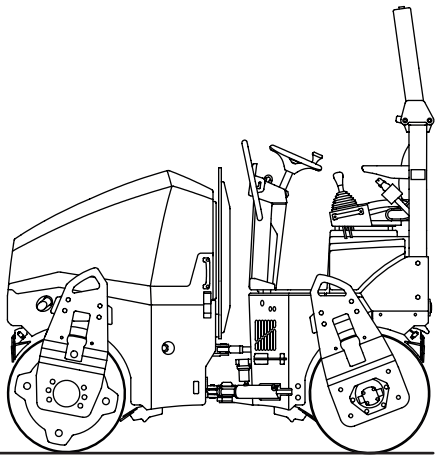
ARX 23-2
ARX 26-2

TANDEM ROLLER
KUBOTA D1803-M-DI-E3B
EU Stage IIIA, U.S. EPA Tier 4i



OPERATING MANUAL

EDITION 01/2021 EN
ARX 23-2 KU St IIIA / T4i Product Identification Number 3007034 -
ARX 26-2 KU St IIIA / T4i Product Identification Number 3001808 -

AMMANN

Notes

2.1.5 Safety notices and signs applied on the machine

1 Read the operating manual

2946bz

Get perfectly familiar with the machine operation and maintenance according to the operating manual!

2 Pinch points

3865

Maintain a safe distance from the machine; there is a danger of squeezing by the machine between the front and rear frames.

3 Risk of injury

3866

There is a risk of injury. Do not touch rotating parts while the engine is running. There is a risk of burns. Do not touch hot parts of the machine unless you make sure that they are sufficiently cold.

4 Risk of injury

3864bz

There is a risk of fatal injury. Do not operate the machine when the ROPS is lowered.

5 Using the parking and emergency brakes

3867bz

Use the parking brake only when the machine is stopped. Use the emergency brake only for stopping the machine in emergency.

2.3.3 Machine depreservation

- Check all parts of the machine for damage during storage and for missing parts.

If the machine has been preserved, remove the preservative agents as follows:

Wash off the preservative agents using a high-pressure stream of hot water with common degreasers:

- **Wash the machine while observing environmental principles.**
- **Caution! Do not use a high-pressure stream to wash the edge cutter and the highlighted parts of the machine as shown in Fig. 588589A, as this could seriously damage the machine.**
- **Prevent water from entering the air filter, electrical and electronic parts of the machine.**
- **Do not use a high-pressure stream near the control unit!**
- **Use a high-pressure stream at a maximum angle of 90 degrees downwards.**

Remove the preservation and wash the machine in places with intercepting sumps to catch the water and de--preservation agents.

Remove the preservation according to the manufacturer's manual.

Before putting the machine into operation, check the operating fluids.

3726G

Vibration mode selector switch (manual mode / automatic mode) (7)

- Manual vibration mode – vibration can be switched on when the machine is stationary or moving. Drum sprinkling – vibration can be switched on when the machine is stationary or moving.
- Automatic vibration mode – vibration is automatically switched on when the machine starts moving and automatically switched off when the machine stops. Automatic activation of drum sprinkling when the machine starts moving and automatic deactivation of drum sprinkling when the machine stops.

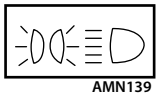

3726CH

Direction lights switch (8)


AMN441

Vibrating drum selector switch (9)

- front drum
- front and rear drum


AMN139

Lights switch (parking lights / headlamps) (10)

- parking lights
- headlamps

Seat switch

The seat switch is located in the seat cushion.

If the driver is not sitting on the seat, the seat switch is deactivated and the operation of the machine is restricted in one of the following ways – blocking of engine start, blocking of moving off, stopping of the machine or switching off the engine.

These restrictions vary depending on:

- the time period for which the seat switch is deactivated,
- the position of the travel control (if it is in the parking brake "P" position or outside this position)

Engine start blocking

If the driver is not sitting on the seat, engine start is blocked unless the travel control is in the parking brake position (P).

To enable engine start, set the travel control to the parking brake position (P).

Movement blocking

If the driver is not sitting on the seat, moving off is blocked. In this case, moving the travel control out of the parking brake (P) position immediately switches off the engine with a 5 second delay.

To enable engine start, sit on the seat and set the travel control to the parking brake position (P).

Machine stop

If the driver leaves the seat for more than 5 seconds and less than 10 seconds when the travel control is not in the parking brake position (P), the machine stops. The traction force of the machine is off, vibration is off and, after a delay, the parking brake engages (P).

To be able to move off again, sit on the seat and set the travel control to the parking brake position (P).

Engine shutdown

If the driver leaves the seat for more than 10 seconds when the travel control is not in the parking brake position (P), the engine shuts down.

To re-enable engine start, sit on the seat and set the travel control to the parking brake position (P).

It is forbidden to load the seat switch with other items!

When operating the machine, the driver must follow the safety regulations and not carry out any activity that might endanger the safety of work; the driver must fully focus on steering the machine.

When operating the machine, the driver must always sit on the seat.

When leaving the machine, the driver must take measures against unauthorized use of the machine and against unintentional starting.

Selection of the travel direction

- Selection of the travel direction is set on the active travel control. Set and leave the inactive travel control in the parking brake position (P).
- Move the travel control (11) from the parking brake (P) to the neutral position (N) – releasing of the brakes, the parking brake indicator lamp (29) goes out.
- Move the travel control (11) to the position (0) and select a travel direction (F/R).

When the driver releases the travel control (11), it does not return to the zero position automatically. The travel control remains in the selected position.

When the driver quickly moves the travel control (11) through the zero position (0) from the selected direction of the machine travel, e.g. due to a dangerous situation, the machine stops and the parking brake is engaged (panic response).

When the driver moves travel control (11) from the selected direction of machine travel to the neutral position, e.g. due to a dangerous situation, the machine stops but the parking brake is not engaged. This may cause counting movement of the machine when driving down the slope, due to leakages form the hydraulic system.

Travel speed selection

- The travel speed is set on the active travel control. Set and leave the inactive travel control in the parking brake position (P).
- The travel speed corresponds to the deflection of the travel control (11) from the zero position (0) at the given engine speed (3) and mode of operation (4) of the machine.
- The travel speed can be changed with the travel mode switch (4).

Panic response

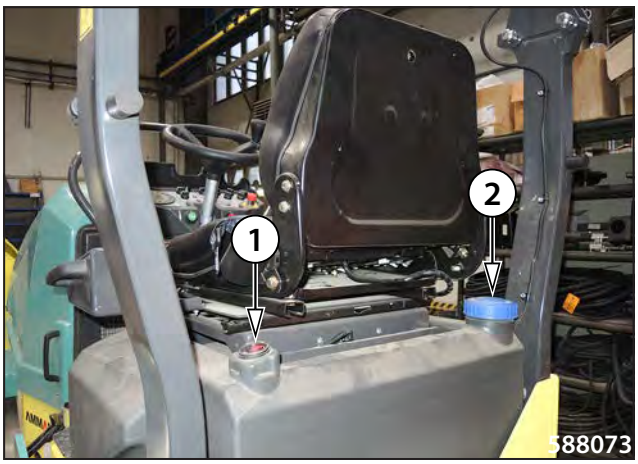
The immediate stop of the machine using the travel control (11) applies to all of the travel modes of the machine. When the travel control (11) is changed to the opposite position through (0) within 1 second, the machine will stop – the parking brake will be engaged and the engine will keep running, i.e. panic response. When the machine vibration is on, the vibration will stop also when the manual vibration mode is selected. When the machine is equipped with two travel controls, the panic response can be enabled also on the inactive travel control. The machine can start moving again after the travel control (11) is changed to the neutral position (0) and the travel direction (F/R) is selected.

Note

If the driver leaves the driver's seat while the travel control is not in the brake position (P), the machine behaves according to the seat switch description (Chapter 2.6).

When the driver moves travel control from the brake position (P) without sitting on the seat at that time, the engine will be stopped after 5 seconds.

2.7.7 Sprinkling



The water level in the tank is shown on the indicator (1).

Hole to fill the water tank (2).

Check the water level in the tank before putting the machine into operation.

Turn on the sprinkling with the sprinkling potentiometer (4).

Position 0 – sprinkling OFF

Position 1 – sprinkling ON

Turning from the position 1 to the right to turn on the interval sprinkling.

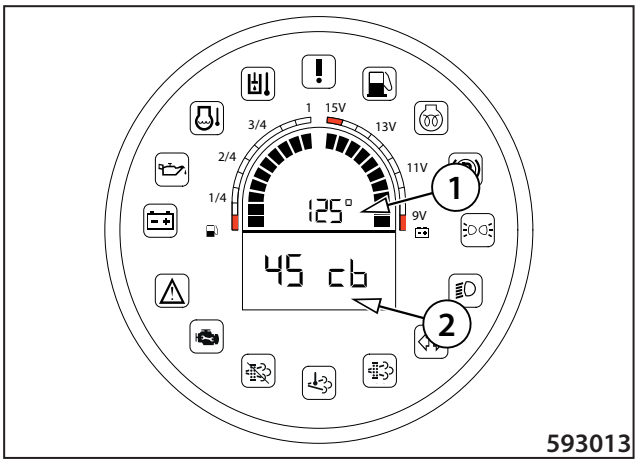
In the interval sprinkling mode you can continuously control the sprinkling break interval.

Using the sprinkling switch (13), it is possible to turn on the sprinkling at any time, e.g. before driving on a compacted bitumen surface.

Note

At a combined machine, the sprinkling switch (13) is used for sprinkling the tyres and the sprinkling potentiometer (5) is used for sprinkling the drum.

2.7.8 ACE Force (optional equipment)



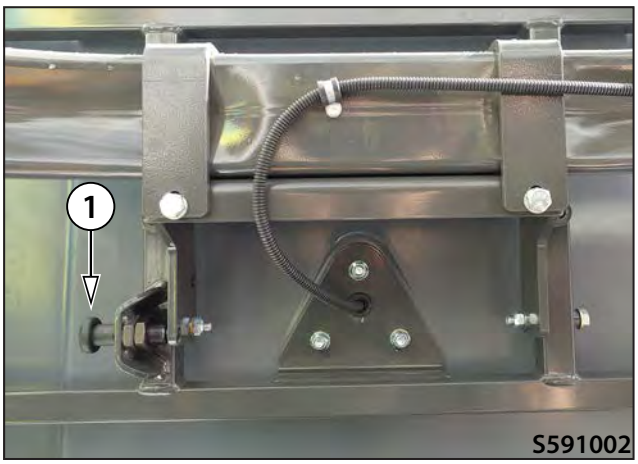
The ACE Force system measures current surface compaction at the front drum and shows the value of compaction in the unit of cb (MN/m) on the multifunctional display.

1 - surface temperature

2 - compaction value

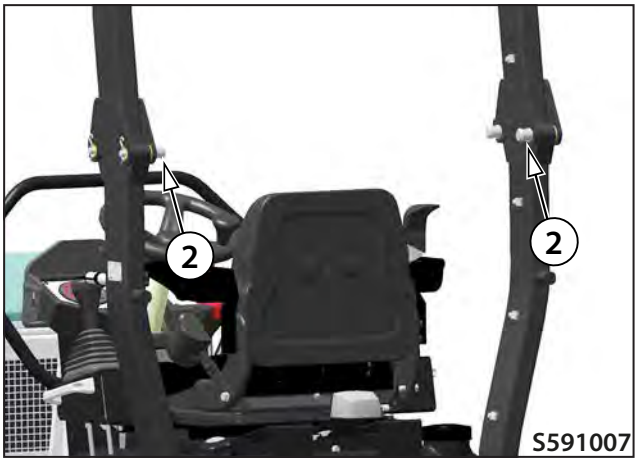
ACE Force is switched on and off by pressing the vibration switch (12). Values are not saved or printed.

Release the canopy by pulling out the lever (1) slightly and lower the canopy.



Remove the cotter pins on the left and right side of the ROPS frame.

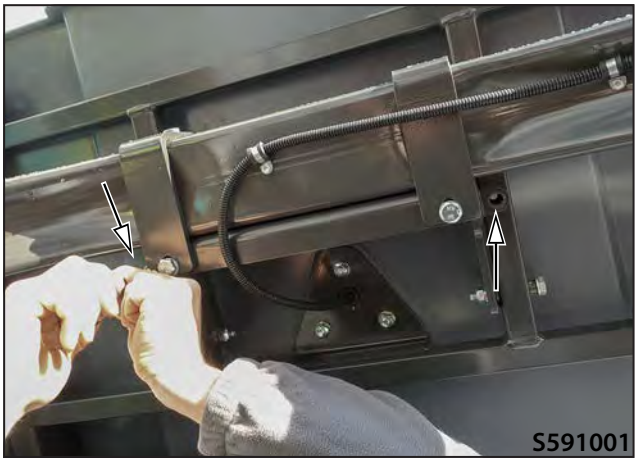
Loosen the rear pegs (2) on the left and right side of the ROPS frame by approximately two turns.



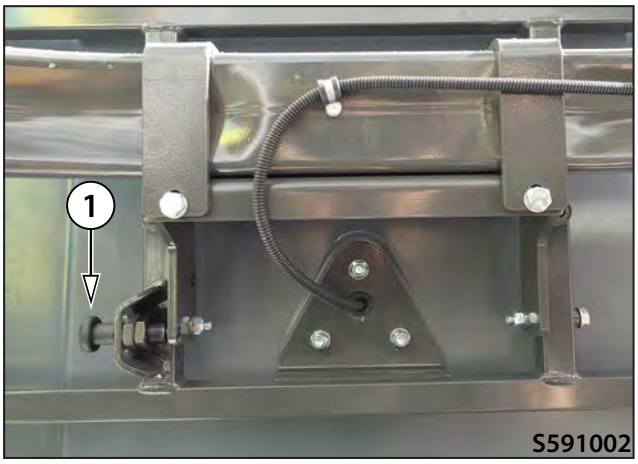
2.7.14 Lowering and raising of the plastic canopy

Lowering procedure

Remove the screws (2x) at the bottom of the plastic canopy.



Release the canopy by pulling out the lever (1) slightly and lower the canopy.



3 MAINTENANCE MANUAL

ARX 23-2
ARX 26-2
(Kubota Tier 4i)

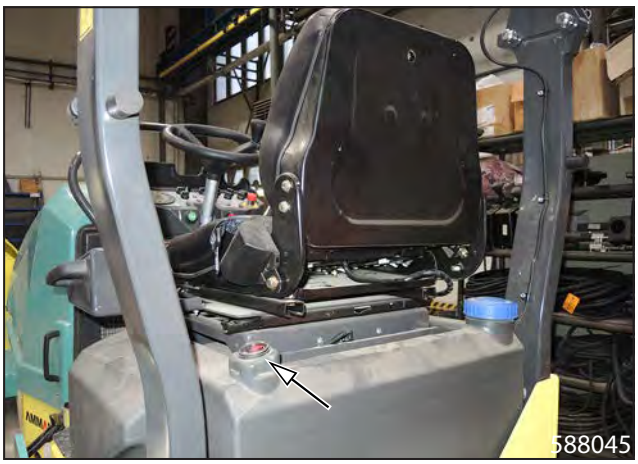
Every 500 hours of operation (every 6 months) - but at least once a year	
3.6.27	Fuel tank cleaning
3.6.28	Electrical installation inspection
3.6.29	Replacement of the fuel separator filter cartridge
3.6.30	Valve clearance check and adjustment
3.6.31	Engine cooler cleaning
3.6.32	Check of rubber-metal elements of the engine cooler
After 500 hours of operation	
3.6.33	Hydraulic oil change and filter replacement **
Every 1000 hours of operation (yearly)	
3.6.33	Hydraulic oil change and filter replacement **
3.6.34	Replacement of air filter cartridges
3.6.35	Damping system check
3.6.36	Swinging support check
3.6.37	Articulation joint check
Every 2000 hours of operation (every 2 years)	
3.6.38	Engine belt replacement
3.6.39	Engine coolant change
3.6.40	Replacement of hoses of the cooling system
3.6.41	Replacement of rubber-metal elements of the engine cooler
3.6.42	Replacement of hoses of the fuel system
3.6.43	Replacement of suction hoses
Maintenance as required	
3.6.44	Gas strut replacement
3.6.45	Cleaning the water separator
3.6.46	Cleaning the water tank
3.6.47	Cleaning the machine
3.6.48	Draining water from the sprinkling circuit before the winter season
3.6.49	Fuel system venting
3.6.50	Charging of the battery
3.6.51	Checking the screw connections for tightening

*** First after 50 engine hours.**

**** First after 500 engine hours.**

3.6.8 Sprinkling tank refilling

Check the water level in the tank in the inspection hole.



Open the tank cap and refill with clean water.

Before the winter period, drain the water from the water tank and from the sprinkling system!

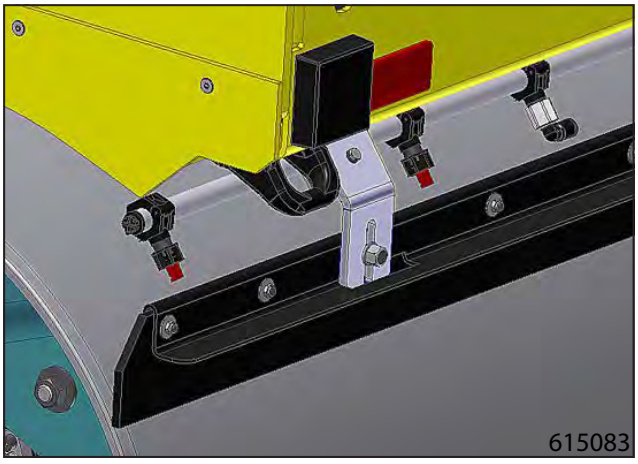
3.6.9 Scraper adjustment

Fixed scrapers (optional equipment)

Loosen the screws and move the scraper so that it is in contact with the drum.

Hinged scrapers (optional equipment)

The hinged scrapers can be lifted and lowered manually. Before driving adjust the drum scrapers and move the scraper so that it is in contact with the drum.



Scrapers for the wheel axle

Adjust the tyre scrapers so that there is a gap of 3–5 mm between the scraper and the tyre.

Never wipe off the emulsion.

Every 100 hours of operation (weekly)

3.6.17 Air filter cleaning

Remove the main cartridge of the air filter and clean with compressed air.

Clean the internal area of the filter and of the contact surface to avoid contamination of the safety cartridge.

Never use compressed air to clean the filter interior.

Every 500 hours of operation (every 6 months) but at least once a year

3.6.27 Fuel tank cleaning

Over time, condensed water accumulates in the fuel tank and it should be drained.

Remove the plug from the fuel tank.

Place a vessel under the drain plug.

Drain the engine diesel fuel.

Check and clean the interior of the tank.

Put on the screw plug.

Tighten the screw connection with hand.

Fill the fuel tank with diesel fuel up to the lower edge of the filler neck.

Do not smoke while working!

Catch the drained fuel.

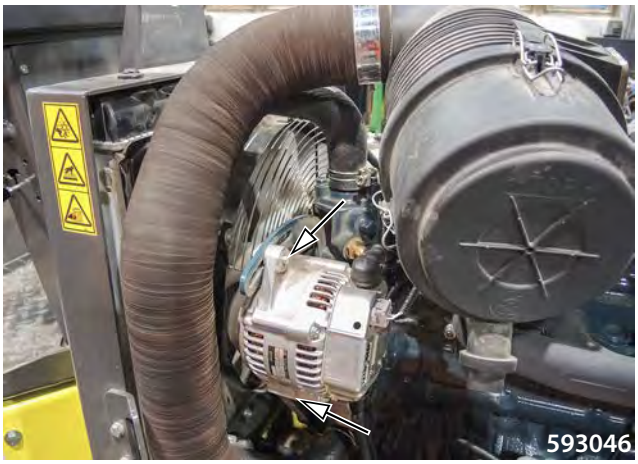
Every 2000 hours of operation (every 2 years)

3.6.38 Engine belt replacement

Loosen the alternator screws.

Take out the engine belt.

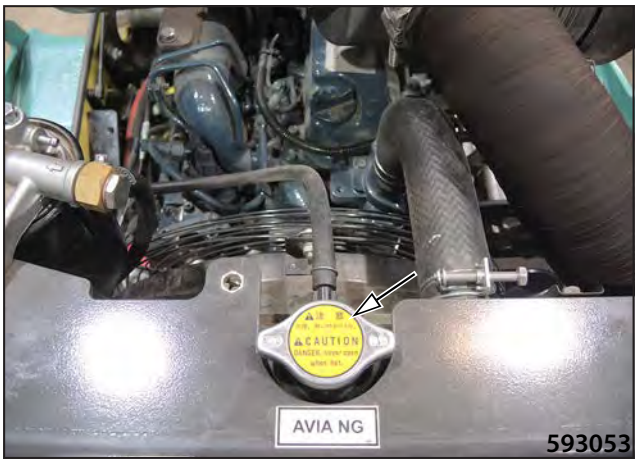
Insert the new belt.



Change and tension the belt when the engine is not running!

3.6.39 Engine coolant change

Open the cooling system by removing the overpressure plug on the expansion tank.



Remove the drain plug and drain the coolant.

Note

The total volume of coolant in the engine is 6.7 l (1.8 US gal).

3.6.51 Checking the screw connections for tightening

- Check regularly the screw connections for loosening.
- Use torque spanners for tightening.

	TIGHTENING TORQUE					TIGHTENING TORQUE			
	For screws 8.8 (8G)		For screws 10.9 (10K)			For screws 8.8 (8G)		For screws 10.9 (10K)	
Thread	Nm	lb ft	Nm	lb ft	Thread	Nm	lb ft	Nm	lb ft
M6	10	7.4	14	10.3	M18×1.5	220	162.2	312	230.1
M8	24	25.0	34	25.0	M20	390	287.6	550	405.6
M8×1	19	14.0	27	19.9	M20×1.5	312	230.1	440	324.5
M10	48	35.4	67	49.4	M22	530	390.9	745	549.4
M10×1.25	38	28.0	54	39.8	M22×1.5	425	313.4	590	435.1
M12	83	61.2	117	86.2	M24	675	497.8	950	700.6
M12×1.25	66	48.7	94	69.3	M24×2	540	398.2	760	560.5
M14	132	97.3	185	136.4	M27	995	733.8	1400	1032.5
M14×1.5	106	78.2	148	109.1	M27×2	795	586.3	1120	826.0
M16	200	147.5	285	210.2	M30	1,350	995.7	1,900	1401.3
M16×1.5	160	118.0	228	168.1	M30×2	1,080	796.5	1,520	1121.0
M18	275	202.8	390	287.6					

Values given in the table are tightening torques for dry threads (friction coefficient = 0.14). The values are not applicable to lubricated threads.

Table of tightening torques of cap nuts with sealing O-rings – hoses

			Tightening torque values of cap nuts with O-rings – hoses					
			Nm			lb ft		
Spanner size	Thread	Pipe	Nominal	Min	Max	Nominal	Min	Max
14	12×1.5	6	20	15	25	15	11	18
17	14×1.5	8	38	30	45	28	22	33
19	16×1.5	8	45	38	52	33	28	38
		10						
22	18×1.5	10	51	43	58	38	32	43
		12						
24	20×1.5	12	58	50	65	43	37	48
27	22×1.5	14	74	60	88	55	44	65
		15						
30	24×1.5	16	74	60	88	55	44	65
32	26×1.5	18	105	85	125	77	63	92
36	30×2	20	135	115	155	100	85	114
		22						
41	36×2	25	166	140	192	122	103	142
46		28						
50	42×2	30	240	210	270	177	155	199
50	45×2	35	290	255	325	214	188	240
	52×2	38	330	280	380	243	207	280
		42						

Messages displayed on the display

Displayed message	Description of the displayed message	Note
btnCAL	Calibration button pressed	
btn br	Brake test button pressed	
br tSt	Brake test active	
rA SEL	Ramp selection	
HArd	Hard ramp	
SoFt	Soft ramp	
tEMP	Temperature unit selection	
C	Celsius	
F	Fahrenheit	
LEFtLu	Left lever presence selection	
OFF	Off - left lever not present	
On	On - left lever present	
tc SEL	Rear drum type (tandem/combi) selection	
tAndEM	Tandem	
CoMbI	Combi	
Saue	Save (menu item)	
SAuIn9	Saving	
SAuEd	Saved	
btnOFF	Off button pressed	
Error	Error when saving new parameters values	
PUMP	Pump calibration (menu item)	
CUrr	Current in mA	Current (to the forward/reverse travel coil) during calibration, the value in [mA] is shown in the upper display
SUCC	Success	The calibration of minimum currents to travel coils successfully completed
FAIL	Failure	Error in the calibration of minimum currents to travel coils – values have not been changed
bAC	Back	One step back in the menu structure
UndEF	Undefined	Unspecified error (contact the service centre)
dPFErr	DPF error	No message about the DPF filter status received from the engine.