicates that the differential lock is engaged.

The differential lock is automatically disengaged after pressing the brake pedals. At tractors equipped with front driving axle equipped with engageable differential lock, this is engaged simultaneously with the rear differential lock engaging.



C158

TURN SIGNAL, HEADLIGHT AND HORN TOGGLE SWITCH (k)

a - Acoustic horn – press the toggle switch in axis direction

b - Low beam light

c - Turn signal - right

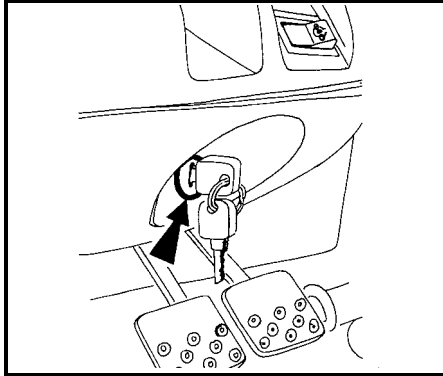
d - Turn signal - left

e - Light horn

f - High beam light

<https://truckmanualshub.com/>

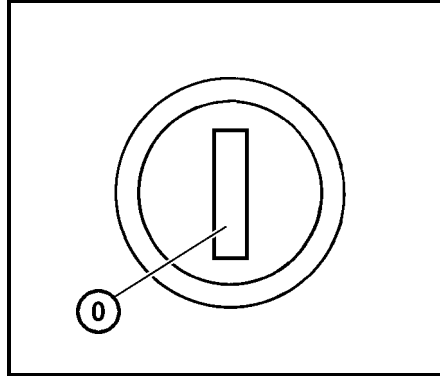
ACQUAINTANCE WITH TRACTOR



C159

KEY SWITCH

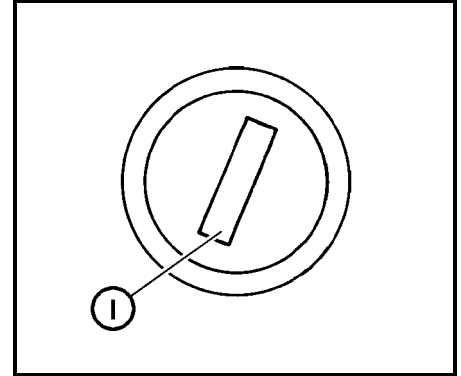
The key switch is located on the front part of panel of steering wheel support under the dashboard.



C160

KEY IN "0" POSITION

All electrical appliances controlled by the key switch are disconnected. The key can be removed.



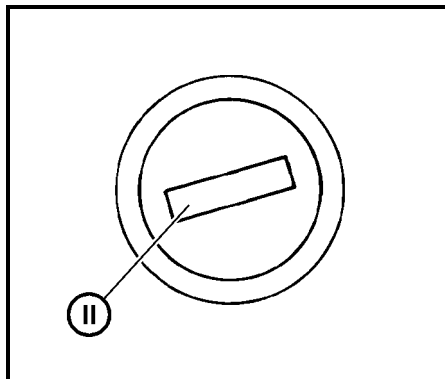
C161

KEY IN "I" POSITION

All electrical appliances controlled by the key switch are connected except of starter motor. The key is located in this position when running the engine.

<https://truckmanualshub.com/>

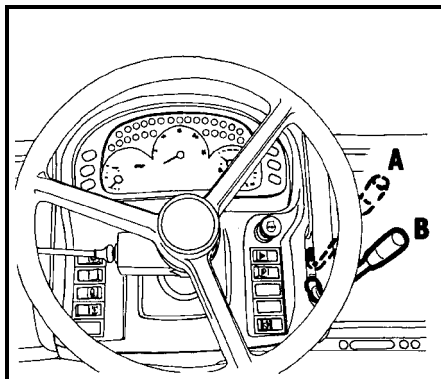
ACQUAINTANCE WITH TRACTOR



C162

KEY IN "II" POSITION

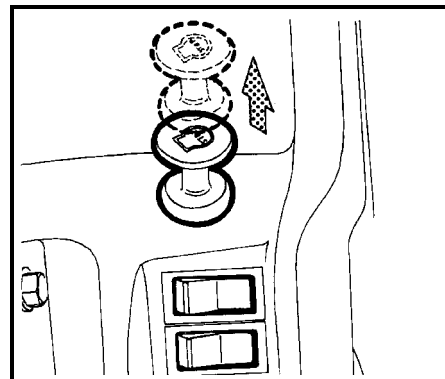
Starter motor is connected in this position and all electrical appliances controlled by the key switch are connected except of wipers, washer, blower of cab and air-conditioning. The key turns automatically to "I" position after starting.



C163

HAND THROTTLE CONTROL LEVER

A - Maximum delivery
B - Idle running



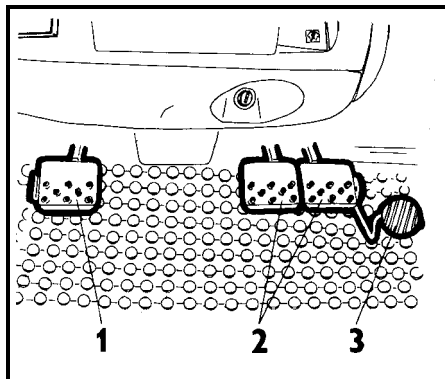
A49a

STOPPING DEVICE

By pulling the stopping device control upwards and by keeping it in pulled position, the engine will be immediately stopped.

<https://truckmanualshub.com/>

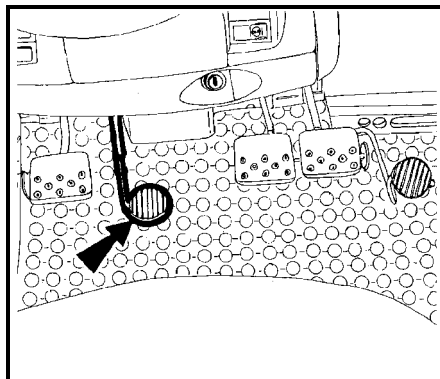
ACQUAINTANCE WITH TRACTOR



C165

PEDALS AND LEVERS

1. Travel clutch pedal
2. Foot operated service brake pedals connected by latch
3. Foot throttle pedal



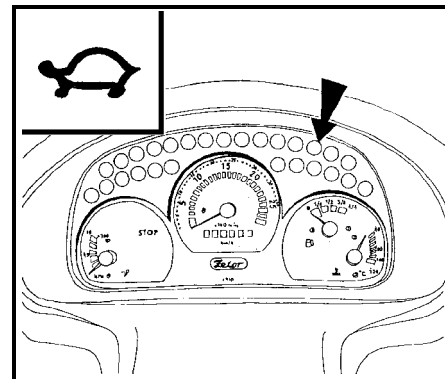
C166

*TORQUE MULTIPLIER

Torque multiplier is electro-pneumatically controlled by means of foot pedal located on the right hand side of clutch pedal. The tractive force of tractor is increased after depression of the torque multiplier pedal. Number of transmission gears is doubled at tractors equipped with the torque multiplier (20 - forwards, 4 - backwards).

The torque multiplier is automatically disengaged:

- with releasing of the torque multiplier pedal
- with disengaging of the PTO shaft (by applying the control lever of the PTO shaft).



C167

SIGNALSATION OF TORQUE MULTIPLIER FUNKTION

When the torque multiplier is actuated, the indicator light on dashboard lights.

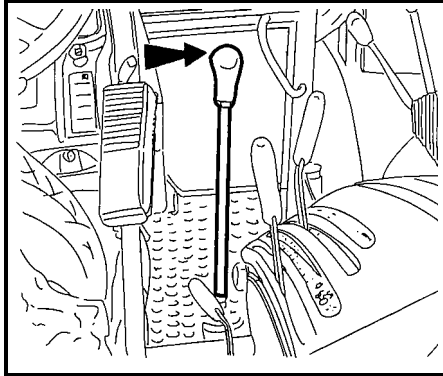
SAFETY RULES FOR WORK WITH TORQUE MULTIPLIER



It is forbidden to press the travel clutch pedal and the torque multiplier pedal simultaneously and to use the torque multiplier when going downhill and for so called braking with engine.

<https://truckmanualshub.com/>

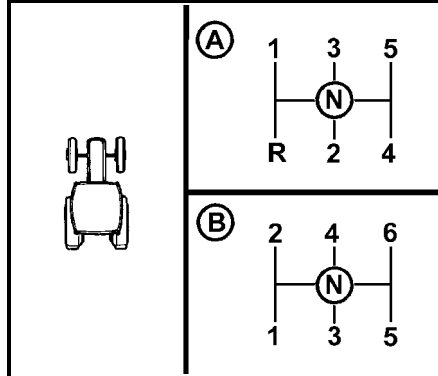
ACQUAINTANCE WITH TRACTOR



C168

GEAR SHIFTING LEVER

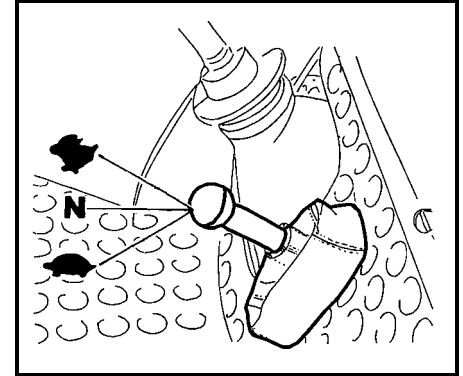
- Main gear shifting lever
The handle of the gear shifting lever is red.



C168a

GEAR SHIFTING SCHEME

A - Standard tractor models
B - Tractor equipped with reversor



C169

SHIFTING LEVER OF ROAD SPEED AND REDUCED SPEED



Road speed

N

Neutral

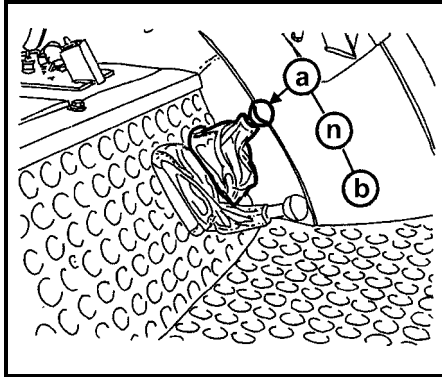


Reduced speed

Shifting is made when the tractor stops.

<https://truckmanualshub.com/>

ACQUAINTANCE WITH TRACTOR

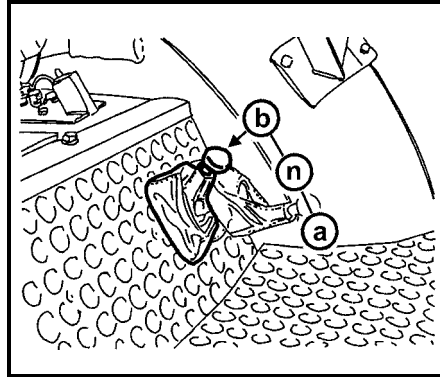


C170

PTO SELECTION CONTROL LEVER

- a** - Ground speed of PTO shaft (through gearbox) - PTO shaft speed depends upon the engaged gear speed
- n** - Neutral
- b** - Independent speed of PTO shaft - PTO shaft speed depends upon the engine speed

Shifting is made when the tractor stops. Standard tractor models are equipped with six-spline PTO shaft end.



C171

* PTO SPEED CONTROL LEVER 540 OR 1000 RPM

- a** - 540 rpm
- n** - Neutral
- b** - 1000 rpm

Shifting is made when the tractor stops.

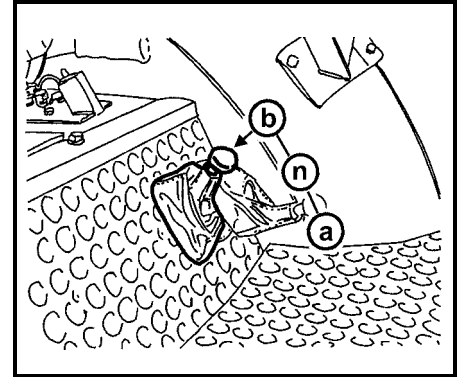
* Tractor can be equipped with the following changeable PTO shaft ends as option:

six-spline PTO shaft end - 540 rpm

twenty-one-spline PTO shaft end - 1000 rpm.



PTO speed shifting of either 540 or 1000 rpm is possible regardless to assembled PTO shaft end (with six or twenty-one splines). PTO speed and the shaft end type must be chosen depending upon prescribed speed of implemented machine.



C171

* PTO SPEED CONTROL LEVER 540 OR 540 E RPM

- a** - 540 rpm
- n** - Neutral
- b** - 540 E rpm

Gear 540 E serves for reaching of 540 rpm of the PTO shaft with preservation of economical engine speed.

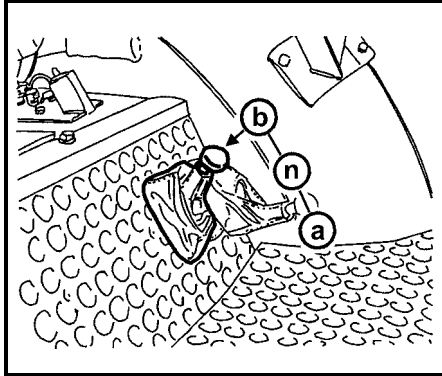
Shifting is made when the tractor stops.



PTO speed shifting of either 540 or 540 E rpm is possible regardless to assembled PTO shaft end (with six or twenty-one splines). PTO speed and the shaft end type must be chosen depending upon prescribed speed of implemented machine.

<https://truckmanualshub.com/>

ACQUAINTANCE WITH TRACTOR

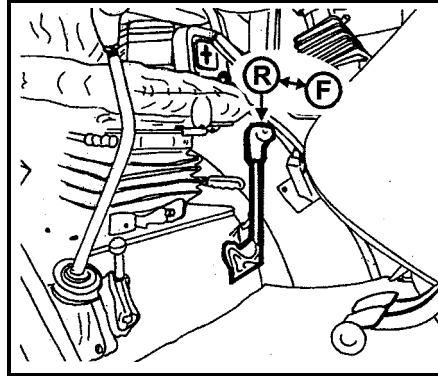


C171

* SHIFTING LEVER OF CREEPING SPEED REDUCTOR

- a - Creeping speed reductor
- n - Neutral
- b - Normal speed

Shifting is made when the tractor stops.



C172

* REVERSOR SHIFTING LEVER

F - Forward drive; lever in forward position

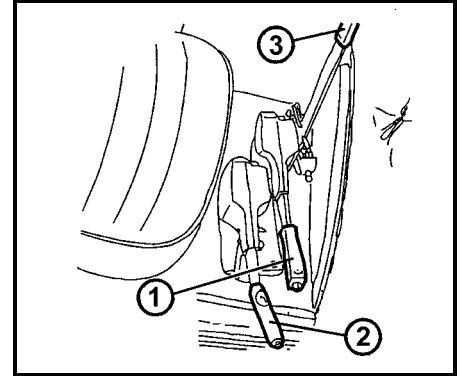
R - Backward drive; lever in backward position

Altogether 12 forward speeds and 12 reverse speeds are reached in combination with reduction.

The main shifting lever has 6 positions without reverse gear. The PTO shaft speed 1000 rpm is excluded at tractor with the reversor.



The reversor lever has no neutral position. Therefore neutral must be shifted by the main shifting lever for stopping the tractor. When using the PTO shaft at stopped tractor, the reversor shifting lever must be in the position for forward drive (lever forwards - F).



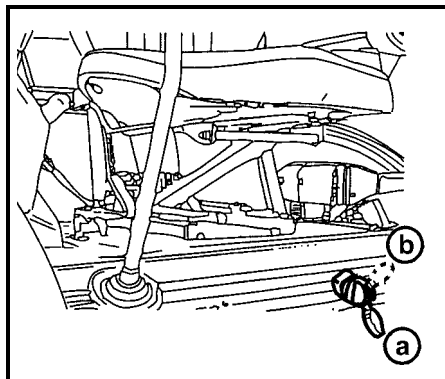
C173

PARKING BRAKE LEVER, PTO SHAFT CONTROL LEVER AND PICK UP HITCH CONTROL LEVER

1. Control lever of PTO shaft clutch
2. Parking brake lever
3. Pick up hitch control lever

<https://truckmanualshub.com/>

ACQUAINTANCE WITH TRACTOR



C174

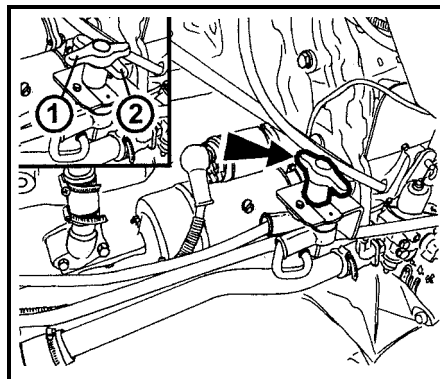
* FRONT PTO CLUTCH VALVE CONTROL LEVER

- a - STOP
- b - ON

Switching-in is made only at air pressure (at gauge) min. 500 kPa. The valve secures automatic switching-of the PTO shaft clutch if the air pressure drops under 410 ± 60 kPa.



It is dangerous to life to perform any repair or cleaning of parts at implemented machines, which are driven by the front PTO shaft, when the lever is not in STOP position.



C175

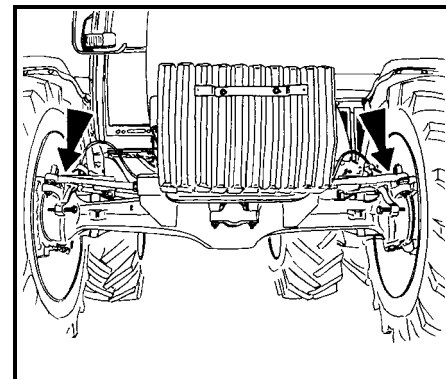
BATTERY SWITCH



During long-time shutdown, repairs, failure or crash immediately disconnect the battery by means of the battery switch.

Battery switch is located on the left hand tractor side in front of the cab.

- 1 - battery connected
- 2 - battery disconnected



C176

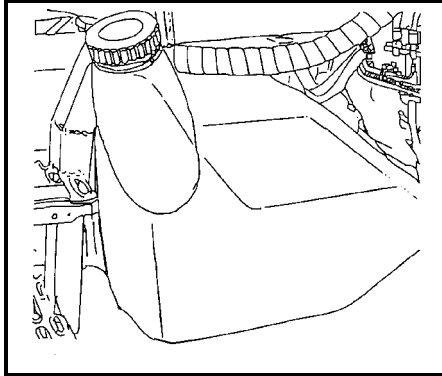
TRACTORS WITH TRAVEL SPEED 40 km.h⁻¹

All models of tractors equipped with the front driving axle with brakes installed in front wheel final drive can be provided with travel speed 40 km.h⁻¹.

Front driving axle brakes are controlled by air-liquid amplifier depending upon pressure in the rear brake circuit of tractor. Hydraulic circuit of front brakes is filled with brake fluid.

<https://truckmanualshub.com/>

ACQUAINTANCE WITH TRACTOR



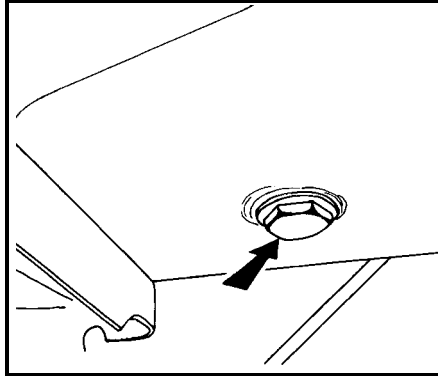
C177

FUEL TANK

The fuel tank is fitted at the right-hand tractor side. The plastic fuel tank with capacity of 120 litres is assembled as a standard for all tractor types.



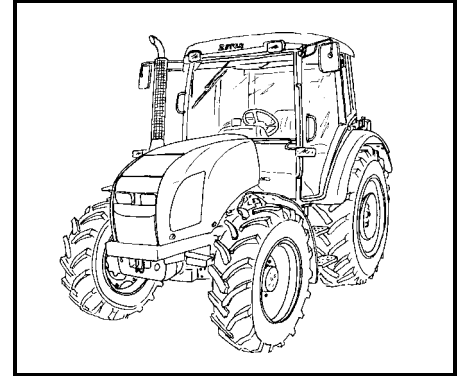
Do not step on the fuel tank!



C178

DRAINING PLUG OF FUEL TANK

Opening for draining of impurities is located in the bottom part of fuel tank.



C179

AVERAGE FUEL CONSUMPTION IN LITRES PER OPERATING HOUR OF ZETOR TRACTOR

Tractors with standard engines			
Tractor type	Engine load		
	100%	80%	50%
Z 6421, Z 6441	10,78	8,62	5,39
Z 7421, Z 7441	11,52	9,21	5,76
Z 8421, Z 8441	12,50	10,00	6,25

NOTE

NOTE

NOTE

NOTE

OPERATION

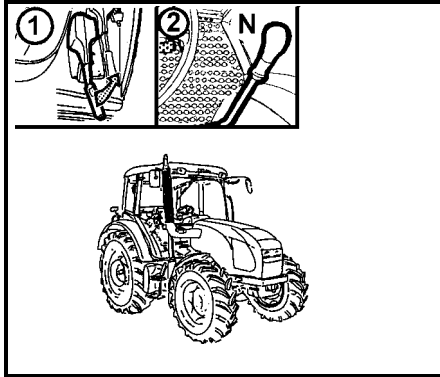
	Page
Before engine starting	52
Engine starting	52
If engine does not start.....	53
Signalling of glow system failures	53
Manipulation with motor starter	53
Immediately after starting.....	54
Preheating of engine	54
*Coolant heater	55
Starting the engine with using of coolant heater	55
Setting in motion	56
Shifting from lower to higher gear speed.....	57
Shifting from higher to lower gear speed.....	57
*Torque multiplier.....	57
Driving uphill.....	58
Driving downhill	58
Gear shifting of reduced speed	58
Differential lock.....	59
Control of front driving axle	59
Driving with front driving axle engaged	59
Service brakes	60
Air brakes of trailers and semi-trailers.....	60
Warning signal of air pressure drop	60
Single and double hose brakes	61
Single hose brakes.....	61
Double hose brakes	61
Hydraulic trailer brakes	62
Stopping the tractor - parking brake	63
Stopping the engine	63
Leaving the tractor	63
Warning signal of hydrostatic steering failure.....	64



Be familiar with shifting pattern and test all positions of shifting lever at stopped engine before driving a new tractor.

Before driving, you must be sure that at normal operation the technical state of tractor corresponds to the safety traffic condition before driving.

OPERATION



C201

BEFORE ENGINE STARTING

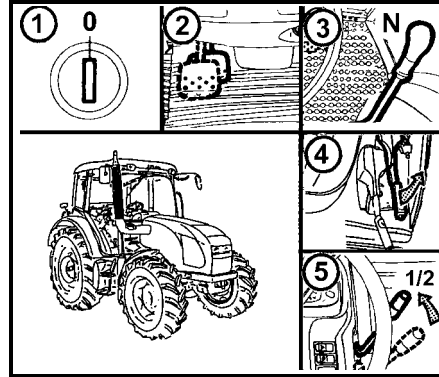


Before starting the engine be sure that

1. the tractor is properly braked
2. the main shifting lever is in neutral position.

If the clutch pedal is not depressed and also the hand clutch lever is not in braking position, the tractor cannot be started - safety interlock switch is not actuated.

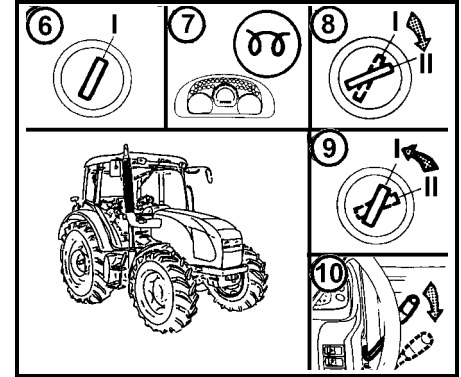
Note: Before starting we recommend to prime the fuel system by means of several strokes of hand fuel transfer pump.



C202

ENGINE STARTING

1. Insert the key into the key switch ("0" position).
2. Depress the clutch pedal.
3. Move the main shifting lever into neutral position.
4. Move the hand clutch lever into braking position (safety interlock switch will be actuated).
5. Set throttle to control increased delivery (approx. 1/2 of maximum delivery).
6. Turn the key from "0" position to "I" position. The indication lamp of glowing of thermo-start turns "ON".
7. Wait until the indication lamp is off. (The time is dependent on coolant temperature).



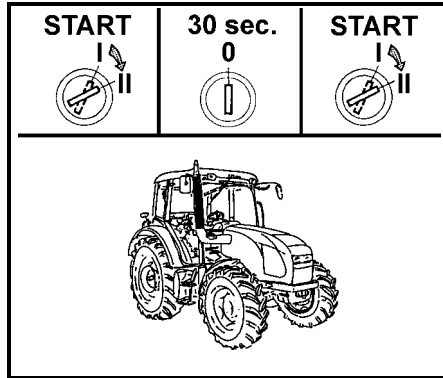
C203



In case that the indication lamp is only flashing instead of lighting, the glowing system failed (Chapter Signalling of glowing system failures). Let repair the indicated failure in a specialized workshop.

8. Immediately after indication lamp extinction (max. within 5 s) turn the key from the position "I" into "II" position (start).
9. Release the key immediately after starting the engine, it returns automatically into "I" position. **Do not start longer than 15 sec.**
10. After starting the engine, reduce gradually the fuel delivery.

OPERATION



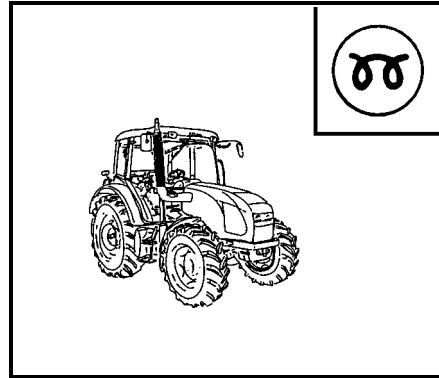
C204

IF ENGINE DOES NOT START

Turn the key into position "0", wait 30 seconds and repeat starting. Maximum 6 starting cycles are allowed (15 seconds starting and 30 second interruption make one cycle). Farther starting of engine is allowed after cooling of starter motor to the ambient temperature.



Never help to the stopping engine by the starter motor. There is danger of damage of starter motor.

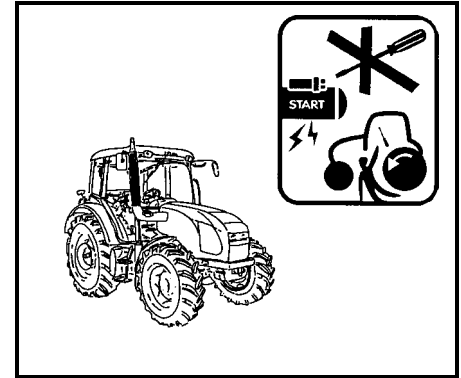


C205

SIGNALLING OF GLOW SYSTEM FAILURES

Failure of glowing system is signalised by flashing of the signalling lamp of glowing.

- If the signalling lamp of glowing is flashing one times in one second at stopped engine, glowing will take place in emergency regime as at low temperature regardless to coolant temperature
- If the signalling lamp of glowing is flashing two times in one second at stopped engine, glowing is put of operation (out of function)
- If the signalling lamp of glowing is flashing permanently at running engine, failure of glowing regulator occurred and glowing was not finished. It is necessary to remove the failure immediately, because there is danger of battery discharging



C206

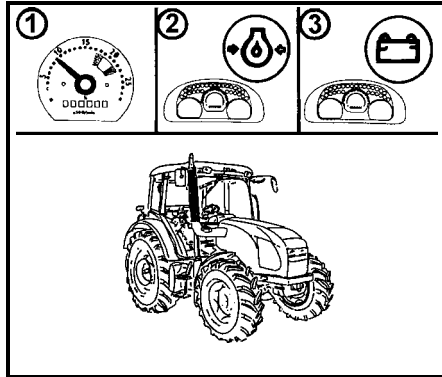
MANIPULATION WITH MOTOR STARTER



It is forbidden to start the tractor by short circuit of starter motor connectors! Start the tractor from the driver's seat only!

Disconnect the ground battery pole, shift all levers into neutral position, including PTO engagement, when any manipulation with starter motor or repairing it! Starter motor connectors are covered with a cover.

OPERATION



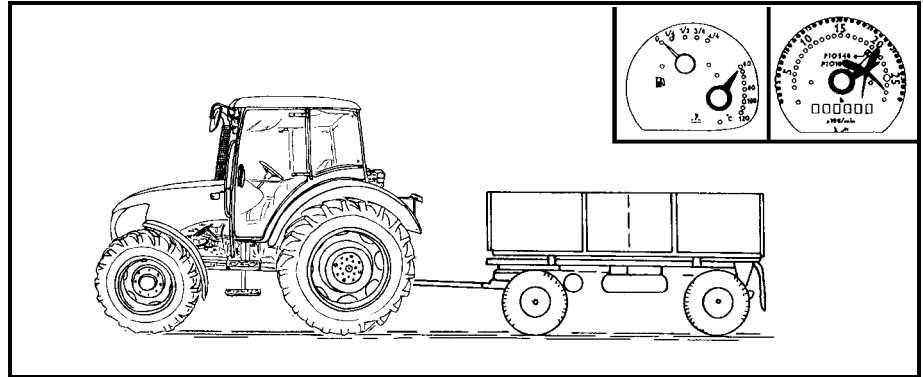
C207

IMMEDIATELY AFTER STARTING



After starting set the engine speed to 800 up to 1000 min^{-1} and let the engine at idle running for ca 2 minutes without load.

In that time check lubrication, charging (indicator lights must be "off") and other functions assuring the correct engine operation. Time of engine idle without load must be kept especially in winter season.



C208

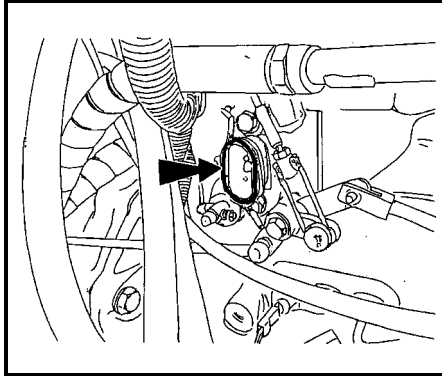
PREHEATING OF ENGINE



Continue with farther preheating the engine already while driving. Warming up the engine by long idle run or fast increase of speed is dangerous for the engine.

Do not exceed engine speed above 2 000 min^{-1} until the coolant temperature reaches 45 °C.

OPERATION



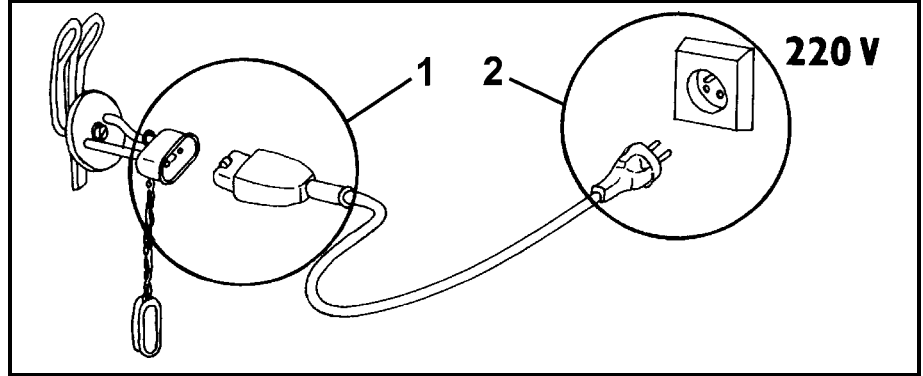
C209

*COOLANT HEATER

Coolant heater is fitted at the right-hand side of the engine block.

Output 1000 W

Voltage 220 V



C210

STARTING THE ENGINE WITH USING OF COOLANT HEATER

Heater enables starting the engine at low ambient temperature by preheating the coolant. The electrical installation and its protection against electrical shock hazard must be done according to the valid regulations

1. Plug the heater first.
2. Plug the cable with connected heater to 220 V mains after.

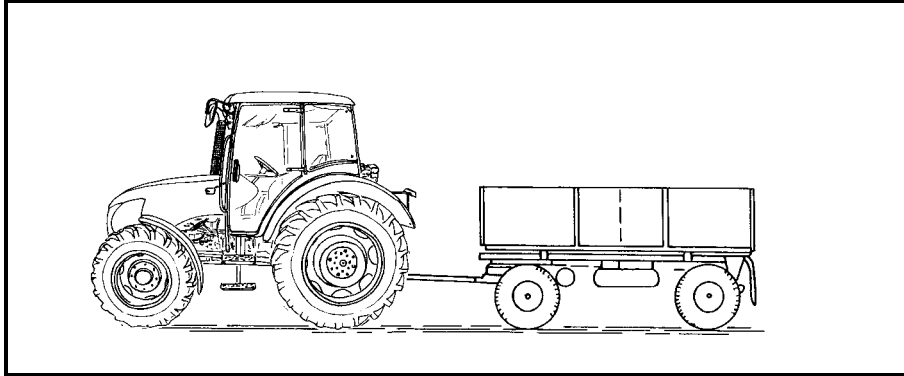
With regard to reduction of engine wear when starting at low temperatures, producer recommends to use the heater. Preheating time depends upon the ambient temperature (1 to 2 hours before supposed starting are sufficient).



After finishing of heating, unplug the mains first and the heater only after!
Electrical shock hazard!

It is necessary to ensure instruction of tractor operator's and regular revisions of the coolant heater including inlet cable accordingly with the valid standard of the country, in which the tractor is operated, minimum before each winter season.

OPERATION



C211

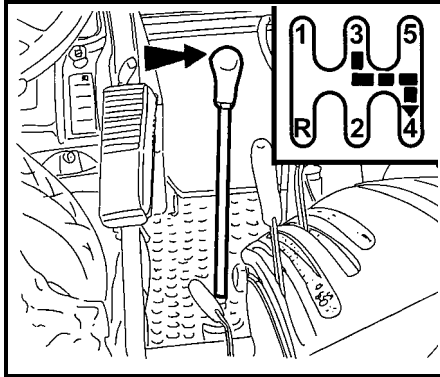
SETTING IN MOTION

1. Depress the clutch pedal.
2. Shift the main shifting lever into neutral.
3. Start the engine.
4. Set the engine speed to 750 up to 800 min⁻¹.
5. Select road or reduced gear.
6. * Shift the reversor lever into the desired direction of tractor movement (forward or reverse).
7. Shift the proper gear speed suitable for setting in motion.
8. Slightly increase engine speed.
9. Prepare the parking brake for releasing.
10. Release the clutch pedal up to point where the tractor starts to move and simultaneously with engine speed increasing, continue with smooth releasing the clutch.
11. Fully release the parking brake.
12. Accelerate smoothly and slowly.



Very fast acceleration can cause overload of transmission, increased fuel consumption, excessive tire wear and damage of transported load. Use the 1st gear for accelerating when driving with heavy trailer uphill and in heavy terrain only.

OPERATION

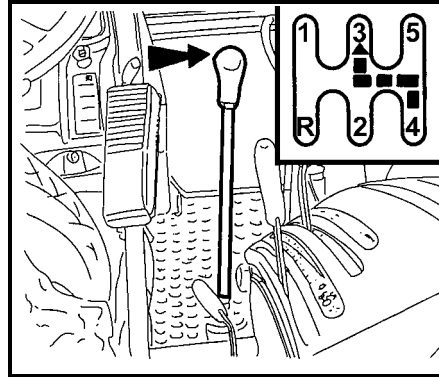


C212

SHIFTING FROM LOWER TO HIGHER GEAR SPEED

Depress the clutch pedal (clutch disengaged). In the same time loosen the throttle pedal and shift the proper higher gear speed. Fluently release the clutch pedal (the clutch starts engaging) and simultaneously increase engine speed.

Note: For increasing of service life of synchronizers, it is possible to apply so-called double clutching when shifting from lower gears to higher gears.

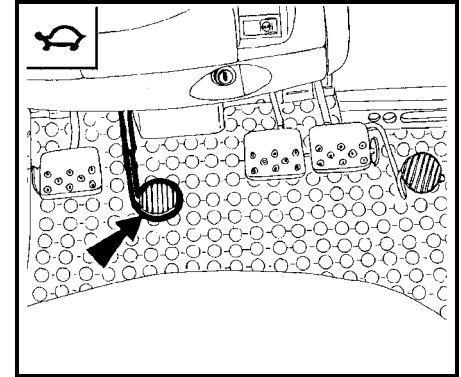


C213

SHIFTING FROM HIGHER TO LOWER GEAR SPEED

Depress the clutch pedal and shift the shifting lever through neutral position to lower gear speed.

Note: For increasing of service life of synchronizers, it is possible to apply so-called "between-gas" when shifting from higher gears to lower gears.



C214

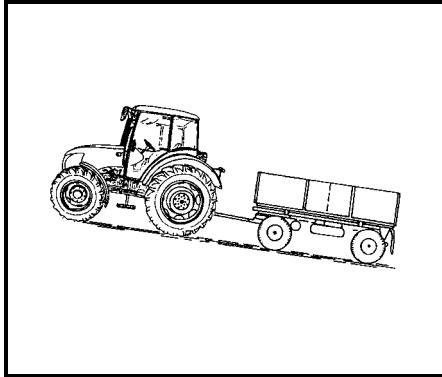
*TORQUE MULTIPLIER

With depressing of the torque multiplier pedal, traction force of the tractor increases without interruption of transmission of torque to driving tractor wheels. Engaging of the torque multiplier is signalled with lighting of the signalling lamp at the dashboard. At engaged torque multiplier, tractor driving is disengaged by means of disengaging of the PTO shaft clutch (by setting of lever of hand disengaging of PTO shaft). By releasing of the torque multiplier pedal, the torque multiplier is put out of function.



It is forbidden to depress the travel clutch pedal and the torque multiplier pedal simultaneously, to use the torque multiplier when driving downhill and for so called braking with engine.

OPERATION

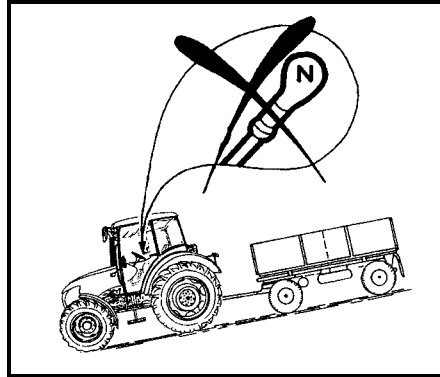


C215

DRIVING UPHILL



Shift from higher to lower speed in time when going uphill, to avoid engine speed dropping below 800 min^{-1} and do not admit driving leading to engine stopping in consequence of overloading.



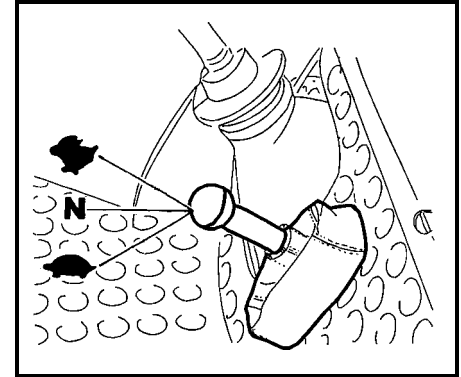
C216

DRIVING DOWNHILL



Driving downhill without shifted speed gear is forbidden. If driving down a longer hill, shift so low gear the sharper one the hill is. If possible, shift the lower speed gear still before driving downhill.

Note: The gear you use reliably for driving uphill is safely suitable for driving downhill.



C217

GEAR SHIFTING OF REDUCED SPEED



Road gears



Neutral



Reduced gears

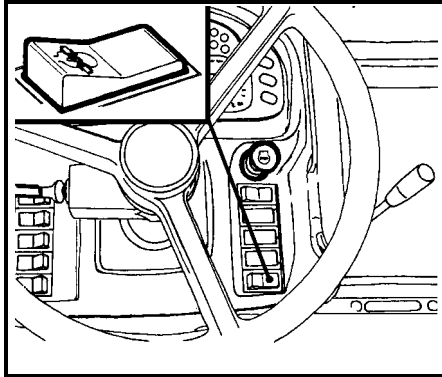
Gear shifting of reduced speeds is the same as shifting of road speeds.

With regard to low travel speed of the tractor, the shifting represents almost always moving from the stop.



It is possible to shift the lever of shifting from road to reduced gears can only at standing tractor.

OPERATION



C218

DIFFERENTIAL LOCK

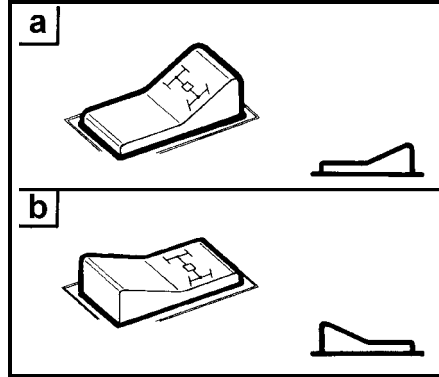
Engaging is made by depressing of the switch that will return in the original position after releasing.

Engaging of the differential lock is signalized with lighting symbol at the switch.

When depressing the brake pedals, the differential lock automatically disengages.



Do not use the differential lock, when turning.



C219

CONTROL OF FRONT DRIVING AXLE

In basic position, the front driving axle is engaged.

Engaging of the front driving axle is signalized with lighting symbol at the dashboard.

Disengaging is made with the switch that is situated at the dashboard.

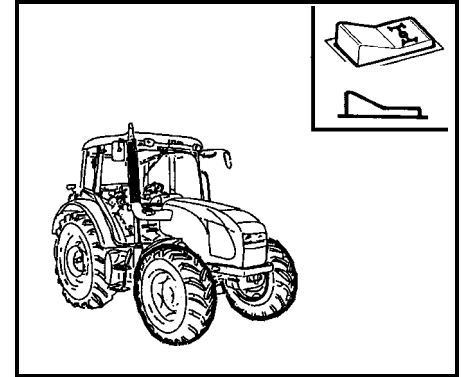
a - Front driving axle disengaged

b - Front driving axle engaged

At the stopped tractor, the front driving axle is engaged at stopped tractor (braked tractor, stopped engine, key switch in "0" position).



At sudden drop of air pressure in the tractor air pressure system, the front driving axle is automatically engaged.



C220

DRIVING WITH FRONT DRIVING AXLE ENGAGED



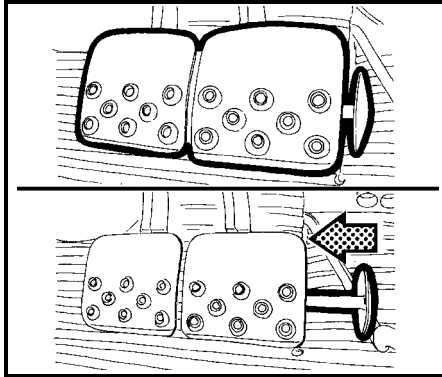
Use the front driving axle when the rear wheels are slipping and for increasing the traction force of tractor.

Driving with engaged front driving axle on the road and on hard surface causes excessive wear of front tires.

Permanent engagement of front driving axle is permitted if an agriculture machine or implement is attached in front of the tractor. This condition is specified in operator's manual of each particular machine.

Maximum permitted speed of the set with such attachment is 15 km.h⁻¹.

OPERATION



C221

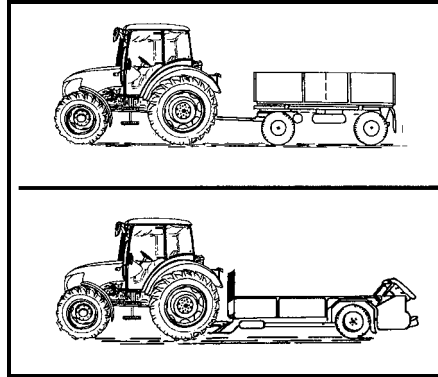
SERVICE BRAKES

Disc brakes are of disc, wet, hydraulically actuated, double pedal type with automatic pressure compensator.

⚠ *Both brake pedals must be latched together when driving on the road.*

Use unlatched pedals for braking right or left wheel separately when working in terrain and fields only.

Note: When driving downhill at steep descent with a trailer or semi-trailer that are equipped with air or hydraulic brakes, it is necessary to brake with service brake already from the beginning of decline!



C222

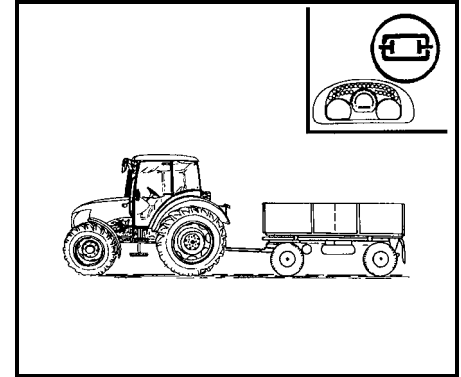
AIR BRAKES OF TRAILERS AND SEMI-TRAILERS

Control of air brakes of trailers (semi-trailers), is performed in such manner that the brake effect of both vehicles is synchronised.

⚠ ***When braking with one brake pedal, the air brakes are not in function!***

At pressure drop, the relief valve puts of operation secondary appliances (differential lock, disengaging of front driving axle, torque multiplier, front PTO shaft).

When driving with a hitched trailer or semi-trailer, the service brake pedals must be connected together and secured with the latch!



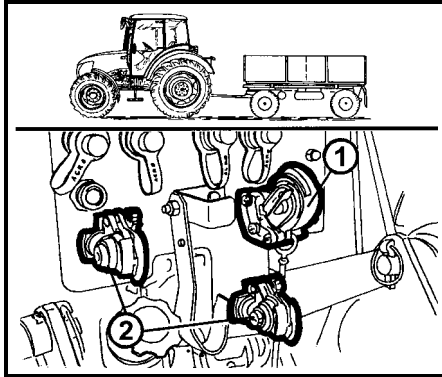
C223

WARNING SIGNAL OF AIR PRESSURE DROP

Dropping of air pressure under critical margin 450 kPa is indicated by red indicator lamp located at the dashboard.

⚠ *Tractor with a braked trailer or semi-trailer cannot continue in driving when air pressure drops under the critical margin 450 kPa, until it comes to pressure increase.*

OPERATION

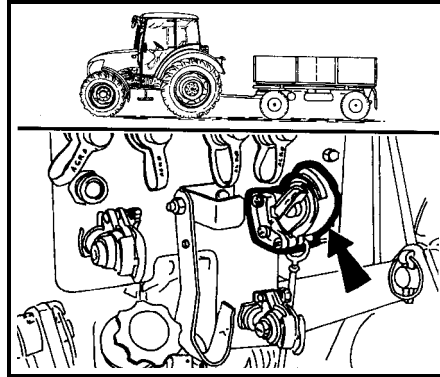


C224

SINGLE AND DOUBLE HOSE BRAKES

1. Coupling of single hose air brake system.
2. Couplings of double hose air brake system.

 After disconnecting or without any hitched trailer or semi-trailer, it is necessary to cover the couplings with caps.

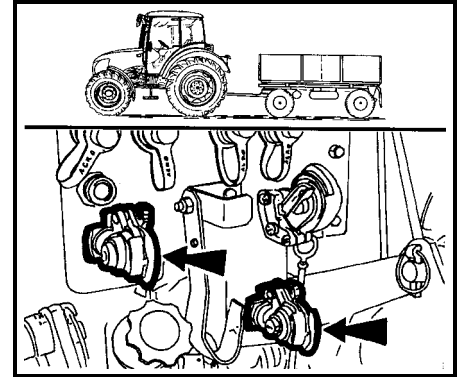


C225

SINGLE HOSE BRAKES

Operating pressure is adjusted with the control valve at 600 ± 20 kPa.

 Permitted speed of the tractor with a hitched trailer (semi-trailer) of maximum weight, approved for the stated tractor model, is maximum **30 km.h^{-1}** .
Maximum permitted speed of the set is stated as the maximum permitted speed of the slower vehicle of this set.



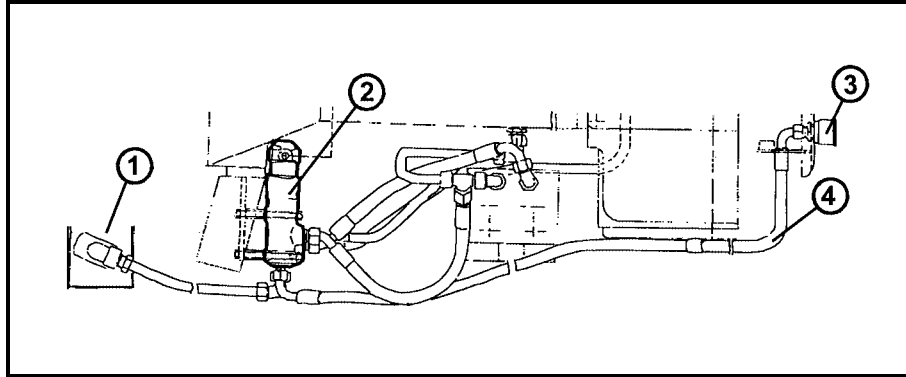
C226

DOUBLE HOSE BRAKES

Operating pressure is adjusted with the control valve at 740 ± 20 kPa. Capacity of air tank is 20 l. Left coupling cover is marked with yellow color (braking branch), right coupling cover is marked with red color (filling branch).

 Permitted speed of the tractor with a hitched trailer (semi-trailer) of maximum weight, approved for the stated tractor model, is maximum **40 km.h^{-1}** .

OPERATION



C227

HYDRAULIC TRAILER BRAKES

Hydraulic trailer (semi-trailer) brake control and tractor brake control have synchronised braking effect. Working pressure is activated by oil pressure that is delivered from a gear-wheel disengageable hydraulic pump (1). A brake valve (2) is installed in the circuit after the pump.

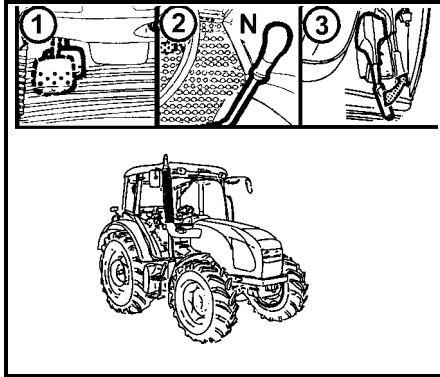
The trailer brake valve is controlled by brake fluid pressure from the brake master cylinders in dependence on the force that affects on the brake pedal. Pressure in the brake coupling (3) must be 12 - 15 MPa at maximal depression of the brake pedal. The trailer brake valve prefers the brake function to the hydraulic function. When doing de-aeration of tractor brakes do not forget to de-aerate also the brake valve. In case that during depression of service brake pedals, shocks appear in piping of the hydraulic circuit, it is necessary to de-aerate the hose (4) from the brake valve (2) to the quick-coupling (3).



Brake pedals must be connected and secured with latch when driving the tractor with attached trailer or semi-trailer!

At braking with one brake pedal the hydraulic trailer brakes are not in function.

OPERATION

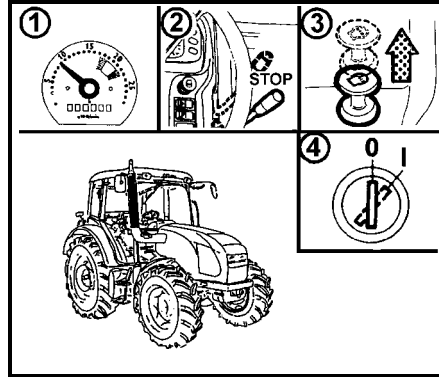


C228

STOPPING THE TRACTOR - PARKING BRAKE

At normal conditions stop the tractor slowly. Shortly before stopping:

1. Depress the clutch pedal.
2. Move the main shifting lever into neutral.
3. At each tractor stopping protect the tractor against accidental movement by setting of parking brake. Indicator lamp located on the dash indicates parking brake setting.



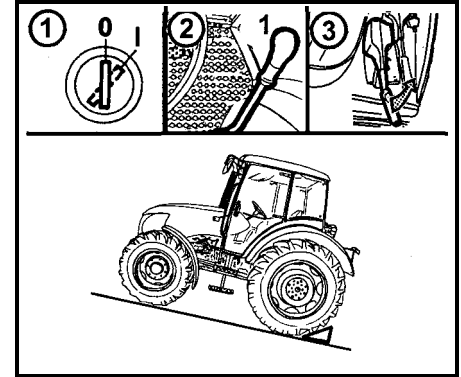
C229

STOPPING THE ENGINE

The engine must be cooled after work with fully loaded tractor.

1. Reduce engine speed to 800 - 1000 min⁻¹ before stopping the engine and let it run without load approximately for 5 minutes.
2. Move the throttle control lever into STOP position.
3. Pull up the control of engine stopping (stopping device) and keep it in pulled position until the engine stops (push the control back).
4. After engine stopping is possible to turn the switch key into "0" position.

Note: At stopped engine the front driving axle is automatically shifted into "on" position.



C230

LEAVING THE TRACTOR

Before leaving tractor with safety cab do not forget to remove the key from the key switch in "0" position (only at stopping engine – the indicator of battery charging lamp must be "on") and lock the cab. at cab tractors before leaving tractor. (The key cannot be removed when it is in "I" or "II" positions).

When the tractor stands on the hill, wheels must also be locked with blocks.

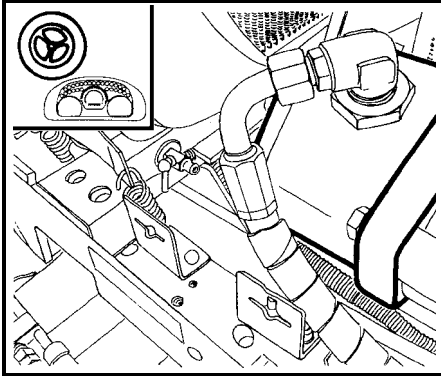


The tractor must be properly assured against accidental move:

1. Engine must be "off".
2. Speed gear 1 must be shifted.
3. Tractor must be braked with parking brake.

When the tractor stands on the hill, wheels must also be locked with blocks.

OPERATION



C231

WARNING SIGNAL OF HYDROSTATIC STEERING FAILURE

Failure of the hydrostatic steering pump is after the pump signalled at the dashboard with a corresponding symbol at drop of oil pressure below 120 kPa.

Note: At starting of the tractor or at low engine speed the signalling lamp can blink and if then the signalling lamp, after starting or increasing of speed, is "off", it does not represent a failure. The system is in order.

NOTE

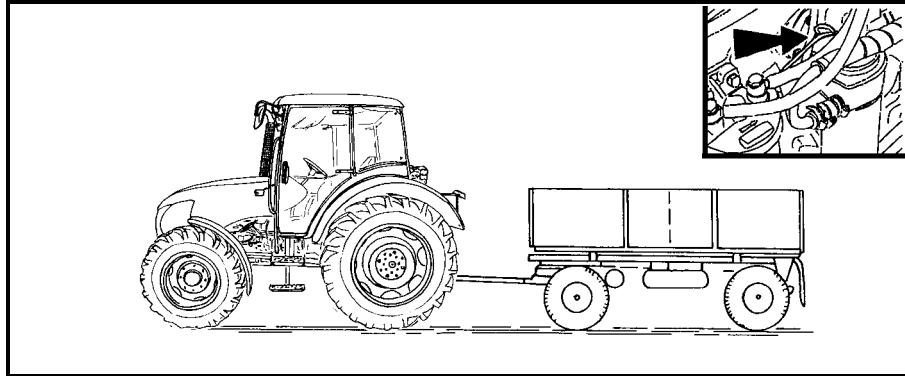
NOTE

	Page
General rules for running in the new tractor within first 100 hours of operation	68
Within first 10 hours	68
After 10 hours.....	69
After 70 hours.....	69
After 70 hours.....	70
From 100 hours.....	70



Be familiar with shifting pattern and test all positions of shifting lever at stopped engine before driving a new tractor.

Before driving, you must be sure that at normal operation the technical state of tractor corresponds to the safety traffic condition before driving.



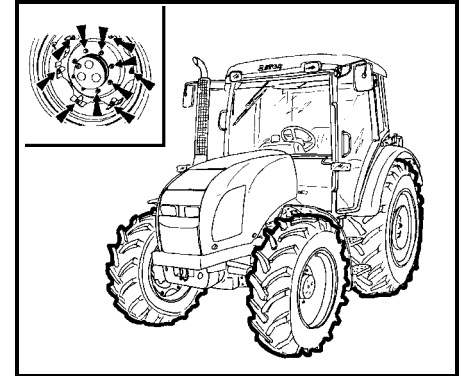
C250

GENERAL RULES FOR RUNNING IN THE NEW TRACTOR WITHIN FIRST 100 HOURS OF OPERATION

Within the first 100 operating hours:

- Load the engine normally
- Avoid the partial engine load at operation
- Avoid the long operation at idle run
- Frequently check engine oil level (increased oil consumption is normal in that time)
- Check bolted connections, especially connections of supporting parts of the tractor
- Immediately remove all found problems. You will avoid subsequent damages and possible also decreasing of safety of operation.

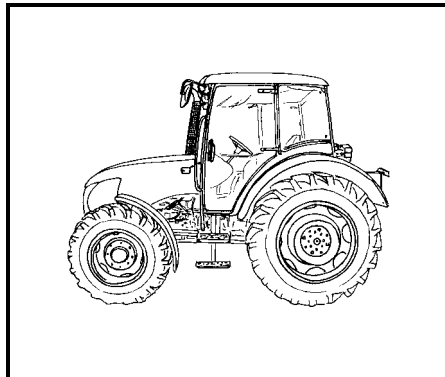
- use similar process also after general repair of the tractor.



C251

WITHIN FIRST 10 HOURS

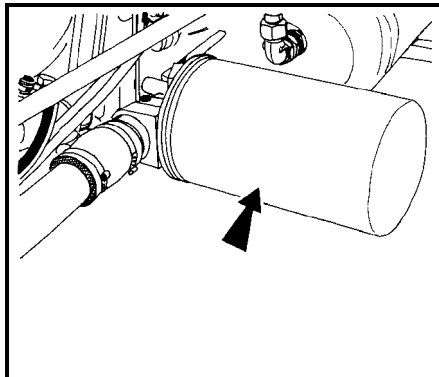
- run in the tractor at transport operating
- tighten fitting nuts of front and rear wheels including connections bead / rim with prescribed torque



C252

AFTER 10 HOURS

We recommend to drain or suck off the preheated oil from transmission to the filtration unit and to filter it by means of filtration device with filtration capability 20 microns.



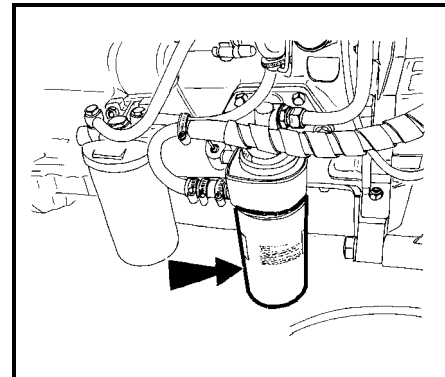
C253

AFTER 70 HOURS

Replace the hydraulic oil filter element. If necessary, add oil into transmission. Check oil level, which should be in the flattened part of oil dipstick.



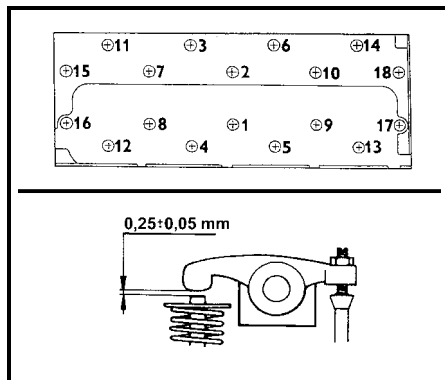
Replace the hydraulic oil filter element when oil is cold. Proceed according to chapter "Hydraulic oil filtration" in this manual.



C254

AFTER 70 HOURS

Drain hot engine oil and replace the full-flow engine oil filter. Fill in the engine with new oil to the prescribed level (after engine cranking and oil level stabilizing up to upper mark of oil dipstick).

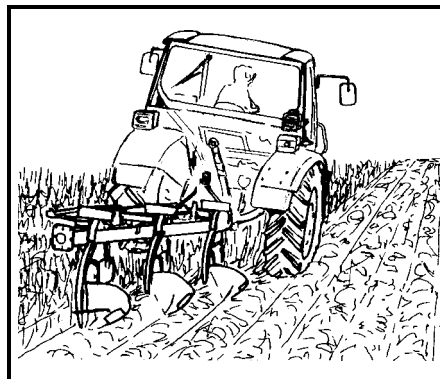


C255

AFTER 70 HOURS

- Check tightening of cylinder heads (at cold engine)
- Check valve clearance
($0,25 \pm 0,05$ mm at cold engine)

Check of cylinder head tightening and adjustment of valve clearance must be done in an authorized service workshop.



C256

FROM 100 HOURS

After running in you can work with the tractor without any restrictions.

The operating regime at tractors

Z 6421 - Z 8441:

recommended operating speed	$1400 - 2300 \text{ min}^{-1}$
idle speed	$700 \pm 25 \text{ min}^{-1}$
operating oil pressure	$0,2 - 0,5 \text{ MPa}$
oil pressure at low idle speed	min. $0,05 \text{ MPa}$
max. coolant temperature	106°C

NOTE

NOTE

TRANSPORTATION

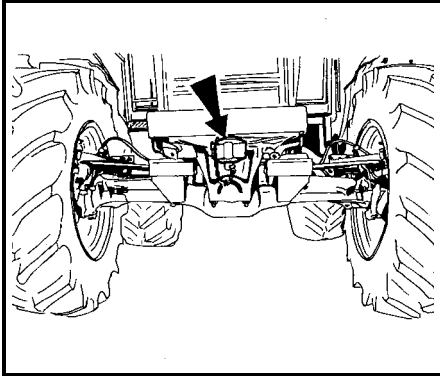
	Page
Front hook.....	74
*Trailer hitch.....	74
* Mechanical mouth of trailer hitch.....	74
*Automatic mouth of trailer hitch	75
*Swinging drawbar	75
*Pick up hitch.....	76
Replacement of hook with swinging drawbar	76
* Swinging drawbar for semi-trailer	76
Attaching of semi-trailer	77
Disconnecting of semi-trailer	77
*Draw bar	77
Trailer and semi-trailer implementation	78
Allowed vertical static load of hitches	78
Allowed load of pick up hitch	79



Be sure that the tractor technical status corresponds to the safe traffic requirements before driving.

When a trailer or an implement is attached, check hitching and fixing of transported load. Never leave the tractor in move for attaching trailer by yourself. Keep also safety of your assistant.

TRANSPORTATION



C301

FRONT HOOK

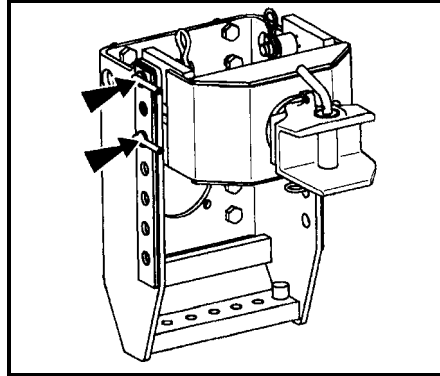
Front hook serves only for pulling tractor without any attached trailer or other attached implements.



Use the pull bar or rope when releasing the tractor.

Never use chains! Hazard of dead injury when the chain is interrupted!

It is forbidden to use tractor axles (particular tractor wheels) as a winch for releasing of the sunken tractor.

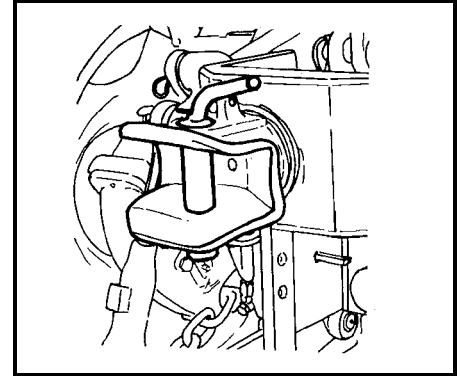


C302

*TRAILER HITCH

Trailer hitch serves for attaching of four-wheel trailers or lighter two-wheel semi-trailers. The trailer hitch is height adjustable in 5 positions by 50 mm. Hitch is attached by means of bolts or pins with cotter pins.

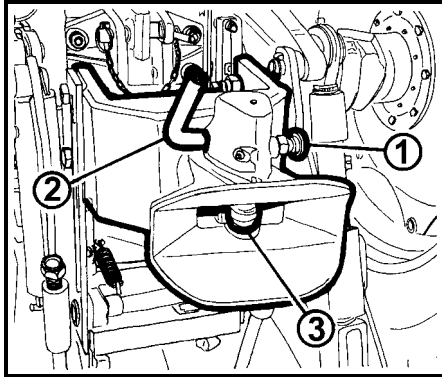
Important: At work with various agricultural implements, adjust, tilt or eventually remove the mouth, possibly together with the carrier, if necessary.



C303

* MECHANICAL MOUTH OF TRAILER HITCH

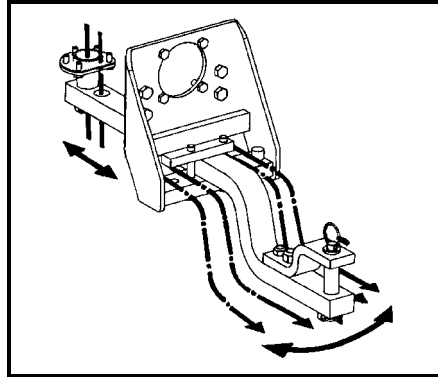
Hitch pin diameter is 30 mm. Allowed vertical static load is 10 kN.



C304

***AUTOMATIC MOUTH OF TRAILER HITCH**

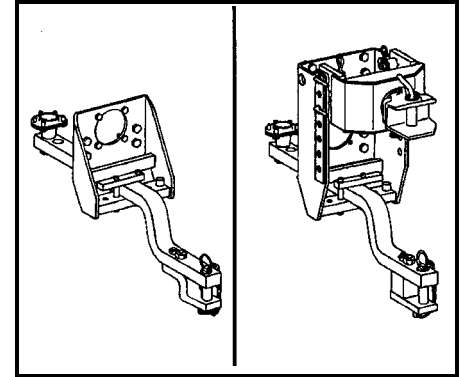
The mouth enables automatic coupling trailer to the tractor. For attaching trailer do the following - pull out the latch (1) and simultaneously raise the main hitch pin (3) into its upper position by means of lever (2). After mouth and yoke coupling, the pin automatically slides into the yoke eye of the hitched trailer. Be sure the latch is back in position after coupling the trailer. Maximum allowed vertical static load is 10 kN.



C305

***SWINGING DRAWBAR**

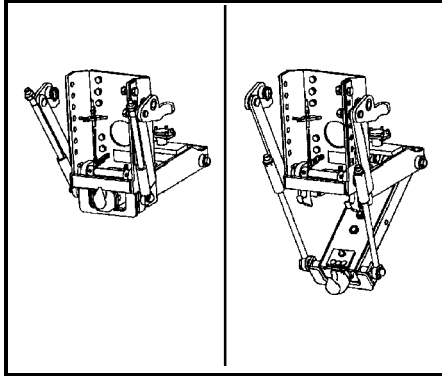
Swinging drawbar can be set side to side in 5 positions. Drawbar is fixed by the brace in desired position. The drawbar can be longitudinally set in two positions from the end of the PTO shaft (350 or 400 mm). Setting is done after removing of quick lock pin under the differential housing. Secure again the drawbar with pin after setting. Drawbar can be vertically set in 2 positions (by turning the upper part of clevis into the bottom position).



C306

***SWINGING DRAWBAR**

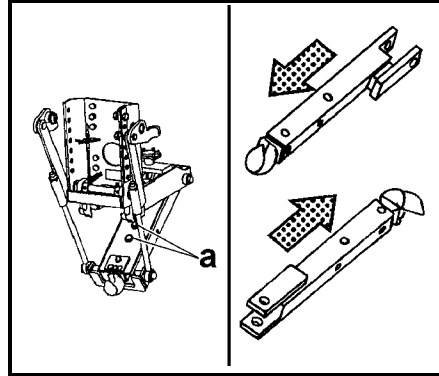
The needed free space at work with a cardan shaft is ensured only if the drawbar clevis is set in the lowest position.



C307

***PICK UP HITCH**

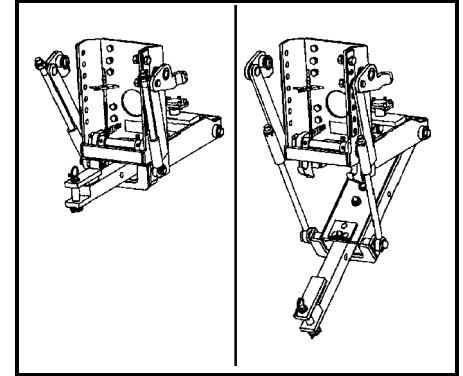
Pick up hitch is intended for coupling of two wheel trailers with yoke corresponding to ISO 5692 (the internal yoke eye diameter is 50 mm and eye height is 30 mm). Pick up hitch hook is hydraulically raised and lowered by means of length adjustable telescopic links. Maximal vertical static load is 17 kN. Pick up hitch is capable to pull the maximum traction force of the tractor.



A86a

REPLACEMENT OF HOOK WITH SWINGING DRAWBAR

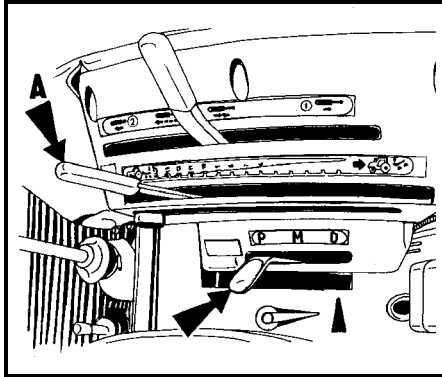
This hitch can be equipped also with the swinging draw bar that is in the opposite side of the hitch hook. Swinging draw bar allows three working positions. Change of the hitch hook for the swinging draw bar is carried out by lowering of hitch hook carrier into position suitable for removing of securing pins (a). Afterwards remove the hitch hook from the carrier and insert it into such position that the swinging draw bar clevis is in front of the carrier.



C309

*** SWINGING DRAWBAR FOR SEMI-TRAILER**

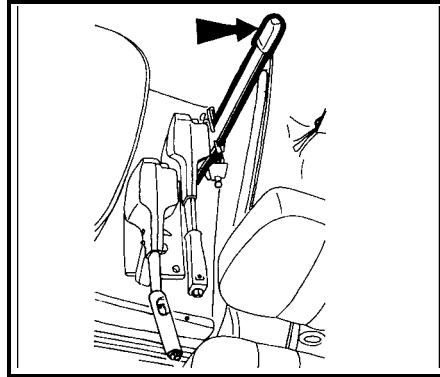
Allowed vertical static load is 12 kN. and the swinging draw bar is capable for pulling of maximal traction force of the tractor.



C310

ATTACHING OF SEMI-TRAILER

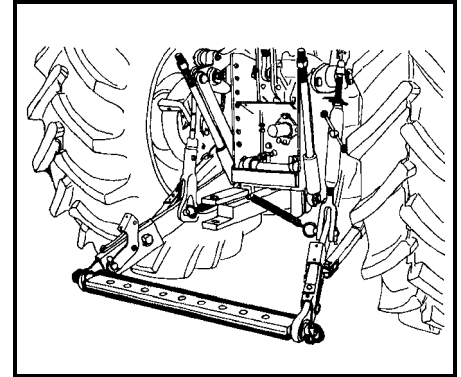
Attaching is made by means of the hydraulic inner circuit lever (A) with selected position regulation. The hitch hook together with trailer yoke eye is hydraulically raised into the position where the latches lock down under the hitch carrier pins. Hydraulic arms must be subsequently lowered so that the hook latches could seat into the carrier pins - telescopic hitches must not be stretched.



C311

DISCONNECTING OF SEMI-TRAILER

Disconnecting is made after slight raising of hitch by hydraulic inner circuit lever with selected position regulation. Move the pick up hitch control lever forwards. The lever is located on the left hand side of at driver's seat. By the hydraulic inner circuit lever drop the hitch and disconnect the trailer yoke eye.



C312

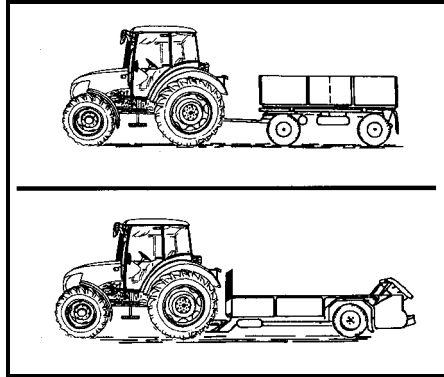
*DRAW BAR

The draw bar is height adjustable by hydraulic lifting system within its hole lifting range. Only agricultural implements that permanently load the drawbar downwards can be attached into the drawbar. Allowed vertical static load is 5 kN (at stopped tractor).



Disassemble the trailer hitch carrier with mouth when working with the draw bar.

TRANSPORTATION

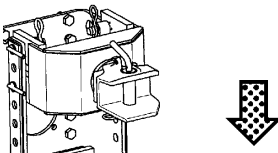
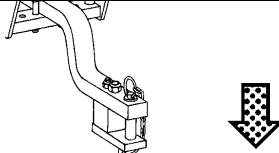
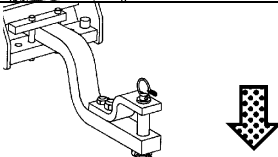
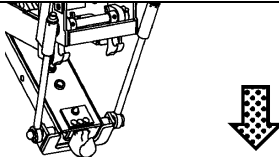
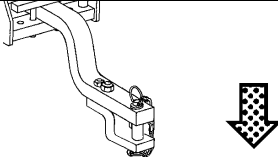
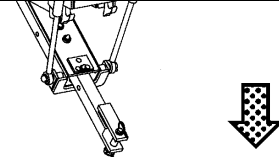
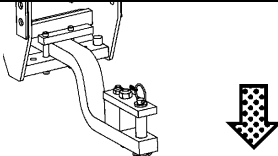
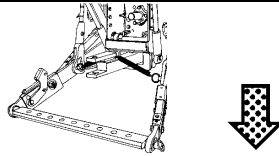


C313

TRAILER AND SEMI-TRAILER IMPLEMENTATION

Tractor must be implemented only with a suitable tractor trailer after matching up the service brakes of tractor with the air brakes of trailer. Static rear axle load must not exceed the max. allowed axle load when implemented with a semi-trailer.

ALLOWED VERTICAL STATIC LOAD OF HITCHES

Type	Allowed static load (kN)	Type	Allowed static load (kN)
	10		8
	8		18
	6		see chart at page 79
	12		5

Maximum weight of implemented braked trailer or semi-trailer must not exceed the value mentioned in tractor warning decal and the value mentioned in the vehicle technical license. The maximum vehicle set speed is limited by the max. allowed speed of the slower vehicle.

TRANSPORTATION

ALLOWED LOAD OF PICK UP HITCH

Speed (km.h ⁻¹)	Tires	G _{z dov} (kg)	Tractor without front driven axle			Tractor with front driven axle	
			F (kN)	G _p (%)	v (km.h ⁻¹)	F (kN)	G _p (%)
8, 20, 30	16,9-28	4000	18	19	15	18	27
8, 20, 30	16,9-30	4000	18	19	15	18	27
8, 20, 30	16,9-34	4000	17	20	15	17	28
8, 20, 30	18,4-30	4000	16	20	15	17	28
8, 20, 30	18,4-30	4000	16	20	15	17	28
40	16,9-28	3400	-	-	-	13	32
40	16,9-30	3400	-	-	-	12	32
40	16,9-34	3400	-	-	-	12	32
40	18,4-30	3400	-	-	-	12	30
40	18,4-34	3400	-	-	-	12	30
8	13,6-36	4000	18	19	-	18	28
20	13,6-36	3870	17	20	15	16	29
30	13,6-36	3230	11	25	-	11	34
40	13,6-36	2900	-	-	-	8,5	37
Additional front ballast weights							
- under frame			135			100	
- in front of mask			-			210	

- G_{z dov} maximum allowed weight
 F allowed vertical static load of hitch
 G_p front axle load (of total tractor weight)
 v limited maximum speed (for reason of tractor steeringability)

NOTE

NOTE

NOTE

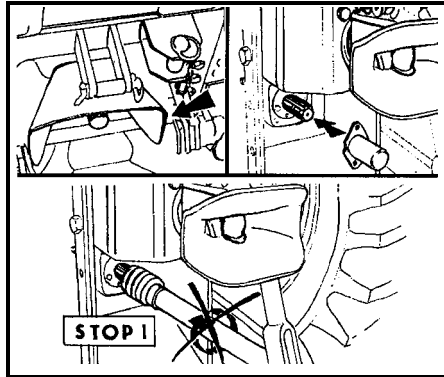
PTO DRIVE OF AGRICULTURAL MACHINES

	Page
Operation with PTO.....	84
Hand control lever of PTO shaft clutch.....	84
*Hand control lever of PTO shaft clutch with pneumatic control	85
Control lever of PTO drive.....	85
* Shifting lever of PTO shaft speed 540 and 1000 r.p.m.	85
* Shifting lever of PTO shaft speed 540 and 540 E r.p.m.	86
* PTO shaft – type with exchangeable PTO shaft ends	86
Control valve lever of front PTO clutch.....	87
Front PTO shaft.....	87
PTO shaft guards	88
Maximum transmitted power	88

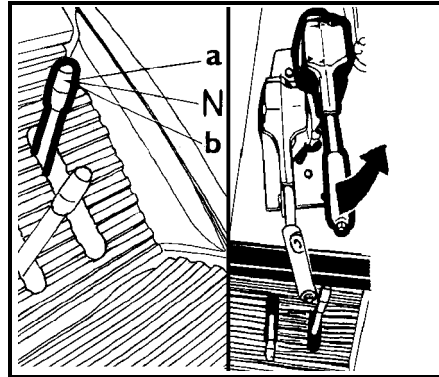


Before attaching of an implement, driven by means of the tractor PTO shaft, check the speed compatibility of both, it means tractor PTO shaft and implement driven shaft (540 r.p.m. or 1000 r.p.m.). Different PTO speed values may cause serious damages and injuries.

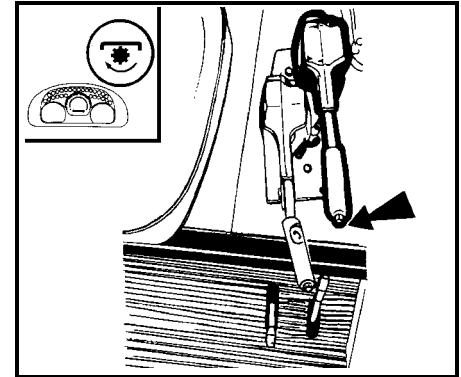
PTO DRIVE OF AGRICULTURAL MACHINES



C350



C351



C352

OPERATION WITH PTO



1. When working with the PTO shaft, take care for proper fitting of all covers and guards.
2. After finishing of work always reassemble the PTO shaft guard.
3. Connecting and disconnecting of the implement cardan shaft to the tractor should be performed only when the shifting lever of ground and independent PTO speed is shifted into N – neutral position after definitive stopping of PTO shaft!

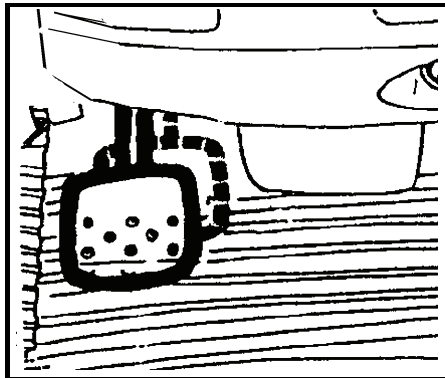
4. Any repairs or cleaning of parts of implements driven by means of the PTO shaft should be performed only when the engine is stopped, PTO clutch is disengaged and the shifting lever of ground and independent PTO speed is shifted into N – neutral position!

HAND CONTROL LEVER OF PTO SHAFT CLUTCH

With rising of the hand control lever of the PTO clutch into the upper position it comes to disengaging of the PTO clutch. The upper position of lever is indicated with indicator light located in the dashboard. The lever is automatically locked in the upper position with a latch. Releasing of locking and return of the lever into the lower position is possible after rising the lever and depressing the push-button at the front of the lever.

Upper position - clutch is disengaged
Lower position - clutch is engaged

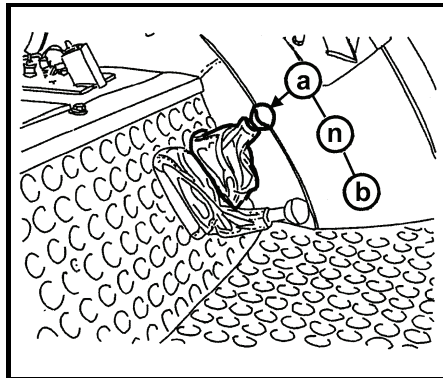
<https://trackmanualshub.com/>
PTO DRIVE OF AGRICULTURAL MACHINES



C353

***HAND CONTROL LEVER OF PTO
SHAFT CLUTCH WITH PNEUMATIC
CONTROL**

*As option, the tractor can be equipped with disengaging of the PTO clutch with pneumatic control. The function of the hand control lever of the PTO clutch is same as standard tractor model. At air pressure of min. 500 kPa, it is possible, by depressing of the clutch pedal, to disengage the PTO clutch simultaneously with the travel clutch.



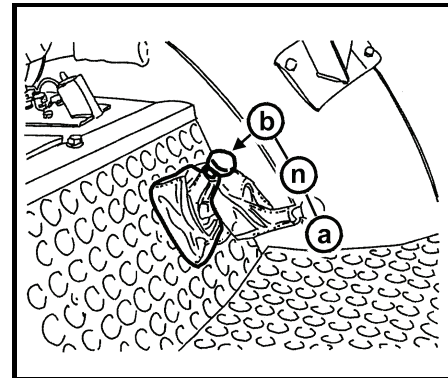
C170

CONTROL LEVER OF PTO DRIVE

- a - Ground PTO speed through transmission – speed depends upon the shifted gear.
- n - Neutral position.
- b - Independent PTO speed for 540 r.p.m., *540 and 1000 r.p.m.

When working with PTO at stopped tractor that is equipped with reversor, the reverse shifting lever must be shifted into the forward position (F).

Shifting is made at stopped tractor and disengaged control lever of the PTO clutch.



A92

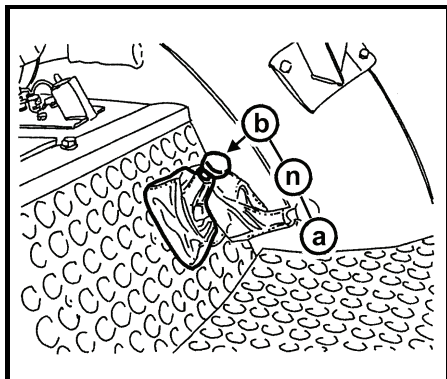
*** SHIFTING LEVER OF PTO SHAFT
SPEED 540 AND 1000 R.P.M.**

- a - 540 r.p.m.
- n - Neutral position
- b - 1000 r.p.m.

Standard tractor model is equipped only with 540 r.p.m. and the lever is not mounted.

Shifting is made at stopped tractor and disengaged control lever of the PTO clutch.

PTO DRIVE OF AGRICULTURAL MACHINES



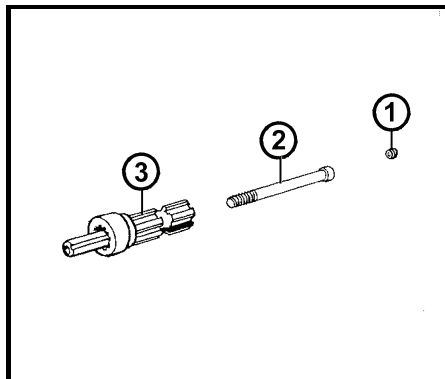
C171

* SHIFTING LEVER OF PTO SHAFT SPEED 540 AND 540 E R.P.M.

- a - 540 r.p.m.
- n - Neutral position
- b - 540 E r.p.m.

Standard tractor model is equipped only with 540 r.p.m. and the lever is not mounted.

Shifting is made at stopped tractor and disengaged control lever of the PTO clutch.



C354

* PTO SHAFT – TYPE WITH EXCHANGEABLE PTO SHAFT ENDS

Standard tractor model is equipped with fixed 6-spline PTO shaft end.

As option, the tractor can be equipped with exchangeable PTO shaft ends:

6-spline PTO shaft end – 540 r.p.m.

21-spline PTO shaft end – 1000 r.p.m.

When exchanging the PTO shaft ends, unscrew the plug (1) and the bolt (2) with which the end (3) is secured. Then it is possible to pull out the end of the PTO shaft. It is necessary to secure the reassembled end by tightening of the bolt and plug.

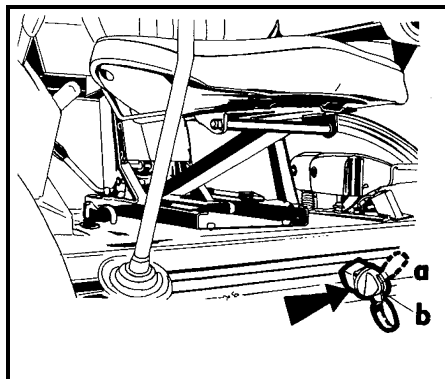


It is necessary to do exchange of the end at stopped engine.

It is necessary to select PTO speed and type of end in dependence on prescribed speed of the connected implement.

Shifting of 540 and 1000 r.p.m. is possible without regard to assembled 6-spline or 21-spline ends.

PTO DRIVE OF AGRICULTURAL MACHINES



C355

CONTROL VALVE LEVER OF FRONT PTO CLUTCH

Control valve lever of run-up clutch of front PTO.

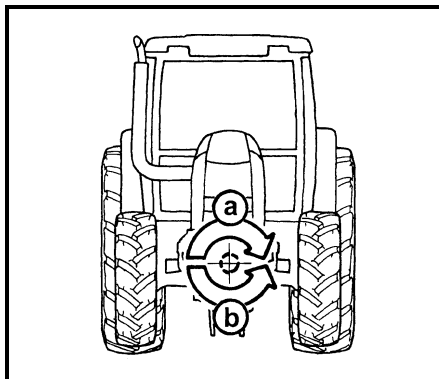
a - engaged

b - disengaged (STOP)

The clutch is engaged when air pressure reaches minimum 500 kPa (measured at pressure gauge). The valve ensures automatic disengaging of the PTO clutch when air pressure drops under 410 ± 60 kPa.



There is a time gap between engaging of control valve lever and machine run-up.



C356

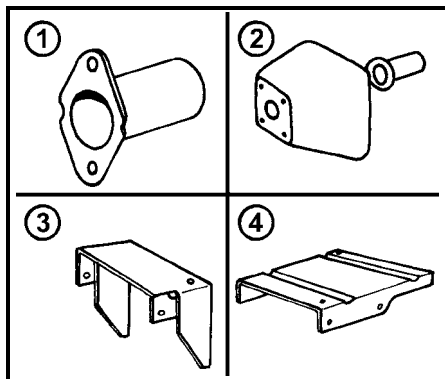
FRONT PTO SHAFT

End	21 splines, $\varnothing$ 35 mm, standardized
Speed (a)	1000 r.p.m. at 1818 r.p.m. of engine
Speed (b)	1000 r.p.m. at 1870 r.p.m. of engine

a - Corresponding with engine speed sense (standard).

b - Against engine speed sense (*option)

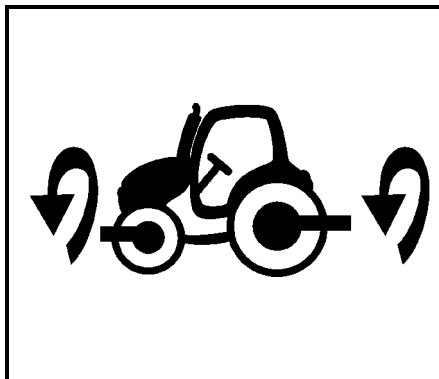
PTO DRIVE OF AGRICULTURAL MACHINES



C357

PTO SHAFT GUARDS

1. Guard of PTO shaft end
 2. ISO guard of front PTO shaft
 3. Tilting guard of PTO shaft
 4. PTO shaft guard for trailer hitch
- After finishing the work always protect PTO shaft end with a guard.



C358

MAXIMUM TRANSMITTED POWER

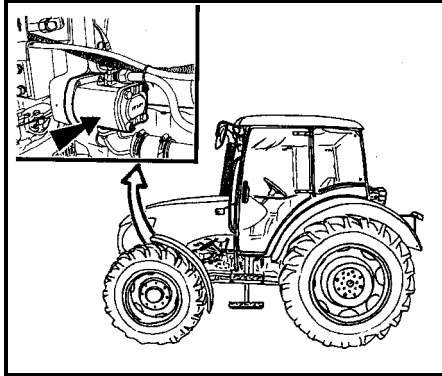
PTO shaft	Transmitted power
front	
1000 r.p.m.	max. 30 kW
rear	
1000 r.p.m.	full engine power
540 r.p.m.	full engine power
540E r.p.m.	full engine power

NOTE

NOTE

	Page
Hydraulic system.....	92
Hydraulic pump	92
Hydraulic oil filtration	92
Function of control elements	93
Hydraulic inner circuit.....	93
Inner circuit control lever	93
Selection lever of control mode	94
Response rate control lever	94
Hydraulic outer circuit.....	95
Outer circuit control lever	95
Rear outlets of hydraulic outer circuit	96
Connection and disconnection of quick-couplers	96
Oil volume supplied from hydraulic outer outlets.....	97
Control of single-acting cylinder	98
Control of double-acting cylinder	98
Selective control valve	99
Control of Selective control valve	100
Connection of machines and implement to hydraulic outer circuit.....	101

The hydraulic system is intended for lifting and lowering of agricultural machines and implements attached in the rear three point hitch.



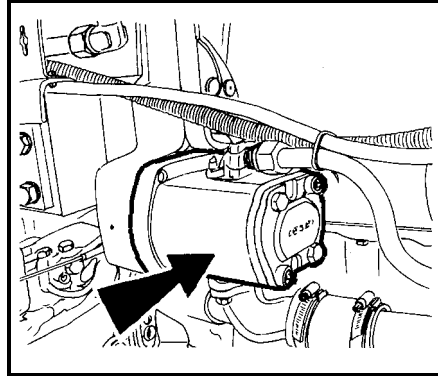
C401

HYDRAULIC SYSTEM

Hydraulic system consists of inner and outer circuits.

Pressure oil is delivered by means of the gear-wheel pump.

Oil is delivered from common filling of the gearbox and the differential case.



C402

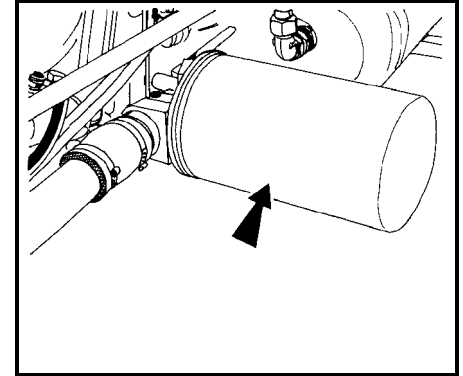
HYDRAULIC PUMP

The hydraulic pump cannot be disengaged. When the engine runs, the hydraulic pump is in function.

Hydraulic pump is alternatively supplied in two sizes:

	Pump Type	Pump Capacity
1.	UD 20	50 litre/min
2.	UD 16	40 litre/min

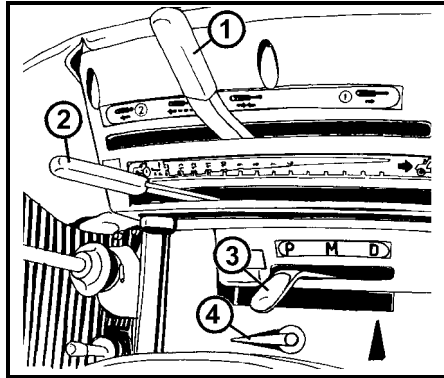
Pressure induced in the hydraulic circuit is limited by the relief valve to 18 MPa.



C253

HYDRAULIC OIL FILTRATION

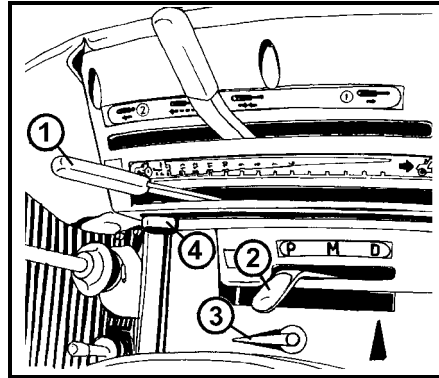
Hydraulic pump sucks oil through the suction cleaner located on the left-hand side of transmission. You can replace the oil cleaner element without transmission oil draining. The oil drains from the cleaner housing at cleaner replacement. A clean vessel of approximately 10 l volume must be used. Prepare the new cartridge advance. Return the drained oil again into transmission (in case that the element must be replaced outside of recommended time of oil or cleaner replacement).



C403

FUNCTION OF CONTROL ELEMENTS

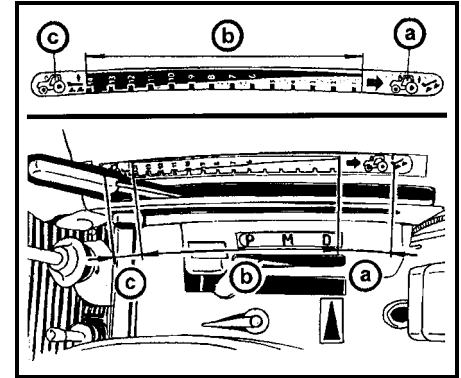
1. Control lever of hydraulic outer circuit
2. Control lever of hydraulic inner circuit
3. Selection lever of hydraulic control mode
4. Response rate control lever



C404

HYDRAULIC INNER CIRCUIT

1. Inner circuit control lever
2. Selection lever of control mode
3. Response rate control lever
4. Adjustable stop (keeps the inner circuit control lever in selected position)

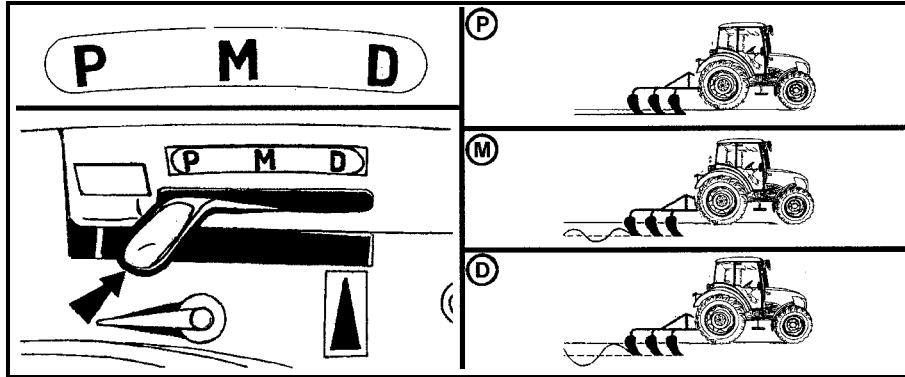


C405

INNER CIRCUIT CONTROL LEVER

Inner circuit control lever controls:

- a - Lifting of implement into transport position (max. lifted).
- b - Height adjustment of three point hitch with implement when position control is selected and height adjustment of ploughing depth when draft or mixed control is selected.
- c - Setting of so called free (floating) position when working with an implement equipped with its own supporting wheel.



C406

SELECTION LEVER OF CONTROL MODE

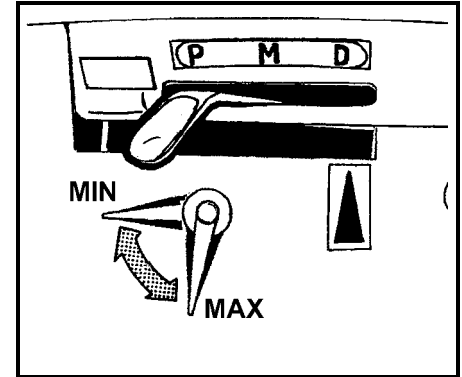
The lever has three positions marked by P, M, D:

- P** - This marks position control at which the implement attached in the three point hitch is automatically kept in constant height (position) with regard to the tractor.
- M** - This marks mix control, which is a combination of position and draft controls. This is suitable especially for ploughing at soils with variable soil resistance.
- D** - This marks draft control at which the implement attached in the three point hitch is automatically readjusted in dependence depending upon soil resistance change.

All modes of control enable also work with implement having a supporting wheel in so called free (floating).



The selection lever of control mode must be moved into P position when transporting implement!



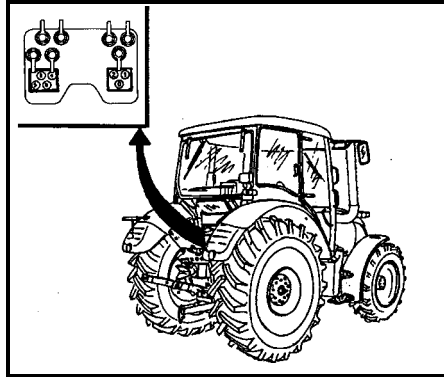
C407

RESPONSE RATE CONTROL LEVER

The lever controls the hydraulic valve in the distributor, which distributes oil flow to inner and outer circuits.

The oil flow in inner circuit is minimum, if the lever is moved in the direction (MIN) from the driver's seat.

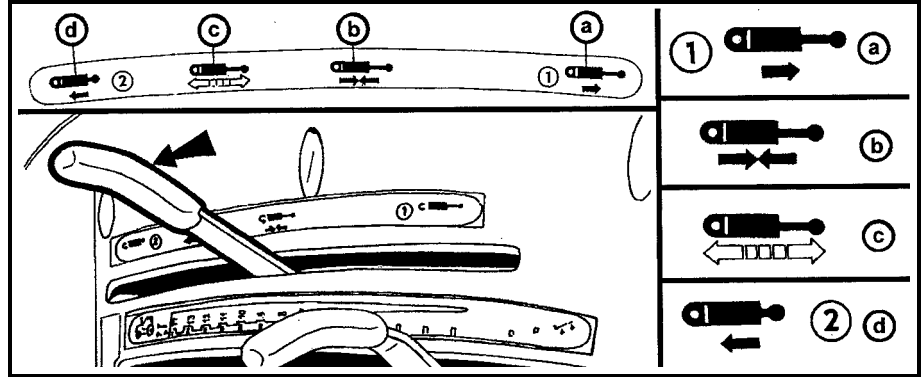
Hydraulic response rate is reduced with restriction of oil flow when draft or mix control are selected, for example when ploughing at variable soil conditions.



C408

HYDRAULIC OUTER CIRCUIT

Hydraulic outer circuit delivers the pressure oil into hydraulic implements connected to hydraulic outer outlets equipped with the quick-couplers. Quick-coupler sockets have inner diameter 12,5 mm and correspond to ISO international recommendation.

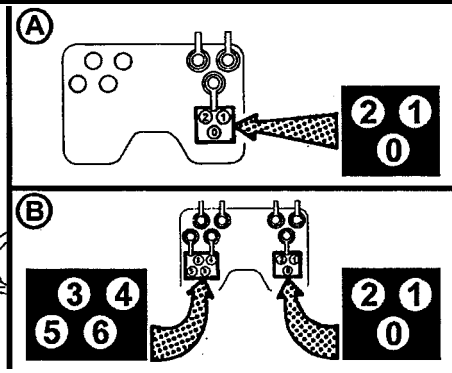
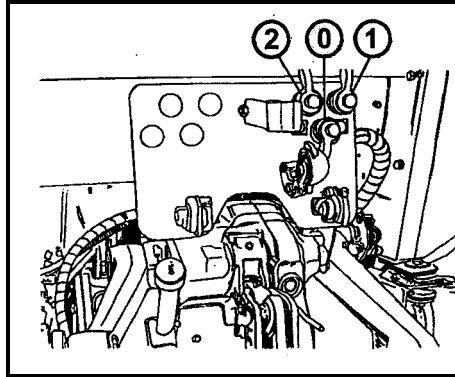


C409

OUTER CIRCUIT CONTROL LEVER

The lever has three positions marked on label:

- a** - Pressure is in quick-coupler "1", quick-coupler "2" is connected with return line. Lever is moved into its rear margin position. The lever must be held in this position, otherwise it is automatically turned into position "b" (neutral).
- b** - Neutral position (locked). Outlets to quick-couplers "1" and "2" are closed and oil in attached hydraulic implement is blocked. The lever is automatically held in this position by spring.
- c** - Floating (free) position. Both quick-couplers "1" and "2" are connected with return line and oil can freely flow in both directions. The lever is locked in this position by ball lock, which is situated in the slide valve.
- d** - Pressure in quick-coupler "2", quick-coupler "1" is connected with return line. Lever is moved into its forward margin position. The lever must be held in this position, otherwise it is automatically turned into position "c" (floating position).



C410

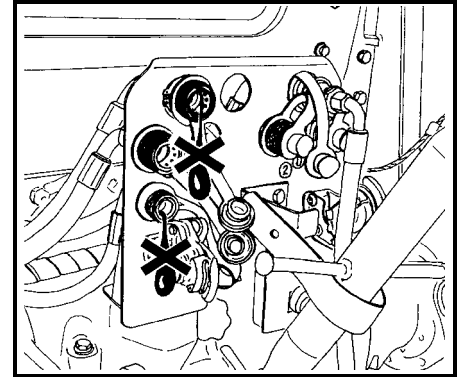
REAR OUTLETS OF HYDRAULIC OUTER CIRCUIT

Basic type of hydraulic outer circuit outlets is equipped with three quick-couplers located at the panel. According to the position of the corresponding control lever, pressure oil is distributed into the quick-couplers "1" and "2". The third quick-coupler "0" is connected directly with differential case space and is intended for turning of oil from hydraulic implements (for example from rotary hydraulic motors etc.).

- A - Arrangement of quick-couplers corresponds with a tractor that is equipped with hydraulic system without a selective control valve.
- B - Arrangement of quick-couplers corresponds with a tractor that is equipped with hydraulic system with a selective control valve.



Attached implements using oil filling of hydraulic outer circuit must be filled with the same kind of oil as recommended for tractor transmission!

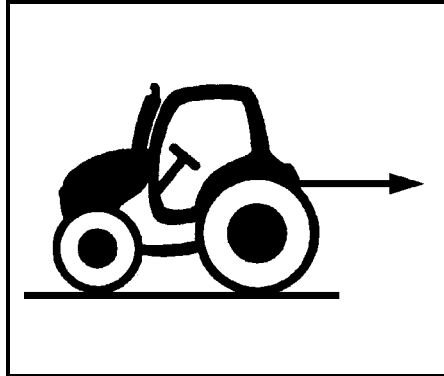


C411a

CONNECTION AND DISCONNECTION OF QUICK-COUPERS



When connecting and disconnecting the quick-couplers, take high care of resting oil, which remains in the socket and possibly at the plug of quick-coupler. From ecological reasons, it is necessary to remove this resting oil with any piece of cloth, after each disconnecting of quick-couplers.



F_02_210

OIL VOLUME SUPPLIED FROM HYDRAULIC OUTER OUTLETS

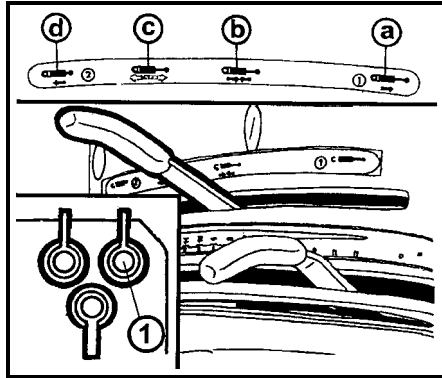
For maximum possible delivered oil volume see the following chart.



At bigger supply of oil, the hydraulic pump might suck air inside and the pump could be damaged.

In case that oil level drop in the gearbox, caused by permanent re-pumping of oil from the tractor into the hydraulic circuit of implement, occurred after disconnecting of implement, it's necessary to add the missing volume of oil.

		Type of work: in plain terrain Max. oil supply: 20 litres Gearbox filling: standard filling dipstick mark (A)
		Type of work: at slope Max. oil supply: 13 litres Gearbox filling: standard filling dipstick mark (A)
		Type of work: in plain terrain Max. oil supply: 27 litres Gearbox filling: dipstick mark (B) gearbox filling increased by 7 litres maximum permissible oil volume in gearbox
		Type of work: at slope Max. oil supply: 20 litres Gearbox filling: dipstick mark (B) gearbox filling increased by 7 litres maximum permissible oil volume in gearbox

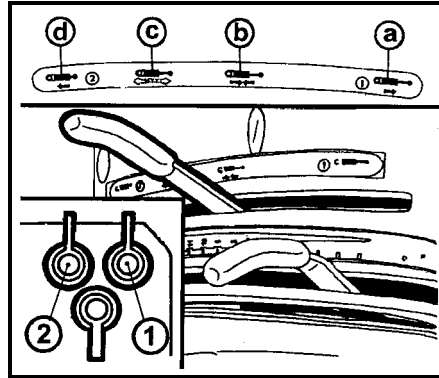


C412

CONTROL OF SINGLE-ACTING CYLINDER

Single-acting hydraulic cylinder is always connected to quick-coupler "1":

Lifting	Lever in position "a" (pressure in quick-coupler "1")
End of lifting	Lever is shifted to position "b" – neutral
Lowering	Lever is shifted to position "c" – floating
End of lowering	Lever is shifted to position "b" – neutral

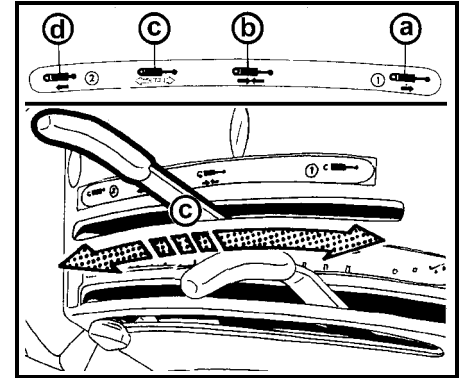


C413

CONTROL OF DOUBLE-ACTING CYLINDER

Double-acting hydraulic cylinder is connected to quick-coupler "1" and to quick-coupler "2":

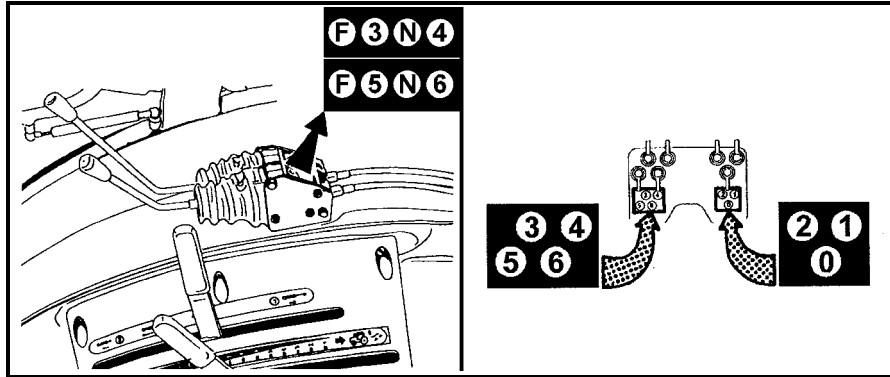
Movement in one direction	Lever in position "a" (pressure in quick-coupler "1")
End of movement	Lever in position "b" – neutral
Movement in opposite direction	Lever in position "d" - pressure in quick-coupler "2")
End of movement	Lever in position "b" – neutral)



C414



Outer circuit control lever must be moved as quickly as possible over position „c“ (floating position) when working with double-acting cylinder, because both sides of cylinder are connected with the return line and so uncontrolled movement of piston might occur.



C416

SELECTIVE CONTROL VALVE

The selective control valve is situated at the rear-hand tractor side under the cab and is delivered as two-section type. Each section has four positions with a floating position and controls two pressure outlets (quick-couplers) marked:

"3", "4" Section 1

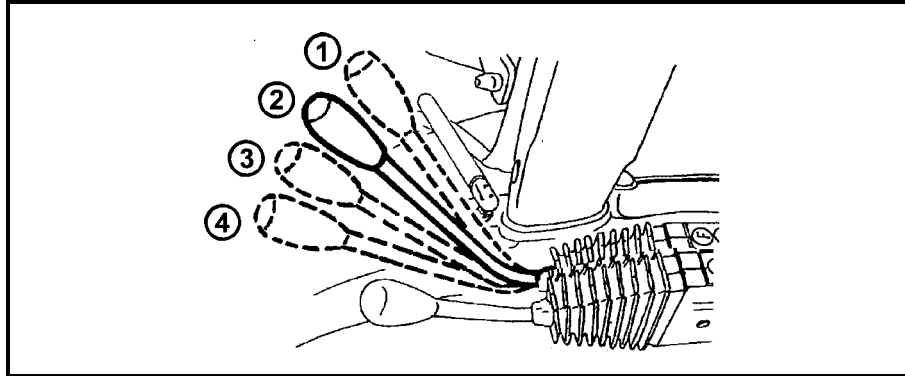
"5", "6" Section 2

The control levers of sections are located in the cab at the right-hand fender of the right rear wheel.

Both sections are equipped with floating position (labeled F), sections with outlets "5, 6" are moreover equipped with lock in both pressure positions. The spool valve in this section is automatically turned into neutral position when the pressure reaches the relieve valve pressure.

The section of the selective control valve that operates quick-couplers "3" and "4" has, besides the floating position, also locked both working (pressure) positions with hydraulic securing $16^{+1,5}$ MPa.

Outlet „4“ is also equipped with the non-return valve – utilisation for connecting of the working branch of machine with increased requirement for tightness – minimum implement drop for instance during transport.



C417

CONTROL OF SELECTIVE CONTROL VALVE

Each control lever of sections has four positions.

	Lever position	Function
1	Rear (upper) position	Pressure oil flows to quick-couplers: "4", "6" Quick-couplers connected with return line: "3", "5"
2	Middle position	Neutral
3	Front (lower) position	Pressure oil flows to quick-couplers: "3", "5" Quick-couplers connected with return line: "4", "6"
4	Front margin position	By increased force, it is possible to move the control lever from position (3) forward to position (4), so called floating (free) position, in which both levers are locked. Both quick-couplers of each section are in this position connected with return line.

Note: The lever returns automatically from positions (1) and (3) into do neutral.



Always connect a one-acting cylinder to quick-couplers "4", "6"!

Double-acting cylinder must be connected to the quick couplers of the same section.

CONNECTION OF MACHINES AND IMPLEMENT TO HYDRAULIC OUTER CIRCUIT

Connection of machines and implements combined with more parts

Tractor without selective control valve

When working with agricultural machines that are combined from more parts (combinators, skids, and harrows), at which side frames, folded at transport to vertical position by independent hydraulic cylinders, controlled by outer hydraulic circuit, are hinged to the central frame, it is necessary always to control folding of outer frames by moving the control lever of outer circuit rearwards. Moving the control lever of outer circuit in this direction ensures that pressure oil in quick-coupler "1" causes lifting of the frames to vertical (transport) position. Quick-coupler "2" is connected with return line.

Tractor equipped with selective control valve

When working with agricultural machines that are combined from more parts (combinators, skids, and harrows), at which side frames, folded at transport to vertical position by independent hydraulic cylinders, controlled by outer hydraulic circuit, are hinged to the central frame, it is necessary always to control folding of outer frames by moving the control lever of the selective control valve upwards (rearwards). Then the „lifting“ branches of the cylinders must be connected with quick-couplers "4" or "6".

Connection of rotary hydraulic motor

If a rotary hydraulic motor is connected with hydraulic outer circuit, the return line must be always connected with quick-coupler "0".

Connection of reversible hydraulic motor

From functional reason, a reversible hydraulic motor must be connected with quick-couplers "1" and "2", possibly always with quick-couplers of one section of the selective control valve. But in this case both lines must be equipped with relief valves which will reliably limit the pressure peaks when stopping the machine. The oil return lines from these valves should be connected with quick-coupler "0".

NOTE

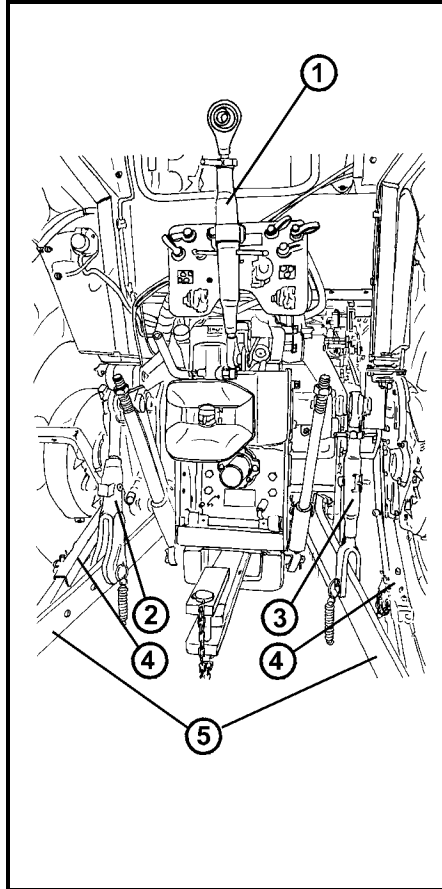
HITCHES

	Page
Rear three point hitch	104
Safety regulations for working with three point hitch	104
Attaching of implement to three point hitch	105
* Lower link stabilizers	106
* Telescopic lower draft links	106
Top link	107
Selection of top link position	107
* Front three point hitch	108
Front three point hitch control	108
Regulation of lowering and hydraulic lock of front three point hitch	108
Reduction valve setting	109
Attaching of implement	109
Driving with agricultural machines attached in front three point hitch	109

HITCHES

REAR THREE POINT HITCH

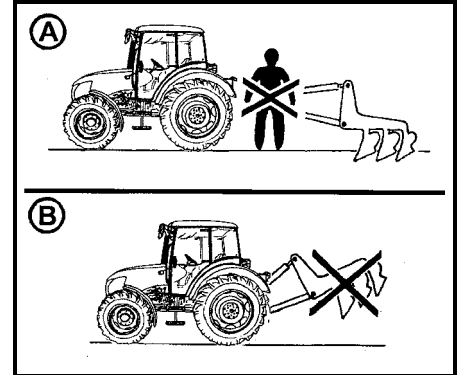
Rear three point hitch is intended for attaching of carried or semi-carried agricultural machines and implements with hitch points of category I or II according to ISO regulation. Categories differ in hitch axis length, which is the distance of lower link joint ball centres at attached implement.



Category I	
Hitch axis length	728 mm
Ø of openings of attaching balls of lower links according to ISO	28 mm
Ø of opening of top link ball	25 mm

Category II	
Hitch axis length	870 mm
Ø of openings of attaching balls of lower links according to ISO	28 mm
Ø of opening of top link ball	25 mm

1. Top link
2. Left lift link
3. Right lift link
4. Lower draft link stabilizers
5. Lower links



SAFETY REGULATIONS FOR WORKING WITH THREE POINT HITCH



Non authorized persons who are not charged to handle with implements attached to the tractor must not stay between the tractor and the attached implement - (A).

Do not park the tractor with implement in lifted position - (B).

HITCHES

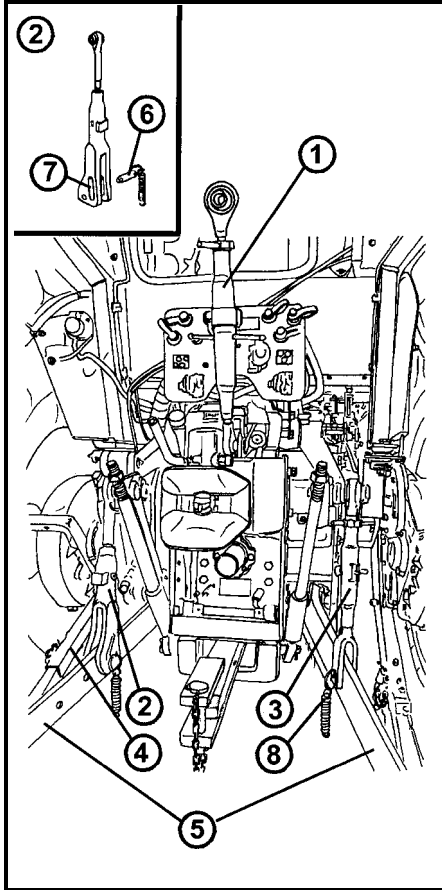
ATTACHING OF IMPLEMENT TO THREE POINT HITCH

The left lifting link (2) is adjustable after disconnecting of its upper end from hydraulic lifting arm pin and is intended for course adjustment position. Fine adjusting is made by means of turning the right lifting link tube (3) by means the wrench.

Lower link ends (5) can be mutually vertically adjusted within a range of 200 mm. Floating (free) connection of implement with the tractor and mutual winging round the longitudinal axis is enabled after sliding of the pin (6) into the oval opening (7) of the left lifting link (2). In this case the lower draft link ends can be freely vertically moved by 100 mm one each other. Transversal guiding of implement is secured with the lower link stabilizers (4). At an attached implement of category II, the ends of the lower links can swing from the central position to both sides. The side swing can be limited by locking of the stabilizers (4).

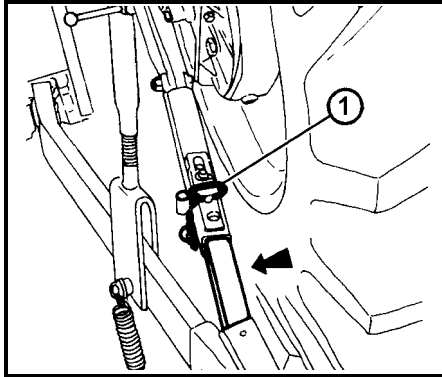


Lower draft links (5) have to be connected with springs (8) and the top link (1) has to be hooked in the spring holder when transportation without implement takes place. Lower link stabilizers (4) need to be shortened at transportation to avoid undesired side swing of implement!



C452

HITCHES



C453

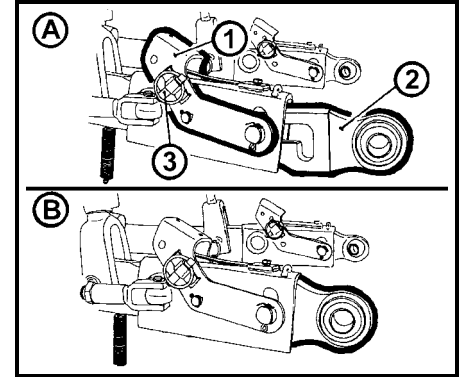
* LOWER LINK STABILIZERS

Lower link stabilizers enable the side swing of lower links approximately 125 mm to each side measured on lower attaching balls when working with implement category I and 90 mm when working with implement category II. Lower link stabilizers are automatically set with attaching of implement.



Both stabilizers must be always assembled at the tractor.

The side swing is limited by locking of stabilizers with the adjustable pin 1.

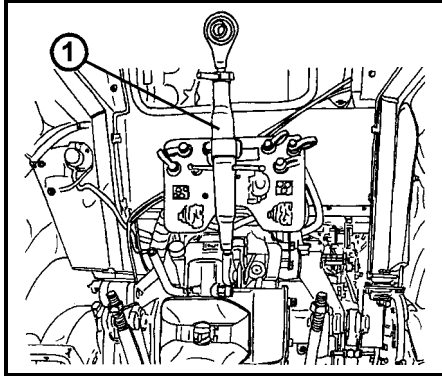


C454

* TELESCOPIC LOWER DRAFT LINKS

The telescopic lower draft links make implement attaching easy. The telescopic draft link ends (2) are loosened after pushing down of latches (1). The slipped out draft link ends are put on both implement pins and are locked with the pins (3), which are situated in the holder at the draft link end – (A). Draft link ends are slid into draft links after driving the tractor reverse and are automatically locked in working position – (B).

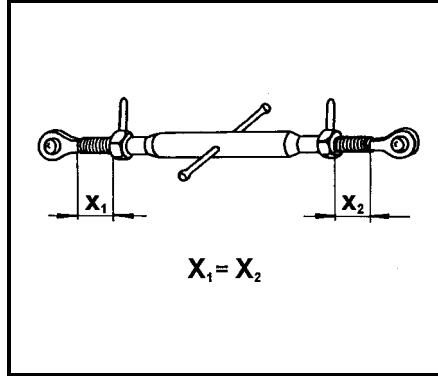
HITCHES



C455

TOP LINK

The top link (1) is length adjustable within range of 180 mm. This is attached to the tractor into one of four openings of bracket that transfers force from the attached implement to the torsion shaft located in hydraulic rockshaft.

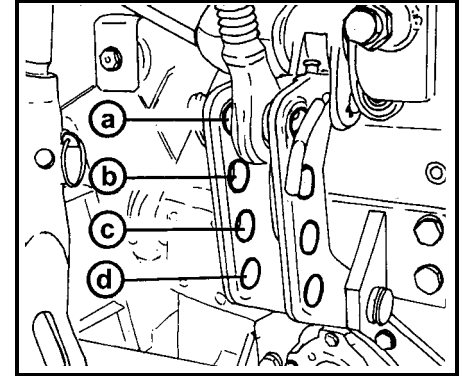


C456

TOP LINK



Pay attention to keep the same length of joints screwed out from the link tube when prolonging the top link.



C457

SELECTION OF TOP LINK POSITION

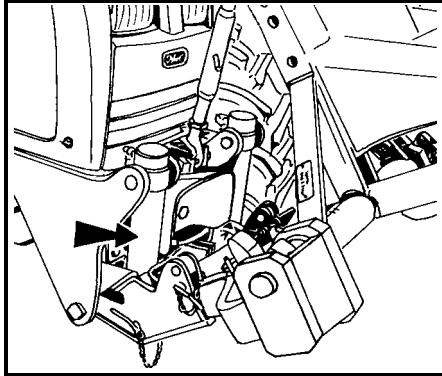
Attachment of the top link into one of openings "a"-"d" of the bracket influences the following:

- Sensitivity of hydraulic response (control position selection lever in position "D" or "M"). The biggest response sensitivity is at the top link attached in the opening "a".
- Implement tilting in lifted position with regard to the implement frame high (460 mm to 610 mm). The smallest tilting is at the top link in the opening "a".



The top link must be moved into opening "d" at implement transportation to avoid overload of hydraulic kinematics system or attached implement falling down.

HITCHES



C458

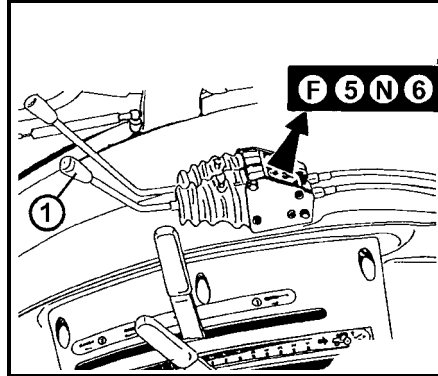
* FRONT THREE POINT HITCH

The front three point hitch is intended for attaching of frontal carried agricultural machines and implements of category II according to ISO standard.



During implement transportation the front three point hitch must be always hydraulically locked in lifted position by means of the ball valve located on the left hand side of the tractor above the front axle.

This hydraulic lock is also recommended in case if no implement is attached into the front three point hitch.

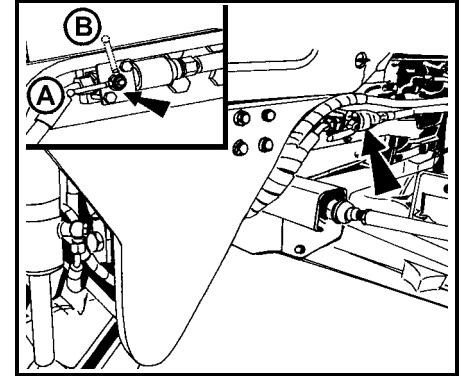


C458

FRONT THREE POINT HITCH CONTROL

The three point hitch is equipped with two single or double-acting cylinders into which the oil is supplied from outer additional distributor. Lifting and lowering is controlled by the control lever of outer additional distributor (1):

Position 6	Lifting
Position 5	Lowering
Position N	Locking of hitch



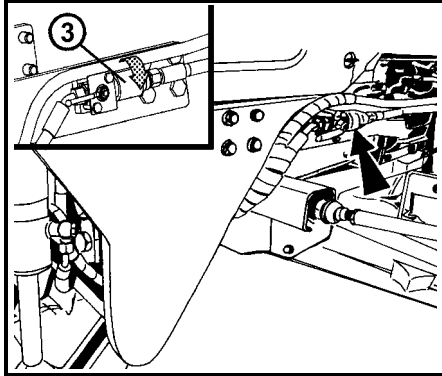
C460

REGULATION OF LOWERING AND HYDRAULIC LOCK OF FRONT THREE POINT HITCH

Lowering speed of the hitch with implement attached can be controlled by the return reduction valve.

Hydraulic lock of front three point hitch in any position is carried out by means of the ball valve by turning the lever from position A by 90° (perpendicularly to valve axis) to B position.

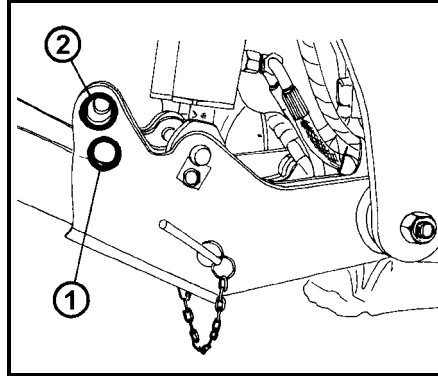
HITCHES



C461

REDUCTION VALVE SETTING

It is recommended before starting of work with implement attached in front of the three point hitch to carry out setting of the reduction valve (3), so that the time needed for implement lowering from the upper position to the lowest position could be 1 to 1,5 second. Lowering speed is increased by turning the valve body into left (in arrow direction).

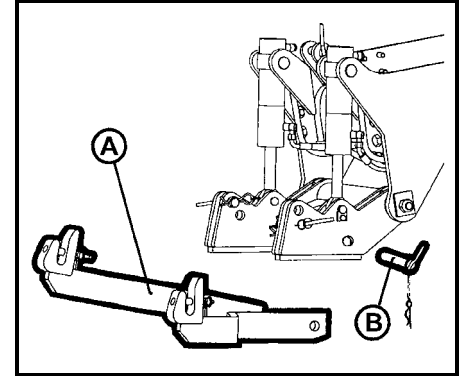


C462

ATTACHING OF IMPLEMENT

The implement is attached into the front three point hitch forks and is locked by the attaching pins. Securing of fixed and floating positions is provided with the pins:

- Fixed position of the attached implement is provided by setting of the pins into position 1.
- Floating position of the attached implement is provided by setting of the pins into position 2.



C463

DRIVING WITH AGRICULTURAL MACHINES ATTACHED IN FRONT THREE POINT HITCH



The highest allowed speed of tractor with agricultural machine attached into the front three point hitch is 15 kmh⁻¹.

We recommend removing of lower lifting arms (A) from the supports at tractor equipped with front three point hitch if no implement is attached. Disassembly is made after releasing of the lock and removing of the hitch pins (B).

NOTE

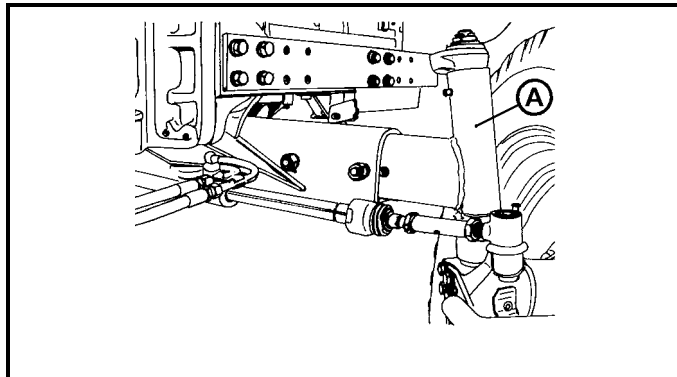
<https://truckmanualshub.com/>

WHEEL TREAD CHANGE

	Page
Change of the front wheel tread at front non-driven axle	112
Setting the front axle knees (extensions)	112
Change of the front wheel tread at front driving axle.....	113
Setting the stops at front driving axle	114
Front wheel toe-in	115
Setting the wheel toe-in at tractors without front driving axle	116
Setting the wheel toe-in at tractors with front driving axle	117
Fenders of front driving axle.....	117
Change of rear wheel tread.....	118

<https://truckmanualshub.com/>

WHEEL TREAD CHANGE

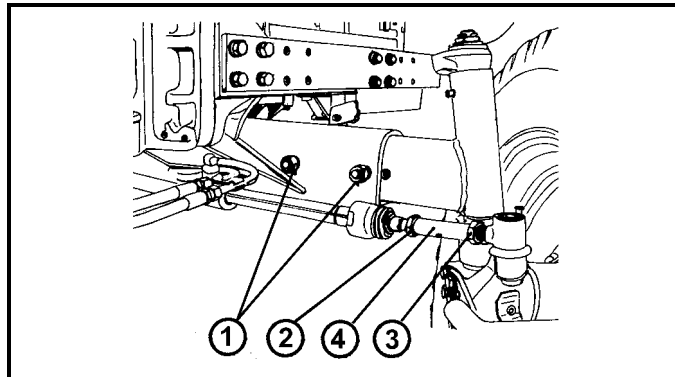


C501

CHANGE OF THE FRONT WHEEL TREAD AT FRONT NON-DRIVEN AXLE

Tread change is provided by sliding out and in the front axle knees (extensions) (A) when front axle is lifted and corresponding setting of adjusting elements is made.

Used tires	Adjustable tread (mm)
6,00-16	1600,1900
6,50-16	1600,1900
7,50-16	1495, 1570, 1870
7,50-20	1495, 1570, 1870
9,00-16	1495, 1570, 1870



C502

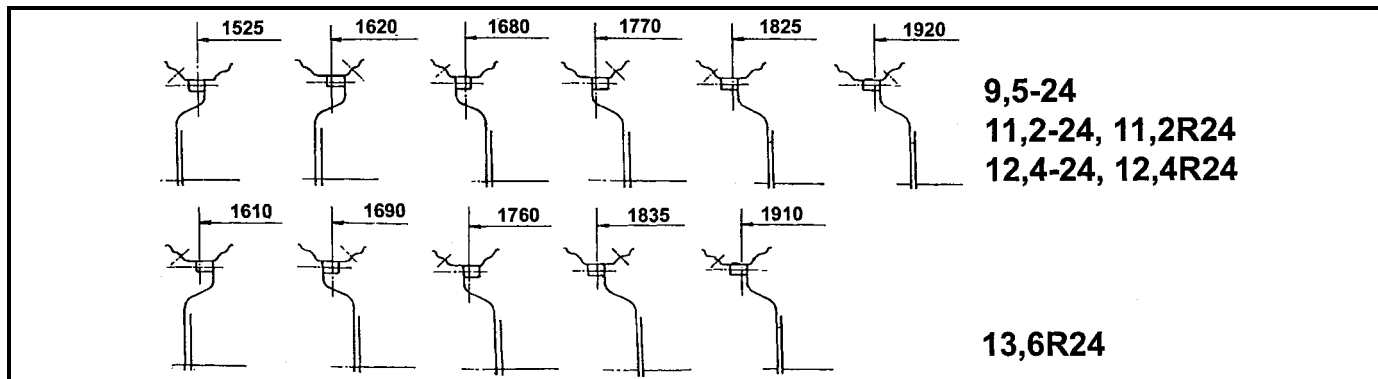
SETTING THE FRONT AXLE KNEES (EXTENSIONS)



First of all fix the tractor against movement, lift the axle by lifting jack and support it.

- Thread out axle knee nuts and remove the screws (1).
- Loosen the lock nuts of ball joints (2) and ball joint heads (3) and thread out the both steering rods (4).
- Slide out (or in) the knees to the required tread, reassemble the axle screws. Tighten axle knee nuts by torque 177 - 196 Nm.
- First of all fix the tractor against movement, lift the axle by lifting jack and support it.
- Thread in the steering rods (4) with marked tread (they are supplied as option), make setting of toe-in and secure it with securing nuts (2,3).
- Tighten the nuts by torque 122 - 136 Nm.

WHEEL TREAD CHANGE



C503

CHANGE OF THE FRONT WHEEL TREAD AT FRONT DRIVING AXLE

Tread change is provided by changing of rim and disc position.

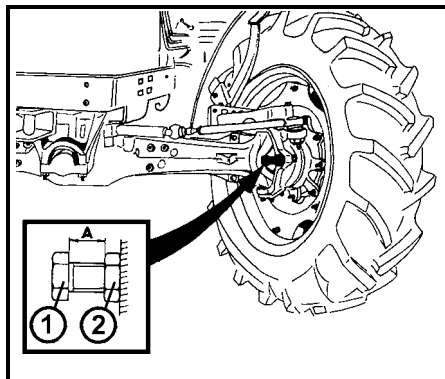
Used tires	Adjustable treads (mm)
9,5-24,	1525, 1620, 1680, 1770, 1825
11,2-24, 11,2R24, 12,4-24, 12,4R24	1525, 1620, 1680, 1770, 1825, 1920
13,6R24	1610, 1690, 1760, 1835, 1910



First of all fix the tractor against movement, lift the axle by lifting jack and support it.

- Dismantle the front wheels.
- Thread out the nuts connecting the disc with the rim and remove the screws.
- Make change of tread by setting the rim into required position.
- Reassemble the screws with washers and secure with nuts.
- Tighten the nuts by torque 230 - 250 Nm.
- Tighten the front wheel nuts by torque 270 - 300 Nm.
- Retighten screws to the prescribed level after each loosening of rim connection.
- Retighten connections again to the prescribed torque after driving the distance 100 m with unloaded tractor.
- Retighten connections after 3 hours of operation with loaded tractor.
- Check again tightening of disc nuts and rim footings after 10 hours of operation.

<https://truckmanualshub.com/>
WHEEL TREAD CHANGE



C504

SETTING THE STOPS AT FRONT DRIVING AXLE

Set stops at each change of front wheel tread of the driving front axle according to the mentioned tables after loosening the nut “2” and treading out or in the screw “1” at value “A”.

Tractor	with fenders			
Tire	9,5-24	11,2-24	12,4-24	13,6R24
Treads	A (mm)	A (mm)	A (mm)	A (mm)
1525	33	-	-	-
1610	-	-	-	43
1620	29	43	43	-
1680	22	37	37	-
1690	-	-	-	37
1760	-	-	-	33
1770	19	29	30	-
1825, 1920	-	25	26	-
1835, 1910	-	-	-	26

Tractor	without fenders			
Tire	9,5-24	11,2-24	12,4-24	13,6R24
Treads	A (mm)	A (mm)	A (mm)	A (mm)
1525	29	-	-	-
1610	-	-	-	36
1620	24	26	31	-
1680	19	22	27	-
1690	-	-	-	30
1760	-	-	-	25
1770	13	18	21	-
1825, 1920	13	14	17	-
1835, 1910	-	-	-	21

<https://truckmanualshub.com/>
WHEEL TREAD CHANGE

FRONT WHEEL TOE-IN

Value of front wheel toe-in measured at the rim at the tractor:

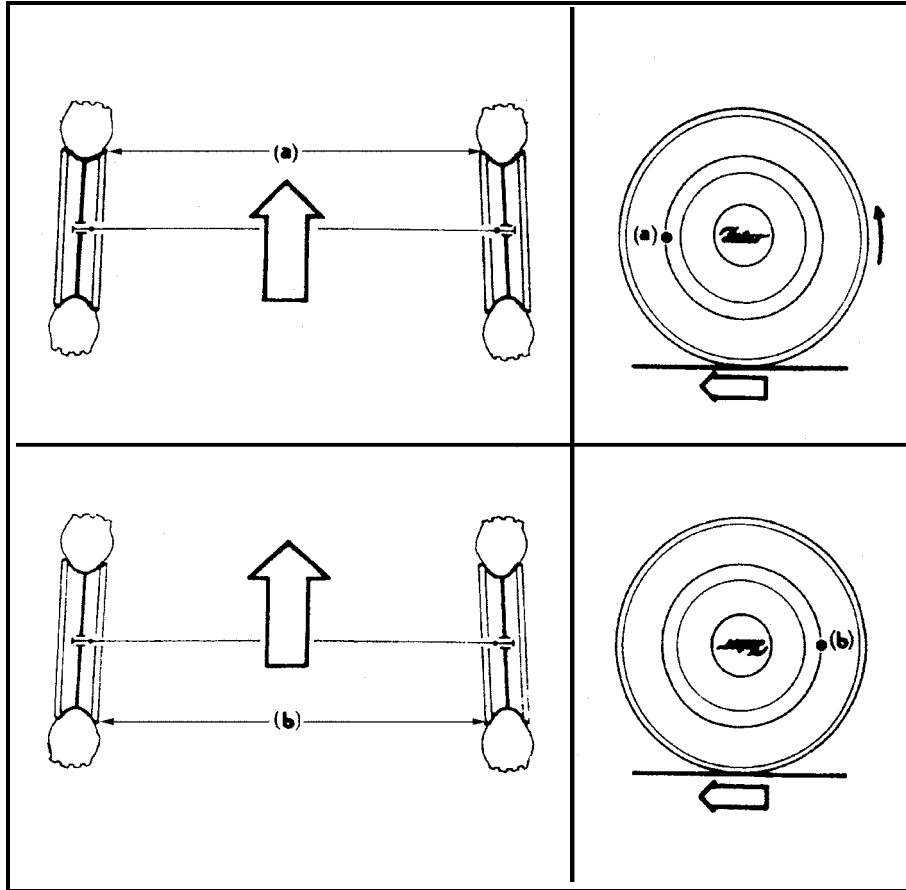
- **with non-driven axle 2 to 6 mm**
- **with driving axle 0 to 4 mm**

Toe-in „S“ is determined by the difference of measured values: $S = b - a$.



Before toe-in checking it is necessary to check and eventually adjust the play of front wheel bearings and inflate the front tires to the prescribed pressure.

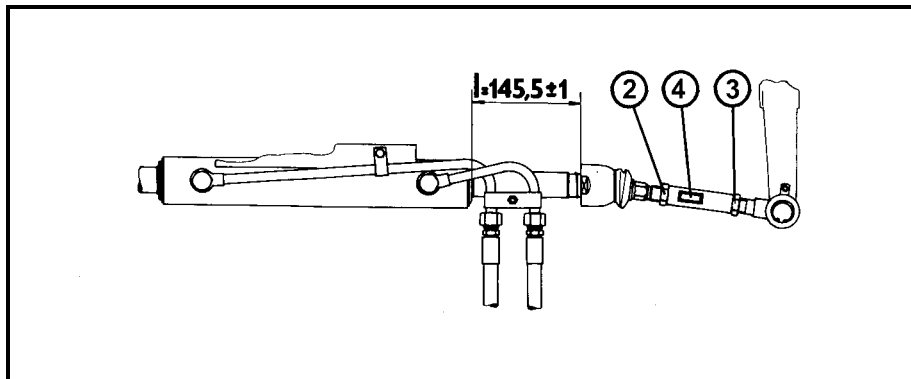
Front wheel toe-in measurement is executed on rims of wheels.



C505

<https://truckmanualshub.com/>

WHEEL TREAD CHANGE



C506

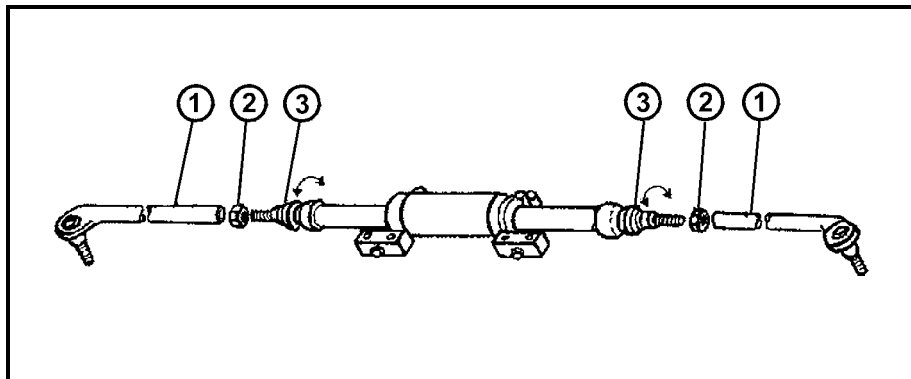
SETTING THE WHEEL TOE-IN AT TRACTORS WITHOUT FRONT DRIVING AXLE

Note: As standard, the tractors are provided with hydrostatic steering.

- Set the wheels symmetrically with the longitudinal axis of tractor.
- In the front in horizontal plane of wheel axes measure the distance between rims. Mark the measuring point.
- Drive the tractor so that the marked points would be in the rear in horizontal plane of wheel axes (turning by 180°) and again measure the distance between the marked points.
- Shift out the piston rod of the cylinder at $145,5 \pm 1$.
- Loosen the nuts (2,3) and by turning the rod (4) adjust the toe-in at the required value (measure at the rime side).
- Tighten the lock nuts of the heads of ball joints by torque 122 - 136 Nm. Upper surfaces of heads must be parallel.

<https://truckmanualshub.com/>

WHEEL TREAD CHANGE

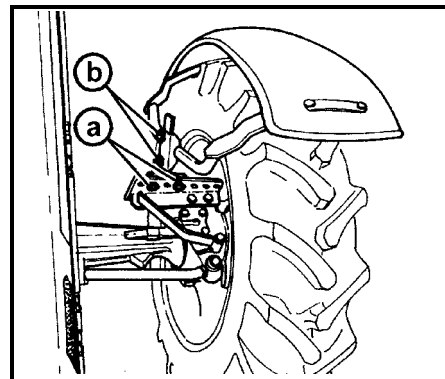


C507

SETTING THE WHEEL TOE-IN AT TRACTORS WITH FRONT DRIVING AXLE

Note: As standard, the tractors are provided with hydrostatic steering.

- Set the wheels symmetrically with the longitudinal axis of tractor.
- In the front in horizontal plane of wheel axes measure the distance between rims. Mark the measuring point.
- Drive the tractor so that the marked points would be in the rear in horizontal plane of wheel axes (turning by 180°) and again measure the distance between the marked points.
- Loosen the lock nuts of the heads of ball joints (2) of the connecting steering rods at the hydraulic cylinder.
- By turning the rod of the ball joint (3) adjust the toe-in. Execute the adjusting symmetrically at the both balls, so that the same turning radius at the both sides could be preserved (measure at the rim sides).
- Tighten the lock nuts of the heads of ball joints (2) by torque 122 - 136 N. Upper surfaces of heads (1) must be parallel.

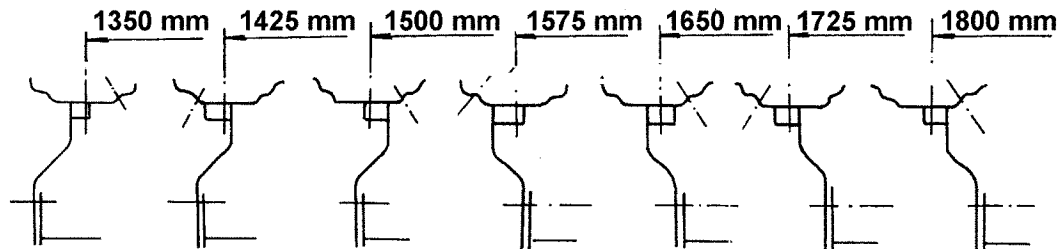


C508

FENDERS OF FRONT DRIVING AXLE

Fenders of front driving axle are fitted on adjustable holders that could be laterally (by displacement of the screws "a" into other holes) and considering height (by displacement of the screws "b" into other holes) adjusted according to the required tread values and sort of used tires.

WHEEL TREAD CHANGE



509

CHANGE OF REAR WHEEL TREAD

Used tires	Tire width in mm	Adjustable tread
12,4-36	315	1350 - 1800
13,6-36	348	1350 - 1800
14,9-28	315	1425 - 1800
14,9R28	378	1425 - 1800
16,9-28	429	1425 - 1800
16,9R28	429	1425 - 1800
16,9-30	429	1425 - 1800
16,9R30	429	1425 - 1800
480/70R30	479	1425 - 1800
18,4 -30	467	1500 - 1800
18,4 R30	468	1500 - 1800
16,9-34	429	1425 - 1800
16,9R34	429	1425 - 1800
480/70R34	429	1425 - 1800
18,4-34	467	1500 - 1800
18,4R34	467	1500 - 1800

As standard, the tread 1500 mm is set at the production plant.

Setting of rear wheel treads is made by changing the rim and disc positions with lifted rear part of the tractor. It is necessary so that free turning of wheels could be enabled.



Before lifting don't forget to secure the tractor against movement by blocking the front wheels!

After tread changing tighten all screws connecting the disc with the rim by torque 230 - 250 Nm and nuts of screws connecting the disc with the wheel shaft by torque 400 - 470 Nm.

- Retighten screws to the prescribed level after each loosening of rim connection.
- Retighten connections again to the prescribed torque after driving the distance 100 m with unloaded tractor.
- Retighten connections after 3 hours of operation with loaded tractor.
- After 10 hours again check tightening of disc nuts and rim connections.
- Up to operating the first 100 hours frequently check tightening of disc nuts and rim connections at front and rear wheels (minimally 6-times within first 100 hours).
- Then after each 100 operation hours check again tightening of disc nuts and rim connections at the front and rear wheels.

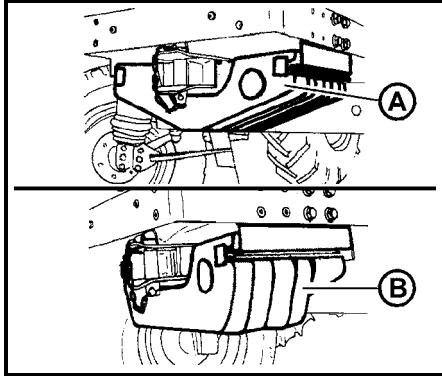
NOTE

NOTE

BALLAST WEIGHTS

	Page
* Ballast weights under frame	122
* Ballast weights in front of mask	122
* Ballast weights of front three point hitch	122
Rear wheel ballast weights	123
Valve for filling of tires with liquid	123
Blocking of front wheels	123
Process for filling water into tires	124
Process for draining liquid from tires	124
Maximum liquid weight (kg) depending upon tire size	125
Antifreeze liquid for filling of tires	125

Ballast weights are necessary for axle load increase, for ensuring of tractor steeringability or stability (keep manufacturer's instructions when working with front loader).

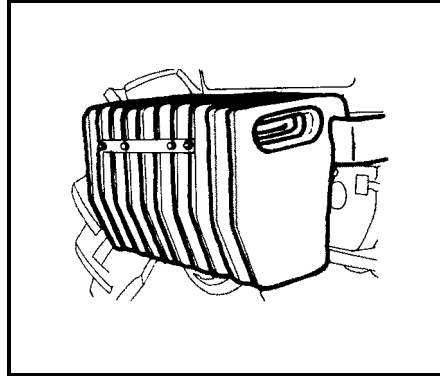


C550

*** BALLAST WEIGHTS UNDER FRAME**

Ballast weights under frame for tractors without front driving axle		
Combination of ballast weights (pc)	Mass of ballast weights (kg)	
6(A)	6x17	100
2(A) + 4(B)	2x17 + 4x25	135

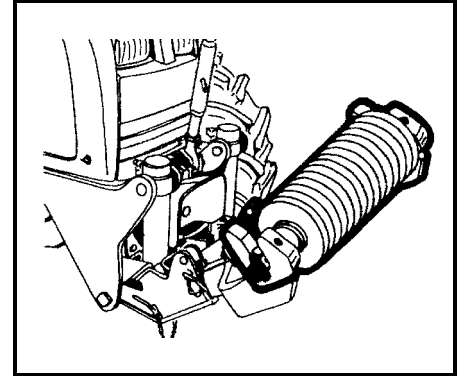
Ballast weights under frame for tractors with front driving axle		
Combination of ballast weights (pc)	Mass of ballast weights (kg)	
4(B)	4x25	100



C551

*** BALLAST WEIGHTS IN FRONT OF MASK**

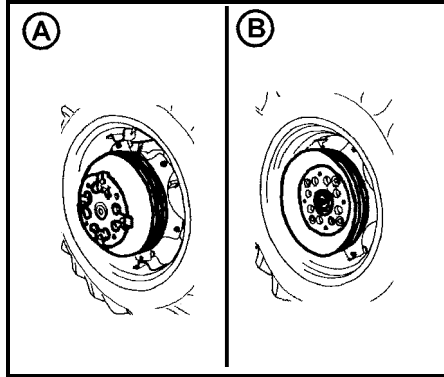
Ballast weights in front of mask		
Combination of ballast weights (pc)	Mass of ballast weights (kg)	
4+2	4x21 + 2x21	125
8+2	8x21 + 2x21	210



C552

*** BALLAST WEIGHTS OF FRONT THREE POINT HITCH**

Ballast weights of front three point hitch		
Combination of ballast weights (pc)	Mass of ballast weights (kg)	
10	10x28	280

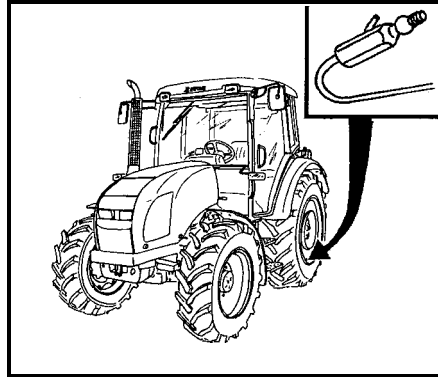


C553

REAR WHEEL BALLAST WEIGHTS

Combination of ballast weights (pc)	Mass of ballast weights (kg)	
2+2	2x16 + 2x30	90
2+4	2x16 + 4x30	150
2+8	2x16 + 8x30	270

- A - fitting of ballast weights for rear wheel treads 1350 - 1500 mm
 B - fitting of ballast weights for rear wheel treads 1575 - 1800 mm

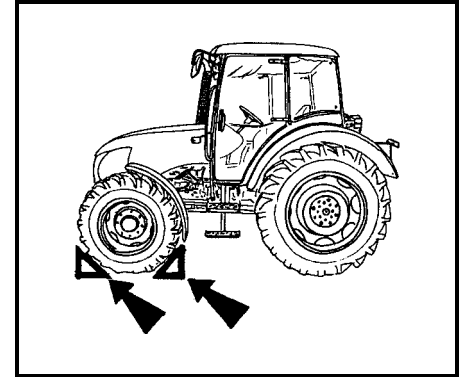


C554

VALVE FOR FILLING OF TIRES WITH LIQUID

All rear wheel tubes are equipped with valve enabling filling of tires with liquid when the adapter is used.

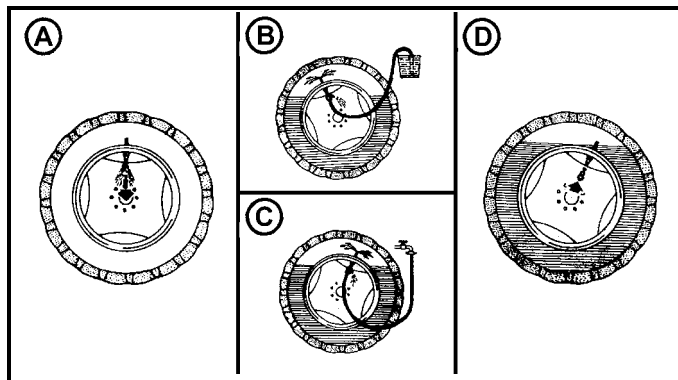
! *Filling of front tires and rear tires double assembly with liquid is not allowed!*



C555

BLOCKING OF FRONT WHEELS

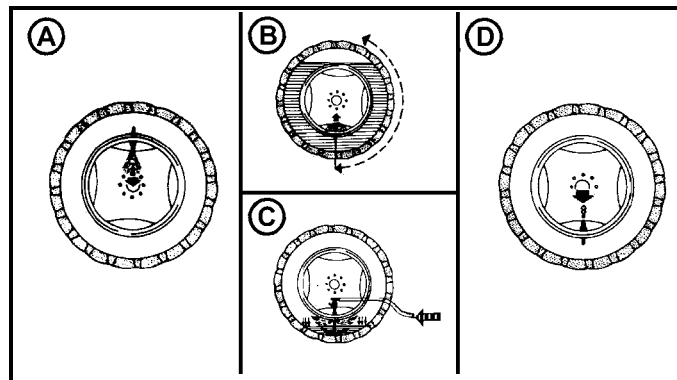
! *Don't forget to block front tires against movement before lifting of rear wheels!*



C556

PROCESS FOR FILLING WATER INTO TIRES

- Unload tire by lifting tractor and turn it with valve upwards (A).
- Deflate the tube and remove the valve insert.
- Thread the adapter for filling of tires with water and slide the water hose over adapter.
- Fill the tube with prescribed quantity of liquid.
- The gravity tank (B) or pressure water (C) can be used for filling of tire.
- Remove the water hose and the adapter for filling of tire with water.
- Thread the valve insert and inflate the tire into prescribed inflation pressure (D).
- Thread the valve dust cap after inflation.
- Fill also the second tire by the same way.



C557

PROCESS FOR DRAINING LIQUID FROM TIRES

- Unload tire by lifting tractor and turn it with valve upwards (A).
- Deflate the tube and remove the valve insert. Turn wheel with valve downwards.
- *Underpressure can be created in tire when draining liquid. Therefore turn sometimes the wheel so that the valve could get upwards (B)!*
- Remove the rest of liquid from tire by means of pressure air after assembly of adapter for filling tires with water (C).
- Blow out the liquid so long until liquid runs from adapter extension tube.
- Remove the adapter for filling of tires with water.
- Thread the valve insert back and inflate the tire into prescribed inflation pressure (D).
- Thread the valve dust cap after inflation.
- Remove liquid from the second tire by the same way.

BALLAST WEIGHTS

MAXIMUM LIQUID WEIGHT (KG) DEPENDING UPON TIRE SIZE

Tire size	12,4-36	14,9-28	16,9-28	16,9-30	480/70R30	16,9-34	18,4-30	18,4-34
Weight (kg)	160	190	215	240	280	250	337	345

ANTIFREEZE LIQUID FOR FILLING OF TIRES

Water for preparation of liquid	Calcium chloride CaCl_2	Hydrated lime	Liquid density at 20°C	Solidity point ca	Total volume	Additional weight
(l)	(kg)	(kg)		(°C)	(l)	(kg)
45	11,8	0,21	1,13	-18	50	57
45	13,9	0,23	1,18	-25	50	59
45	15,4	0,25	1,21	-30	50	61

Liquid preparation:

1. Dry calcium chloride CaCl_2 is added into water, never the other way!

2. Liquid is not dangerous, but it must be handled carefully. Wash the spilt liquid drops with clean water.
3. Let the liquid cool down before filling. Keep the prescribed quantity of hydrated lime.
4. Liquid must not get into contact with metal parts and with electrical installation! Tube valve is liquid resistant.
5. Antifreeze liquid prepared in this consistency must not be used in cooling system!
6. After draining the antifreeze medium must be liquidate as a special waste!

NOTE

ELECTRICAL INSTALLATION

	Page
Electrical equipment.....	128
Basic service information	128
Accumulator battery	129
Accumulator battery maintenance	129
Charging and maintenance of accumulator	130
Alternator	131
Alternator maintenance	131
Fuse box	132
Checking of adjustment of front mask headlights	133
Adjustment of front mask headlights.....	133
Checking the adjustment of cab roof headlights	134
List of lamps	135

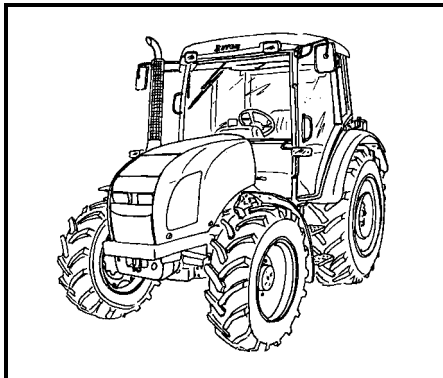


It is forbidden to make additional adaptations of tractor electrical installation (connection of other electric appliances) for reasons of possible overloading!

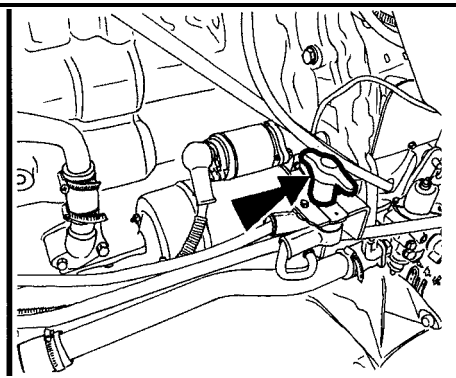
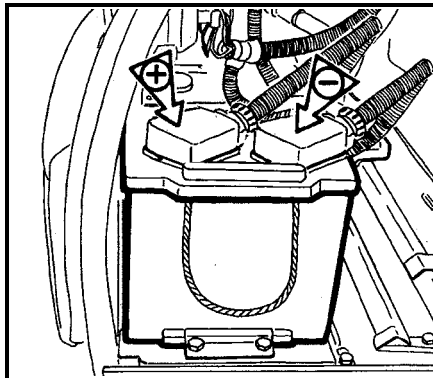
Pay special attention for manipulation with accumulator battery when repairing electrical installation to avoid contact of skin or clothes with electrolyte.

<https://truckmanualshub.com/>

ELECTRICAL INSTALLTION



C601



C602

ELECTRICAL EQUIPMENT

Nominal voltage (minus pole grounded)	12V
Battery	12V/165Ah
Alternator with integrated voltage regulator	14V; 70 A
Starter motor	12V / 3,5 kW
Driving V-belts for alternator and water pump	AVX10x1340La AVX10x1325La

BASIC SERVICE INFORMATION

Accumulator battery "minus" pole must be always connected with the ground and "plus" pole connected with alternator. A vice versa connected accumulator battery destroys the complete semiconductor equipment of alternator. When starting the tractor by means of an auxiliary accumulator battery do not forget to connect "plus" to "plus" and "minus" to "minus". Disconnect the battery by the battery switch from tractor ground (-), when replacing any part of charging circuit to avoid possible short circuit at connectors.

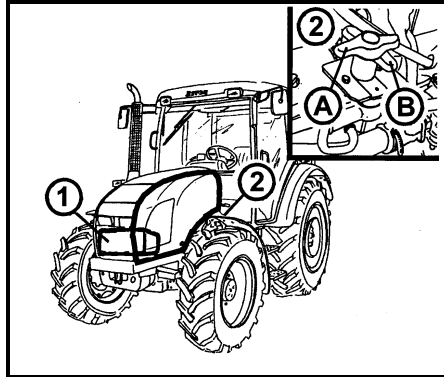


At any manipulation or repair of starter motor the battery minus pole must be disconnected and all shifting levers including PTO lever must be shifted to neutral positions to avoid spontaneous starting and serviceman's life hazard.



*Starting of tractor by short circuit of starter connectors is forbidden!
Tractor must be always started from driver's seat.*

<https://truck-manualshub.com/>
ELECTRICAL INSTALLATION



C603

ACCUMULATOR BATTERY

The accumulator battery (1) is located behind the front mask of bonnet and is accessible after removing the left-hand side shield.

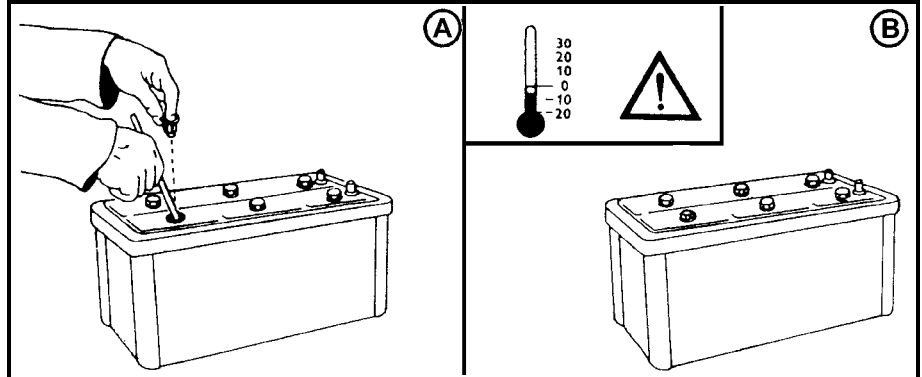
The battery switch (2) is located at the left-hand tractor side close the starter motor.

A - Battery connected

B - Battery disconnected



If the tractor is out of operation for longer time period, it is necessary to charge the battery at least once in three months for reasons of self-discharging of the battery. It is recommended to disconnect the battery by means of the battery switch, when the tractor is out of operation.



C604

ACCUMULATOR BATTERY MAINTENANCE

Keep the accumulator battery clean and properly fixed to the vehicle. The fixing device must not deform the battery case. At polypropylene batteries, electrolyte level must not be under the minimum mark, which is marked on the battery case.



Add distilled water only!

- 1. Before working with an accumulator, read the manual at first!*
- 2. Protect your eyes with glasses or safety shield!*
- 3. Electrolyte is caustic agent, then handle it with proper care! Wash off the stained areas of skin and neutralize them with soap and water, and so maintain stained clothing.*
- 4. Hydrogen is released from electrolyte at electrodes at battery charging and creates explosive mixture being mixed with air. Then it is forbidden to handle with open fire close to the accumulator during charging!*
- 5. An explosion might also be caused by a spark created at disconnecting or releasing of terminal, at switched-in charging circuit!*
- 6. Keep children out!*
- 7. Discarded battery is ecologically dangerous waste – when buying a new accumulator, let the old one at the seller's for charge-free liquidation.*

<https://truckmanualshub.com/>

ELECTRICAL INSTALLATION

CHARGING AND MAINTENANCE OF ACCUMULATOR

A) Charging on vehicle and outside vehicle

1. Systematic overcharging and discharging of battery damages and shortens its life. Correctly adjusted charging system maintains battery near to the fully charged state. At adjusted voltage level (13,8 - 14,4 V) in charging system and average tractor operation it is sufficient to check and maintain the level of electrolyte by distilled water once per six month.
2. At heavier operation and another level of regulated voltage it is necessary more frequent checking the level of electrolyte. Overcharging the battery on vehicle (more than 14,4 V) causes bigger loose of electrolyte.
3. It is necessary to charge the battery removed from the vehicle or in the vehicle, which is not in operation (see Storage of charged batteries with electrolyte). It is also suitable to charge battery in vehicle before and after winter season. In winter season at strong frost the electrolyte might be frozen at almost discharged battery (density of electrolyte 1,12 - 1,15 g/cm³) in this case the life is substantially reduced (disintegration

of active agent and destroy of battery case). Heavily discharged battery (density of electrolyte lower than 1,07 g/cm³) might be frozen already at several degrees below zero.

4. Charge the battery by current that is 0,1 of total battery capacity (or lower) up to fully charged state.
5. Charging device with constant voltage 14,4 V can be also used. Charging time can be max. 30 hours according to state of discharging.
6. Fully discharged battery must be charged as soon as possible, otherwise its full capacity can not be restored.

B) Charged battery characters

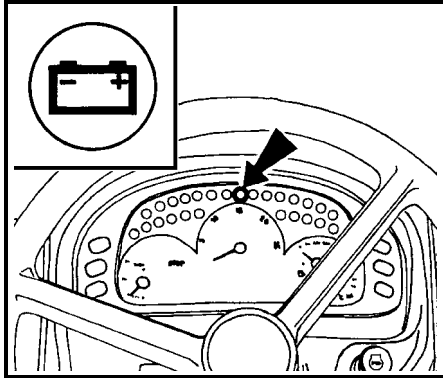
1. Battery is considered as fully charged if all battery cells generate gas with same intensity. If electrolyte density is 1,28 g/cm³ in all cells and if total battery voltage is 15,3 - 16,5 V, measured with prescribed charging current.
2. Status of full charging is confirmed when the received density of electrolyte and level of voltage is not changed within farther two measurements following after two hours.
3. For example the charging state for your orientation: status of charging corresponds to density of electrolyte. Charging state is characterized by

electrolyte density and is measured by a charge indicator. Every cell needs to be measured.

Charging state = electrolyte density	
Charging state	Electrolyte density
100 %	1,28 g/cm ³
70 %	1,23 g/cm ³
50 %	1,20 g/cm ³
20 %	1,15 g/cm ³
0 %	1,12 g/cm ³

C) Storage of charged battery with electrolyte

1. Before storage the battery must be charged up to final symptoms of charging. It must be disconnected from charging system, cleaned and with plugs.
2. Battery that is built into a polypropylene case must be charged after three month of storage because of smaller self-discharging.
3. Intervals for checking the state of electrolyte are: – at charging or minimum once per 6 month, by adding distilled water only! If some electrical components are permanently connected even at disconnected key switch (for example Warning) it is necessary to check the status of charging – i.e. voltage without load and electrolyte density min. once per 1 month.



C605

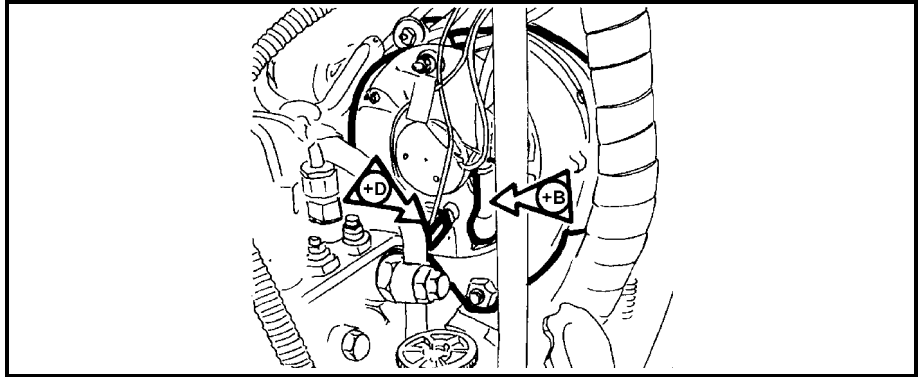
ALTERNATOR

The alternator is accessible after removing of the right-hand side shield. Charging state is indicated by the red indicator lamp at the combined instrument panel.



Burnt indicator lamp 12V / 2W must be immediately replaced. The indicator lamp is a part of alternator exciting circuit; when the indicator lamp is burnt, the battery is not charged!

All wires connected with the alternator must be disconnected when repairing tractor by electric arc welding. Protect the wire "+B" against short circuit.



C606

ALTERNATOR MAINTENANCE



Protect the alternator against penetration of water or diesel fuel when washing and cleaning the tractor!

The accumulator must be never disconnected from alternator at operation!

The alternator must never run without load i.e. with disconnected wire from terminal "+B" and connected terminal "+D". When increased engine speed, this state would create excessively high voltage of alternator and such voltage would damage the semiconductors of alternator!

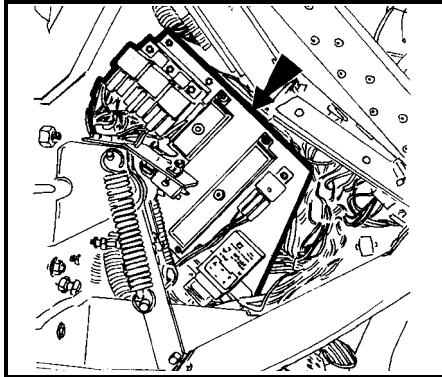
Never create short circuit of any alternator connector at operation!!

The alternator must not be additionally excited. Alternator semiconductors will be damaged in this case!

Keep perfect electrical connections of alternator terminals and perfect alternator ground!

Reversing of alternator polarity, even for a short time, must not be made!

<https://truckmanualshub.com/>
ELECTRICAL INSTALLATION



C607

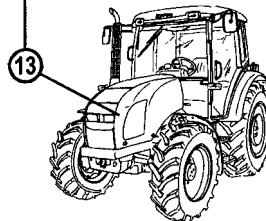
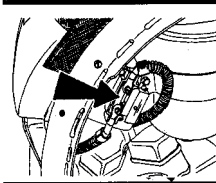
FUSE BOX

Fuse box is accessible after removing of the left-hand cover of the steering support. The main fuse box has eight polls. Farther four poll fuse box located nearby the main box is assembled at cab tractors.

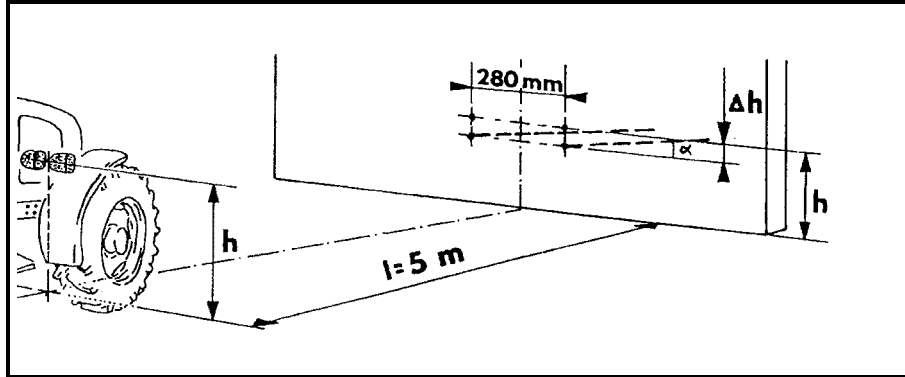
Fuses are of knife type and the prescribed value of amperage must be kept when replacing a fuse. In case of repeated fuse replacement, look for an authorized service.

The fuse of glowing (13) is accessible after removing of the left-hand front side part of bonnet.

Position of fuse in fuse box	Pos.	Fuse size	Protected circuit
	1	15A	Warning light interrupter, brake lights
	2	15A	Horn, light horn
	3	15A	Front driving axle, differential lock, torque multiplier, PTO control lamp, dashboard feeding
	4	15A	High beam head lights with indicator lamp
	5	15A	Left position lights, license plate light, dashboard illumination
	6	15A	Right position lights, working lights with indicator lamp
	7	15A	right low beam head lights, fog light with indicator lamp
	8	15A	left low beam head lights, control lamp of mask headlights / tractor cab roof headlights
	9	15A	front and rear wipers, washer, heating (air-conditioning) controls
	10	20a	Heating blower – relay
	11	15A	Reserve
	12	7,5A	Air-conditioning (compressor clutch)
	13	80A	Engine glowing



<https://truckmanualshub.com/>
ELECTRICAL INSTALLATION

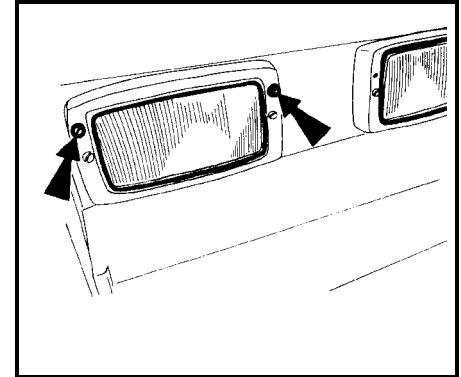


C609

CHECKING OF ADJUSTMENT OF FRONT MASK HEADLIGHTS

The tractor must stand on horizontal surface and the tires must be inflated to specified pressure when checking at a testing wall. Basic vertical setting is 3,5 % at shipping weight. Light beams must be parallel with longitudinal tractor axis of symmetry in horizontal direction.

- l** - Distance between testing wall and tractor headlight (5 m).
- h** - Height of headlight center above road surface.
- Δh** - Inclination of headlight (-3,5 %) to distance of testing wall = 17,5 cm.
- α** - Raising of the picture of asymmetric headlight (15%).

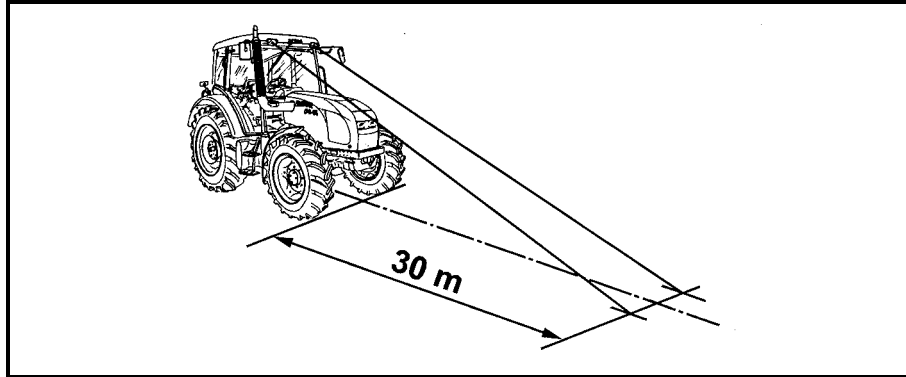


C610

ADJUSTMENT OF FRONT MASK HEADLIGHTS

Adjust the light by means of both screws (1) for vertical and horizontal direction simultaneously - horizontally $\pm 2^\circ$; vertically $+1^\circ$ to -6° .

Each light is adjusted separately. The lamp is replaced by removing from the rear side of parabola. Release and slide out or remove the starting battery for reasons of limited space.



C611

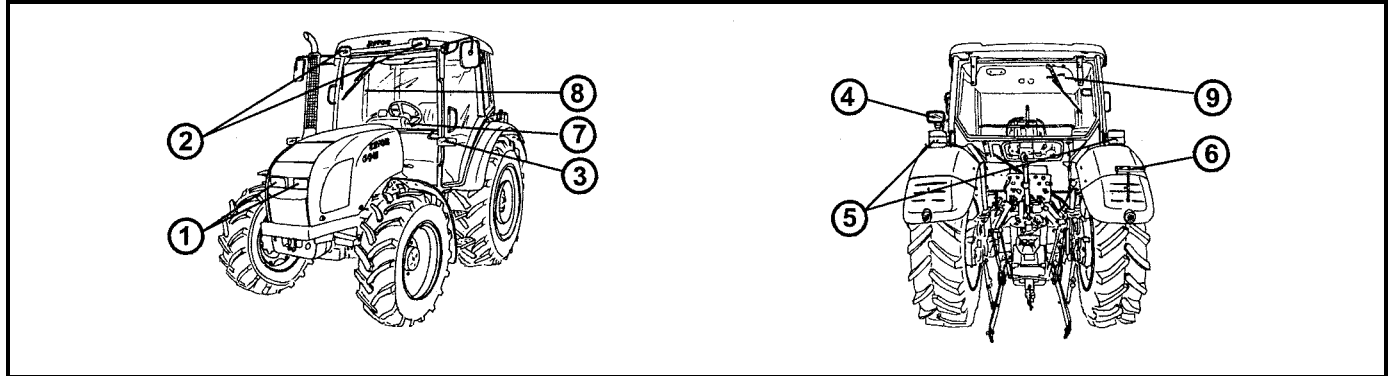
CHECKING THE ADJUSTMENT OF CAB ROOF HEADLIGHTS

In vertical direction, any point of illuminated surface, existing in the road surface plane on the left side from longitudinal vertical plane going through the light centre, must not be far off 30 m from front tractor contour.

In horizontal direction, headlight beams must be parallel with longitudinal tractor axis of symmetry.

Check the headlight adjusting at tractor shipping weight. Front roof headlamps can be used on the road only in case, that an attached front implement or machine covers the mask headlamps.

<https://truckmanualshub.com/>
ELECTRICAL INSTALLATION



C612

LIST OF LAMPS

Pos.	Lamp location	Voltage	Power	Socket	Note
1	Front headlights H4	12 V	55/60 W	P 43t	
2	Cab roof headlights H4	12 V	55/60 W	P 43t	(low beam filament connected)
3	Front combined headlights				
	Turn signal lights	12 V	21 W	BA 15s	
	Position lights	12 V	10 W	BA 15s	
4	Working headlight	12 V	55 W	H 3	
5	Rear combined lights				
	Tail lights	12 V	10 W	BAY 15D	
	Brake lights	12 V	21 W	BAY 15D	
	Turn signal lights	12 V	21 W	BA 15s	
6	Illumination of license number plate	2x12 V	5 W	S 8,5	
7	Dashboard – integrated instrument panel KMGY	12 V	2 W	B 8,5 d	illumination, charging control lamp
		12 V	1,2 W	B 8,5 d	other control lamps
8	Cab lighting	12 V	5 W		
9	Illumination of heating panel	12 V	1,2 W		

NOTE

<https://truskmanualshub.com/>
TRACTOR MAINTENANCE

	Page
Inspection and maintenance operations.....	138
Lubrication chart of tractor	144
Oils for turbocharged tractor Engines.....	147
Oils for tractor transmissions.....	148
Oils for front driving axle Z 6441 - Z 8441	149
Oil for tractor hydrostatic steering	149
Plastic lubricant for tractor.....	149
Fluids for tractor hydraulic brakes	150
Fuel	150
Coolant for tractor cooling system.....	151
Used operational liquids and fillings.....	152
Middle overhaul of tractors Z 6421 - Z 8441	153
Check of turbocharger tightness and bearing plays	153
Lubrication of parts of hydraulic brakes,.....	153
Major overhaul of tractors Z 6421 - Z 8441	153
Technical maintenance of tractors after major overhaul of main groups	153

TRACTOR MAINTENANCE

<https://truskmanualshub.com/>

INSPECTION AND MAINTENANCE OF TRACTOR															1
	Inspection and maintenance operations	After every operating hours													
		10	70	100	250	600	1200	1800	2400	3000	3600	4200	4800	5400	6000
ENGINE															
	Engine oil replacement		*X	Every 300 hours											
	Replacement of engine oil full-flow filter		*X	Every 300 hours											
	Retightening of cylinder head nuts		*X												
	Check and adjustment of valve clearance		*X			X		X		X		X		X	
	Check of engine lubrication function after starting	At each start													
	Check of oil level and leaks of lubrication system connections	X	Every 10 hours												
	Cleaning the turbocharger compressor housing and intake manifold								X				X		
	Check of turbocharger for leakage and bearing play								X				X		
	Check of water pump bearing play								X				X		
ENGINE ACCESSORIES															
	Check of leaks and function of hydraulic system clutch control	X	Every 10 hours												
	Check of coolant level and leakage of cooling system connections	X	Every 10 hours												
	Check of fuel tank and fuel system leakages	X	Every 10 hours												
1	Cleaning of radiator fins by pressure air	X	Every 200 hours												
	Maintenance of air cleaner of dry type (maintenance according to signalling of clogging indicator)	X	Every 10 hours												
2	Coolant replacement						X		X		X		X		
	Check and adjustment of injection pump								X				X		
	Check of tightness of connections of turbocharger lubrication		X		X				X				X		
	Check of injector opening pressure and injection nozzle function		X			X	X		X		X		X		
	Replacement of fuel cleaner cartridge		X			X	X	X	X	X	X	X	X	X	
	Check and adjustment of tension of engine drive belts		X	Every 200 hours											

TRACTOR MAINTENANCE

<https://truskmanualshub.com/>

INSPECTION AND MAINTENANCE OF TRACTOR															2
	Inspection and maintenance operations	After every operating hours													
		10	70	100	250	600	1200	1800	2400	3000	3600	4200	4800	5400	6000
	Check and cleaning of fuel course cleaner		X	Every 200 hours											
TRANSMISSIONS															
	Replacement of transmission oil cleaner cartridge (Hydraulic pump suction cleaner)	X			X	Every 600 hours									
	Check of oil level in gearbox, differential housing and final transmission housings (portals)	*X	X	Every 200 hours											
2	Replacement of oil in gearbox, differential housing and final transmission housings (portals)					X		X		X		X		X	
	Check of oil level in front PTO housing	Every 200 hours													
2	Replacement of oil in front PTO housing		*X		X		X		X		X		X		X
	Lubrication of front PTO cardan shaft joint with grease (if the front PTO was used)	X	Every 10 hours												
AXLES AND STEERING															
	Replacement of oil and hydrostatic steering cleaner cartridge				*X		X		X		X		X		X
3	Replacement of hydrostatic steering hoses							X				X			
	Greasing of pivot pin of front axle bracket	Every 200 hours													
	Greasing of front axle extension	Every 200 hours													
2	Greasing of front wheel hubs (add grease max.to 1/3 of wheel hub space)						X			X				X	
	Check of front wheel bearing play		X			X	X	X	X	X	X	X	X	X	X
	Check of front wheel toe in		X			X	X	X	X	X	X	X	X	X	X
	Greasing of steering ball joints					X	X	X	X	X	X	X	X	X	X
	Check of torque of bolt nuts of steering connection rods, steering arms and wheels	X	Every 10 hours												

TRACTOR MAINTENANCE

<https://truskmanualshub.com/>

INSPECTION AND MAINTENANCE OF TRACTOR															3
Inspection and maintenance operations	After every operating hours														
	10	70	100	250	600	1200	1800	2400	3000	3600	4200	4800	5400	6000	
Check of inflation pressure in all tires	X	Every 10 hours													
Check of steering function, oil level in tank of hydrostatic steering circuit	X	Every 10 hours													
FRONT DRIVING AXLE															
Oil replacement in reducer housings and front driving axle housing				*X		X		X		X		X		X	
Oil level check in reducer housings and front driving axle housing	Every 200 hours														
Greasing of drive shaft joints							X			X			X		
Greasing of king pins	Every 200 hours														
Greasing of pivot pin sliding bearings	Every 50 hours														
HYDRAULICS															
Greasing of tube of top torsion bar of draft control					X	X	X	X	X	X	X	X	X	X	
Greasing of connecting rod of draft control				X	Every 200 hours										
Greasing of stirrup of draft control				X	Every 200 hours										
Greasing of pins of lift assist hydraulic cylinder				X	Every 200 hours										
Greasing of telescopic control of vertical lifting link				X	Every 200 hours										
Greasing of right lifting link of three point hitch					X	X	X	X	X	X	X	X	X	X	
Greasing of pins of front three point hitch					X	X	X	X	X	X	X	X	X	X	
Check of connections of outer hydraulic circuit of front three point hitch for leaks	X	Every 10 hours													
Check of leaks and function of particular hydraulic systems		X		X	Every 200 hours										

TRACTOR MAINTENANCE

<https://truskmanualshub.com/>

INSPECTION AND MAINTENANCE OF TRACTOR															4		
	Inspection and maintenance operations	After every operating hours															
		10	70	100	250	600	1200	1800	2400	3000	3600	4200	4800	5400	6000		
BRAKE SYSTEM																	
	Check of brake liquid level and brake system leaks	X	Every 10 hours														
	Check of air brake system leaks and efficiency of tractor brakes with trailer and semi-trailer	X	Every 10 hours														
	Check of function and adjustment of service and parking brake					X	X	X	X	X	X	X	X	X	X		
	Air brake adjustment		X				X		X		X		X		X		
	Adjustment of free-travel of clutch and brake pedals	Every 200 hours															
	Draining of condensed water from air tank		X	Every 70 hours													
	Greasing of brake system parts of control of hydraulic brakes							X					X				
	Draining of condensed water from air tank with draining valve					X	X	X	X	X	X	X	X	X	X		
	Greasing of sliding surfaces of all parts of air instruments							X					X				
4	Replacement of rubber parts of brake system							X					X				
5	Air tank revision according to valid regulations							X					X				
	Replacement of rubber parts, eventually adjustment of air brake instruments							X					X				
ELECTRICÁL INSTALLATION																	
	Check of charging function	At each start															
6	Check of state and function of electrical equipment and accessory		X			X	Every 200 hours										
	Check of charging voltage								X					X			
7	Check of battery electrolyte level			X		Every 200 hours											
7	Cleaning of oxidized battery terminals and preservation with grease				X	Every 200 hours											
	Check of starter, bearings, carbon brushes and their holders								X					X			
	Check of alternator, bearings, rectifiers, collectors								X					X			
2	Greasing of bearings of lever mechanism of front and rear wipers					X		X		X		X		X			

TRACTOR MAINTENANCE

<https://truskmanualsbuk.com/>

INSPECTION AND MAINTENANCE OF TRACTOR															5
	Inspection and maintenance operations	After every operating hours													
		10	70	100	250	600	1200	1800	2400	3000	3600	4200	4800	5400	6000
SAFETY CAB AND TRACTOR ACCESSORIES															
	Check of plays in complete system of hydrostatic steering		X		X	Every 200 hours									
	Check of driver's seat function, greasing of moving parts	Every 200 hours													
8	Check of hydraulic seat shock absorber for leaks								X			X			
	Replacement of oil in driver's seat shock absorber								X			X			X
	Greasing of door hinges, rear window, door pins and locks					X	X	X	X	X	X	X	X	X	X
	Greasing of trailer hitch automatic mouth	Every 200 hours													
	Greasing of pick up hitch and control Bowden cable					X	X	X	X	X	X	X	X	X	X
	Check and possible cleaning of air filters of cab ventilation	X	Every 10 hours												
	Check of state of hitching and attaching equipment including trailer	X	Every 10 hours												
	Check and greasing of heating blower bearings					X	Every 600 hours								

Notes:

- * After first putting into operation of new tractor or at after major overhaul.
- 1. When working with front attached implements, make the cleaning every day, possibly in shorter intervals according to stage of uncleanness.
- 2. Maximum period – two years.
- 3. Change hoses at least after four years from the date of hose production.
- 4. New hoses must not be older than two years from the date of hose production, given on hose surface.
- 5. Maximum period – five years from the date of tractor production.
- 6. Maximum period – five years from the date of air tank production or crash.
- 7. This includes adjustment of front asymmetric headlight and adjustment of play at brake indicator light switches (maximum play between the switch and the foot brake pedal stop must be 0,5 to 1,0 mm).
- 8. In summer season - every 100 hours.
- 9. In case of fluid leakage, remove the failed piston rod sealing, flush out the shock absorber with petrol and fill it up with 70 cm³ of shock absorber oil.

<https://truskmanualshub.com/>
TRACTOR MAINTENANCE

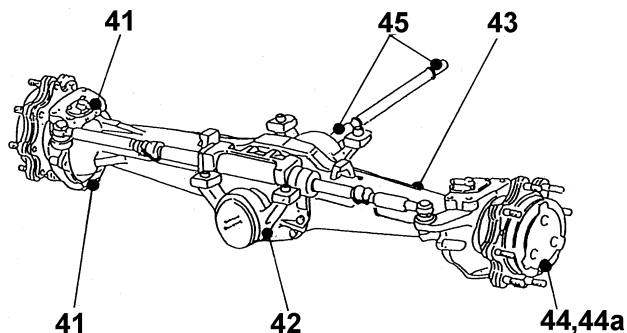
LUBRICATION CHART OF TRACTOR		
Pos.	Lubrication point - inspection	Sorts of fillings
1	Cooling system – coolant replacement	See Tab. 8
2	Engine - oil replacement	See Tab. 1
3	Steering oil tank	See Tab. 4
4	Brake fluid tank	See Tab. 6
5	Gearbox	See Tab. 2
6	Driver's seat (handle and seat rollers)	See Tab. 5
7	Driver's seat shock-absorber	Shock-absorber oil
8	Front axle pivot pin (2 nipples)	See Tab. 5
9	Rigid extensions of front wheels (2 nipples)	See Tab. 5
10	Front wheel bearings	See Tab. 5
11	Ball joints of steering levers	See Tab. 5
12	Connecting rod of draft control (1 nipple)	See Tab. 5
13	Pins of lift assisting cylinder of hydraulics (2 or 4 nipples)	See Tab. 5
14	Telescopic control of vertical lift link (1nipple)	See Tab. 5
15	Right vertical lift link of three point hitch (1nipple)	See Tab. 5
16	Torsion shaft of draft control (1nipple)	See Tab. 5
17	Controls of Bowden cables of pick up hitch, hand parking brake and PTO clutch	See Tab. 5
18	Cab blower bearings	See Tab. 1
19	Bearings and lever driving systems of front and rear wipers	See Tab. 5
20	Left lifting arm pin	See Tab. 5
21	Lower pin of three point hitch support	See Tab. 5

<https://truskmanualshub.com/>
TRACTOR MAINTENANCE

LUBRICATION CHART OF TRACTOR		
Pos.	Lubrication point - inspection	Sorts of fillings
22	Clutch control shaft (2 nipples)	See Tab. 5
23	Cab door hinges	See Tab. 1
24	Tensioning nuts of lower draft links	See Tab. 5
25	Final transmissions (portals)	See Tab. 2
26	Clutch control bearing sleeve	See Tab. 2
27	Cardan joints of front PTO shaft	See Tab. 5
28	Gear box of front PTO shaft	See Tab. 2
29	Pins of front three point hitch	See Tab. 5
30	Automatic mouth for trailer hitches (4 nipples)	See Tab. 5
31	Accumulator battery	*Distilled water
32	Clutch control cylinder (after disassembling and taking apart)	WACKER Silicon paste P4 Weich
33	Brake control cylinders (after disassembling and taking apart)	WACKER Silicon paste P4 Weich
34	Pick up hitch pin	See Tab. 5
35	Brake booster hydraulic circuit pneumatic circuit	PM - LA 2 WACKER Silicon paste P4 Weich

* - Add distilled water up to level marked on battery case

<https://truskmanualshub.com/>
TRACTOR MAINTENANCE



A141

LUBRICATION CHART OF TRACTOR		
Pos.	Lubrication point - inspection	Sorts of fillings
41	Nipples of front driving axle king pins	See Tab. 5
42	Nipples of pivot pin sliding bearings	See Tab. 5
43	Differential housing of front driving axle	• See Tab. 3
44	Reducers of front driving axle	• See Tab. 3
44a	Reducers of front driving axle with brakes	• See Tab. 3
45	Bushings of driving shaft connections	See Tab. 5

- - Additive-type oil with additive for differential with limited slip and for wet brakes

<https://truskmanualsuh.com/>
TRACTOR MAINTENANCE

OILS FOR TURBOCHARGED TRACTOR ENGINES			TAB.1
Manufacturer	Oil mark	Viscosity class SAE	Power class API
ÖMV	Truck M plus	15W/40	CF-4/SG
	Truck FE plus	10W/40	CF-4
	Truck FE	10W/40	CE/SG
	Austrotrac	10W/30	CE
	Truck LD	15W/40	CE
	RME Plus	15W/40	CE/SG
Paramo Pardubice	M7ADS III-Trysk	20W/40	SF/CD+
	M7ADS III-Trysk Super	15W/40	SG/CE
	M7ADS IV-Trysk Super Turbo	15W/40	SG/CF-4
Shell	Rimula TX Oils	10W/30	SG/CF-4
Aral	Multi Turboral	15W/40	CF-4/SH
	Super Traktoral	10W/30	CD-CE/SF
Koramo Kolín	Mogul Diesel DTT Plus	10W/40	CF-4/SG
	Mogul Traktol STOU	10W/30	CE/SF
Fuchs	Plantmot (Bio-oil)	5W/40	CD/SG
	Titan Hydramot 1030MC	10W/30	CD/SG
		5W-20	CD

TRACTOR MAINTENANCE

OILS FOR TRACTOR TRANSMISSIONS			TAB. 2
Viscosity class	Power class API	Usage suitability	Specification
SAE J 306 MAR 85	SAE J 308 NOV 82		
80 W	GL-4	all year's seasons	MIL-L-2105

OILS FOR TRACTOR TRANSMISSIONS			TAB. 2
Manufacturer	Oil mark	Viscosity class SAE	Power class API
Paramo Pardubice	Gyrol – UTTO	80W	GL-4
	Gyrol - PP80	80W	GL-4
Esso	Torque Fluid 62	80W	GL-4 •
Koramo Kolín	Mogul Trans 80	80W	GL-4
	Mogul Traktol UTTO/EKO	80W	GL-4 ••
Aral	EP 80	80W	GL-4
	Fluid HGS	80W	GL-4 •
	Super Traktoral	10W/30	GL-4 ••
ÖMV	Austromatic HGN	80W	GL-4
	Getriebeol MP	80W - 85W	GL-4
Shell	Donax TT	80W	
Fuchs	Titan Hydramot 1030MC	10W/30	GL-4 ••

- - Additive-type oil with additive for differential with limited slip and for wet brakes
- - Universal oil

TRACTOR MAINTENANCE

OILS FOR FRONT DRIVING AXLE Z 6441 - Z 8441			TAB. 3
Manufacturer	Oil mark	Viscosity class SAE	Power class API
Esso	Torque Fluid 62	80W	GL-4 •
Agip	Rotra Multi THT	80W	GL-4 •
Aral	Fluid HGS	80W	GL-4 •
Fuchs	Titan Supergear	80W/90	GL-4/GL-5
	Titan Hydramot 1030MC	10W/30	GL-4 ••
	Titan Renep 8090MC	80W/90	GL-4/GL-5

- - Additive-type oil with additive for differential with limited slip and for wet brakes
- - Universal oil

OIL FOR TRACTOR HYDROSTATIC STEERING		TAB. 4
Type	Classification	
Aral Vitam DE 32	HL PD DIN 51524	

PLASTIC LUBRICANT FOR TRACTOR		TAB. 5
Type	Classification	
LA 2	ISO 6743/9 CCEB 2/3, ISO - L - XBCEA 2	
LV 2M	ISO 6743/9 CCEB 2/3	

<https://ruskmanualsuh.com/>
TRACTOR MAINTENANCE

FLUIDS FOR TRACTOR HYDRAULIC BRAKES		TAB. 6
Type	Classification	
Synthol 205 Fuchs Stopred	PND 31-656-80, ISO 4925, SAE - J 1703 SAE - J 1703 CAUTION! 1. <i>The fluid is not intended for arctic conditions!</i> 2. <i>Brake fluid must be replaced once per two years without regard to operated hours!</i> 3. <i>It is possible to mix mutually brake fluids of the same classification.</i>	

FUEL	TAB. 7
Summer diesel fuel according to ČSN 656506 for period from 1 April to 31 October. Winter diesel fuel according to ČSN 656506 for period from 1 November to 31 March. Note: Similarly, suitable sorts of fuel must be used abroad.	
Mixed fuel Natural Diesel (bio-diesel). Note: Tractor operation with bio-fuel requires providing of the fuel system with hoses of REP type. Using of bio-fuel increases consumption, decreases power by ca 5%, requires replacement of engine oil after 200 hours of operation. Besides it shows up aggressively on painted parts.	

<https://truskmanualshub.com/>

TRACTOR MAINTENANCE

COOLANT FOR TRACTOR COOLING SYSTEM

TAB. 8

FRIDEX – STABIL, FRIDIOL 91 or FRICOFIN S and demineralised water in proportion 1:1,5 (when adding, keep that ratio).

The non-freezing fluids for replacement abroad must contain ingredients protecting all materials (including rubber and cylinder head gaskets) of engine cooling system.

CAUTION!

- 1. At tractors Z 6421 - Z 8441 it is forbidden to use water without non-freezing mixture for cooling!*
- 2. After two years of operation, replace the cooling fluid. The fluids FRIDEX - STABIL and FRIDIOL 91 may be mixed together.*
- 3. Miscibility with fluids of other manufacturers was not verified!*

<https://truskmanualshub.com/>
TRACTOR MAINTENANCE

USED OPERATIONAL LIQUIDS AND FILLINGS			
Name of destination	Sort of filling	Volume in litres	
		Z 6421-Z 7441	Z 8421, Z 8441
Coolant without heating with heating	See Tab. 8	17,5 19	19 20,5
Fuel	See Tab. 7	120	
Engine oil	See Tab. 1	10	
Oil for gearbox and main transmission housing	See Tab. 2	62 - 64 •	
Oil for final transmission (portal)	See Tab. 2	2x1,9	
Oil for front driving axle housing	See Tab. 3	5,5	
Oil for planet reducers of front driving axle	See Tab. 3	2x0,6	
Oil for planet reducers of front driving axle with brakes	See Tab. 3	2x1,7	
Oil for front PTO gearbox	See Tab. 2	0,8	
Brake fluid	See Tab. 6	0,5	
Oil for hydrostatic steering	See Tab. 4	2,5	
Oil for seat shock-absorber	Shock-absorber oil	0,07	

- - Oil quantity is increased by 2 litres at tractors with front driving axle. Oil quantity must be increased by next 7 litres at tractor working in hilly conditions. This must be done also in case of implementation with machines connected to the outer hydraulic circuit.

MIDDLE OVERHAUL OF TRACTORS Z 6421 - Z 8441

This is carried out after 2400 operating hours.

Disassemble the compressor case of turbocharger with inlet manifold from the engine.

Disassemble the compressor spirals.

Remove impurities settled in the compressor case and on the rotor by means of a brush with solvent.

Cleaning by means of a sharp subject or wire brush is forbidden!

Do not straighten deformed blades!

CHECK OF TURBOCHARGER TIGHTNESS AND BEARING PLAYS

In case that oil penetrates from bearing case round the shaft and in case that the allowed radial and axial bearing play is exceeded, let the turbocharger repaired in a specialised workshop.

Replace the hoses at inlet manifold and at outlet of lubrication oil from turbocharger when reassembling the turbocharger to the engine. Ensure proper tightness of both connections. Refill the turbocharger with 0,2 litres of engine oil by means of the turbocharger inlet oil opening, when reassembling the turbocharger to the engine.

Inner preservation of turbocharger must be restored if the tractor is out of operation for a long time!

This will be restored even after short starting of the engine. That's why we recommend starting of the turbocharged engine minimum once per three month at tractor, which is out of operation, and running the engine run for few minutes. The inner preservation restored in this manner.

LUBRICATION OF PARTS OF HYDRAULIC BRAKES,

clutch, brake cylinders, clutch control cylinder and brake pressure equaliser. Coat the sliding surfaces from sealing rings in direction to the outer dust rings by special grease for hydraulic brakes (for example Pentosin special). In the same time check rubber parts of brakes.

Replace the damaged rubber parts. Replace all rubber parts at least up to five years from the date of the tractor production.

MAJOR OVERHAUL OF TRACTORS Z 6421 - Z 8441

Major overhaul of the tractor must be done in case that its farther operation is not economical, if many parts need repair and the general technical state of tractor jeopardizes its safe operation.

The middle life of engine and transmission is 8000 hours, provided that all regulations for maintenance are kept according to the technical documentation of producer when working in mild climatic conditions and in plain terrain.

This number of hours is valid, provided that the following tractor working conditions are taken into consideration:

at ploughing and preparation of soil for sowing	15 - 25 %
at sowing and planting	10 - 15 %
at harvesting	10 - 20 %
at agricultural transport	40 - 65 %

If the tractor works in hilly conditions, the life of engine and transmission is reduced by 15 - 20 %.

If the tractor works in worse climatic conditions, the life of engine and transmission is reduced by 15 - 20 %.

Note: Front driving axle is also included in transmissions.

TECHNICAL MAINTENANCE OF TRACTORS AFTER MAJOR OVERHAUL OF MAIN GROUPS

Run-in the tractor after major overhaul according to rules for running-in of a new tractor. Perform maintenance in the same manner as at a new tractor.

NOTE

NOTE

NOTE

MAINTENANCE INSTRUCTIONS

<https://truckmanualshub.com/>

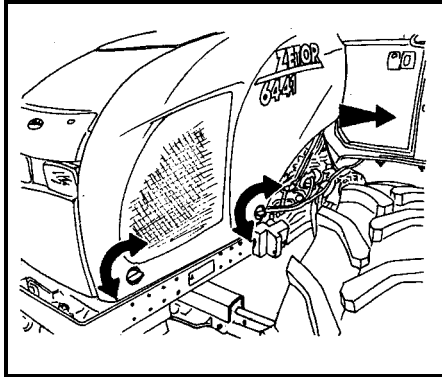
	Page
Disassembling of side shield	158
Check of engine oil level	158
Engine oil draining.....	158
Replacement of full-flow filter of engine oil	159
Engine oil filling up	159
Cleaning of fuel coarse cleaner.....	159
Replacement of fuel cleaner cartridge.....	160
Fuel system bleeding	160
Instructions for maintenance of dry air cleaner	161
Recovery of main filter element.....	161
Replacement of safety filter element.....	162
Reassembling of filter elements	162
Reset of proper function of clogging indicator	162
Check of oil level in hydrostatic steering tank	163
Replacement of oil and filter element of hydrostatic steering	163
Bleeding of hydraulic circuit of hydrostatic steering.....	164
Replacement of of hydrostatic steering hoses	165
Coolant replacement.....	166
Check and exchange of oil in gearbox, differential housing, and rear axle final transmissions (portals).....	167
Draining and inspection openings	167
After oil draining	168
Lubricating and filling points of front driving axle.....	169
Brake fluid filling up	169
Cleaning of heating system filters	170
Draining of condensate from air tank	170
Check of air system for leaks	170
Operating pressure of air brakes.....	171
Maintenance of air-conditioning system	171
Tire maintenance and attendance.....	172
Tire inflation	172
Tractor storage.....	172

Driver or tractor user can do almost any work on planned technical maintenance himself. But if you do not have sufficient technical equipment, let to do more complicated work at an authorized service.



All works in connection with cleaning, lubrication and adjustment of tractor or implemented machine must be done only after stopping the engine and other moving parts, except of checks of brakes, charging and hydraulics.

MAINTENANCE INSTRUCTIONS

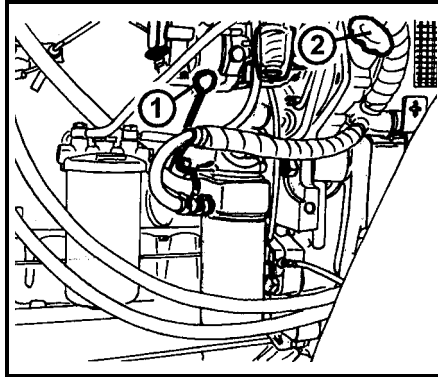


C701

DISASSEMBLING OF SIDE SHIELD

Right and left side shields can be removed in the following way:

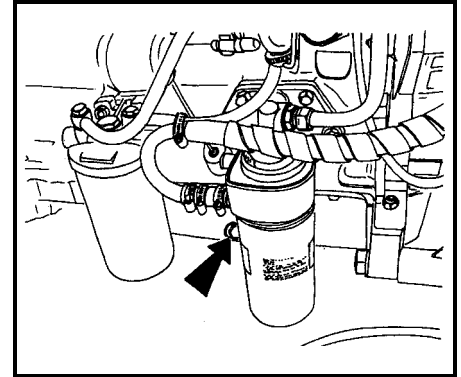
- Depress and turn two quick-lockers in the front part of side shield.
- Unlock the side shield by pulling the rear part of the side shield in direction of the arrow.
- Lift the side shield and remove it from the tractor.



C702

CHECK OF ENGINE OIL LEVEL

Check oil level daily, before starting of operation and at tractor standing in horizontal position. The engine oil dipstick (1) and filling opening (2) are situated at the engine right-hand side. Screw off the oil dipstick (1), wipe it with a piece of cloth and screw it in. The oil level must not be under lower dipstick mark after repeated dipstick screwing off. Add oil by means of the filling opening (2), if needed.

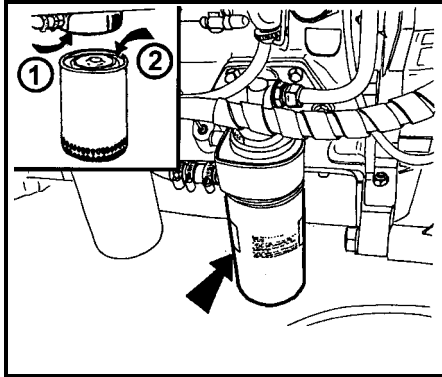


C703

ENGINE OIL DRAINING

- Screw of the draining plug, at best immediately after finishing of driving or after heating the engine to operation temperature
- Drain oil
- Clean the draining plug
- Screw in the draining plug again

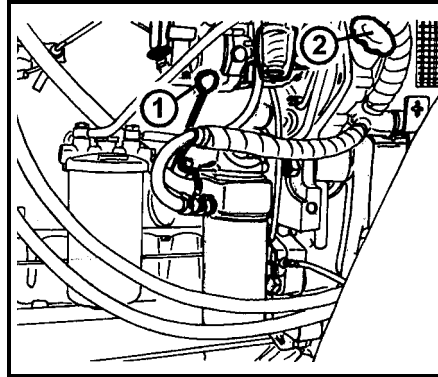
MAINTENANCE INSTRUCTIONS



C704

REPLACEMENT OF FULL-FLOW FILTER OF ENGINE OIL

Replace the engine oil cleaner at every replacement of engine oil. Before mounting a new cleaner, clean the sealing surface of the body (2) and the cleaner (1). Coat the rubber sealing by the same oil, with which you will fill into the engine and tighten the new cleaner by hand. Tighten again the oil cleaner by 3/4 to 1 1/4 turns after seating of the sealing at the block sealing. Check the cleaner for leakage after starting the engine.

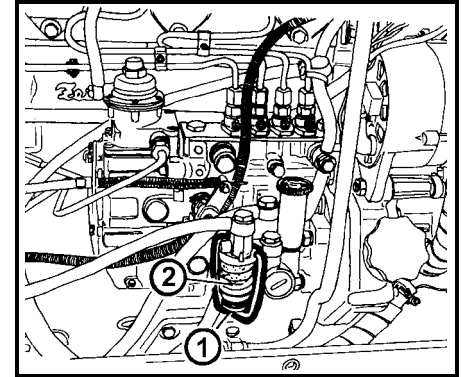


C702

ENGINE OIL FILLING UP

Fill the prescribed quantity of oil into the filling opening (2), start the engine and let it run 2 to 3 minutes at 750 to 800 r.p.m.

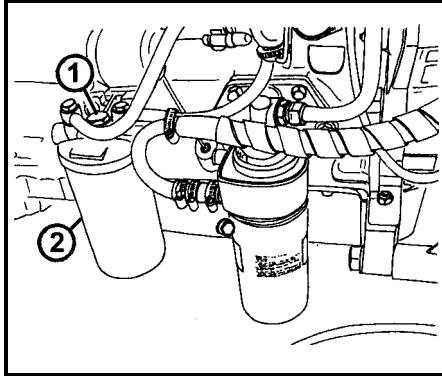
Check the oil level by means of dipstick (1) after stopping the engine and stabilized engine oil level. Check the oil cleaner for oil leakage, draining plug and other connections for oil leakage.



C705

CLEANING OF FUEL COARSE CLEANER

Screw off the nut (1) and remove the fuel cleaner bowl (2) with sealing and strainer. Clean the bowl and strainer in diesel fuel. Check the correct position of sealing when reassembling the fuel cleaner bowl, before tightening the nut. Bleed the fuel system.



C706

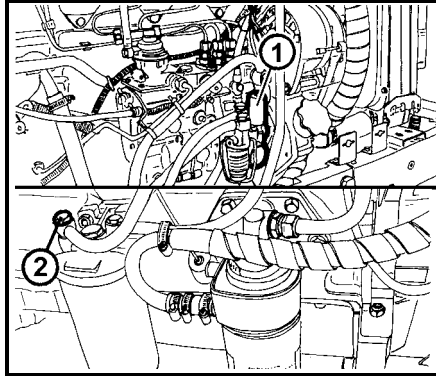
REPLACEMENT OF FUEL CLEANER CARTRIDGE



Put the suitable vessel under the engine before fuel cleaner cartridge replacement, to catch dropping fuel from the cleaner and from injection pump.

Check for the proper bowl sealing position at reassembly of cleaned bowl with the new fuel cleaner cartridge.

- Release the nut (1)
- Screw off the bowl (2)
- Clean the bowl and replace the cleaner cartridge
- Check correct seating of the bowl sealing
- Reassemble the bowl
- Bleed the fuel system



707

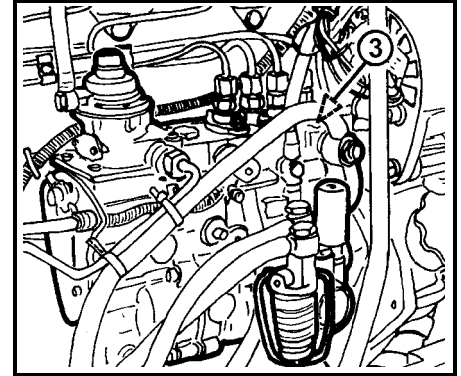
FUEL SYSTEM BLEEDING



Put the suitable vessel under the engine before bleeding, to catch dropping fuel from the cleaner and from injection pump.

Proceed in the following way:

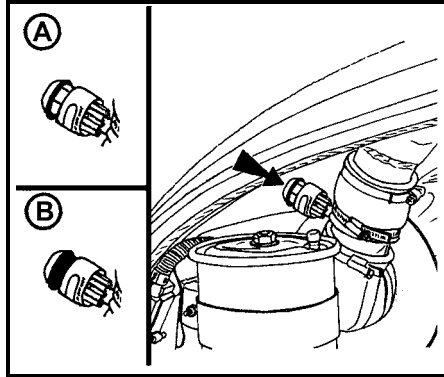
- Prime the fuel system by several strokes of the hand priming pump (1).
- Loosen the screw of the fuel cleaner input fitting (2) and let foam escape.
- Retighten the screw (2) and repeat the process until the clean foam-free fuel fluently leaks after loosening the screw.



708

- Bleed the injection pump in the same way
- Bleeding is made by means of the screw (3) located at the injection pump case

MAINTENANCE INSTRUCTIONS



C709

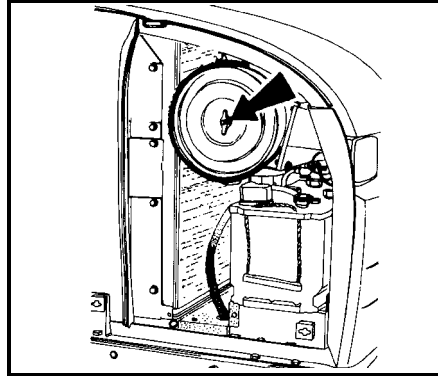
INSTRUCTIONS FOR MAINTENANCE OF DRY AIR CLEANER

Dry air cleaner maintenance must be done after indication of clogging by clogging indicator.

The indicator is accessible after removing of left-hand tractor side shield. The indicator is located at the air cleaner body near the suction pipe elbow.

Clogging is mechanically indicated by red field, which appears directly at the clogging indicator after clogging of air cleaner elements.

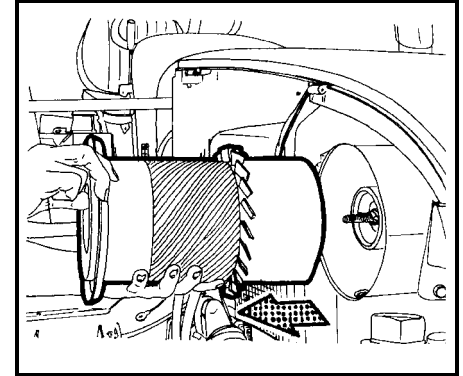
A	Air cleaner is not clogged
B	Air cleaner is clogged – perform maintenance



C710

Maintain the air cleaner in the following way:

- Remove the side shield
- Screw off the wing nut of the air cleaner cover



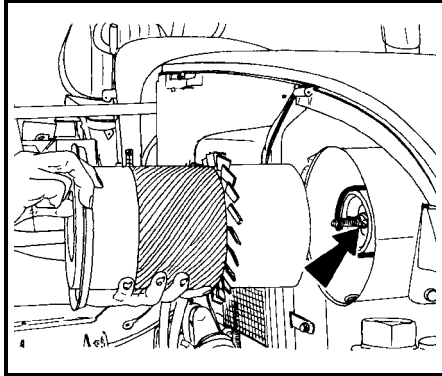
C711

RECOVERY OF MAIN FILTER ELEMENT

- Remove the main dry air filter element. In case that the main filter element is not damaged (dust on the inner side of air filter element must not appear) do recovery by means of pressure air blowing-through from the inner side of element. The main air filter element can be regenerated maximally three times in such way. The main air filter element needs to be replaced once per year.

<https://truckmanualshub.com/>

MAINTENANCE INSTRUCTIONS



C712

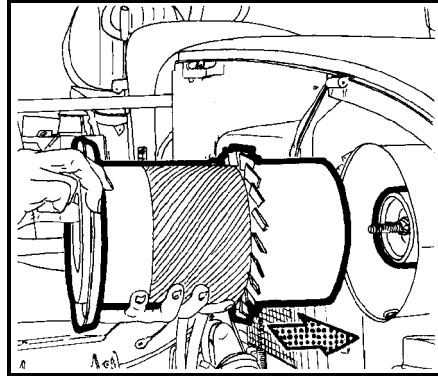
REPLACEMENT OF SAFETY FILTER ELEMENT

- Screw off the wing nut securing the safety element of the air cleaner.
- Remove the safety element of the air cleaner.



The safety filter element cannot be recovered. It must be always replaced in the following cases:

- if the main air filter element is damaged
- after each 5th maintenance of the air cleaner
- minimum once per two years

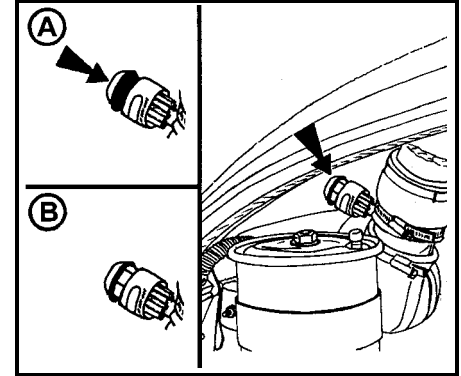


C713

REASSEMBLING OF FILTER ELEMENTS

Be careful at the air filter element re-assembly:

- Keep the contact surfaces clean.
- Air filter elements must not be deformed and must not vibrate after assembly.
- Rubber sealing must be fitted properly round the entire circumference, the proper tightness of the complete cleaner must be assured after reassembling of the air filter cover.



C714

RESET OF PROPER FUNCTION OF CLOGGING INDICATOR

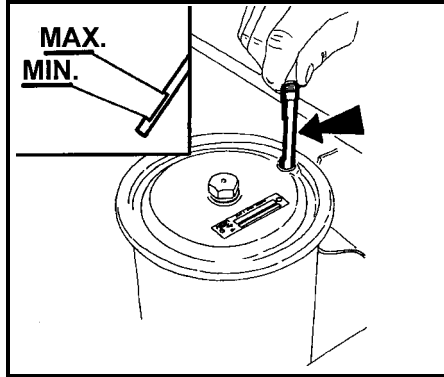


After finishing of dry air cleaner maintenance, ensure again correct function the clogging indicator.

- A - For mechanical unlocking of the red field, which serves for signalling of clogging, push the cap situated at the indicator body in the arrow direction.
- B - The indicator is again in function.

<https://truckmanualshub.com/>

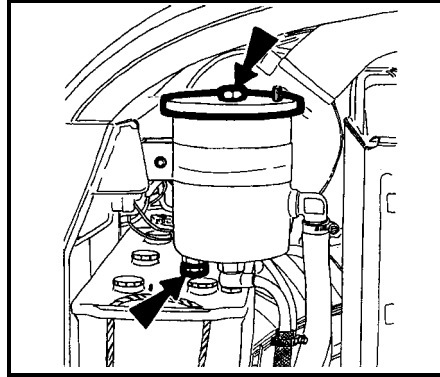
MAINTENANCE INSTRUCTIONS



C715

CHECK OF OIL LEVEL IN HYDROSTATIC STEERING TANK

Check oil level daily, before starting of operation and at tractor standing in horizontal position. Remove the left-hand side bonnet shield. Screw off the dipstick, wipe it with a piece of cloth and screw it in. The oil level must not be under lower dipstick mark after repeated dipstick screwing off. Add oil after removing of the tank cap, if needed.

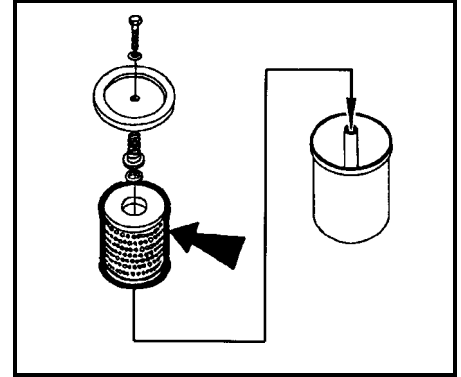


C716

REPLACEMENT OF OIL AND FILTER ELEMENT OF HYDROSTATIC STEERING

-  - Put a suitable vessel under the hydrostatic steering tank
- Screw off the draining screw situated at the tank bottom part
- Drain oil.
- Screw off the tank cap nut.
- Remove the cap of the hydrostatic steering tank.
- Remove and replace the filter element.
- Reassemble the tank cap.
- Secure the cap position with the nut.
- Screw in the draining screw.

-  - Disconnect both hoses from the working cylinder and the return line pipe from the tank (put vessels for used oil under the



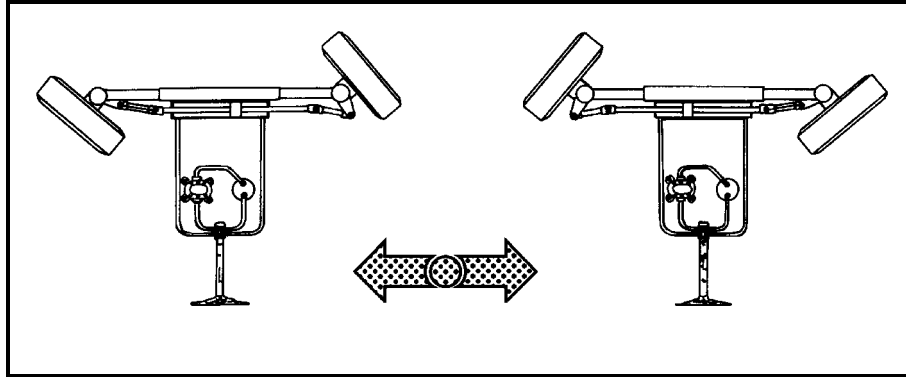
C717

working cylinder hoses and under the return line pipe).

- Start the engine and turn the steering wheel two or three times into the both sides at engine idle run (max. 10 seconds) to drive oil out of the steering unit and from the pipes.
- Secure the tractor against movement and lift the front axle.
-  - Put a vessel for oil under the working cylinder and by turning the wheels (by hand) drive oil out of the working cylinder.
- Reassemble all disconnected connections.
- Fill the tank with oil and bleed the hydrostatic steering circuit.

<https://truckmanualshub.com/>

MAINTENANCE INSTRUCTIONS

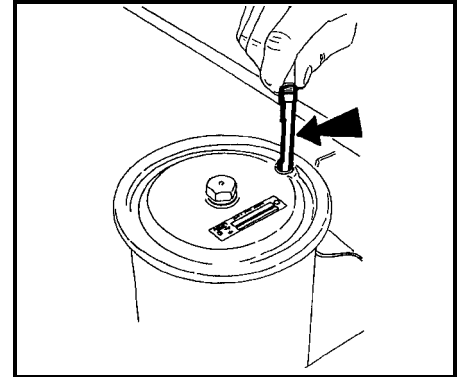


F_02_115

C718

BLEEDING OF HYDRAULIC CIRCUIT OF HYDROSTATIC STEERING

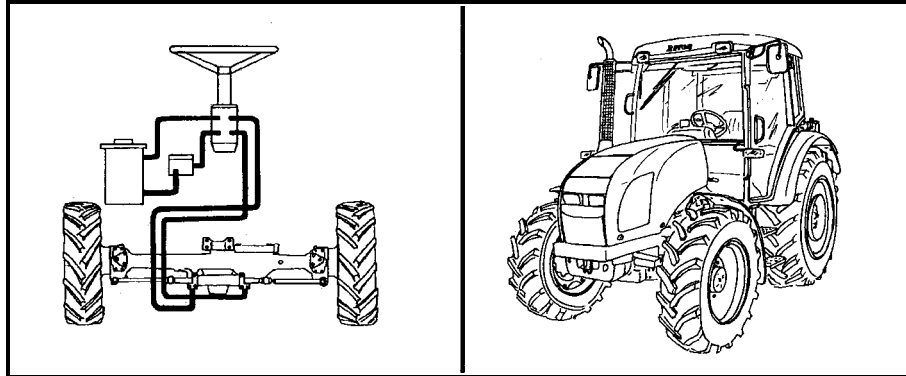
- Secure the tractor against movement and lift the front axle.
 - Start the engine and let it run for ca 1 minute at idle run.
 - At engine idle run turn the steering wheel several times to the both directions.
 - At engine max. speed turn the steering wheel three times alternately slowly and quickly to the both directions up to limiting wheel stops.
- Stop the engine.
 - After finishing of bleeding check, eventually fill up oil level up to the dipstick mark. Check tightness of all connections and piping of the hydraulic circuit of hydrostatic steering.
 - Lower the front tractor wheels to the ground.



C719



During all bleeding operations observe oil level in the tank to avoid suction of air into the steering system.



C720

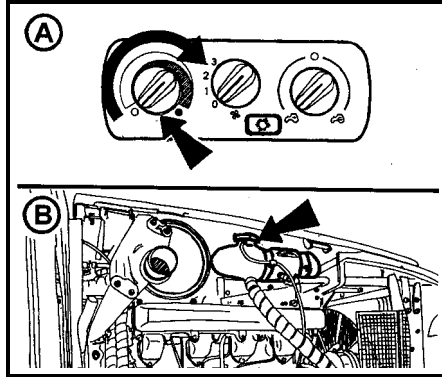
REPLACEMENT OF HYDROSTATIC STEERING HOSES

Hydrostatic steering hoses must be replaced after four years from the date of manufacturing (the date is marked on hose surface) or after 3 600 hours of tractor operation, eventually immediately after founding any symptoms of hose damage i.e. hose sweating, local bulging, leakage of oil along the ends and on hose surface, mechanical wear of hose surface up to steel wire cord or damage of yarn braid at low pressure hoses).

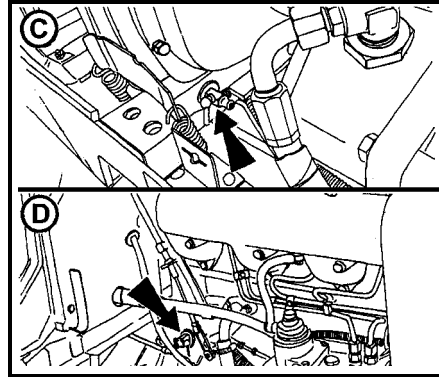


Steeringability is kept even in case of hydrostatic steering pump failure or if the engine stops but the steering force on the steering wheel is bigger. It is possible to drive the tractor to the nearest place for repair at reduced transportation speed.

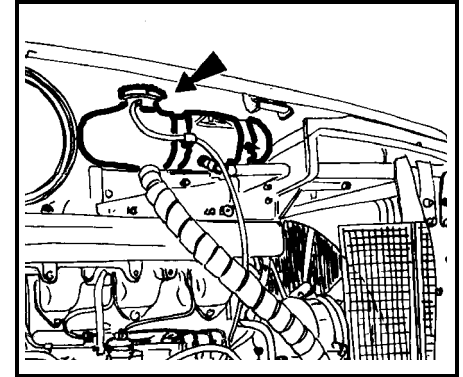
Don't keep the steering wheel in the stop steering angle positions (maximum time is 20 seconds), otherwise oil in the hydrostatic steering circuit is excessively heated.



C721



C722



A161

COOLANT REPLACEMENT

Keep the following instructions:

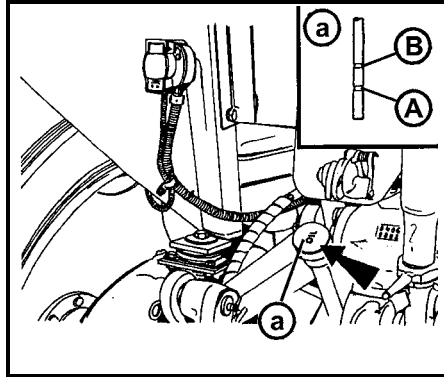
- Open the heating system valve (A) (at tractors with cab only) and release the radiator overpressure filler cap (B)

- Drain the coolant from the radiator (C). The draining valve is accessible after removing of the left-hand side shield.
- Drain the coolant from engine block (D). The draining valve is accessible after removing of the right-hand side shield.
- Close the both draining valves after draining of coolant (let the heating system valve opened)

- Fill the cooling system with antifreeze mixture.
- Start the engine and let it run ca 1 minute.
- Add antifreeze mixture in the equalizing tank up to the upper mark (marked "MAX")
- Close the radiator with overpressure cap.

At least after every two years replace antifreeze mixture with new one.

MAINTENANCE INSTRUCTIONS



C724

CHECK AND EXCHANGE OF OIL IN GEARBOX, DIFFERENTIAL HOUSING, AND REAR AXLE FINAL TRANSMISSIONS (PORTALS)

Oil level in transmission is inspected by means of the dipstick integrated in the cap of filling opening (a), which is located at the left-hand rear part of the differential housing.

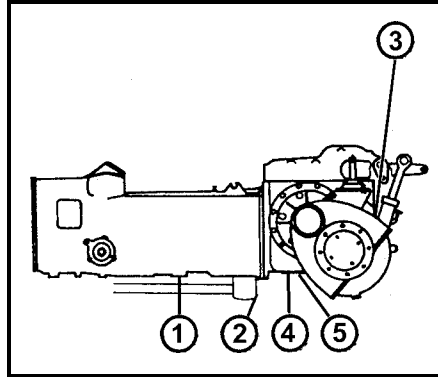
A - standard oil filling

B - oil filling, increased by 7 litres



Check oil level at stopped engine. The oil level must be must in the range of the dipstick marks.

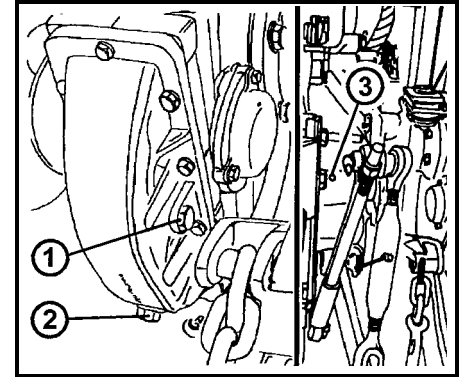
The damaged or lost cap must be replaced with the original cap only, which will ensure venting of the differential housing.



C725

DRAINING AND INSPECTION OPENINGS

1. Oil draining plug of transmission
2. Oil draining plug of front wheel drive case
3. *Check screw of brake chamber
4. Oil draining plug of differential housing
5. Draining plugs of right-hand and left-hand brake chambers

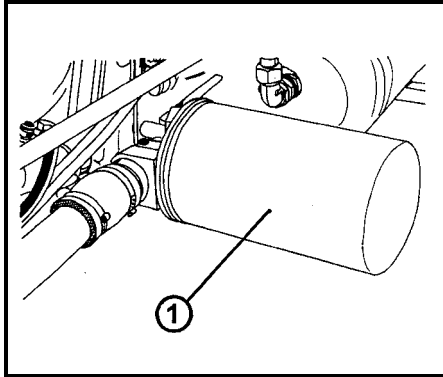


C726

1. *Checking and filling screw of half-axle (valid for standard portal setting)
2. Oil draining plug of half-axle case
3. * Check screw of brake chamber



** After screwing-off the check screw, oil level must reach the lower edge of the check opening.*

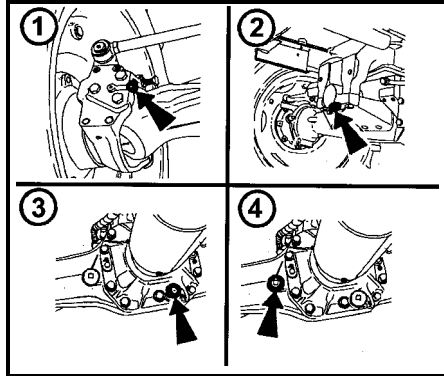


C727

AFTER OIL DRAINING

- Replace the oil cleaner cartridge.
- Check the state of sealing rings of draining plugs, eventually replace them with new ones
- Screw in all draining plugs.
- Fill 60 litres of oil.
- Start the engine and let it run ca for 2 minutes.
- Stop the engine and when oil level in the gearbox is stabilized fill, fill necessary volume up to the stated level.
- Check proper oil volume in the gearbox (in dependence on tractor operation conditions).

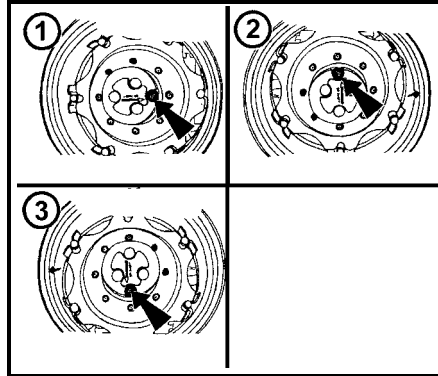
MAINTENANCE INSTRUCTIONS



C730

LUBRICATING AND FILLING POINTS OF FRONT DRIVING AXLE

- 1 - Lubricating nipple of kingpin
- 2 - Sliding bearings (2 pieces) of front driving axle
- 3 - Draining opening of differential housing
- 4 - Filling and checking opening of differential housing (after screwing-off the check screw, oil level must reach the lower edge of the check opening)

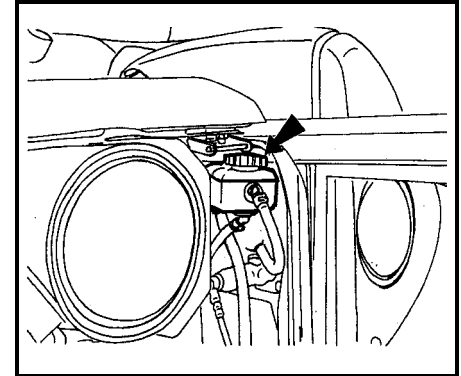


C731

OIL FILLING, CHECKING AND DRAINING OPENING OF FRONT WHEEL REDUCER

Oil checking, filling and draining is made by means of one opening after turning of the reducer accordingly with the picture.

1. Oil level check – opening in reducer horizontal axis (after screwing-off the check screw, oil level must reach the lower edge of the check opening)
2. Oil filling – opening up
3. Oil draining – opening down



C732

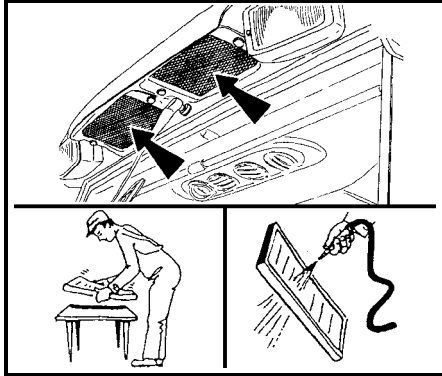
BRAKE FLUID FILLING UP



Keep brake fluid level at 3/4 of tank capacity (minimum level).

- Keep strict cleanness when manipulating with brake fluid
- Daily inspect brake fluid level before driving.
- Fill up brake fluid through the filler strainer.

MAINTENANCE INSTRUCTIONS



C733

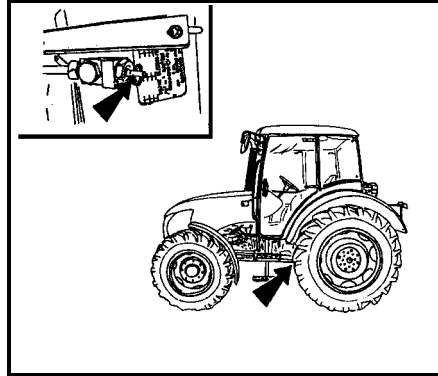
CLEANING OF HEATING SYSTEM FILTERS

According to clogging grade, perform recovery the filters that are located under the protecting grills above the front windshield outside the cab, by means of:

- knocking-out,
- or by pressure air blowing through, according to the stage of clogging.
- knocking-out
- blowing-through by pressure air

Daily check for clogging. Replace the strong clogged filters.

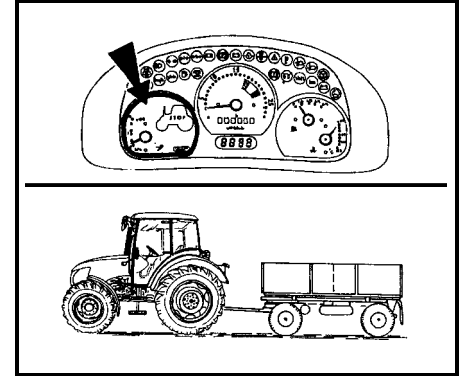
 *The safety tractor cab is not equipped with special filters of cab intake air. That's why the tractors do not protect operator against affects of aerosols and other health dangerous mediums!*



C734

DRAINING OF CONDENSATE FROM AIR TANK

Drain the condensed water by inclination of draining valve by pulling the ring. The valve is located at the bottom part of the air tank.



C735

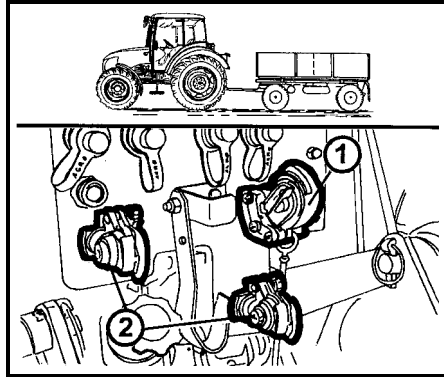
CHECK OF AIR SYSTEM FOR LEAKS

- Fill the air tank to the maximum pressure (730 ± 20 kPa).
- The pressure must not drop down by more than 10 kPa after 10 minutes at stopped engine.



Daily inspect the system for leaks before operation with trailer!

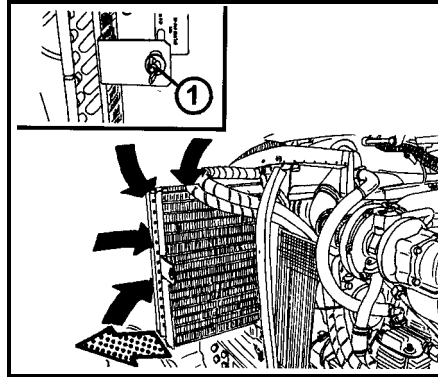
The indicator light at the dashboard is "on" when the pressure is dropping under 450 ± 30 kPa!



C736

OPERATING PRESSURE OF AIR BRAKES

At single-hose type (1) and double-hose type (2), the pressure in double-hose coupling (red cover) is 740 ± 20 kPa and the pressure in single-hose coupling is maximum 600 ± 20 kPa (in the time, when the air pressure regulator releases the compressor – air blows out).



C737

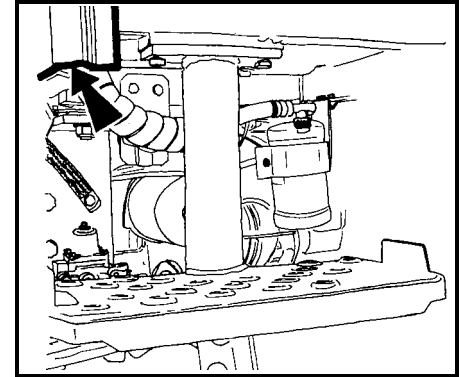
MAINTENANCE OF AIR-CONDITIONING SYSTEM



The most important part of maintaining the air-conditioning system is cleaning of the air-conditioning condenser (this is located in front of the engine radiator). The clogged air-conditioning condenser reduces not only efficiency of air-conditioning system but also efficiency of engine cooling.

Remove the left-hand bonnet side, loosen the nut (1) and pull out the radiator to the side and blow it out by pressure air or wash it by pressure water (against direction of tractor drive).

Then push back the condenser and fix it properly. Take care for proper positioning of the hoses with regard to the radiator.

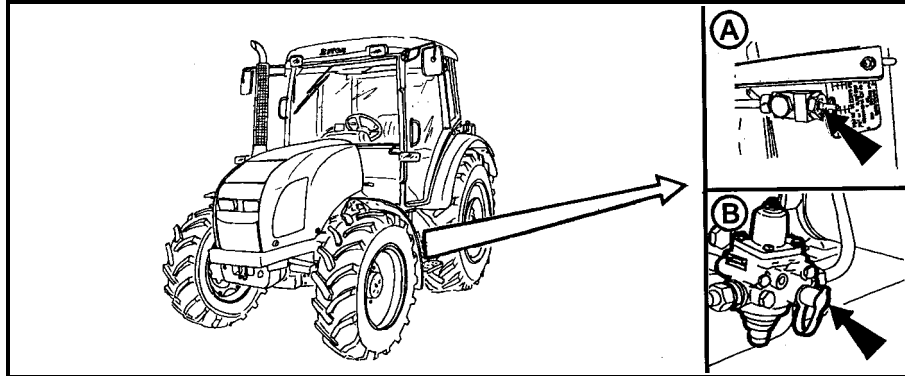


C738

At correct function of air-conditioning it comes to condensation of air humidity in the roof space of cab. Condensate is drained by means of the hoses that are situated in cab pillars and flows out in the bottom part of the pillar. That's why it is necessary to keep hoses clean for proper draining of condensate.

<https://truckmanualshub.com/>

MAINTENANCE INSTRUCTIONS



C739

TIRE MAINTENANCE AND ATTENDANCE

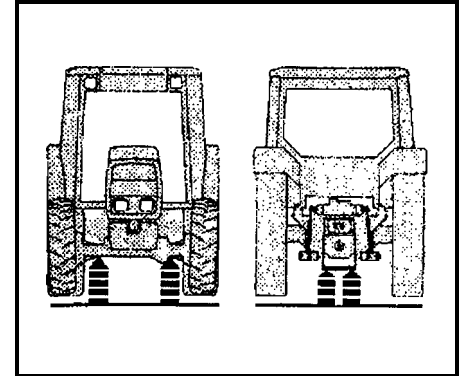
Regularly check the outer surface of tires and verify that tires are without defects in the side part over the bead and that the cord is not damaged.



Do not use the tires that are damaged.

TIRE INFLATION

Basic values of recommended inflation pressure are mentioned in the chapter "Main technical parameters". Regularly check the inflation pressure before starting of operation, when the tires are cold. The tractor air pressure regulator (B) can be used for tire inflation. The regulator serves as a pressure equalizer, filling device for tires and safety valve. Remove the wing nut of regulator (or remove the rubber plug) when inflating the tire and mount a hose for tire inflating instead of it. Screw in the hose up to the end of thread, so that the non-return valve could be depressed. In case that the maximal pressure of 0,6 MPa (or 0,7 MPa at double hose brakes) is in air brake tank, the tire cannot be inflated. In this case it is necessary to reduce the pressure by valve for draining of condensed water, located in the bottom part of air tank (A). The wing nut (or rubber plug) must be reassembled to the air pressure regulator after tire inflating.



C740

TRACTOR STORAGE

When the tractor is put out of operation for a longer period (storage), support the tractor and reduce the tire pressure to minimum (wheels must not touch the ground).

NOTE

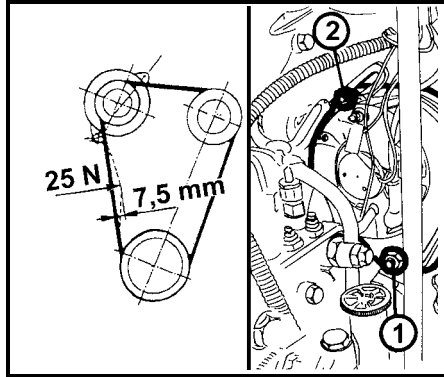
NOTE

ADJUSTMENT

	Page
Tensioning of engine belt	176
*Tensioning of air-conditioning compressor belt	176
Tightening of cylinder heads	176
Valve clearance adjustment	176
Adjustment of injectors.....	177
Adjustment of free travel of brake pedals.....	177
Bleeding of tractor brake system.....	178
1. Bleeding of pressure air brake system for trailers	179
2. Bleeding of rear wheel brakes.....	180
3. Bleeding of brake system of front driving axle Z 6441, Z 7441, Z 8441	181
4. Bleeding of hydraulic brakes of trailer	182
Check and adjustment of service and parking brakes.....	183
Service brake adjustment.....	183
Parking brake adjustment	184
Adjustment of free travel of clutch pedal	184
Check of adjustment of clutch pedal position	185
Bleeding of hydraulic clutch circuit	185
Adjustment of mechanical control of PTO clutch	186
*Adjustment of pneumatic control of PTO clutch with mechanical connection	187
Engine travel clutch adjustment	188
Play adjustment of front wheel roller bearings at tractor without front driving axle ..	188
Pick up hitch adjustment	189
Adjustment of releasing Bowden cable	189
Adjustment of control force of hydraulic inner circuit lever	189

Almost all the following works require certain experience and more exacting service and diagnostic equipment. That's why we recommend to do the works at specialized or authorized workshops.

ADJUSTMENT



C750

TENSIONING OF ENGINE BELT

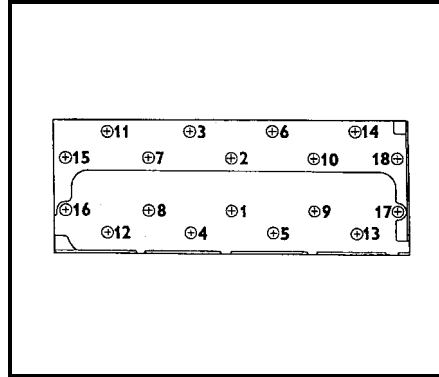
At correct tensioning of the belt, belt deflection must be 7,5 mm after affecting one belt by force of 25 N.

Adjust the belt tension to prescribed value after loosening of the alternator fixing screws (1, 2).

*TENSIONING OF AIR-CONDITIONING COMPRESSOR BELT

At correct tensioning of the belt, belt deflection must be 7,5 mm after affecting one belt by force of 25 N.

Adjust the belt tension to prescribed value after loosening of the fixing screws of the air-conditioning compressor.

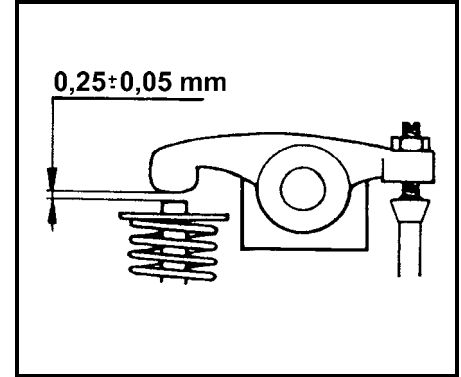


C751

TIGHTENING OF CYLINDER HEADS

Cylinder heads are tightened at cold engine in the prescribed sequence.

Torque	160 - 180 Nm
Valve clearance	0,25 ± 0,05 mm



C752

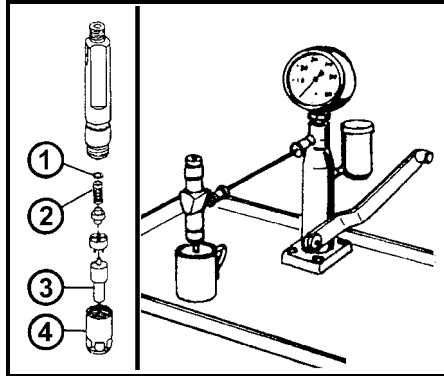
VALVE CLEARANCE ADJUSTMENT

Engine valve clearance is adjusted at cold engine. The correct valve clearance at suction and exhaust valves is 0,25±0,05 mm.

Change of rocker arm movement:

Change of rocker arm of cylinder No.:	Adjusted valve at cylinder No.:
1.	4.
3.	2.
4.	1.
2.	3.

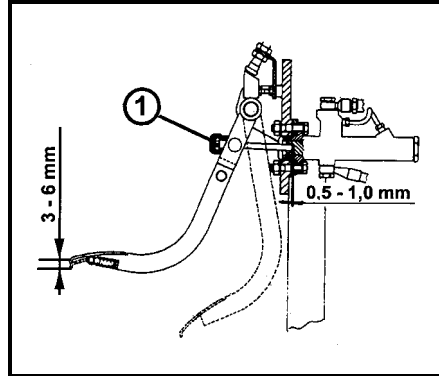
ADJUSTMENT



C753

ADJUSTMENT OF INJECTORS

Operation opening pressure of injectors is 22,0 - 0,8 MPa. Adjust the pressure to the upper limit of tolerance (22,0 MPa) by means of the shims (1) of various thickness, which are put under the spring (2). The correct position of injection nozzle (3) is determined by positioning pins on the sealing surface. Torque of fixing nut (4) is 50 - 60 Nm. Before tightening of the nut, depress the nozzle against the spring by pushing the nozzle against a wooden surface.

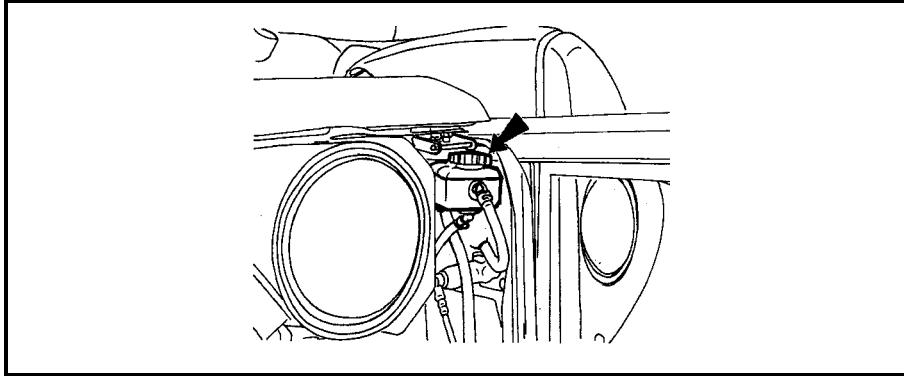


C754

ADJUSTMENT OF FREE TRAVEL OF BRAKE PEDALS

Correct play between the piston rod of brake pedal and the piston of main brake valve is 0,5-1,0 mm (3 - 6 mm when measured at the edge of the brake pedals at unlatched pedals). Adjust the play at unlatched pedals and after releasing of the adjusting nut (1), in which the piston rod is screwed.

ADJUSTMENT



C732

BLEEDING OF TRACTOR BRAKE SYSTEM

Bleeding of the tractor brake system always do in the following order:

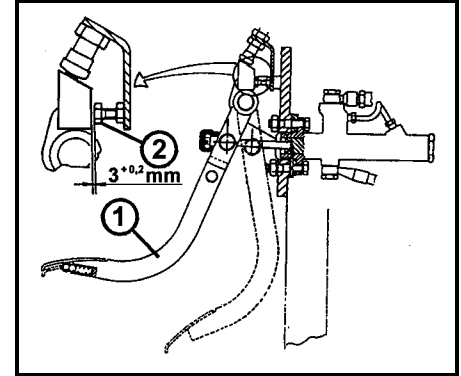
1. pressure air brake system for trailers
2. rear wheel service brakes
3. brake system of front driving axle
4. hydraulic brakes of trailer

Bleed the pressure air system for trailers and the rear wheel service brakes at unlatched brake pedals, separately for each wheel.

Bleed the brake system of front driving axle and the hydraulic brakes of trailer at latched brake pedals.

During bleeding observe brake fluid level in the equalizing tank to avoid suction of air into the system.

After each two years it is necessary to replace brake fluid in the entire brake circuit.



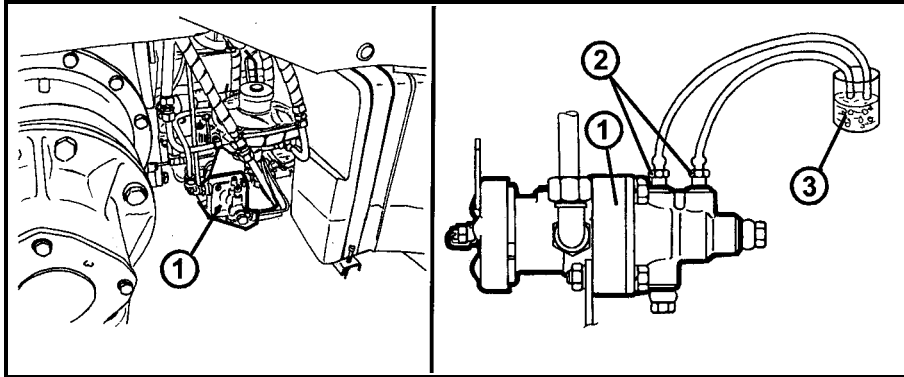
C756

Important:



When bleeding the pressure air system for trailers and the rear wheel brakes, one pedal (1) must be always depressed by $7,5^{+0.5}$ mm - measured to the main brake valve piston rod i.e. $3^{+0.2}$ mm at the adjusting screw (2) and the second pedal is used for bleeding. For keeping the right distance, insert the flat gauge of corresponding thickness, i.e. $3^{+0.2}$ mm, between the pedal (1) and the adjusting screw (2).

ADJUSTMENT



C75

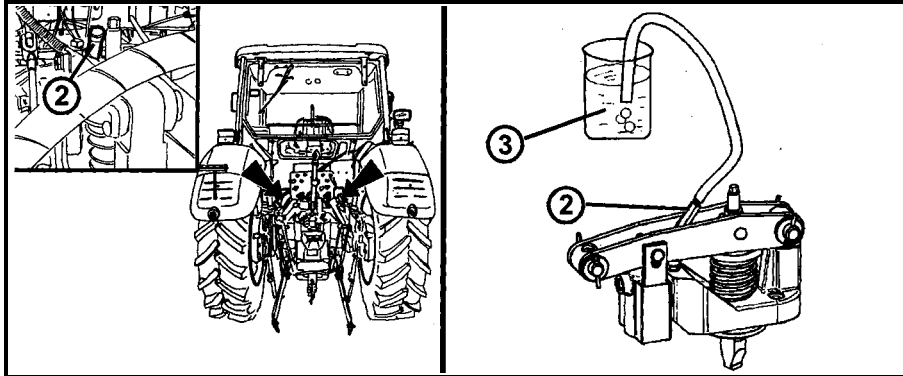
7

1. BLEEDING OF PRESSURE AIR BRAKE SYSTEM FOR TRAILERS

Bleed the system at working air pressure 730 ± 20 kPa in the following way:

- Add missing volume of brake fluid into the brake fluid tank up to the maximum level.
- Remove the plugs of the vent screws (2) of trailer control valve (1) located at the right-hand side of the tractor between the fuel tank and the rear half-axle.
- Slide hoses on the screws and put the other hose ends at the bottom of a transparent tank (3) partially filled with brake fluid. Place the tank minimum 300 mm above the vent screws. The screws must be permanently under pressure to avoid aerating of the brake system through the screw threads.
- Loosen the bleeding screws maximum by $1/4$ turn.
- Bleeding process is the same as mentioned in - Important (see page 178).
- Fully depress the pedal that is not blocked by the gauge and tighten the adjusting screw.
- Release the brake pedal and repeat the process, until air bubbles cease escaping from the hose.

ADJUSTMENT



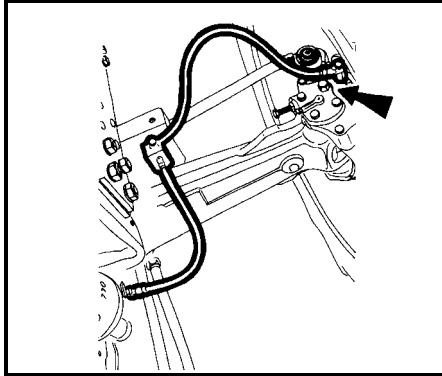
C760

2. BLEEDING OF REAR WHEEL BRAKES

Bleed the system in the following way:

- Check brake fluid level in the equalising tank. Add missing volume of brake fluid into the brake fluid tank up to the maximum level.
- After removing of the rubber cap, slide a hose on the vent screw (2) of the brake cylinder and put the hose end at the bottom of a transparent tank (3) partially filled with brake fluid. The vent screw must be permanently under pressure to avoid aerating of the brake system through the screw threads. Place the tank minimum 300 mm above the vent screw at this operation.
- Loosen the bleeding screws maximum by 1/4 turn.
- Bleeding process is the same as mentioned in - Important (see page 178).
- Fully depress the pedal that is not blocked by the gauge and tighten the adjusting screw.
- Release the brake pedal and repeat the process, until air bubbles cease escaping from the hose.

ADJUSTMENT

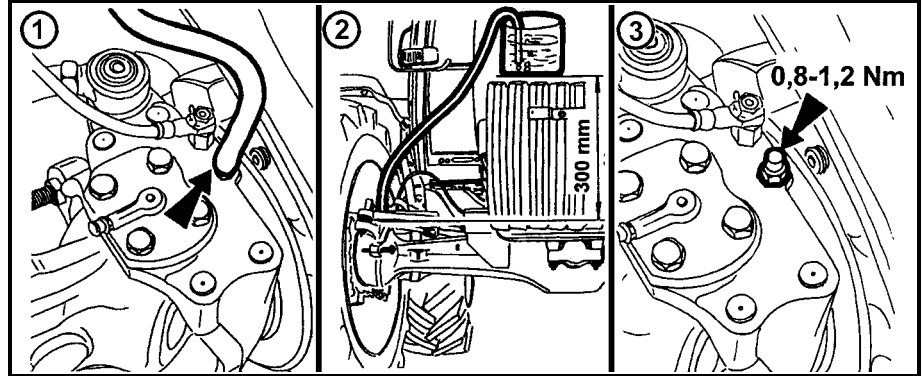


C761

3. BLEEDING OF BRAKE SYSTEM OF FRONT DRIVING AXLE Z 6441, Z 7441, Z 8441

Before bleeding of this system, it is necessary always to bleed the trailer control valve according to the point 1. **Bleeding of pressure air brake system for trailers** and this must be done even in case that the air trailer brakes are not installed.

Bleed the system at working air pressure 730 ± 20 kPa.

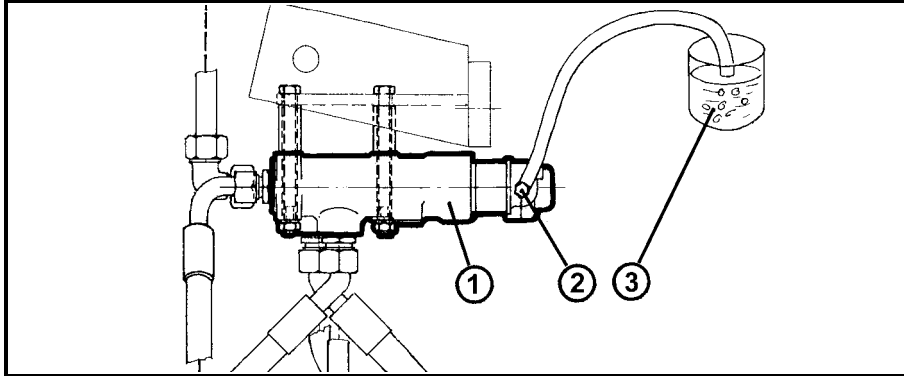


C762

Bleed the system in the following way:

- Check the brake fluid level in the brake fluid equalising tank. Add missing volume of brake fluid into the brake fluid tank up to the maximum level.
- Remove the plastic plugs of the vent screws of front driving axle brakes (the screws are located on the upper surfaces of the reducers).
- Slide hoses (1) on the vent screws and put the other hose ends at the bottom of a transparent tank partially filled with brake fluid. Place the reservoir minimally 300 mm above the vent screws (2). The vent screws must be permanently under pressure to avoid aerating of brake system through the screw threads.
- Left and right brake is bled simultaneously.
- Loosen the vent screws maximum by 1/4 turn.
- Depress the fully latched brake pedals to the stop and tighten the vent screws.
- Release the brake pedals and repeat procedure, until air bubbles cease escaping from the hose.
- Tighten the vent screws by torque 0,8 - 1,2 Nm (3) after bleeding of the front driving axle brake system.

ADJUSTMENT



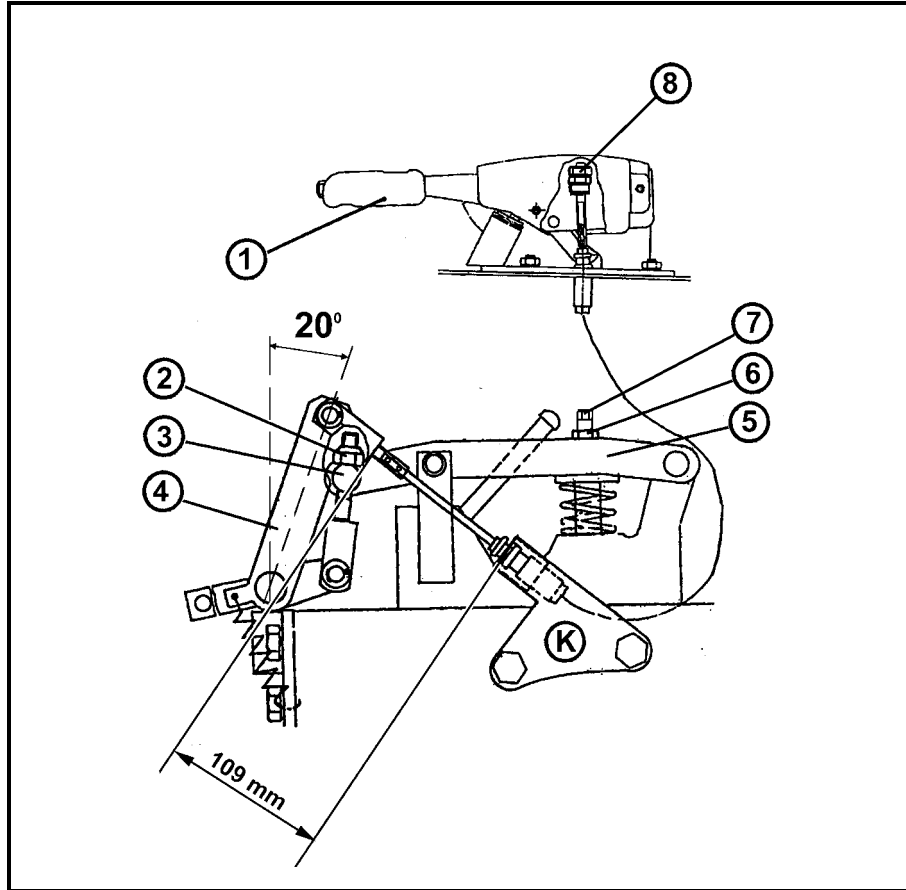
C759

4. BLEEDING OF HYDRAULIC BRAKES OF TRAILER

Bleed the system in the following way:

- Add missing volume of brake fluid into the equalising tank up to maximum level.
- Remove plug of vent screw (2) of hydraulic trailer control valve (1) located at the left-hand front support of the cab silent-block.
- Slide a hose on the screw and put the hose other end at the bottom of a transparent tank (3) partially filled with brake fluid. Place the tank minimally 300 mm above the vent screw. The vent screw must be permanently under pressure to avoid aerating of brake system through the screw threads.
- Loosen the bleeding screws maximum by 1/4 turn.
- Fully depress the latched brake pedals to the stop and tighten the adjusting screws.
- Release the brake pedals and repeat the process, until air bubbles cease escaping from the hose.

ADJUSTMENT



CHECK AND ADJUSTMENT OF SERVICE AND PARKING BRAKES

Adjustment must be done in the following steps:

1. service brake adjustment
 2. parking brake adjustment
- Another way is not possible. Also only separate adjustment of either service or parking brake is not possible. Adjusting operations depend on one another.

SERVICE BRAKE ADJUSTMENT



Secure the tractor against movement!

- Lift the tractor rear wheels.
- Loosen the nuts (2), nuts (6) and nuts (8).
- Loosen the screw (7)
- Let your helper turn one wheel and simultaneously tighten the screw (5) until the wheel starts to be braked
- Loosen the screw (7) by 5/6 turn, check, if the wheel can turn freely and secure the screw (7) with the nut (6).
- Adjusting process is the same at the right-hand and left-hand sides.

C764

ADJUSTMENT

If asymmetry of brake effect appears between the left and right brakes, it is necessary to loosen the adjusting screw (7) of the brake with bigger brake effect, until the brake effects of the right and left wheels are equal. But the screw can be loosened maximum by 1/2 turn.

If asymmetry of brake effect is not eliminated even after such adjusting, the tractor brakes must be adjusted in an authorized service.

PARKING BRAKE ADJUSTMENT

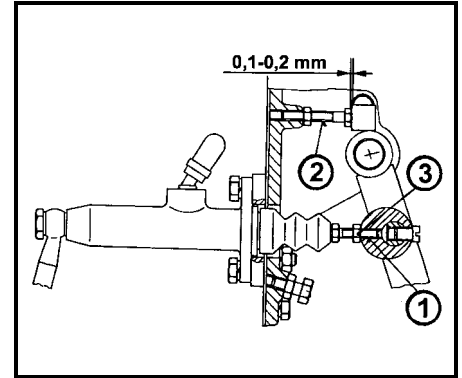
- Set the lever (4), so that the distance between the bracket (K) and the fork face at the level (4) might be 109 mm (so that the lever (4) might form angle 20° with vertical plane)
- Screw the nut (2) to the seating surface of the pin (3) without play and without pre-stressing – it must not come to depressing of the arms (5).
- Adjusting process is the same at the right-hand and left-hand tractor sides.
- By means of the nuts (8) adjust the Bowden cable of the parking brake lever so that at preservation of angle 20° at the lever (4), the parking brake lever could be without play.
- Rise and lower the parking brake lever (1) several times. You will eliminate possible mutual plays among the parts by this way.

- Check adjustment of the parking brake system, in case of necessity re-adjust, and check tightening of all locking nuts (6), (8)

If asymmetry of brake effect of the parking brake appears between the left and right brakes, it is necessary to loosen the upper adjusting nut (6) of the brake with bigger brake effect until the brake effects of the right and left wheels are equal. But the nut (2) can be loosened maximally by 1,5 turn.

If asymmetry of brake effect is not eliminated after such adjusting, the tractor brakes must be adjusted in an authorized service.

Note: There are adjusting openings in the tractor cab floor for making easy the brake.



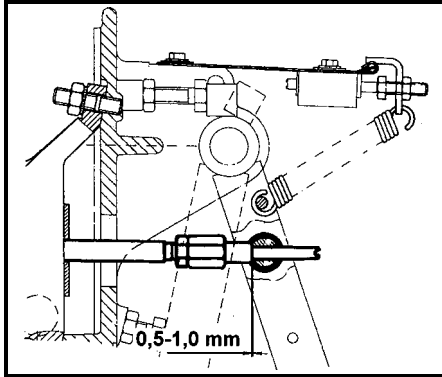
C765

ADJUSTMENT OF FREE TRAVEL OF CLUTCH PEDAL

Correct play between pedal piston rod and main cylinder piston is not adjusted - play is adjusted by the producer.

Mutual position between the piston rod and piston rod eye (1) is adjusted so that the piston rod might be maximally pulled out from the cylinder and simultaneously the play between the pedal and the upper stop screw (2) might be 0,1-0,2 mm. Subsequently the piston rod is fixed with the nut (3) to piston rod eye. Check eventual deformation of dust cap after adjustment, in case of deformation correct it by hand.

ADJUSTMENT



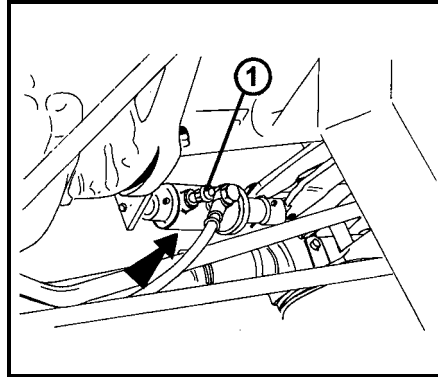
C766

CHECK OF ADJUSTMENT OF CLUTCH PEDAL POSITION

This check is carried out only in case that the *torque multiplier is assembled at your tractor.

Correct position of the clutch pedal is adjusted in the manufacturing plant.

At operation, play 0,5 - 1 mm is checked between piston rod and piston rod pin.



C767

BLEEDING OF HYDRAULIC CLUTCH CIRCUIT

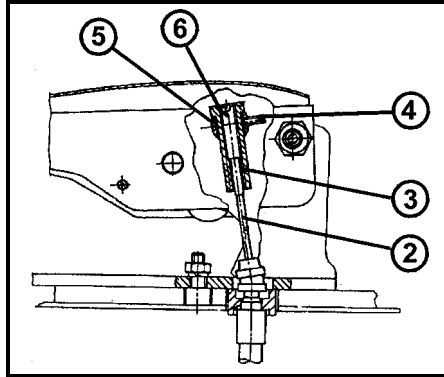
Bleed the clutch hydraulic circuit in the same way as rear brake system bleeding. The vent screw of clutch hydraulic circuit is located at the clutch control cylinder (1).



Add only fresh brake fluid into the brake fluid tank, which is common for both brake and clutch circuits.

Brake fluid must be replaced in the entire brake circuit including the clutch hydraulic circuit after each two years of operation.

ADJUSTMENT

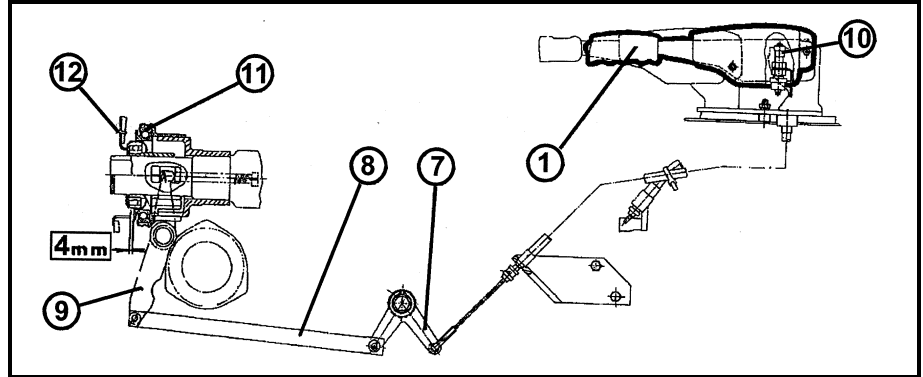


C768

ADJUSTMENT OF MECHANICAL CONTROL OF PTO CLUTCH

It works through the release bearing on the PTO clutch levers.

1. Lever
2. Bowden cable
3. Adjusting nut
4. Adjusting screw
5. Pin
6. Bowden cable bolt
7. Two-arm lever
8. Draw rod
9. Shaft with lever
10. Electric switch
11. Bearing
12. Release levers of travel clutch



C769

ADJUSTMENT PROCEDURE

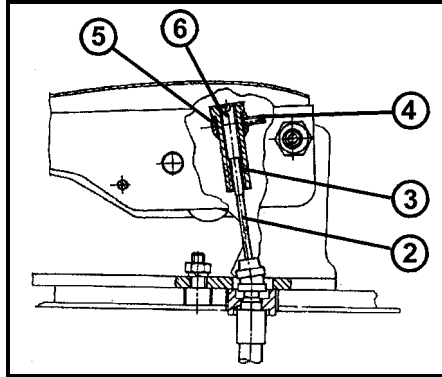
1. Remove the plastic cover of the lever of hand control of the PTO clutch.
2. Loosen the adjusting screw (4). This way the adjusting nut (3) is released.
3. Adjust the play between the bearing (11) and the clutch levers (12). Perform the adjustment with the adjusting nut (3) so that the play between the bearing (11) and the clutch levers (12) might be 4 mm; at the same time it must not decrease under 2,5 mm. During adjusting hold the Bowden cable bolt (6) in the adjusting nut (3) so that it could not come to its turning together with the adjusting nut (3) and so to plying apart of the Bowden cable (2).
4. After adjusting secure the adjusting nut (3) with the adjusting screw (4). Check,

that seating surface of the adjusting nut (3) is seated at upper surface of the pin (5).

5. By shifting of the lever (1) to the disengaged position, the indicator lamp at the dashboard must be "on".

6. When the release levers of the travel clutch are adjusted properly, the control force at the lever (1) is max. 200 N. If the force increases non-proportionally (ca 2 times) it is necessary to adjust the release levers of the travel clutch.

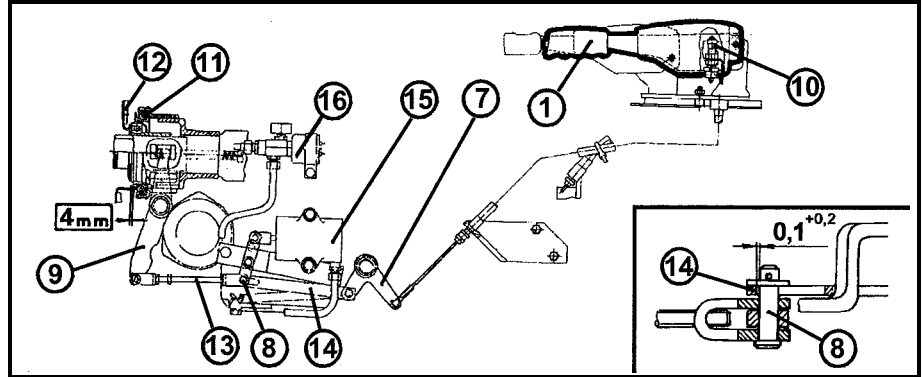
ADJUSTMENT



C768

*ADJUSTMENT OF PNEUMATIC CONTROL OF PTO CLUTCH WITH MECHANICAL CONNECTION

1. Lever
2. Bowden cable
3. Adjusting nut
4. Adjusting screw
5. Pin
6. Bowden cable bolt
7. Two-arm lever
8. Pin
9. Shaft with lever
10. Electric switch
11. Bearing
12. Release levers of travel clutch
13. Adjusting draw rod
14. Draw rod
15. Air cylinder
16. Electromagnetic valve



C771

ADJUSTMENT PROCEDURE:

1. Remove the plastic cover of the lever of hand control of the PTO clutch.
2. Adjust the play between the bearing (11) and the clutch levers (12). Perform the adjustment with the draw rod (13) so that the play between the bearing (11) and the clutch levers (12) might be 4 mm; at the same time it must not decrease under 2,5 mm.
3. The air cylinder piston (15) must be in the basic stop position during adjustment.
4. Loosen the adjusting screw (4). So the adjusting nut (3) is released. With the adjusting nut (3) adjust the play between the pin (8) and opening of the draw rod (14) to the value 0,1^{+0,2} mm. During adjusting hold the Bowden cable bolt (6) in the adjusting nut (3) so that it could not come to its turning together with the adjusting nut (3) and so to plying apart of the Bowden cable (2).
5. After adjusting secure the adjusting nut (3) with the adjusting screw (4). Check, that

seating surface of the adjusting nut (3) is seated at upper surface of the pin (5).

6. Check the play between the bearing (11) and the clutch levers (12); eventually re-adjust with the draw rod (13).

7. After adjusting shift the lever (1), without switching-on of electric current supply to the electromagnetic valve (16), by the force that is needed for releasing of the PTO clutch. After releasing of the lever (1) check adjustment according to points 4., 5. and 6.

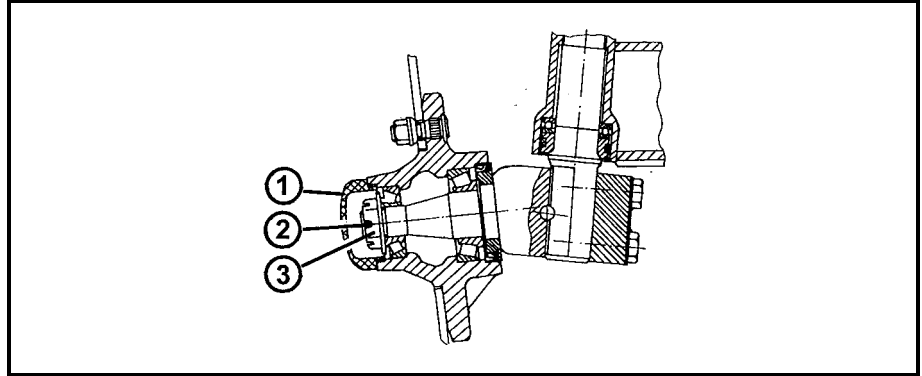
8. At shifting of the lever (1) to the disengaged position, the indicator lamp at the dashboard must be "on".

9. When the release levers of the travel clutch (12) are adjusted properly, the control force at the lever (1) is max 120 N, at the electromagnetic valve switch (16) in "on" position and 200 N at the valve in "of" position. If the force increases non-proportionally (up to 2 times) it is necessary to adjust the release levers of the travel clutch.

ADJUSTMENT

ENGINE TRAVEL CLUTCH ADJUSTMENT

The travel clutch is designed in such manner that no adjustment is required during the entire service life of clutch plate lining. Full wear of the plate becomes evident by clutch slipping. All the three travel clutch levers must be in one plane and must be in touch with the clutch release sleeve. When replacing the travel clutch plate, adjust the clutch to the following value still at disassembled tractor. Set the travel clutch levers 25 mm from the recess in the clutch cover by means of the nuts. The difference in setting of the levers can be maximum 0,15 mm. Depress the clutch pedal approx. 5 times up to the stop after assembly of the engine with the transmission.



C772

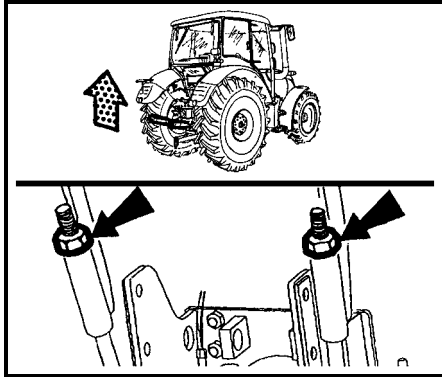
PLAY ADJUSTMENT OF FRONT WHEEL ROLLER BEARINGS AT TRACTOR WITHOUT FRONT DRIVING AXLE



Secure the tractor against movement!

- Lift up and support the front axle.
- Screw off the bearing cover (1).
- Remove the cotter pin (2) from the slotted nut (3).
- Tighten the slotted nut (3) by torque 15 Nm.
- Loosen the nut by 180° and release the bearing by knocking with wooden mallet at the wheel hub.
- Retighten the slotted nut (3) with torque wrench by torque 3-5 Nm. It must be possible to turn the wheel freely without any evident play but without any evident resistance. (Hub sealing resistance must be taken into consideration)
- Lock the slotted nut with a new cotter pin.
- Screw in the bearing cover.

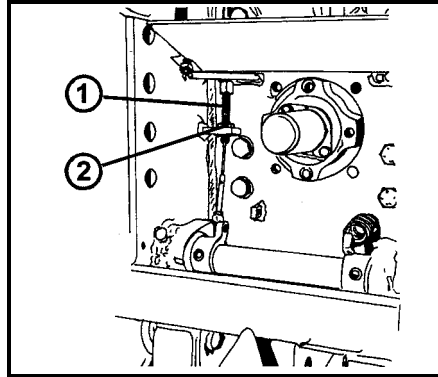
ADJUSTMENT



C773

PICK UP HITCH ADJUSTMENT

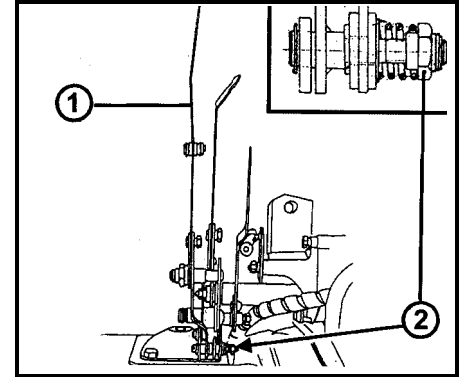
- Raise the hydraulic lifting arms into the upper – transporting position, when position control “P” is selected.
- Screw the telescopic links nuts to the guiding tubes without play.
- Then tighten the nuts by 4,5 turns.
- Check if it is possible to lift off the carrier hooks freely.
- By means of repeated lowering and lifting of the hydraulic arms to the transporting position make sure that the engine is not „getting stopped“ at idle run – the safety valve of hydraulic pump must not be in function.
- Then lower the arms a little.



C774

ADJUSTMENT OF RELEASING BOWDEN CABLE

Pick up hitch is in the working position. The Bowden cable must be under such tension so that the control lever in the cab might be without play. If the Bowden cable has not sufficient tension, adjust it by means of the adjusting screw (1) by screwing up or down. Lock the adjusting screw with the lock nut (2) after finishing of adjusting.



C775

ADJUSTMENT OF CONTROL FORCE OF HYDRAULIC INNER CIRCUIT LEVER

Adjust the friction force of inner hydraulic circuit lever (1) by tightening of nut (2), so that in any position of the inner hydraulic circuit lever at selected draft control, spontaneous dropping of the lever could not occur.

If there is a gap that is smaller than the thickness of two shims between the nut and the safety ring, readjust it for fitting of two shims.

NOTE

<https://truckmanualshub.com/>
MAIN TECHNICAL PARAMETERS

	Page
Main dimensions of tractor (mm).....	192
Technical data of engines of tractors z 6421 - Z 8441	193
Max. allowed load of front axle Z 6421, Z 7421, Z 8421 (kg)	195
Max. allowed load of front axle Carraro Z 6441 - Z8441 (kg)	195
Max. allowed load of rear axle Z 6421 - Z 8441 (kg)	196
Max. allowed weight of set „tractor + hitched implement“ (kg)	196
Condition of steeringability	196
Loading capacity of front tires Z 6421 - Z 8441	197
Loading capacity of rear tires Z 6421 - Z 8441	198
Change of load capacity of front tires Z 6421 - Z 8441 %	199
Change of load capacity of rear tires Z 6421 - Z 8441 %	199
Size of front tires	200
Size of rear tires	200
Allowed wheel combinations for tractor with front driving axle Z6441 - Z 8441	201
Forces Z 6421, Z 7421, Z 8421	202
Power and consumption Z 6421, Z 7421, Z 8421	202
Forces Z 6441, Z 7441, Z 8441	203
Power and consumption Z 6441, Z 7441, Z 8441	203
Tractor travel speed (km.h ⁻¹) at rated engine speed and at below stated tire dimensions of rear wheels	204
Independent rear pto shaft	212
Front PTO shaft	212
Contour and tread turning diameters Z 6421 - Z 8421	213
Contour and tread turning diameters Z 6441 - Z 8441	213

<https://truckmanualshub.com/>
MAIN TECHNICAL PARAMETERS

MAIN DIMENSIONS OF TRACTOR (mm)			
Tractor model	Z 6421, Z 7421, Z 8421	Z 6441, Z 7441, Z 8441	Note
Contour length with hitches with lowered front three point hitch	4803	4717	
Contour length with hitches without front three point hitch - without ballast weights in front of tractor mask	3873	3787,5	
- with ballast weights in front of tractor mask	4152	4066,5	
Width over rear fenders	1910	1910	
Height up to muffler top	2622 - 2684	2671 - 2692	According to applied tires
Height up to cab top	2580 - 2633	2600 - 2667	According to applied tires
Ground clearance under front axle housing	470 - 540	385 - 429	According to applied tires
Height of trailer hitch mouth in highest position (mouth centre)	862 - 989	826 - 972	According to applied tires
Height of swinging draw bar (to inner bottom surface of clevis)	247 - 376	209- 358	According to applied tires
Height of rear PTO shaft	660 - 770	641 - 764	According to applied tires
Height of front PTO shaft	438 - 544	512 - 600	According to applied tires
Wheel base	2321,5	2236	

<https://truckmanualshub.com/>
MAIN TECHNICAL PARAMETERS

TECHNICAL DATA OF ENGINES OF TRACTORS Z 6421 - Z 8441				
Tractor model		Z 6421/Z 6441	Z 7421/Z 7441	Z 8421/Z 8441
Engine model		7204	1104	1204
Engine kind		diesel, four stroke with direct fuel injection, turbocharged		
Engine execution		in line, vertical, water-cooled		
Number of cylinders		4	4	4
Displacement	cm ³	4156	4156	4156
Bore x stroke	mm	105x120	105x120	105x120
Rated speed	min ⁻¹	2200	2200	2200
Ignition sequence		1-3-4-2	1-3-4-2	1-3-4-2
Compression ratio		17	17	17
Max. overspeed	min ⁻¹	2460	2460	2460
Idle speed	min ⁻¹	750±25	750±25	750±25
Net engine power at nominal speed according to ISO 2288	kW	45	53	60
Specific fuel consumption at above mentioned power	g.kW ⁻¹ .h ⁻¹	257,5	255,5	253,9
Engine lubrication		Pressure type with gear-wheel pump		
Max. engine oil consumption after 100 hour running in	g.kW ⁻¹ .h ⁻¹	0,7	0,7	0,7
Engine oil pressure at rated speed and oil temperature 80°C	MPa	0,2 - 0,5	0,2 - 0,5	0,2 - 0,5
Min. oil pressure at 750 RPM and oil temperature 80°C	MPa	0,05	0,05	0,05
Max. coolant temperature	°C	106		
Timing		OHV		
Oil cleaner		Full flow for one usage		
Fuel cleaner		One stage with cartridge		

<https://truckmanualshub.com/>
MAIN TECHNICAL PARAMETERS

TECHNICAL DATA OF ENGINES OF TRACTORS Z 6421 - Z 8441				
Engine model		7204	1104	1204
Injection pump type		PP4M10P1f 3420	PP4M10P1f 3419	PP4M10P1f 3423
Nozzle type		DOP 150S 423-4128	DOP 150S 425-4133	DOP 150S 425-4133
Injector opening pressure	MPa	22-0,8		
Timing angle	°	11	11	12
Valve clearance measured at cold engine				
- suction	mm	0,25±0,05	0,25±0,05	0,25±0,05
- exhaust	mm	0,25±0,05	0,25±0,05	0,25±0,05

<https://truckmanualshub.com/>
MAIN TECHNICAL PARAMETERS

MAX. ALLOWED LOAD OF FRONT AXLE Z 6421, Z 7421, Z 8421 (kg)

Travel speed km.h ⁻¹	Wheel base (mm)		
	1495 – 1500	1570 – 1600	1870 - 1900
8	3000	3000	2500
20	2300	2300	2300
30	1500	1500	1500

The load is valid with regard to axle. The allowed load with regard to tires is given in chart „Loading capacity of front tires”.

MAX. ALLOWED LOAD OF FRONT AXLE CARRARO Z 6441 - Z8441 (kg)

Travel speed km.h ⁻¹	Wheel base (mm)				
	1525	1610 - 1620	1680 - 1690	1760 - 1770	1825 - 1835
8	3400	3400	3400	3200	3000
20	2900	2900	2900	2700	2500
30	2600	2600	2600	2500	2300
40	2000	2000	2000	2000	2000

The load is valid with regard to axle. The allowed load with regard to tires is given in chart „Loading capacity of front tires”.

MAIN TECHNICAL PARAMETERS

<https://truckmanualshub.com/>

MAX. ALLOWED LOAD OF REAR AXLE Z 6421 - Z 8441 (kg)

Travel speed km.h ⁻¹	Wheel base (mm)						
	1350	1425	1500	1575	1650	1725	1800
8	4000	4000	4000	4000	4000	3800	3600
20	4000	4000	4000	4000	4000	3600	3400
30	4000	4000	4000	4000	4000	3600	3400
40	3400	3400	3400	3400	3400	3400	3200

The load is valid with regard to axle. The allowed load with regard to tires is given in chart „Loading capacity of rear tires”.

MAX. ALLOWED WEIGHT OF SET „TRACTOR + HITCHED IMPLEMENT“ (kg)

Travel speed (km.h ⁻¹)	Maximum weight of set	
	Z 6421, Z 7421, Z 8421	Z 6441, Z 7441, Z 8441
8	7000	7400
20	6300	6900
30	5500	6600
40	-	5400

CONDITION OF STEERINGABILITY

Travel speed (km.h ⁻¹)	Load of tractor front axle of overall weight tractor + hitched implement (%)
max. 40	min. 25
max. 15	min. 18

<https://truckmanualshub.com/>
MAIN TECHNICAL PARAMETERS

LOADING CAPACITY OF FRONT TIRES Z 6421 - Z 8441												
Tire size	Travel speed											
	40 km.h⁻¹			30 km.h⁻¹			20 km.h⁻¹			8 km.h⁻¹		
	Loading capacity of tires (kg)			Loading capacity of tires (kg)			Loading capacity of tires (kg)			Loading capacity of tires (kg)		
	Tire 1 pc	Axle	Inflating (kPa)	Tire 1 pc	Axle	Inflating (kPa)	Tire 1 pc	Axle	Inflating (kPa)	Tire 1 pc	Axle	Inflating (kPa)
9,5-24	890	1780	280	1110	2220	280	1330	2660	280	1550	3100	280
11,2-24	980	1960	240	1225	2450	240	1450	2900	240	1700	3400	240
11,2R24	1000	2000	130	1250	2500	160	1450	2900	160	1700	3400	150
320/70R24	1000	2000	120	1300	2600	160	1450	2900	150	1700	3400	140
12,4-24	1000	2000	190	1300	2600	200	1450	2900	180	1700	3400	180
12,4R24	1000	2000	100	1300	2600	140	1450	2900	130	1700	3400	120
12,4-28_{10 PR}	1000	2000	170	1300	2600	180	1450	2900	160	1700	3400	160
13,6R24	1000	2000	90	1300	2600	130	1450	2900	120	1700	3400	110
380/70R24	1000	2000	80	1300	2600	110	1450	2900	100	1700	3400	90
6,00-16	-	-	-	570	1140	340	685	1370	340	800	1600	340
6,50-16	-	-	-	625	1250	320	750	1500	320	875	1750	320
7,50-16	-	-	-	750	1500	280	900	1800	280	1040	2080	280
9,00-16	-	-	-	750	1500	180	1065	2130	220	1240	2480	220
10,00-16	-	-	-	750	1500	225	1150	2300	225	1500	3000	225
7,50-20	-	-	-	750	1500	240	1050	2100	280	1225	2450	280

Note: Loading capacity values are valid for front wheel tread 1495 - 1525 mm and are in accordance with axle loading capacity. At operation on hard surface it is suitable with regard to slipping and galling of tire to raise pressure by 30 kPa.

<https://truckmanualshub.com/>
MAIN TECHNICAL PARAMETERS

LOADING CAPACITY OF REAR TIRES Z 6421 - Z 8441

Tire size	Travel speed											
	40 km.h ⁻¹			30 km.h ⁻¹			20 km.h ⁻¹			8 km.h ⁻¹		
	Loading capacity of tires (kg)		Inflating (kPa)	Loading capacity of tires (kg)		Inflating (kPa)	Loading capacity of tires (kg)		Inflating (kPa)	Loading capacity of tires (kg)		Inflating (kPa)
	Tire 1 pc	Axle		Tire 1 pc	Axle		Tire 1 pc	Axle		Tire 1 pc	Axle	
12,4-28 _{10 PR}	1430	2860	280	1790	3580	280	2000	4000	260	2000	4000	210
14,9-28	1500	3000	180	1880	3760	180	2000	4000	150	2000	4000	120
14,9R28	1700	3400	150	1930	3860	160	2000	4000	140	2000	4000	100
16,9-28	1700	3400	170	2000	4000	150	2000	4000	110	2000	4000	90
16,9R28	1700	3400	110	2000	4000	130	2000	4000	100	2000	4000	80
16,9-30	1700	3400	160	2000	4000	150	2000	4000	100	2000	4000	80
16,9R30	1700	3400	100	2000	4000	120	2000	4000	100	2000	4000	80
480/70R30	1700	3400	90	2000	4000	100	2000	4000	80	2000	4000	80
18,4-30	1700	3400	120	2000	4000	100	2000	4000	80	2000	4000	80
18,4R30	1700	3400	80	2000	4000	100	2000	4000	80	2000	4000	80
16,9-34	1700	3400	150	2000	4000	130	2000	4000	100	2000	4000	80
16,9R34	1700	3400	100	2000	4000	110	2000	4000	90	2000	4000	80
480/70R34	1700	3400	80	2000	4000	90	2000	4000	80	2000	4000	80
18,4-34 _{8 PR}	1700	3400	110	2000	4000	110	2000	4000	110	2000	4000	110
18,4R34	1700	3400	80	2000	4000	90	2000	4000	80	2000	4000	80
12,4-36	1150	2300	170	1440	2880	170	1730	3460	170	2000	4000	170
13,6-36	1300	2600	160	1615	3230	160	1940	3880	160	2000	4000	140

Note: Loading capacity values are valid for rear wheel tread 1725 mm and are in accordance with axle loading capacity. At operation on hard surface it is suitable with regard to slipping and galling of tire to raise pressure by 30 kPa.

<https://truckmanualshub.com/>
MAIN TECHNICAL PARAMETERS

CHANGE OF LOAD CAPACITY OF FRONT TIRES Z 6421 - Z 8441 %

Travel speed (km.h ⁻¹)	diagonal	radial
8	+ 40	+ 50
20	+ 20	+ 23
30	0	+ 7
40	- 20	0

CHANGE OF LOAD CAPACITY OF REAR TIRES Z 6421 - Z 8441 %

Travel speed (km.h ⁻¹)	diagonal	radial
8	+ 40	+ 50
20	+ 20	+ 23
30	0	+ 7
40	- 20	0

<https://truckmanualshub.com/>
MAIN TECHNICAL PARAMETERS

Size of front tires	Tractor model					
	Z 6421	Z 6441	Z 7421	Z 7441	Z 8421	Z 8441
6,50-16	X		X		X	
7,50-16	X		X		X	
7,50-20	X		X		X	
9,00-16	X		X		X	
10,00-16			X		X	
11,2-24		X		X		X
11,2R24		X		X		X
12,4-24		X		X		X
12,4R24		X		X		X
13,6R24		X		X		X

Size of rear tires	Tractor model					
	Z 6421	Z 6441	Z 7421	Z 7441	Z 8421	Z 8441
12,4-36	X	X				
13,6-36	X	X	X	X	X	X
14,9-28	X		X		X	
14,9R28	X		X		X	
16,9-28	X	X	X	X	X	X
16,9R28	X	X	X	X	X	X
16,9-30	X	X	X	X	X	X
16,9R30	X	X	X	X	X	X
480/70R30	X	X	X	X	X	X
18,4 -30	X	X	X	X	X	X
18,4 R30	X	X	X	X	X	X
16,9-34	X	X	X	X	X	X
16,9R34	X	X	X	X	X	X
480/70R34	X	X	X	X	X	X
18,4-34			X	X	X	X
18,4R34			X	X	X	X

<https://truckmanualshub.com/>
MAIN TECHNICAL PARAMETERS

ALLOWED WHEEL COMBINATIONS FOR TRACTOR WITH FRONT DRIVING AXLE Z6441 - Z 8441							
Front wheels		Rear wheels					
		Tractor model					
		Z 6441	Z 6441, Z 7441, Z 8441			Z 7441, Z 8441	
Tire size	Equivalent	Tire size	Tire size	Equivalent		Tire size	Equivalent
11,2-24	11,2R24 320/70R24	12,4-36	16,9-28	16,9R28			
			16,9-30	16,9R30	480/70R30		
			13,6-36				
12,4-24	12,4R24 360/70R24		16,9-30	16,9R30	480/70R30		
			18,4 -30	18,4 R30			
			16,9-34	16,9R34	480/70R34		
			13,6-36				
13,6R24	380/70R24		16,9-34	16,9R34	480/70R34	18,4-34	18,4R34

<https://truckmanualshub.com/>
MAIN TECHNICAL PARAMETERS

FORCES Z 6421, Z 7421, Z 8421	Tractor model		
	Z 6421	Z 7421	Z 8421
Lifting force in lower draft link ends of three point hitch within whole lifting range at maximum utilizable pressure			
- without lift assisting cylinder (kN)		26,4	
- with one lift assisting cylinder (kN)		34,4	
- with two lift assisting cylinders (kN)		41,5	
Lifting force in lower draft link ends of front three point hitch within whole lifting range at maximum utilizable pressure (kN)	20,5		
POWER AND CONSUMPTION Z 6421, Z 7421, Z 8421	Tractor model		
	Z 6421	Z 7421	Z 8421
PTO power (kW±2%)			
- at engine rated speed and shifted 1000 min ⁻¹ PTO (kW)	39,6	48,1	55,6
Maximum PTO power	41,7	49,8	57
Specific fuel consumption (g.kW ⁻¹ .h ⁻¹ ±2%)			
- corresponding with above mentioned power	260,7	251,5	279,1

<https://truckmanualshub.com/>
MAIN TECHNICAL PARAMETERS

FORCES Z 6441, Z 7441, Z 8441	Tractor model		
	Z 6441	Z 7441	Z 8441
Lifting force in lower draft link ends of three point hitch within whole lifting range at maximum utilizable pressure			
- without lift assisting cylinder (kN)	26,4		
- with one lift assisting cylinder (kN)	34,4		
- with two lift assisting cylinders (kN)	41,5		
Lifting force in lower draft link ends of front three point hitch within whole lifting range at maximum utilizable pressure (kN)	20,5		
POWER AND CONSUMPTION Z 6441, Z 7441, Z 8441	Tractor model		
	Z 6441	Z 7441	Z 8441
PTO power (kW±2%)			
- at engine rated speed and shifted 1000 min ⁻¹ PTO (kW)	39,6	48,1	55,6
Maximum PTO power	41,7	49,8	57
Specific fuel consumption (g.kW ⁻¹ .h ⁻¹ ±2%)			
- corresponding with above mentioned power	260,7	251,5	279,1

<https://truckmanualshub.com/>
MAIN TECHNICAL PARAMETERS

TRACTOR EQUIPPED WITH SYNCHRONIZED TRANSMISSION - SPEED 30 KM.H⁻¹

Shifted gear	Ground PTO speed	Tractor travel speed (km.h ⁻¹) at rated engine speed and at below stated tire dimensions of rear wheels							
		14,9 - 28	16,9 - 28	12,4 - 36	16,9 - 30	13,6 - 36	18,4 - 30	16,9 - 34	18,4 - 34
1	293,43	5,59	5,85	6,03	6,07	6,24	6,29	6,51	6,72
2	418,20	7,97	8,34	8,59	8,65	8,90	8,96	9,27	9,58
3	590,96	11,26	11,78	12,13	12,22	12,57	12,66	13,10	13,54
4	935,05	17,81	18,64	19,20	19,34	19,90	20,04	20,73	21,43
5	1344,44	25,61	26,81	27,61	27,81	28,61	28,81	29,81	30,81
1L	293,43	1,42	1,48	1,53	1,54	1,58	1,59	1,65	1,70
2L	418,20	2,02	2,11	2,18	2,19	2,25	2,27	2,35	2,43
3L	590,96	2,85	2,99	3,07	3,10	3,19	3,21	3,32	3,43
4L	935,05	4,51	4,72	4,87	4,90	5,04	5,08	5,25	5,43
5L	1344,44	6,49	6,79	7,00	7,05	7,25	7,30	7,55	7,81
R	-364,92	6,95	7,28	7,49	7,55	7,76	7,82	8,09	8,36
RL	-364,92	1,76	1,84	1,90	1,91	1,97	1,98	2,05	2,12

L - reduction, R – reverse gear

<https://truckmanualshub.com/>
MAIN TECHNICAL PARAMETERS

TRACTOR EQUIPPED WITH SYNCHRONIZED TRANSMISSION - SPEED 40 km.h⁻¹									
Shifted gear	Ground PTO speed	Tractor travel speed (km.h ⁻¹) at rated engine speed and at below stated tire dimensions of rear wheels							
		14,9 - 28	16,9 - 28	12,4 - 36	16,9 - 30	13,6 - 36	18,4 - 30	16,9 - 34	18,4 - 34
1	293,43	6,74	7,06	7,27	7,32	7,53	99,08	7,85	8,11
2	418,20	9,61	10,06	10,36	10,43	10,73	69,52	11,18	11,56
3	590,96	13,58	14,21	14,64	14,74	15,17	49,20	15,80	16,33
4	935,05	21,48	22,49	23,16	23,33	24,00	31,09	25,01	25,84
5	1344,44	30,89	32,33	33,30	33,54	34,51	21,63	35,95	37,16
1L	293,43	1,71	1,79	1,84	1,85	1,91	391,04	1,99	2,06
2L	418,20	2,43	2,55	2,62	2,64	2,72	274,37	2,83	2,93
3L	590,96	3,44	3,60	3,71	3,74	3,84	194,16	4,00	4,14
4L	935,05	5,44	5,70	5,87	5,91	6,08	122,71	6,34	6,55
5L	1344,44	7,83	8,19	8,44	8,50	8,74	85,35	9,11	9,42
R	-364,92	8,38	8,78	9,04	9,10	9,37	9,43	9,76	10,09
RL	-364,92	2,12	2,22	2,29	2,31	2,37	2,39	2,47	2,56

L - reduction, R – reverse gear

<https://truckmanualshub.com/>
MAIN TECHNICAL PARAMETERS

TRACTOR EQUIPPED WITH SYNCHRONIZED TRANSMISSION AND TORQUE MULTIPLIER - SPEED 30 km.h⁻¹									
Shifted gear	Ground PTO speed	Tractor travel speed (km.h ⁻¹) at rated engine speed and at below stated tire dimensions of rear wheels							
		14,9 - 28	16,9 - 28	12,4 - 36	16,9 - 30	13,6 - 36	18,4 - 30	16,9 - 34	18,4 - 34
1	293,43	5,59	5,85	6,03	6,07	6,24	6,29	6,51	6,72
2	418,20	7,97	8,34	8,59	8,65	8,90	8,96	9,27	9,58
3	590,96	11,26	11,78	12,13	12,22	12,57	12,66	13,10	13,54
4	935,05	17,81	18,64	19,20	19,34	19,90	20,04	20,73	21,43
5	1344,44	25,61	26,81	27,61	27,81	28,61	28,81	29,81	30,81
1L	293,43	1,42	1,48	1,53	1,54	1,58	1,59	1,65	1,70
2L	418,20	2,02	2,11	2,18	2,19	2,25	2,27	2,35	2,43
3L	590,96	2,85	2,99	3,07	3,10	3,19	3,21	3,32	3,43
4L	935,05	4,51	4,72	4,87	4,90	5,04	5,08	5,25	5,43
5L	1344,44	6,49	6,79	7,00	7,05	7,25	7,30	7,55	7,81
1M	223,51	4,26	4,46	4,59	4,62	4,76	4,79	4,96	5,12
2M	318,55	6,07	6,35	6,54	6,59	6,78	6,83	7,06	7,30
3M	450,15	8,57	8,98	9,24	9,31	9,58	9,65	9,98	10,32
4M	712,24	13,57	14,20	14,63	14,73	15,16	15,26	15,79	16,32
5M	1024,09	19,50	20,42	21,03	21,18	21,79	21,94	22,70	23,47
1LM	223,51	1,08	1,13	1,16	1,17	1,21	1,21	1,26	1,30
2LM	318,55	1,54	1,61	1,66	1,67	1,72	1,73	1,79	1,85
3LM	450,15	2,17	2,27	2,34	2,36	2,43	2,44	2,53	2,61
4LM	712,24	3,44	3,60	3,71	3,73	3,84	3,87	4,00	4,14
5LM	1024,09	4,94	5,17	5,33	5,37	5,52	5,56	5,75	5,95
R	-364,92	6,95	7,28	7,49	7,55	7,76	7,82	8,09	8,36
RL	-364,92	1,76	1,84	1,90	1,91	1,97	1,98	2,05	2,12
RM	-277,97	5,29	5,54	5,71	5,75	5,91	5,96	6,16	6,37
RLM	-277,97	1,34	1,40	1,45	1,46	1,50	1,51	1,56	1,61

L - reduction, M – torque multiplier, R – reverse gear

<https://truckmanualshub.com/>
MAIN TECHNICAL PARAMETERS

TRACTOR EQUIPPED WITH SYNCHRONIZED TRANSMISSION AND TORQUE MULTIPLIER - SPEED 40 km.h⁻¹									
Shifted gear	Ground PTO speed	Tractor travel speed (km.h ⁻¹) at rated engine speed and at below stated tire dimensions of rear wheels							
		14,9 - 28	16,9 - 28	12,4 - 36	16,9 - 30	13,6 - 36	18,4 - 30	16,9 - 34	18,4 - 34
1	293,43	6,74	7,06	7,27	7,32	7,53	7,58	7,85	8,11
2	418,20	9,61	10,06	10,36	10,43	10,73	10,81	11,18	11,56
3	590,96	13,58	14,21	14,64	14,74	15,17	15,27	15,80	16,33
4	935,05	21,48	22,49	23,16	23,33	24,00	24,17	25,01	25,84
5	1344,44	30,89	32,33	33,30	33,54	34,51	34,75	35,95	37,16
1L	293,43	1,71	1,79	1,84	1,85	1,91	1,92	1,99	2,06
2L	418,20	2,43	2,55	2,62	2,64	2,72	2,74	2,83	2,93
3L	590,96	3,44	3,60	3,71	3,74	3,84	3,87	4,00	4,14
4L	935,05	5,44	5,70	5,87	5,91	6,08	6,12	6,34	6,55
5L	1344,44	7,83	8,19	8,44	8,50	8,74	8,80	9,11	9,42
1M	223,51	5,13	5,38	5,54	5,58	5,74	5,78	5,98	6,18
2M	318,55	7,32	7,66	7,89	7,95	8,18	8,23	8,52	8,80
3M	450,15	10,34	10,83	11,15	11,23	11,55	11,63	12,04	12,44
4M	712,24	16,36	17,13	17,64	17,77	18,28	18,41	19,05	19,69
5M	1024,09	23,53	24,63	25,37	25,55	26,28	26,47	27,39	28,31
1LM	223,51	1,30	1,36	1,40	1,41	1,45	1,46	1,51	1,57
2LM	318,55	1,85	1,94	2,00	2,01	2,07	2,09	2,16	2,23
3LM	450,15	2,62	2,74	2,83	2,85	2,93	2,95	3,05	3,15
4LM	712,24	4,15	4,34	4,47	4,50	4,63	4,66	4,83	4,99
5LM	1024,09	5,96	6,24	6,43	6,47	6,66	6,71	6,94	7,17
R	-364,92	8,38	8,78	9,04	9,10	9,37	9,43	9,76	10,09
RL	-364,92	2,12	2,22	2,29	2,31	2,37	2,39	2,47	2,56
RM	-277,97	6,39	6,69	6,88	6,93	7,13	7,18	7,43	7,68
RLM	-277,97	1,62	1,69	1,74	1,76	1,81	1,82	1,88	1,95

L - reduction, M – torque multiplier, R – reverse gear

<https://truckmanualshub.com/>
MAIN TECHNICAL PARAMETERS

TRACTOR EQUIPPED WITH SYNCHRONIZED TRANSMISSION AND REVERSOR - SPEED 30 km.h⁻¹									
Shifted gear	Ground PTO speed	Tractor travel speed (km.h ⁻¹) at rated engine speed and at below stated tire dimensions of rear wheels							
		14,9 - 28	16,9 - 28	12,4 - 36	16,9 - 30	13,6 - 36	18,4 - 30	16,9 - 34	18,4 - 34
1	228,08	4,34	4,55	4,68	4,72	4,85	4,89	5,06	5,23
2	293,43	5,59	5,85	6,03	6,07	6,24	6,29	6,51	6,72
3	418,20	7,97	8,34	8,59	8,65	8,90	8,96	9,27	9,58
4	590,96	11,26	11,78	12,13	12,22	12,57	12,66	13,10	13,54
5	935,05	17,81	18,64	19,20	19,34	19,90	20,04	20,73	21,43
6	1344,44	25,61	26,81	27,61	27,81	28,61	28,81	29,81	30,81
1L	228,08	1,10	1,15	1,19	1,20	1,23	1,24	1,28	1,32
2L	293,43	1,42	1,48	1,53	1,54	1,58	1,59	1,65	1,70
3L	418,20	2,02	2,11	2,18	2,19	2,25	2,27	2,35	2,43
4L	590,96	2,85	2,99	3,07	3,10	3,19	3,21	3,32	3,43
5L	935,05	4,51	4,72	4,87	4,90	5,04	5,08	5,25	5,43
6L	1344,44	6,49	6,79	7,00	7,05	7,25	7,30	7,55	7,81
1R	-249,21	4,75	4,97	5,12	5,15	5,30	5,34	5,53	5,71
2R	-320,63	6,11	6,39	6,58	6,63	6,82	6,87	7,11	7,35
3R	-456,96	8,70	9,11	9,38	9,45	9,72	9,79	10,13	10,47
4R	-645,74	12,30	12,88	13,26	13,36	13,74	13,84	14,32	14,80
5R	-1021,71	19,46	20,37	20,98	21,13	21,74	21,89	22,65	23,41
6R	-1469,05	27,98	29,29	30,17	30,38	31,26	31,48	32,57	33,66
1LR	-249,21	1,20	1,26	1,30	1,31	1,34	1,35	1,40	1,45
2LR	-320,63	1,55	1,62	1,67	1,68	1,73	1,74	1,80	1,86
3LR	-456,96	2,21	2,31	2,38	2,39	2,46	2,48	2,57	2,65
4LR	-645,74	3,12	3,26	3,36	3,38	3,48	3,51	3,63	3,75
5LR	-1021,71	4,93	5,16	5,32	5,35	5,51	5,55	5,74	5,93
6LR	-1469,05	7,09	7,42	7,64	7,70	7,92	7,98	8,25	8,53

L - reduction, R – reverse gear

<https://truckmanualshub.com/>
MAIN TECHNICAL PARAMETERS

TRACTOR EQUIPPED WITH SYNCHRONIZED TRANSMISSION AND REVERSOR - SPEED 40 km.h⁻¹									
Shifted gear	Ground PTO speed	Tractor travel speed (km.h ⁻¹) at rated engine speed and at below stated tire dimensions of rear wheels							
		14,9 - 28	16,9 - 28	12,4 - 36	16,9 - 30	13,6 - 36	18,4 - 30	16,9 - 34	18,4 - 34
1	228,08	5,24	5,49	5,65	5,69	5,85	5,89	6,10	6,30
2	293,43	6,74	7,06	7,27	7,32	7,53	7,58	7,85	8,11
3	418,20	9,61	10,06	10,36	10,43	10,73	10,81	11,18	11,56
4	590,96	13,58	14,21	14,64	14,74	15,17	15,27	15,80	16,33
5	935,05	21,48	22,49	23,16	23,33	24,00	24,17	25,01	25,84
6	1344,44	30,89	32,33	33,30	33,54	34,51	34,75	35,95	37,16
1L	228,08	1,33	1,39	1,43	1,44	1,48	1,49	1,55	1,60
2L	293,43	1,71	1,79	1,84	1,85	1,91	1,92	1,99	2,06
3L	418,20	2,43	2,55	2,62	2,64	2,72	2,74	2,83	2,93
4L	590,96	3,44	3,60	3,71	3,74	3,84	3,87	4,00	4,14
5L	935,05	5,44	5,70	5,87	5,91	6,08	6,12	6,34	6,55
6L	1344,44	7,83	8,19	8,44	8,50	8,74	8,80	9,11	9,42
1R	-249,21	5,73	5,99	6,17	6,22	6,40	6,44	6,66	6,89
2R	-320,63	7,37	7,71	7,94	8,00	8,23	8,29	8,57	8,86
3R	-456,96	10,50	10,99	11,32	11,40	11,73	11,81	12,22	12,63
4R	-645,74	14,83	15,53	15,99	16,11	16,57	16,69	17,27	17,85
5R	-1021,71	23,47	24,57	25,31	25,49	26,22	26,41	27,32	28,24
6R	-1469,05	33,75	35,33	36,39	36,65	37,70	37,97	39,29	40,60
1LR	-249,21	1,45	1,52	1,56	1,58	1,62	1,63	1,69	1,75
2LR	-320,63	1,87	1,95	2,01	2,03	2,09	2,10	2,17	2,25
3LR	-456,96	2,66	2,78	2,87	2,89	2,97	2,99	3,10	3,20
4LR	-645,74	3,76	3,94	4,05	4,08	4,20	4,23	4,38	4,52
5LR	-1021,71	5,95	6,23	6,41	6,46	6,64	6,69	6,92	7,16
6LR	-1469,05	8,55	8,95	9,22	9,29	9,55	9,62	9,95	10,29

L - reduction, R – reverse gear

<https://truckmanualshub.com/>
MAIN TECHNICAL PARAMETERS

TRACTOR EQUIPPED WITH REDUCTOR FOR CREEPING GEARS - SPEED 30 km.h⁻¹

Shifted gear	Ground PTO speed	Tractor travel speed (km.h ⁻¹) at rated engine speed and at below stated tire dimensions of rear wheels							
		14,9 - 28	16,9 - 28	12,4 - 36	16,9 - 30	13,6 - 36	18,4 - 30	16,9 - 34	18,4 - 34
1	293,43	5,59	5,85	6,03	6,07	6,24	6,29	6,51	6,72
2	418,20	7,97	8,34	8,59	8,65	8,90	8,96	9,27	9,58
3	590,96	11,26	11,78	12,13	12,22	12,57	12,66	13,10	13,54
4	935,05	17,81	18,64	19,20	19,34	19,90	20,04	20,73	21,43
5	1344,44	25,61	26,81	27,61	27,81	28,61	28,81	29,81	30,81
1L	293,43	1,42	1,48	1,53	1,54	1,58	1,59	1,65	1,70
2L	418,20	2,02	2,11	2,18	2,19	2,25	2,27	2,35	2,43
3L	590,96	2,85	2,99	3,07	3,10	3,19	3,21	3,32	3,43
4L	935,05	4,51	4,72	4,87	4,90	5,04	5,08	5,25	5,43
5L	1344,44	6,49	6,79	7,00	7,05	7,25	7,30	7,55	7,81
1S	31,64	0,60	0,63	0,65	0,65	0,67	0,68	0,70	0,72
2S	45,09	0,86	0,90	0,93	0,93	0,96	0,97	1,00	1,03
3S	63,72	1,21	1,27	1,31	1,32	1,36	1,37	1,41	1,46
4S	100,82	1,92	2,01	2,07	2,09	2,15	2,16	2,24	2,31
5S	144,96	2,76	2,89	2,98	3,00	3,08	3,11	3,21	3,32
1LS	31,64	0,15	0,16	0,16	0,17	0,17	0,17	0,18	0,18
2LS	45,09	0,22	0,23	0,23	0,24	0,24	0,24	0,25	0,26
3LS	63,72	0,31	0,32	0,33	0,33	0,34	0,35	0,36	0,37
4LS	100,82	0,49	0,51	0,52	0,53	0,54	0,55	0,57	0,59
5LS	144,96	0,70	0,73	0,75	0,76	0,78	0,79	0,81	0,84
R	-364,92	6,95	7,28	7,49	7,55	7,76	7,82	8,09	8,36
RL	-364,92	1,76	1,84	1,90	1,91	1,97	1,98	2,05	2,12
RS	-39,35	0,75	0,78	0,81	0,81	0,84	0,84	0,87	0,90
RLS	-39,35	0,19	0,20	0,20	0,21	0,21	0,21	0,22	0,23

L - reduction, R –reverse gear, S – creeping gears

<https://truckmanualshub.com/>
MAIN TECHNICAL PARAMETERS

TRACTOR EQUIPPED WITH REDUCTOR FOR CREEPING GEARS - SPEED 40 km.h⁻¹

Shifted gear	Ground PTO speed	Tractor travel speed (km.h ⁻¹) at rated engine speed and at below stated tire dimensions of rear wheels							
		14,9 - 28	16,9 - 28	12,4 - 36	16,9 - 30	13,6 - 36	18,4 - 30	16,9 - 34	18,4 - 34
1	293,43	6,74	7,06	7,27	7,32	7,53	7,58	7,85	8,11
2	418,20	9,61	10,06	10,36	10,43	10,73	10,81	11,18	11,56
3	590,96	13,58	14,21	14,64	14,74	15,17	15,27	15,80	16,33
4	935,05	21,48	22,49	23,16	23,33	24,00	24,17	25,01	25,84
5	1344,44	30,89	32,33	33,30	33,54	34,51	34,75	35,95	37,16
1L	293,43	1,71	1,79	1,84	1,85	1,91	1,92	1,99	2,06
2L	418,20	2,43	2,55	2,62	2,64	2,72	2,74	2,83	2,93
3L	590,96	3,44	3,60	3,71	3,74	3,84	3,87	4,00	4,14
4L	935,05	5,44	5,70	5,87	5,91	6,08	6,12	6,34	6,55
5L	1344,44	7,83	8,19	8,44	8,50	8,74	8,80	9,11	9,42
1S	31,64	0,73	0,76	0,78	0,79	0,81	0,82	0,85	0,87
2S	45,09	1,04	1,08	1,12	1,12	1,16	1,17	1,21	1,25
3S	63,72	1,46	1,53	1,58	1,59	1,64	1,65	1,70	1,76
4S	100,82	2,32	2,42	2,50	2,52	2,59	2,61	2,70	2,79
5S	144,96	3,33	3,49	3,59	3,62	3,72	3,75	3,88	4,01
1LS	31,64	0,18	0,19	0,20	0,20	0,21	0,21	0,21	0,22
2LS	45,09	0,26	0,27	0,28	0,29	0,29	0,30	0,31	0,32
3LS	63,72	0,37	0,39	0,40	0,40	0,41	0,42	0,43	0,45
4LS	100,82	0,59	0,61	0,63	0,64	0,66	0,66	0,68	0,71
5LS	144,96	0,84	0,88	0,91	0,92	0,94	0,95	0,98	1,02
R	-364,92	8,38	8,78	9,04	9,10	9,37	9,43	9,76	10,09
RL	-364,92	2,12	2,22	2,29	2,31	2,37	2,39	2,47	2,56
RS	-39,35	0,90	0,95	0,97	0,98	1,01	1,02	1,05	1,09
RLS	-39,35	0,23	0,24	0,25	0,25	0,26	0,26	0,27	0,28

L - reduction, R –reverse gear, S – creeping gears

<https://truckmanualshub.com/>
MAIN TECHNICAL PARAMETERS

INDEPENDENT REAR PTO SHAFT		
Designation	PTO shaft speed /engine speed	PTO shaft speed /engine speed
540	540/1994	596/2200
540 E	540/1519	782/2200
1 000	1000/2050	1073/2200

FRONT PTO SHAFT		
Sense of rotation	PTO shaft speed/engine speed	PTO shaft speed/engine speed
right	1000/1818	1210/2200
*left	1000/1870	1176/2200

<https://truckmanualshub.com/>
MAIN TECHNICAL PARAMETERS

CONTOUR AND TREAD TURNING DIAMETERS Z 6421 - Z 8421

Wheel tread	front	1515 mm	Tire size	front	9,00-16	Left	Right
	rear	1500 mm		rear	16,9R34		
Tread diameter (mm)						8090 mm	8260 mm
	with inner rear wheel braked					7200 mm	7290 mm
Contour diameter (mm)						8710 mm	8920 mm
	with inner rear wheel braked					7820 mm	7950 mm

CONTOUR AND TREAD TURNING DIAMETERS Z 6441 - Z 8441

Wheel tread	front	1585 mm	Tire size	front	13,6R24	Left	Right
	rear	1500 mm		rear	16,9R34		
Tread diameter (mm)	without engaged front driving axle					11150 mm	11100 mm
	without engaged front driving axle with inner rear wheel braked					9360 mm	9110 mm
	with engaged front driving axle					11970 mm	11930 mm
	with engaged front driving axle with inner rear wheel braked					8025 mm	8025 mm
Contour diameter (mm)	without engaged front driving axle					11690 mm	11600 mm
	without engaged front driving axle with inner rear wheel braked					9900 mm	9620 mm
	with engaged front driving axle					12510 mm	12430 mm
	with engaged front driving axle with inner rear wheel braked					8565 mm	8525 mm

NOTE

INDEX

A			
Accumulator battery	129	Attaching of implement	109
Accumulator battery maintenance	129	Attaching of implement to three point hitch	105
Acquaintance with tractor	21	Attaching of semi-trailer	77
Adjustment	175	Automatic mouth of trailer hitch	75
Adjustment for driver's weight	27	Average fuel consumption in litres per operating hour of Zetor tractor	46
Adjustment for driver's weight	28	B	
Adjustment of control force of hydraulic inner circuit lever	189	Ballast weights	121
Adjustment of free travel of brake pedals	177	Ballast weights in front of mask	122
Adjustment of free travel of clutch pedal	184	Ballast weights of front three point hitch	122
Adjustment of front mask headlights	133	Ballast weights under frame	122
Adjustment of injectors	177	Basic service information	128
Adjustment of mechanical control of PTO clutch	186	Battery switch	45
Adjustment of pneumatic control of PTO clutch with mechanical connection	187	Before engine starting	52
Adjustment of releasing Bowden cable	189	Bleeding of brake system of front driving axle Z 6441, Z 7441, Z 8441	181
After 10 hours	69	Bleeding of hydraulic brakes of trailer	182
After 70 hours	69	Bleeding of hydraulic circuit of hydrostatic steering	164
After 70 hours	70	Bleeding of hydraulic clutch circuit	185
After oil draining	168	Bleeding of pressure air brake system for trailers	179
After operation with front implements	17	Bleeding of rear wheel brakes	180
Air brakes of trailer	15	Bleeding of tractor brake system	178
Air brakes of trailers and semi-trailers	60	Blocking of front wheels	123
Air cleaner	16	Brake fluid filling up	169
Air-conditioning switch (C)	29	C	
Allowed load of pick up hitch	79	Cab filtration	16
Allowed vertical static load of hitches	78	Cleaning of fuel coarse cleaner	159
Allowed wheel combinations for tractor with front driving axle Z6441 - Z 8441	201	Cleaning of heating system filters	170
Alternator	131	Condition of steeringability	196
Alternator maintenance	131	Connection and disconnection of quick-couplers	96
Angle adjustment	33	Connection of machines and implement to hydraulic outer circuit	101
Antifreeze liquid for filling of tires	125	Contour and tread turning diameters Z 6421 - Z 8421	213

INDEX

Contour and tread turning diameters Z 6441 - Z 8441	213	Driving uphill	58
Control lever of PTO drive	85	Driving with agricultural machines attached in front three point hitch	109
Control of air circulation in cab (D)	30	Driving with front driving axle engaged	59
Control of blower (B)	29		
Control of double-acting cylinder	98	E	
Control of front driving axle	59	Electrical equipment	128
Control of heating valve (A)	29	Electrical installation	127
Control of Selective control valve	100	Engine oil draining	158
Control of single-acting cylinder	98	Engine oil filling up	159
Control panel of heating, ?air-conditioning, ?radio	29	Engine oil level	14
Control panel on right cab pillar	32	Engine starting	52
Control valve lever of front PTO clutch	87	Engine travel clutch adjustment	188
Coolant for tractor cooling system	151		
Coolant heater	55	F	
Coolant replacement	166	Fast cooling the cab space	31
Cooling system	14	Fast heating the cab space	30
		Fenders of front driving axle	117
D		Fluid service brakes	15
Dashboard	35	Fluids for tractor hydraulic brakes	150
Defrosting the front windshield	32	Forces Z 6421, Z 7421, Z 8421	202
Differential lock	59	Forces Z 6441, Z 7441, Z 8441	203
Disassembling of side shield	158	From 100 hours	70
Disconnecting of semi-trailer	77	Front hook	74
Door opening from inside	23	Front PTO clutch valve control lever	45
Door opening from outside	23	Front PTO shaft	87
Double hose brakes	61	Front PTO shaft	212
Draining and inspection openings	167	Front three point hitch	108
Draining of condensate from air tank	170	Front three point hitch control	108
Draining plug of fuel tank	46	Front wheel drive switch (f)	38
Draw bar	77	Front wheel toe-in	115
Driver's seat Grammer	28	Fuel	150
Driver's seat Mars Svratka	27	Fuel system bleeding	160
Driving downhill	58	Fuel system leakage	14
Driving the agricultural machines	83	Fuel tank	46

INDEX

Function of control elements	93	Check and adjustment of service and parking brakes	183
Fuse box	132	Check and exchange of oil in gearbox, differential housing, and rear axle final transmissions (portals)	167
G		Check of adjustment of clutch pedal position	185
Gear shifting lever	42	Check of air system for leaks	170
Gear shifting of reduced speed	58	Check of engine oil level	158
Gear shifting scheme	42	Check of oil level in hydrostatic steering tank	163
General rules for running in the new tractor within first 100 hours of operation	68	Check of turbocharger tightness and bearing plays	153
H		Checking of adjustment of front mask headlights	133
Hand control lever of PTO shaft clutch	84	Checking the adjustment of cab roof headlights	134
Hand control lever of PTO shaft clutch with pneumatic control	85	I	
Hand throttle control lever	40	If engine does not start	53
Heating and airconditioning outlets, ?radio speakers	32	Immediately after cooling down the cab	31
Hitches	17	Immediately after starting	54
Hitches	103	Independent rear pto shaft	212
Hydraulic brakes of trailer	15	Inner circuit control lever	93
Hydraulic inner circuit	93	Inspection and maintenance operations	138
Hydraulic oil filtration	92	Instructions for maintenance of dry air cleaner	161
Hydraulic outer circuit	95	K	
Hydraulic pump	92	Key in "0" position	39
Hydraulic system	91	Key in "I" position	39
Hydraulic system	92	Key in "II" position	40
Hydraulic trailer brakes	62	Key switch	39
Hydrostatic steering	15	L	
Ch		Leaving the tractor	63
Change of load capacity of front tires Z 6421 - Z 8441 %	199	Light switch (a)	37
Change of load capacity of rear tires Z 6421 - Z 8441 %	199	List of lamps	135
Change of rear wheel tread	118	Loading capacity of front tires Z 6421 - Z 8441	197
Change of the front wheel tread at front driving axle	113	Loading capacity of rear tires Z 6421 - Z 8441	198
Change of the front wheel tread at front non-driven axle	112	Location of serial numbers	7
Charging and maintenance of accumulator	130	Longitudinal adjustment	27
		Longitudinal adjustment	28

INDEX

Lower link stabilizers	106
Lubricating and filling points of front driving axle	169
Lubrication chart of tractor	144
Lubrication of parts of hydraulic brakes,	153

M

Main dimensions of tractor (mm)	192
Main technical parameters	191
Maintenance instructions	157
Maintenance of air-conditioning system	171
Major overhaul of tractors Z 6421 - Z 8441	153
Manipulation with motor starter	53
Max. allowed load of front axle Carraro Z 6441 - Z8441	195
Max. allowed load of front axle Z 6421, Z 7421, Z 8421	195
Max. allowed load of rear axle Z 6421 - Z 8441 (kg)	196
Max. allowed weight of set "tractor + hitched implement"	196
Maximum liquid weight depending upon tire size	125
Maximum transmitted power	88
Mechanical mouth of trailer hitch	74
Middle overhaul of tractors Z 6421 - Z 8441	153

O

Oil for tractor hydrostatic steering	149
Oil volume supplied from hydraulic outer outlets	97
Oils for front driving axle Z 6441 - Z 8441	149
Oils for tractor transmissions	148
Oils for turbocharged tractor Engines	147
Opening for implementation purposes	25
Operating pressure of air brakes	171
Operation	51
Operation of heating or air-conditioning during operation of tractor	31
Operation with PTO	84
Outer circuit control lever	95
Parking brake adjustment	184



Parking brake lever, PTO shaft control lever and pick up hitch control lever	44
Passenger's seat	25
PedalS and levers	41
Pick up hitch	76
Pick up hitch adjustment	189
Plastic lubricant for tractor	149
Play adjustment of front wheel roller bearings at tractor without front driving axle	188
Power and consumption Z 6421, Z 7421, Z 8421	202
Power and consumption Z 6441, Z 7441, Z 8441	203
Preheating of engine	54
Preventive daily service	13
Process for draining liquid from tires	124
Process for filling water into tires	124
PTO selection control lever	43
PTO shaft - type with exchangeable PTO shaft ends	86
PTO shaft guards	88
PTO speed control lever 540 or 1000 rpm	43
PTO speed control lever 540 or 540 E rpm	43
Push button of rear, front differential locks (j)	38

R

Rear outlets of hydraulic outer circuit	96
Rear three point hitch	104
Rear wheel ballast weights	123
Rear window	24
Rearview mirrors	25
Reassembling of filter elements	162
Recovery of main filter element	161
Reduction valve setting	109
Regulation of lowering and hydraulic lock of front three point hitch	108
Replacement of fuel cleaner cartridge	160

INDEX

Replacement of full-flow filter of engine oil	159	Side window	24
Replacement of hook with swinging drawbar	76	Signalling of glow system failures	53
Replacement of of hydrostatic steering hoses	165	Signalsation of torque multiplier funktion	41
Replacement of oil and filter element of hydrostatic steering	163	Single and double hose brakes	61
Replacement of safety filter element	162	Single hose brakes	61
Reset of proper function of clogging inticator	162	Size of front tires	200
Response rate control lever	94	Size of rear tires	200
Reversor shifting lever	44	Starting the engine with using of coolant heater	55
Right function of heating and air-conditioning system	30	Stopping device	40
S		Stopping the engine	63
Safety cab	23	Stopping the tractor - parking brake	63
Safety instructions for users	9	Swinging drawbar	75
Safety regulations for working with three point hitch	104	Swinging drawbar for semi-trailer	76
Safety rules for work with torque multiplier	41	Switch of grill and cab headlight (b)	37
Selection lever of control mode	94	Switches	36
Selection of top link position	107	T	
Selective control valve	99	Technical data of engines of tractors z 6421 - Z 8441	193
Service brake adjustment	183	Technical maintenance of tractors after major overhaul of main groups	153
Service brakes	60	Telescopic adjusting	33
Setting in motion	56	Telescopic lower draft links	106
Setting the front axle knees (extensions)	112	Tensioning of air-conditioning compressor belt	176
Setting the stops at front driving axle	114	Tensioning of engine belt	176
Setting the wheel toe-in at tractors with front driving axle	117	Tightening of cylinder heads	176
Setting the wheel toe-in at tractors without front driving axle	116	Tilttable roof lid	24
Shifting from higher to lower gear speed	57	Tilttable steering wheel	33
Shifting from lower to higher gear speed	57	Tire inflation	172
Shifting lever of creeping speed reductor	44	Tire maintenance and attendance	172
Shifting lever of PTO shaft speed 540 and 1000 r.p.m.	85	Tires and wheels	16
Shifting lever of PTO shaft speed 540 and 540 E r.p.m.	86	Toolbox	25
Shifting lever of road speed and reduced speed	42	Top link	107
Short functional test	17	Torque multiplier	41
		Torque multiplier	57

INDEX

Tractor maintenance	137
Tractor running in	67
Tractor storage	172
Tractor travel speed (km.h-1) at rated engine speed and at below stated tire dimensions of rear wheels	204
Tractors with front driving axle (4 x 4):	6
Tractors with travel speed 40 km.h-1	45
Tractors without front driving axle (4 x 2):	6
Trailer and semi-trailer implementation	78
Trailer hitch	74
Transportation	73
Turn signal, headlight and horn toggle switch (k)	38
U	
Used operational liquids and fillings	152

V	
Valve clearance adjustment	176
Valve for filling of tires with liquid	123
Vertical adjustment	27
W	
Warning light switch (e)	37
Warning signal of air pressure drop	60
Warning signal of hydrostatic steering failure	64
Washer control	26
Washer nozzle	26
Washer tank	26
Wheel tread setting	111
Within first 10 hours	68

Operator's manual

Z 6421, Z 6441

Z 7421, Z 7441

Z 8421, Z 8441

Edition: I-300-2004

Publication No.: 22.22.12.388

Zetor a.s.

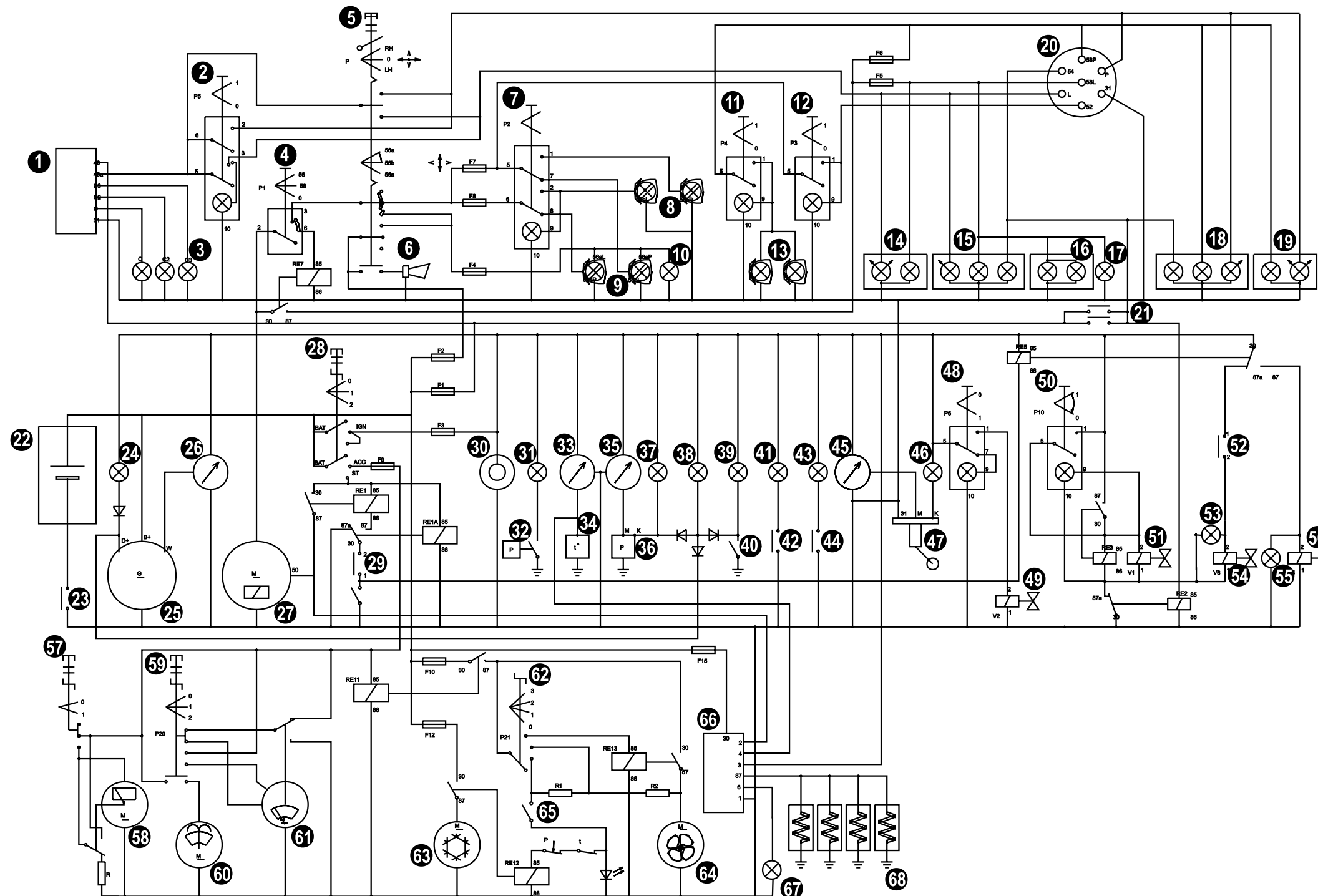
Department of Technical Documentation

Trnkova 111

632 00

Wiring harness diagram for tractors

Z 6421 Z 6441
Z 7421 Z 7441
Z 8421 Z 8441



- | | | | | |
|-----------------------------------|--|--|--|----------------------------------|
| 1 - Warning light interrupter | 16 - License number plate illumination | 30 - Plug socket for assembly lamp | 44 - Sensor of steering hydraulic pressure | 58 - Rear wiper motor |
| 2 - Warning lights | 17 - Dashboard illumination | 31 - Lubrication pilot lamp | 45 - Fuel level gauge | 59 - Front wiper switch |
| 3 - Pilot lamps of turning-lights | 18 - Right front lights | 32 - Oil pressure sensor | 46 - Pilot lamp of fuel level | 60 - Washer |
| 4 - Light change-over switch | 19 - Right rear lights | 33 - Thermometer | 47 - Fuel level float | 61 - Front wiper motor |
| 5 - Combined toggle switch | 20 - Seven-pole socket | 34 - Thermometer sensor | 48 - Front wheel drive switch | 62 - Switch of heating fan |
| 6 - Horn | 21 - Brake light switch | 35 - Air pressure gauge | 49 - Front wheel drive valve | 63 - Air-conditioning compressor |
| 7 - Low beam switch (grill roof) | 22 - Accumulator | 36 - Air pressure sensor | 50 - Differential lock switch | 64 - Motor of heating fan |
| 8 - Front cab headlights | 23 - Accumulator switch | 37 - Air pressure pilot lamp | 51 - Differential lock valve | 65 - Air-conditioning switch |
| 9 - Front grill headlights | 24 - Pilot lamp of charging | 38 - Failure pilot lamp | 52 - Switch of torque multiplier | 66 - Thermostart |
| 10 - High beam pilot lamp | 25 - Alternator | 39 - Pilot lamp of parking brake | 53 - Pilot lamp of torque multiplier | 67 - Pilot lamp of thermostart |
| 11 - Switch of working lights | 26 - Tachometer | 40 - Parking brake switch | 54 - Valve of torque multiplier | 68 - Glow plugs |
| 12 - Fog light switch | 27 - Starter motor | 41 - Pilot lamp of air cleaner clogging | 55 - Pilot lamp of parking brake lever | |
| 13 - Working lights | 28 - Key switch | 42 - Sensor of air cleaner clogging | 56 - Valve of electropneumatic control of PTO clutch | |
| 14 - Left front lights | 29 - Start protection switch | 43 - Pilot lamp of steering hydraulic pressure | | |
| 15 - Left rear lights | Switch of parking brake lever | | | |

