



HKM SWEEPER

**OPERATING INSTRUCTION MANUAL
SPARE PARTS CATALOGUE**

1 General Information

1.1 Intended Purpose

The HKM sweepers were specially developed for sweeping and snow clearance.

Any other application should be discussed with the manufacturer prior to that use. Any damage caused by usage outside these areas are fully at the risk of the user. The content of this manual describes correct usage and maintenance of the machine.

1.2 Data concerning the product

1.2.1 General

This manual is valid for all the HKM sweeper series.

1.2.2 Manufacturer's address

Tuchel Maschinebau GmbH
 Holsterfeld 15
 48499 Salzbergen
 Telephone +49 (0) 5971 9675-0
 Fax +49 (0) 5971 9675-30
 E-Mail: service@tuchel.com

1.2.3 Marking

Marking is by means of the vehicle identification plate.

NOTE Write your sweeper's data is here, so that you always have the information to hand.

Model/Type	<input type="text"/>
Serial No.	<input type="text"/>
Year of construction/Order No.	<input type="text"/>
Max. oil pressure (bar)	<input type="text"/>
Max. oil flow (L/min)	<input type="text"/>
Gross weight (kg)	<input type="text"/>



WARNING The identification plate serves a legal function and as such must not be changed or defaced so as to be unreadable.

NOTE Replace those that are damaged or missing.

1.2.4 Information Required for Inquiries and Orders

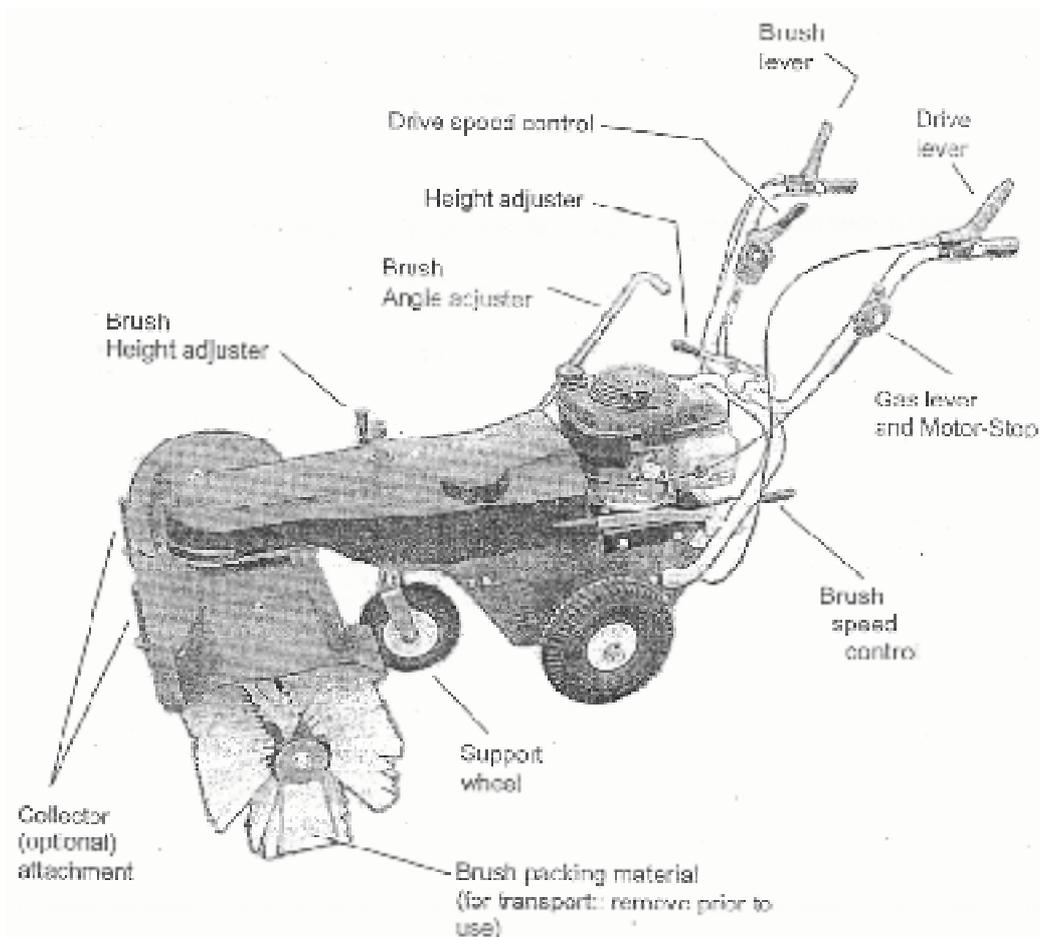
When ordering spare parts or requesting information about the sweeper, quote the model, serial number and year of manufacture of the machine.

WARNING The use of spare parts from other manufacturers is not permitted without the express written permission of Agriquip. The use of original spare parts protects the machine and ensures its safe operation. The use of other than original parts or accessories renders the warranty null and void.

WARNING Neither the manufacturer nor their agents are responsible for any consequences arising from the use of non-original parts or unapproved attachments.

1.3 Technical data

NOTE for engine specifications refer to the motor instruction booklet (*included*)



Working width	HKM 100 : 1000 mm HKM 120 : 1200 mm
Distance between wheels	560 mm
Height including engine	600 mm
Brush diameter	330 mm
Driving speed	2.5 – 4.5 kph
Weight	85 kg
Tyre pressures	Main wheels: 1.5 bar (max 2.5 bar). Support wheel: 1 - 2 bar (max 2 bar).
Engine <i>Use 91 Octane petrol</i>	Honda GCV 160 or Honda GXV 140 or Briggs & Stratton 5HP I/C
Oil	10W 40
Vibration through hand and arm on the handle bars.	$a_{hwd} = 3.6 \text{ ms}^{-2}$ (Honda) $a_{hwd} = 3.5 \text{ ms}^{-2}$ (B&S)
Maximum noise level	$L_{WA}d = 94 \text{ dB(A)/1pW}$ (Honda) $L_{WA}d = 93 \text{ dB(A)/1pW}$ (B&S)
Noise level at operator's ear	$L_{pAd} = 84 \text{ dB(A)/20 } \mu\text{Pa}$ (Honda) $L_{pAd} = 84 \text{ dB(A)/20 } \mu\text{Pa}$ (B&S)
Optional extras	Collector, Snow Plough

2. Safety

2.1 Basic safety rules

This handbook contains safety information concerning the operation and maintenance and SHOULD BE READ PRIOR TO OPERATING OR MAINTAINING THE SWEEPER.

Failure to observe these safety rules can endanger the operator and cause damage to the environment. Failure to conform to these rules removes all possible claims for damage.

The following dangers should be especially considered:

- ✦ Danger to people coming into the working area because it has not been properly secured or cordoned off.
- ✦ Failure of important machine functions.
- ✦ Failure to carry out correct methods of service and inspection.
- ✦ Endangering people mechanically and chemically.
- ✦ Endangering the environment with petrol and oil leaks.

ATTENTION In addition to the included operating instructions and safety rules and notices, the requirements of the relevant DoL-OSH Guidelines should be observed.



Please also heed of the safety notices and precautions of the engine manufacturer.

2.2 Marking conventions in the manual

The safety notes contained in this manual, which endanger persons if neglected, are flagged with the general safety symbol



Safety notes, whose neglect would cause dangers for the machine, have the word **ATTENTION** inserted.

Notes are indicated as follows: **NOTE**

At the machine these safety symbols must be taken notice of and must be kept in good readable condition.

2.3 Safety rules for the operator

- ✦ Before starting the machine familiarise yourself with all the controls and their functions.
- ✦ Only start the machine when safety devices and covers are in place (especially the drive belt cover).
- ✦ When using the machine wear suitable clothing and strong shoes. Do not wear loose clothing scarves or dresses that could be caught up in the broom.
- ✦ Secure the machine against running away or against the use of the machine by unauthorised third parties.
- ✦ Check that there is enough petrol before starting. Do not fill the tank with petrol etc in an enclosed room or while the machine is running or hot. Wipe any petrol spills from the machine before starting or wait until they have evaporated.
- ✦ Other than when filling the motor tank with petrol the tank cap should always be kept firmly closed. When handling petrol, fires, welding, smoking, and other potential ignition sources are forbidden.
- ✦ If the petrol tank or the tank cap are damaged they must be replaced immediately
- ✦ Never start the motor in an enclosed room, there is a danger of carbon monoxide poisoning.
- ✦ Always operate the sweeper at an appropriate speed for the location and conditions.
- ✦ When working on slopes or steep areas please note there is a danger of the machine tipping over or rolling away from the operator. (Do not rely on the broom as a brake).
- ✦ Keep hands and feet clear of rotating parts.
- ✦ Ensure the area is clear of people and animals before commencing sweeping.
- ✦ Do not allow people and animals into the area while operating the sweeper.
- ✦ Do not carry passengers on the machine!
- ✦ Before cleaning, inspection, repair or maintenance work, ensure that all moving parts have come to a complete standstill. Set the gas lever to STOP and remove the spark plug lead to prevent starting.
- ✦ Never leave the machine unattended when the motor is running.
- ✦ Let the motor cool before storing the machine away in an enclosed room.



2.4 Personnel qualification and training

The sweeper may only be operated, maintained and repaired by competent persons, that have been fully informed about the associated dangers. The area of responsibility, the competence and the monitoring of the personnel must be regulated by the operator. If the personnel do possess the necessary knowledge, then they are to be supervised and given instruction. Further it is to be verified by the operator that the contents of the manual are fully understood by all personnel.

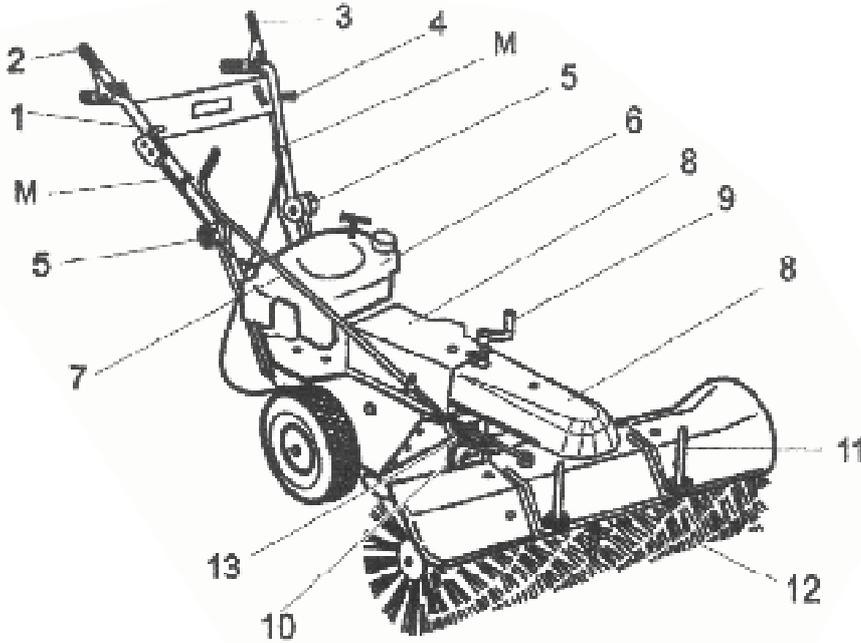
Those repairs and adjustments not described in this manual, may only be performed by authorised agents.

2.5 Safety rules for working on the sweeper

- ◆ Before cleaning, inspection, repair or maintenance work, ensure that all moving parts have come to a complete standstill. Set the gas lever to STOP and remove the spark plug lead to prevent starting. 
- ◆ Only the service, inspection and maintenance work described in this operating manual should be carried out by the owner. All other work should be performed by an authorised dealer.
- ◆ Once the machine has been turned off a number of parts including the silencer remain hot for an extended period.
- ◆ If guards and covers have been removed (especially the belt cover) there is a danger of entrapment trapping extremities with painful or damaging results. Replace all guards and covers before re-starting the machine.
- ◆ The operating and maintenance instructions in the motor manufacturer's handbook should be followed.

NOTE Signs attached to the sweeper must be maintained in good readable condition. Missing or damaged signs must be replaced.

3. Operation



1. Throttle and motor stop.
2. Operating lever for the sweeping brush
3. Operating lever for the forward drive
4. Speed selection lever
5. Height adjustment for handles
6. Motor
7. Brush angling lever
8. Drive belt cover
9. Height adjustment for the brush
10. Support wheel
11. Attachment for collector etc.
12. Sweeping brush
13. Swivel locking for brush

The HKM 100 and HKM 120 machines come in 2 cartons.

Carton 1 – Main part with the motor mounted

- 1 Sweeper power component
- 2 Wheels
- 1 Cover
- 1 Power transmission cover
- 1 Packet containing: instructions and spares list, engine instructions & small components

Carton 2 – Front part with the brush system

- 1 Sweeper front part including brush
- 1 Swivelling lever
- 1 Power transmission belt
- 1 Power transmission belt cover
- 1 packet containing assembly components

After opening the top of the carton slit two sides down to the bottom, the machine may then be rolled out.

3.1 Assembly instructions.

- a) Attach the handles to the machine body using the bolts and washers provided. The front and back plates of the handle structure are bolted together with M8 nuts and bolts.
- b) Attach the driving wheels with the air valves facing inwards. They are pushed onto the axle and secured with a split pin.

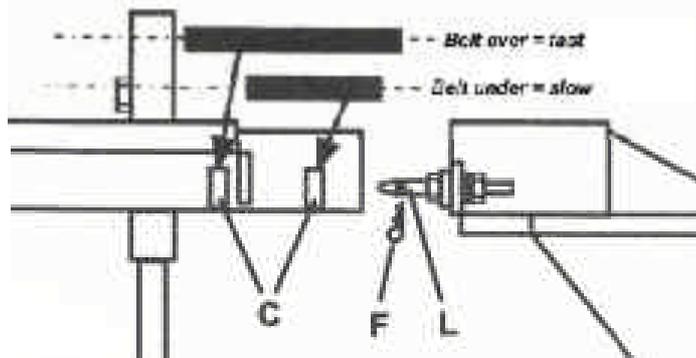
 Be careful not to get your fingers caught between the parts.

- c) Mount the brush.
 - ◆ Remove the M12 nut from the brush core.
 - ◆ Remove the washer and brush end plate.
 - ◆ Push the brush segment into position making sure it goes correctly onto the square core.
 - ◆ Push the brush drive component onto the core and finally the second brush segment.
 - ◆ Re-attach the end plate washer and nut.
- d) Attach the brush angling lever 7.
 - ◆ Slide brush angling lever through guides (*as shown in diagram at top of page*).
 - ◆ Attach to the brush cover using the circlip.

Operation

- e) Attach the support wheel.
- f) Attach brush height adjustment handle (*in the pack containing small parts*).
- Place a washer over the thread and screw the handle into the hole (*M – as in diagram at top of previous page*) until the machine starts to lift.
- Note: When the machine is complete the brush should be adjusted until it makes a light contact with the ground. The pressure should never press the brush more than 15mm into the ground.
- When the right height is achieved the handle is secured with the lever.

- g) Fit drive and sweeping modules together.
- Referring to figure at right, bring both parts together.
 - Push the shaft L through the connecting piece C and the drive belt pulley
 - Secure by inserting the split pin F.
 - Check the diagram to make sure that the position of C is correct (refer step h).



 Be careful not to get your fingers caught.

- h) Attach the drive belts.
- Ensure that the throttle is at the motor stop position and remove the spark plug lead.
 - Draw the drive belt over the motor pulley.
 - Ease the belt over the sweeping drive pulley. You may assist this to go over by pulling the starter cord but do not get your fingers in the way.
- Note: The belt must be in the guide way and lay correctly on the pulleys and on the inner side of the tensioner. This is important because it will ensure that the drive disengages properly (ie. when the brush lever is released the brush does not continue to rotate) – refer to D.3 if problems occur.

This machine may be operated at 2 different brush speeds. This is achieved by selecting one or other of the belt pulleys
Upper drive belt pulley — Faster brush speed (e.g. for snow)
Lower drive belt pulley — Slower for general sweeping.

- i) Attach the drive belt cover (*The drive belt cover is in two parts so that the rear pulley may be covered when the drive part of the machine is attached to other devices*).
- Bring the rear part into position and screw into place
 - Screw the front piece into place, laying correctly on the profile shape of the rear cover.

 The operation of the machine without the drive belt cover is strictly forbidden.

3.2 Preparing the machine for the initial use

Lift the lever of the brush swivelling arm and use it to move the brush to a normal position. Pull the support wheel up, taking care that it does not catch in the cable.

Turn the support wheel height adjustment until the wheel comes into contact with the ground. The washer should be between the tube and the base of the handle.

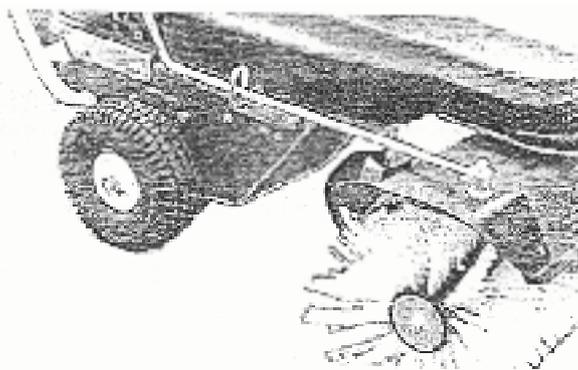
The next item to deal with is the swivelling arm. The arm is slid through the eye and mounted on the swivelling point. When tightening the swivelling point ensure that the plastic washer can still be turned by hand. The ratchet positioning needs to be fixed on with the M12 nut.

Next remove the transport supports from the ends of the brush.

 Use gloves when doing this to avoid injury from the brush or the edges of the metal.

Tighten the nut on the brush rotational point carefully.

 Prepare the engine (*read the engine handbook*). The engine is delivered without any oil (use 10 W 40). All HKM engines use 91 octane lead free petrol.



3.3 Notes on use

Prior to starting the machine familiarise yourself with the controls. The machine has controls for brush and machine driving speed. The brush and drive operation levers are dead man levers and will go to the off position if released. The ergonomic design means that little pressure is required to keep the machine running. If the levers are released the machine will stop.

Starting the Motor

- ✦ If the motor has a petrol tap turn this on.
- ✦ Move the gas control to MAX which puts the engine in the choke position.
- ✦ Using either the elector start or the pull start cord start the motor.
- ✦ After a few seconds you can move the gas control lever back off of choke to the full speed position.

Turning the motor off

- ✦ Move the gas control lever to the Stop position
- ✦ If present turn off the petrol cock.



Warning after the motor is turned off the motor parts are still hot for quite some time.

Driving the sweeper

- ✦ To start the machine moving forward grip the red lever on the left handle bar (as seen from the operator position). You will need to hold the lever down, if you let go the machine will stop.

Driving speed (2.5 – 4.5 kph)

The sweeper has a speed control on the left handle bar (as seen by the operator).

- ✦ Move the lever forward to increase speed and backwards to decrease speed. This can be done while the machine is running.

Brush drive

- ✦ The brush is started by pressing down the red lever on the right hand handle bar (as seen by the operator). You will need to hold the lever down to keep the brush rotating. If you let go the brush will stop.



When you start the brush rotating it will be in contact with the ground. If the nature of the ground is such that the brush can not freely rotate, the brush rotation will move the sweeper forward. It is better to put the machine in drive first and move forward at the desired speed then start the brush.

Brush speed

Five brush speeds can be selected on this machine. While the brush is running you can operate the speed control lever on the lower part of the left handle bar (as seen by the operator).

- ✦ Move the lever first towards the machine centre and then up or down.

Setting brush height (brush pressure)

- ✦ The brush should have a contact area with the ground as seen from the side of between 15 and 20 mm. Loosen the contra nut and rotate the handle (9 – on figure on page 7) until the brush looks right on the ground. Then re-tighten the locking nut.

Setting brush angle

If you are using the-collector the brush head should be kept straight. Angle the brush to sweep off to one side.

- ✦ Raise the lever (13 – on figure on page 7), move brush around to desired angle, then lower the lever to lock it into the new position.

Extras

The most important and useful extra is a collector.

- ✦ To attach it simply lower it onto the 2 pin holders on the brush head.

If the conditions are very dusty a water spray system is ideal for keeping the dust down. This is simple to attach and a worthwhile extra.

It is possible to attach a snowplough to the sweeper for dealing with larger quantities of snow than the brush will deal with. It should also be noted that the correct brush for snow is the 8 x 2 Polypropylene.

Snow chains are also available for the machine to improve the grip in snow.

4. Maintenance

4.1 General

You have purchased a virtually free maintenance machine. Generally speaking the sweeper is service free apart from the motor. This means there is no general maintenance work.

In order to keep the machine in good general working order and maintain the value of the machine the operator should note the following:

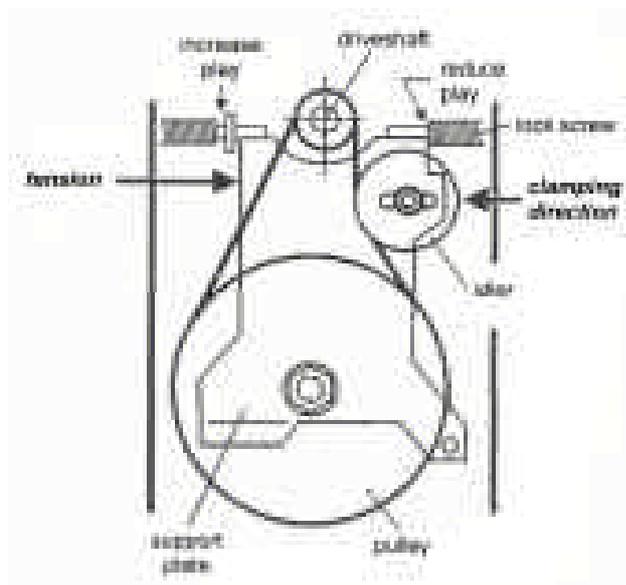
- ✦ Motor-oil level: Check before each machine use. (*see Engine Handbook*)
- ✦ Air filter: Check regularly that the air filter is in order and let a dealer clean it once a year with a pressure cleaner. If the machine is being used in a very dusty environment the user should ask the dealer how to check the filter regularly.
- ✦ Cleaning: The machine should be washed off with a gentle water spray and normal car cleaning materials can be used. Do not use High pressure washers they will damage seals on service free bearings.
- ✦ Check cables for wear: The lever operated by the cable must be freely moved by the springiness of the inner cable. Do not grease the operating levers. If the cable length needs adjusting this is achieved by altering the adjustment screw at the operating lever (*like bicycle brakes*).
- ✦ Tyre pressure: All 3 wheels have car tyre valves. The support wheel pressure should be between 1.5 and 2.2 bar. The driving wheels 1.8 bar.
- ✦ The wheels should be removed once a year and a small quantity of grease applied to the moving parts.
- ✦ Handle bar height adjustment: Move the locking lever up and forward (do not hit it against the motor) adjust the handle bar height to what is required and lock the lever back. Adjust the butterfly nut to tighten.
- ✦ Winter storage: If the machine is to be stored for a long period of time contact your dealer who will make the most suitable recommendations.

4.2 Adjusting the drive belt tension

 A Warning there is a danger of trapping your fingers

If the drive starts to loose the forward motion it is probably necessary to re-tension the drive belt tensioner. This is not something that will happen often.

- ✦ Isolate the motor by removing the spark plug lead.
- ✦ Remove the rear plate of the motor section of the machine.
- ✦ Loosen the nut on the tensioner
- ✦ Using a lever press the idler pulley onto the belt.
- ✦ Re-tighten the nut.



4.3 Troubleshooting

The motor does not start	Gas lever not in 'Max' position Spark plug removed or dirty Spark plug lead removed Petrol is empty or tap is closed
Brush stops occasionally	Clutch cable needs adjusting (if this does not cure the problem consult your dealer)
Machine will not run straight	Tyre pressures different Pull sharply to one side to resynchronise forward drive
Snow gets stuck between brush and casing	The snow is too high to brush. Use snowplough attachment
Snow clogging brush	Snow is too wet for a nylon brush, use a poly 8x2 brush

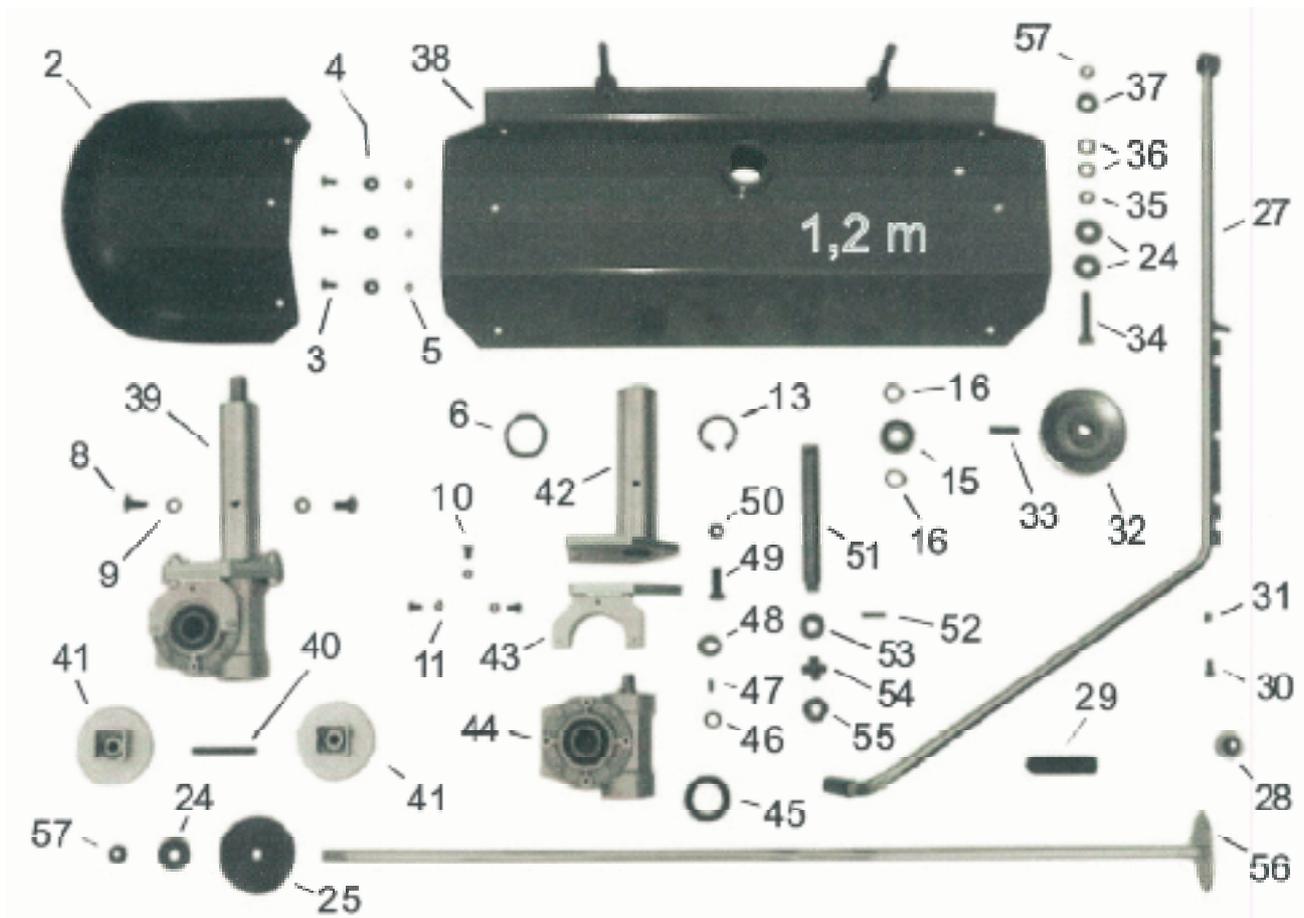
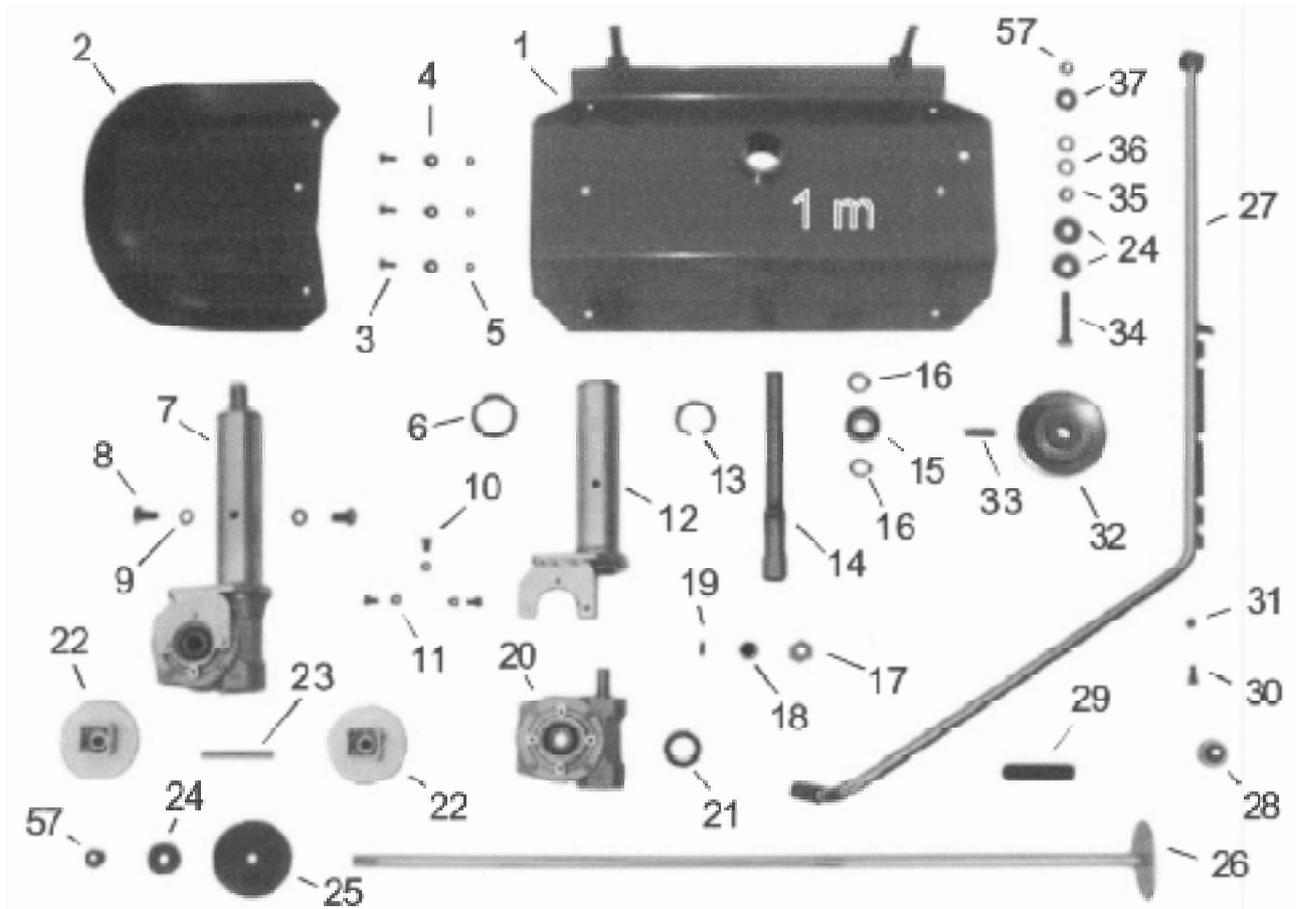


HKM 100/120 Sweepers

Parts Catalogue

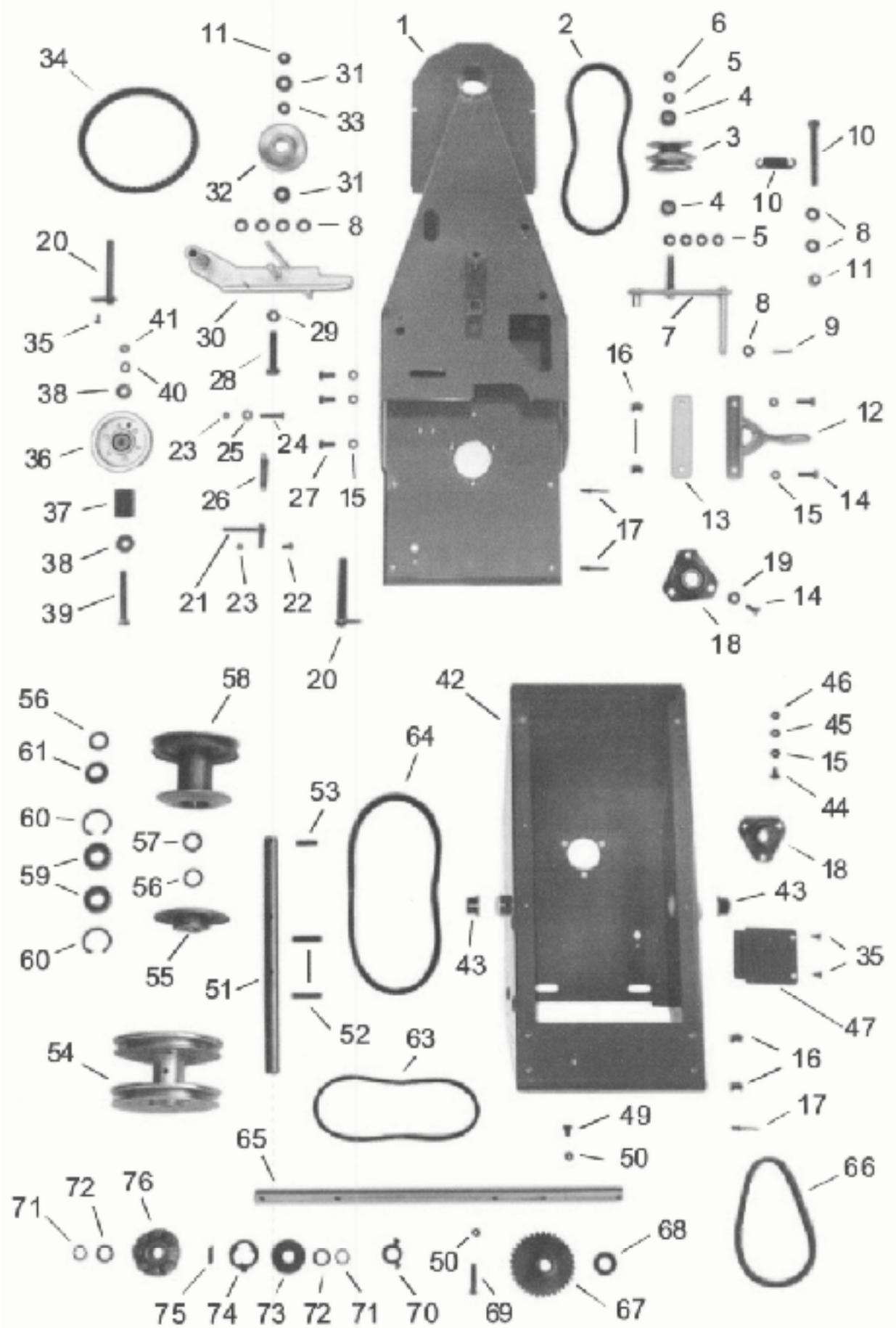


Diagram 001



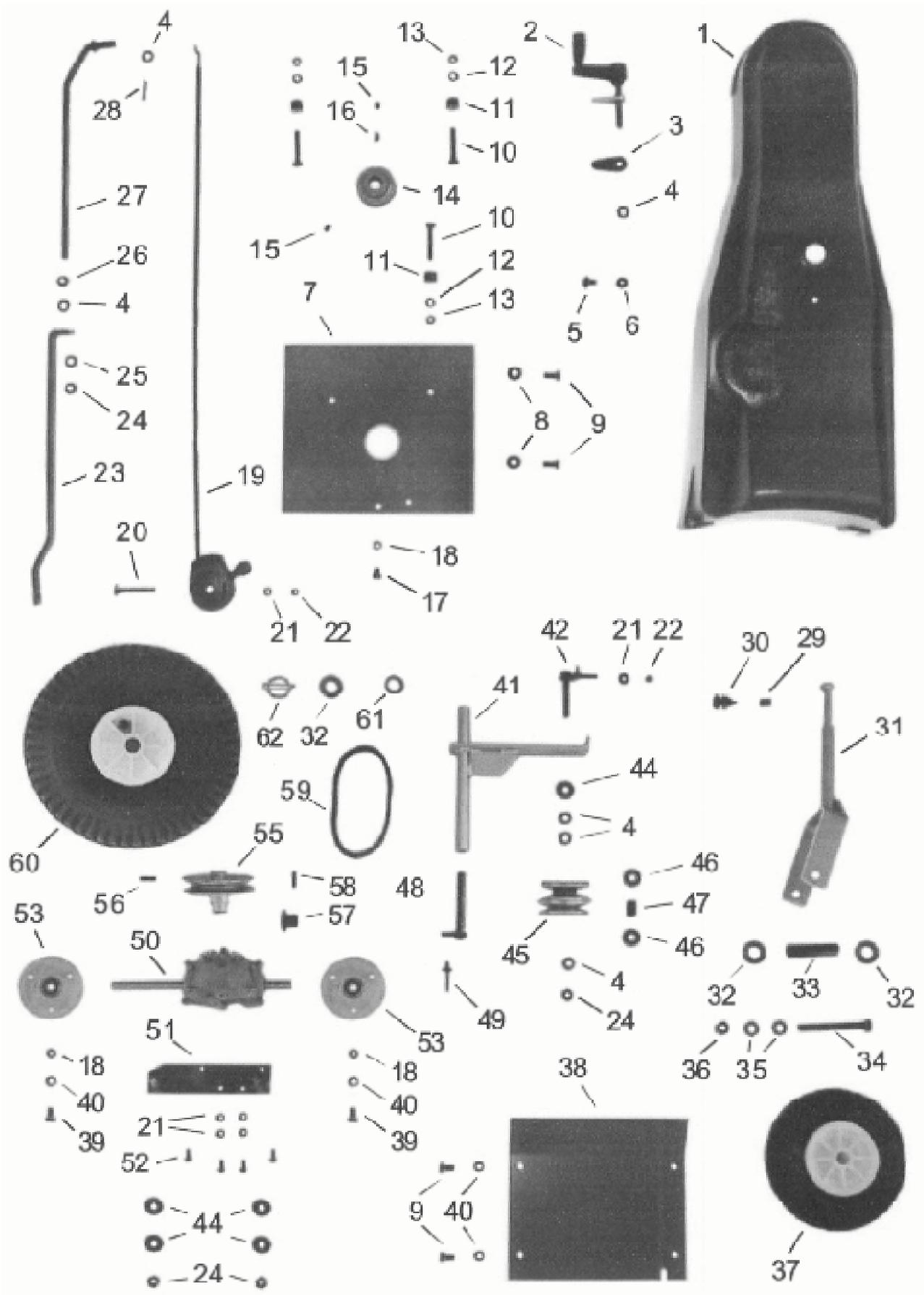
HKM 100 / 120			Parts List			Diagram 001		
Item	Part N°	Description	Item	Part N°	Description	Item	Part N°	Description
1	FKN-101	Brush Cover (1m)	37	4HJ-D021	Plastic Spacer			
2	4HJ-X17	End Cover 100/120	38	FKN-101	Brush Cover (1.2m)			
3	4H 0 S44Z1	Flathead Screw M6x15	39	FKN-229	Brush 33/49			
4	4HW-B06Z1	Spacer, Large E6	40	4KH-P01	Parallel Key 7x8x80			
5	4HR-00621	Locking Nut M6	41	FKA-1112	Brush Driver			
6	4HU-A501	Snap Ring 50	42	EKN-133Z	Neck Camp 33149			
7	FKN-202	Brush 33/44	43	FKB-1102	Transmission Flange			
8	4HO A23Z1	Screw M10x20	44	4KB-S01	Gearbox VF49			
9	4HW-F10 Z1	Lock Washer M10	45	4HL-A01	Snap Ring			
10	4HO A07Z1	Screw M6x12	46	4HW-P511	Close Tolerance Spacer			
11	4HW-F06 di	Lock Washer M 6	47	4KH-P05	Parallel Key			
12	FFKN-1162	Neck Camp 33/44	48	4DA-L01	Spacer			
13	4HU-142 1	Snap Ring 42	49	4HO-A25Z 1	Screw M10x30			
14	FKN-117	Oscillating Brush 3/44	50	4HR-C10Z1	Locking Nut M10			
15	4HA-A20	Ball Bearing (60042RS)	51	4DC-H32	Oscillating Brush			
16	4HU-A201	Snap Ring 20	52	4HX-G301	Clamping Sleeve 6x30			
17	4DS-CO1	Star Washer 22	53	4KC-B10	Clutch Ring, Upper			
18	4HK-E11	Balance Buffer	54	4KC A20	Clutch			
19	4KH-PO4	Parallel Key	55	4KC~A18	Clutch Ring, Lower			
20	4KB-S05	Gearbox VF44	56	FKA-1412	Brush Axle 1.2m			
21	4HK A02	Snap Ring 30	57	4HR-G12Z1	Locking Nut M12			
22	4AZ-107 Z	Brush Driver 44						
23	4170-B01	Driver Shaft						
24	4HW-B12Z1	Spacer, large E12						
25	4DA-E03Z	Spacer						
26	FKA 140 Z	Brush Axle 1m						
27	FKN-203	Swivelling Support						
28	4HK-S01	Silent Block						
29	4HJ-G02	Grasp Cover 15						
30	4HO-A08Z 1	Screw M6x16						
31	4HR-006 Z1	Stop nut M6						
32	4AZ-A30 Z	Plastic Spacer A100-20						
33	4AZ-S01	Clamping Sleeves Set 1						
34	4HO A61Z	Screw M12x65						
35	4HR-A12Z1	Locking Nut M12						
36	4HW-A12Z1	Spacer E12						

Diagram 002



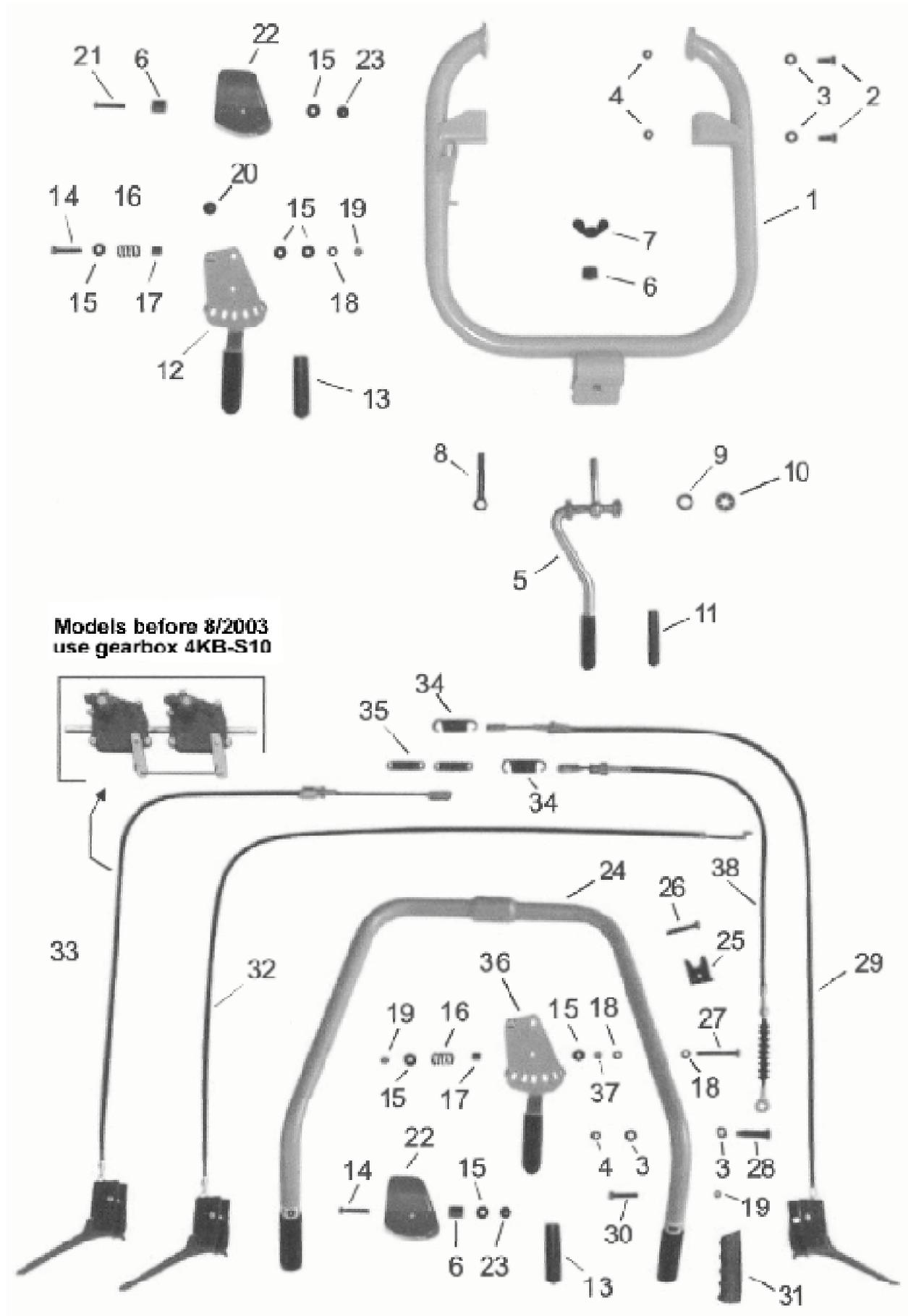
HKM 100 / 120			Parts List			Diagram 002		
Item	Part N°	Description	Item	Part N°	Description	Item	Part N°	Description
1	FKN-108	Brush Carrier	38	4HW-B10Z1	Spacer, Large			
2	4HB-Z23S	Drive Belt, Front	39	4HO-N80Z	Duty Screw 3/8 UNC			
2	4HB-Z22S	Drive Belt, Rear	40	4HUV F10 Z1	Lock Washer M10			
3	4AZ-V01	Variable	41	4HR-A52Z	Duty Nut			
4	4HA-A10	Ball Bearing (6002RS)	42	FKN-233	Assembly Plate			
5	4HW-A10 Z1	Spacer E 70	43	4HJ-A02	Flanged Bush			
6	4KC-A461	Locking Ring 10	44	4HO-173 Z1	Closed Screw M8x16			
7	FKN-114	Brush V-arm	45	4HW-F08 Z1	Lock Washer M8			
8	4HW-A12 Z1	Spacer E 12	46	4HR A08 Z1	Nut M8			
9	4HX-E25 Z1	Split Pin 3.2x25	47	4DA-053	Cover			
10	4HO-C43Z	Screw M12x110	49	4HO-G12 Z1	Inside Screw M8x12			
11	4HR-C12Z1	Locking Nut M 12	50	4HR-C08Z1	Locking Nut M8			
12	FKN-121Z	Racing Clamp	51	4DC-K07	Jackshaft			
13	4DB-T02Z	Supplement (only GXV 140)	52	4HX-H501	Clamping Sleeve 8x50			
14	4HO-A14Z1	Screw M8x20	53	4HX-H361	Clamping Sleeve 8x36			
15	4HW-A08 Z1	Spacer E 8	54	4AZ-A34 Z	V-Dop Screw			
16	4HR-108 Z1	Cage Nut	55	FKN-124Z	Dome Half-washer			
17	4HY-B071	Blind Rivet V2A	56	4HW-P59	Close Tolerance Spacer 25x1			
18	4HA-Y25	Y-Camp 25	57	4DC-001 Z	Ring 25			
19	4HW-D08Z1	Spacer, Thick E 8	58	FKN-207	Dome Free-wheel 102			
20	FKN-112Z	Bearing Bolt	69	4HA-A25	Ball bearing (60052RS)			
21	FTS-106 Z	Bearing Guide 65	60	4HU-147 1	Snap Ring 47			
22	4HO A07Z1	Screw M6x12	61	4DC-R10Z	Cone Ring 25			
23	4HR-006 Z1	Locking Nut M6	63	4HB-D24V	Drive Belt – Variable (VB 10x630)			
24	4HO- A17Z1	Screw M6x30	64	4HB-A20V	Drive Belt – Motor (VB 13x630)			
25	4HW-B06 Z1	Spacer, Large E 6	64	4HB-X01S	Drive Belt only Honda (XPZ 13x950)			
26	4HI-A02	Tension Spring	65	4DC-H29Z	Drive Axle			
27	4HO A13Z1	Screw M8x16	66	4HD-B56	Chain			
28	4HO-A61 Z	Screw M12x65	67	FKA-101	Chain Wheel			
29	4HR-A12Z1	Nut M12	68	4HW-A20 Z	Spacer E 20			
30	FKN-115Z	Dome Tension Adjuster	69	4HO-C18Z1	Screw M8x40			
31	4HA-A12	Ball Bearing (60092Rs)	70	4KC-A03Z	Tension Ring			
32	4AZ-A35 Z	Clutch Roller	71	4HU-A201	Snap Ring 20			
33	4DC-H31	Case 12-10	72	4KC-B36Z1	Close Tolerance Spacer 20x1			
34	4HB-X18S	Drive Belt (XPA590)	73	4HJ-D03	Spacer 20			
35	4KC-A211	Self-tapping Screw	74	4DA-104	Driver			
36	4AZ-205	Idler B2	75	4KH-X01	Parallel Key			
37	4DC-M10Z	Case KN 46	76	4DX-A03 Z	Housing			

Diagram 003



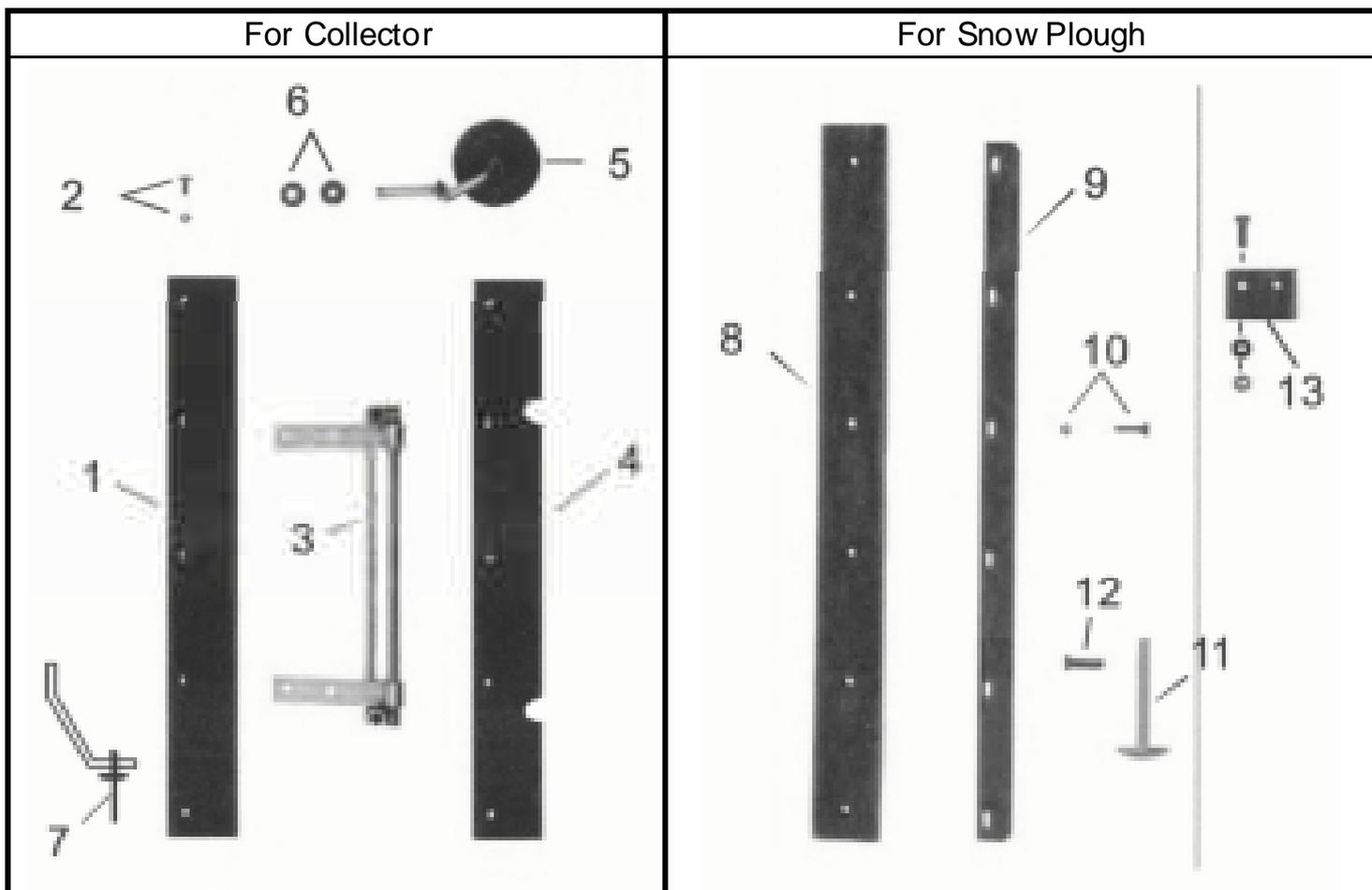
HKM 100 / 120			Parts List		Diagram 003
Item	Part N°	Description	Item	Part N°	Description
1	4HJ-X15	Belt Guard KN	30	4KC-B20	Pressure Screw
2	FKA-220	Crank	-	FKN-223	Gang Wheel complete (Pos.31-37)
3	4DA-I01 Z	Counter Shaft	31	FKN-110Z	Wheel Fork
4	4HW-A10 Z1	Spacer E 10	32	4HW-A20 Z1	Spacer E 21
5	4HO S47Z1	Fixing Screw M8x15	33	410M-B01 2	Shaft Case
6	4HK-E011	Rubber Washer	34	4HO C43Z	Screw M12x110
7	4DA-F46S	Motor Mounting Plate	35	4HW-AI2 Z1	Spacer E 12
7	4DA-F47S	Motor Mounting only GXV140)	36	4HR-CI2Z 1	Locking Nut M12
8	4HW-DO8Z1	Spacer, thick E 8	37	4HN-G01	Air Wheel 2.50-4
9	4HO A14Z1	Screw M8x20	38	4DA-054	Tail Plate
10	4AZ-S22	Engine Screw Set	39	4HO A13Z1	Screw M8x16
10	4AZ-S23	Engine Screws only GXV140)	40	4HW-A08 Z1	Spacer E 8
11	4DJ-D02 Z	Case Nut 15	41	FKN-111Z	Arm
12	4HW-FO8 Z1	Lock Washer M8	42	FKN-1292	Retainer
13	4HR-AO8 Z1	Nut M 8	44	4HW-B10 Z1	Spacer, Large E 10
14	4AZ-A03	Motor V-belt Pulley	45	4AZ-V01	Variable
15	4KC-A041	Grub Screw M8x10	46	4HA-A10	Ball Bearing (60002RS)
16	4HK-S01	Spring Washer	47	4DM-P01	Case
17	4HO-G12 Z1	Inner Screw M8x12	48	FKN-112Z	Bearing Bolt
18	4FIR-CO8Z1	Locking Nut M8	49	4HY-BO71	Blind Rivet V2A
19	4AZ-601	Fuel Pipe Honda GVC	50	4KB-S10	Motor Gearbox
19	4AZ-604	Fuel Pipe Honda GXV140	51	FKN-1342	Motor Gearbox Support
19	4AZ-607	Fuel Pipe B&S engine	52	4KC-A561	Screw M5x16
20	4HO-174 Z1	Lock Screw M6x60	53	4AZ-301 Z	Flange Bearing 12
21	4HW-A06Z1	Spacer E 6	55	4AZ-A45 Z	Motor Spacer
22	4HR-C06 Z1	Locking Nut M6	56	4HX-F251	Clamping Sleeve 5x25
23	4DB-S05Z	Flat Bar	57	4HE-804	Pinion 10
24	4HR-C10 Z1	Locking Nut M10	58	4HX-F201	Clamping Sleeve 5x20
25	4HW-A10 Z1	Spacer E 10	59	4HB-D25 V	Drive Belt – Variable (VB 10x450)
26	4HR-A10Z1	Nut M10	60	4HN-G02	Air Wheel 4.00-4
27	FKN-113Z	Round Bar	61	4KC-B36Z1	Close Tolerance Spacer 20x1
28	4HX-E25Z1	Split Pin 3.2x25	62	4AZ-801 Z	Klapp Split Pin 8/ 32
29	4H1-B04	Compression Spring			

Diagram 004



HKM 100 / 120			Parts List		Diagram 004
Item	Part N°	Description	Item	Part N°	Description
1	FKN-119	Steering Wheel 102	37	4HR-A06Z1	Nut M6
2	4HO-A14Z1	Screw M8x20	38	4AZ-711	Variable Cable
3	4HW-A08 Z1	Spacer E 8			
4	4HR-C08Z1	Locking Nut M8			
5	FKN-213	Steering Wheel Toggle			
6	4DJ-D02 Z	Case Nut 15			
7	4HR-K10Z	Wing Nut 10			
8	4KC-B33	Eye Bolt			
9	4HW A12 Z1	Spacer E 12			
10	4KC-A15	Spring Washer 12			
11	4HJ-G08	Case 12			
12	FKN-1302	Shift Lever			
13	4HJ-G02	Case 15			
14	4HO-A73Z1	Screw M6x35			
15	4HW-B06Z 1	Spacer, Large E 6			
16	4HI-B05	Compression Spring			
17	4DC-F40Z	Centerer			
18	4HW-A06Z1	Spacer E 6			
19	4HR-006 Z7	Locking Nut M 6			
20	4KC-A051	Clamping Cap 8			
21	4HY-A07Z1	Rivet 6x25			
22	4HJ-X18	Cap			
23	4KC-A08	Clamping Cap 6			
24	FKN-127	Link 102			
25	4DA-F50Z	Bowden Cable Support			
26	4HU-A41Z1	Screw M6x40			
27	4HO-A74Z1	Screw M6x60			
28	4KC-B35Z	Rest Screw 102			
29	4AZ-709	Clutch Cable (Brush)			
30	4HO-G41 Z	Inner Screw M6x40			
31	4HJ-G03	Handle 25			
32	4AZ-713	Clutch Cable (Drive)			
33	4AZ-710	Clutch Cable (Drive Dble Gearbox)			
34	4HI-AO1	Tension Spring 01			
35	4HI-A02	Return Spring			
36	4DA-F41 Z	Shift Lever			

Accessories



Item	Part N°	Description	Item	Part N°	Description
1	4HK-E14	Rubber Border 1 m (upper)	8	4HK-E05	Digging border 100 (rubber)
1	4HK-E17	Rubber Border 1,2m (lower)	8	4HK-E06	Digging border 120 (rubber)
2	4AZ-S06	Screw Set Rubber Border	9	4DB-B07	Rail 100n)
3	FKG-115 Z	Swiveling Adapter 2	9	4DB-B08 Z	Rail 120
4	4HK-16	Dust Border 1 m	10	4AZ-S08	Screw Set Digging Border
4	4HK-E18	Dust Border 1.2 m	11	4KC-A27 Z	Sharpening Skid (only 1.2m)
5	FKG-203	Swivel Roller (incl. 6)	12	4HO-A36Z 1	Screw M12x40
6	4AZ-S07	Attachment Set Swivel Roller (2x)	13	4AZ-S09	Supporting Rubber Set (incl. screws)
7	4HY-B05 S1	Blind Rivet, long			

Note:

The DIN and standard parts from this list are delivered predominantly in packing units. If the last place of the part is a "1", then this means a packing unit of 10 pieces.

Examples: 4HW A10 Z 1 =10 Star Washers DIN 125 Φ 10.5
 4HU-A20 1 = 10 pieces snap ring for wave brush Φ 20

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