

Kleen Sweep 35W  
Sweeper

Model  
HM35BQP

OPERATION

SERVICE

PARTS

CARE



***Minuteman***<sup>®</sup>

# ***Minuteman***<sup>®</sup>

This manual is furnished with each new **MINUTEMAN KLEEN SWEEP 35W<sup>™</sup>**. This provides the necessary operating and preventive maintenance instructions. Operators must read and understand this manual before operating or servicing this machine.

This machine was designed to give you excellent performance and efficiency. For best results and minimal cost, please follow the general guidelines below:

Operate the machine with reasonable care.

Follow the manufacturers suggested maintenance instructions as provided in this booklet.

Use original Minuteman supplied parts.

## **Technical Specifications**

### **Dimensions and Weight**

Length, Total: 54.72" (1.39m), Width, Total: 31.78" (840mm)

Height Over Handlebar: 40.57" (1030mm)

Weight, Without Batteries: 208lbs (95kg)

Weight, With Batteries: 342lbs (155kg)

### **Traveling and Sweeping Performance**

Speed, Forward: 3mph (4.83km/h)

Sweeping Width, With Side Broom: 34" (850mm)

Sweeping Capacity With Side Broom, Max.: 36.6 sq. ft (3400m<sup>2</sup>)

Theoretical Max Rate of Climb: 15% grade

### **Filter System**

Filter Area: 1.5 ft<sup>2</sup> (0.139 m<sup>2</sup>)

Number of Filter Elements: 1 piece

### **Dust Extractor Fan**

Speed: 2500rpm

### **Broom Roller**

Length / Dia.: 28.61/9.84" (700 / 250mm)

Wear Limit (approx.): 9" (230mm)

Speed: 510rpm

Sweeping Track Width: 2" (50mm)

Rows of Bristles: 10

### **Side Broom**

Diameter: 12.25" (47mm)

Speed: 94rpm

### **Dirt Hopper**

Capacity: 12.5 Gal (47liters)

### **Tires**

Caster Wheel, Front, Dia.: 4.92" (125mm)

Rear Wheels, Dia.: 5.9" (150mm)

### **Electric Drive System**

DC-Motor Voltage: 12V

Power Rating / Speed: 550W / .75 Hp

Current Dissipation: 57A

### **Noise Emission**

Sound pressure level: 64dB (A)



DECLARATION OF CONFORMITY

**MANUFACTURER'S NAME:** Minuteman International Inc.

**MANUFACTURER'S ADDRESS:** 111 South Rohlwing Road  
Addison, IL. 60101

**EQUIPMENT DESCRIPTION:** KLEEN SWEEP 35W

**EQUIPMENT MODEL DESIGNATION:** HM35B, HM35BQP

Application of Council Directives: 89/392/EEC

Harmonized EN standards complied with: EN 292

I, the undersigned, hereby declare that the equipment specified above conforms to the above Directive(s) and Standard(s).

**SIGNATURE:**

*Jeffrey Pollack*

**DATE:** 7/22/04

**PRINTED NAME:**

**Jeffrey Pollack**

**TITLE:**

**Standards Engineer**

Form: ECO 79

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## IMPORTANT SAFETY INSTRUCTIONS

**Operators must read and understand this manual before operating or maintaining this machine.**

**Do not operate this machine in flammable or explosive areas.**

The following information below may cause a potential hazard to the operator and equipment. Read this manual carefully and be aware when these conditions can exist. Take necessary steps to locate all safety devices on the machine and train the personnel operating the machine. Report any machine damage or faulty operation immediately. **Do not use machine if it is not in proper operating condition.**

### FOR SAFETY DURING OPERATION:

Keep hands and feet clear of moving parts while machine is in operation.

Make sure all safety devices are in place and operate properly. All covers, doors and latches must be closed and fastened before use.

During operation, attention should be paid to other persons in the work area and especially if small children are present.

Electric motors and components can cause an explosion when operated near explosive materials or vapor. Do not operate this machine near flammable materials such as solvents, thinners, fuels, grain dust, etc.

Store or park this machine on a level surface only, with parking brake engaged. To prevent unauthorized use, machine should be stored or parked with the key removed.

This machine is designed for level operation only. **Do not operate on ramps or inclines over 15% grade.**

This machine is not suitable for picking up hazardous dusts.

Use caution when moving this machine into areas that are below freezing temperatures. Any water in the tanks or hoses can cause damage to the machine.

### FOR SAFETY WHEN SERVICING or MAINTAINING MACHINE:

For safety reasons, the engine hood is equipped with a safety switch. Function of this safety switch must not be bypassed.

Stop on level surface.

Disconnect the power to the machine when charging batteries or during installation or removal of brushes.

Avoid moving parts. Do not wear loose jackets, shirts, or sleeves when working on machine.

Avoid contact with battery acid. Battery acid can cause burns. When working on or around batteries, wear protective clothing and safety glasses. Remove metal jewelry. Do not lay tools or metal objects on top of batteries.

Charging batteries generates explosive gasses. **Do not charge batteries when open flames or sparks are present. Do not smoke.** Make sure the charger is turned off before disconnecting it from the machine.

Charge the batteries in a well-ventilated area with the battery cover removed completely.

Do not clean machine with a pressure washer.

Authorized personnel must perform repairs and maintenance. Use Minuteman supplied replacement parts.

## **SAVE THESE INSTRUCTIONS**

### **Proper Use**

The Kleen Sweep 35W vacuum sweeper has been designed exclusively for sweeping floor surfaces, including production facilities, warehouses, parking areas, and pedestrian areas, to collect dry and moist matter. Whatever sort of use beyond the specified range will be deemed improper use; the manufacturer cannot be held liable for consequential damage. The term of proper use also includes compliance with the manufacturer's instructions about operation, maintenance and repair. The Kleen Sweep 35W may be used, serviced and repaired by persons only that are familiar with the machine and are aware of possible hazards.

### **Inspection**

Carefully unpack and inspect your Kleen Sweep 35W for shipping damage. Follow unpacking instructions on shipping pallet. Each unit has been tested and thoroughly inspected before shipment. Any damage is the responsibility of the delivery carrier who should be notified immediately.

### **Electrical**

This machine is battery operated and designed to operate on 12 volts DC (2) 6-volt batteries.

### **Batteries**

The recommended batteries are rated 275Ah (Minuteman P/N 956740).

We do not recommend mixing AMP hour capacities. Any alternate battery sets can be used if they equal physical size and capacity.

### **Operator Responsibility**

*Read this manual carefully before operating this machine.*

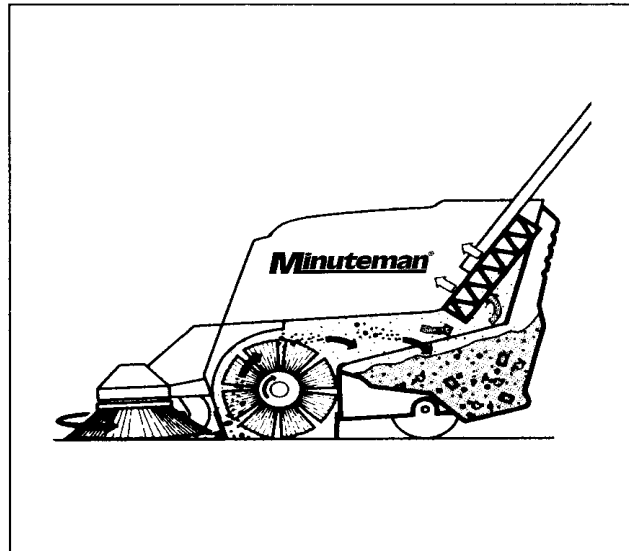
*The operator is responsible in taking care of the daily maintenance and check ups of the machine to keep it in good working condition. The operator must inform the service mechanic or supervisor when the scheduled maintenance intervals are required as stated in the MAINTENANCE section of this manual.*

### **Special Instructions for Handling Batteries**

Never leave batteries in discharged condition for an extended period of time, but re-charge them as soon as possible. In order to preclude risks to health, eating, smoking and drinking are forbidden in battery charging stations and rooms. Satisfactory ventilation must exist in the battery charging area. Batteries must not be connected to or disconnected from the power supply as long as they are energized. Top up using distilled water only. Never add battery acid when the cells are in good condition. To avoid leakage currents, make sure that the batteries are always kept in dry and tidy condition. Protect them against dirtiness, e.g. by metallic powder. Do not put metallic objects or tools on the batteries. Risk of short circuits and fuming-off! When handling batteries, wear appropriate protective garments such as protective gloves and finger-stalls. In particular when checking the acid density, do not use any open flames (danger of explosion)

## Kleen Sweep 35W – How it Works

The side broom is going to collect dirt out of corners & niches and carries it into the track of the main broom. Fine dust involved is extracted by a suction fan and held back by a filter. Dust-free only air will exit the machine.

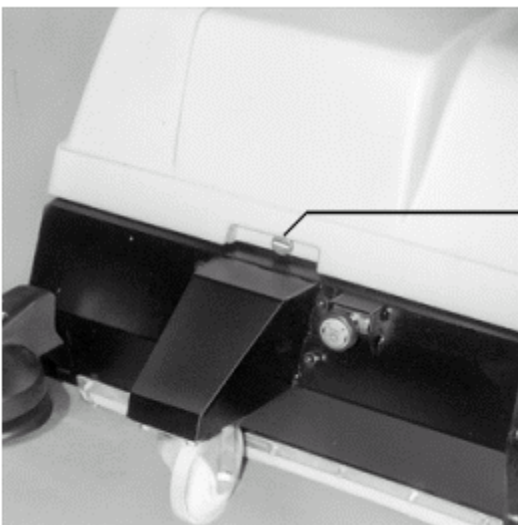


## First Operation

### Assembly

To reduce the box volume the handlebar is folded forward and the side broom is packed unassembled. Assemble these items as follows:

- Unfold the handlebar and secure on both sides with the enclosed hex nuts and washers. Connect the protective caps.
- Mount the screw to connect the traction drive control bow with the control cable.
- Tilt machine back until resting on the handlebar. Attach side broom with bolt. Bolt should be torque tightened snugly only to avoid damage to the broom hub.



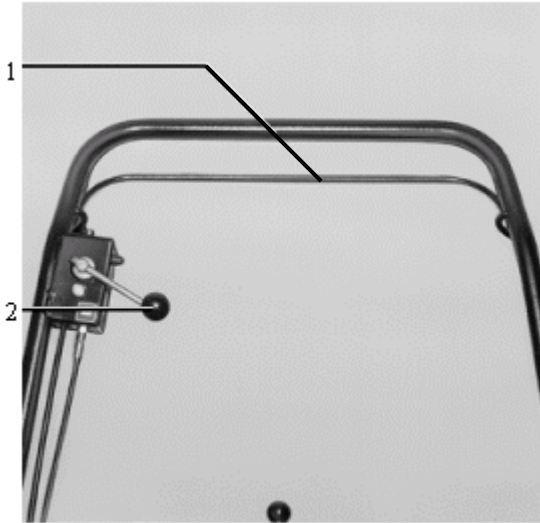
### Installing / Servicing the Batteries

#### B Open the hood

- 1
  - Pull the key from the key switch
  - Open the hood lock (1) at the front side with a screw-driver
    - Slot horizontal = close
    - Slot vertical = open
  - Tilt the hood upwards



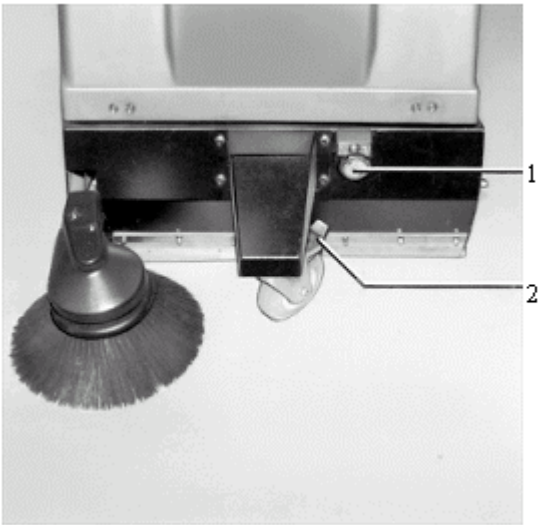
## Operation of the Kleen Sweep 35W



1. Traction Drive control bow
2. Control lever for side broom



1. Key Switch
2. Pilot Light, Green



1. Hand wheel for broom roller vertical adjustment
2. Pedal to set parking brake.

## Controls

Traction drive control bow  
to connect / disconnect wheel drive

- pull bow on handlebar up = engages traction drive
- return bow = disengages traction drive

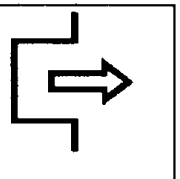
(machine will stop = safety mode)



### Control lever for side broom

Lowers and lifts the side broom

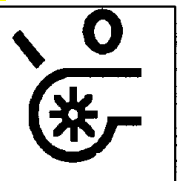
- Lever horizontal = side broom down
- Lever vertical (up) = side broom up



### Control lever for dirt hopper

Unlocks the dirt hopper

- Lever RH = unlocked
- Lever vertical (up) = locked

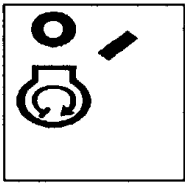


### Rotary knob for suction fan flap

Opens and closes the suction fan flap

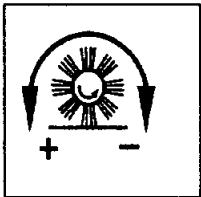
- Rotate knob CW = close flap
- Rotate knob CCW = open flap

**Note:** keep suction fan flap closed when working on wet floors or with wet matter.



### **Key-switch**

Turn ignition ON/OFF, secures machine against unauthorized use  
0 = OFF  
I = ON



### **Hand wheel for Main Broom Adjustment**

Adjust roller brush load (sweeping track width). Best setting is 2” (50mm).

- Turn Hand wheel CW = Reduced track width (low brush load)
- Turn Hand wheel CCW = Extended track width (high brush load)

### **Pilot light, GREEN**

Turns ON, when Key switch is ON

### **Key-switch**

Connect and disconnect the drive motor and to secure the machine against unauthorized use.

### **How to Use the Kleen Sweep 35W**

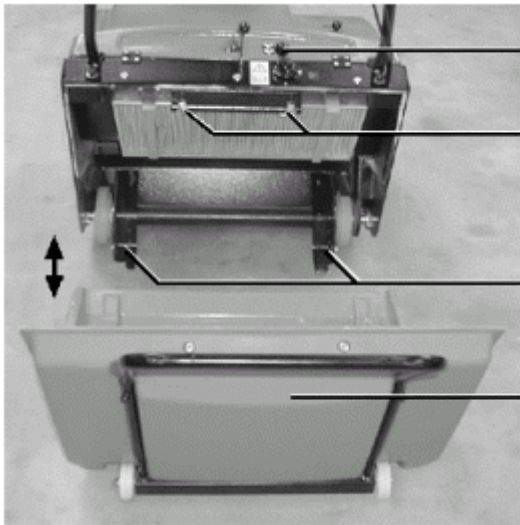
#### **Turn motor ON and OFF**

- Turn key-switch to “I” = electric motor runs
- Turn key-switch to “0” = electric motor stops

### **Sweeping with the Kleen Sweep 35W**

- Start / switch-on
  - Open dust extractor fan flap
- Note: always keep dust extractor fan flap closed, when sweeping wet areas or wet matter
- Lower side broom
  - Actuate traction drive control bow
  - Empty dirt hopper as required

## Empty Dirt hopper

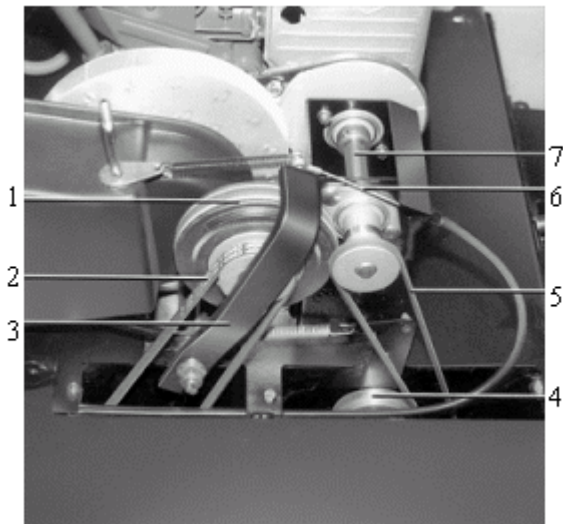


- |   |                              |               |
|---|------------------------------|---------------|
| 1 | 1 Dirt hopper control lever  | 2 Latch       |
|   | 3 Bar for dirt hopper wheels | 4 Dirt hopper |

- Depress lever (1) to the right to unlock
- Hold dirt hopper by its handle (3) and pull to the rear, empty hopper
- Slide dirt hopper into opening, exert pressure against latch (2) until click is audible, to ensure the dirt hopper is installed in place.

## Traction Drive

The traction drive system uses a friction wheel (1) and a V-belt (2) driving the wheel axle. When actuating the traction drive control lever, the friction wheel arm (3) with its friction wheel (1) is pressed against the drive shaft (7), thus allowing power transmission. Note: dust extractor fan and side broom will rotate as soon as motor is running. Keep hands and fingers away from any moving parts to avoid injury.



1. Friction wheel
2. V-belt
3. Friction wheel arm
4. Cocking roller for broom roller drive
5. V-belt for broom roller drive
6. Control cable for friction wheel arm
7. Drive shaft for traction drive, broom roller and side broom drive assy's.

## Replace Broom Roller

The broom roller bears 10 rows of bristles and consists of 4 halves. A new broom is 9.8" dia. (250mm). The broom roller should be replaced when reaching a dia. of 9" (230 approx. mm) to function properly.

To remove the broom roller:

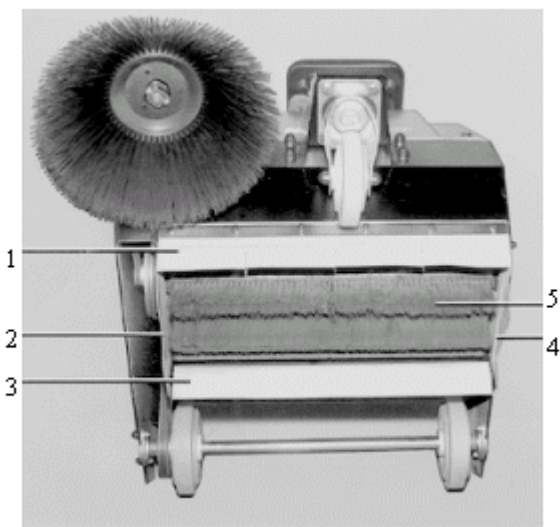
- Tilt the Kleen Sweep 35W back on the handlebar, as shown. Remove 4 ea. cylinder Hexagon screws, rotate roller through 180, and remove cylinder Hexagon screws from

the other half. Pull drive pin out of broom shaft. For installation, reverse the above sequence of operations.

### Adjust Sweeping Track

In case of broom roller wear and after replacing the roller broom, adjust sweeping pattern as follows:

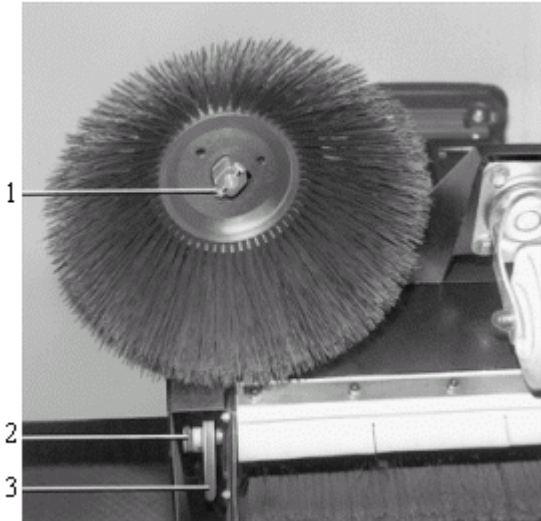
- Start the machine and rotate broom roller for a short period of time (static)
- Lift front end of machine and pull back.
- If adjusted properly, a parallel line of sweep is visible on the ground (sweeping track). This sweeping track width is adjusted to approx. 2" (50 mm) by rotating the hand wheel CW or CCW. Sealing strips (1 to 4) have to be inspected for wear in regular intervals and replaced as required. Sealing strips slightly should touch the ground.



1. Sealing Strip, Forward
2. Sealing Strip, Right Hand
3. Sealing Strip, Rear
4. Sealing Strip, Left Hand
5. Broom Roller

### Replacing the Side Broom

- Tilt the Kleen Sweep 35W back on its handlebar (also refer to previous section, "replace broom roller")
- Remove attaching bolt (1) underneath side broom
- Pull-off side broom
- Plug-on new side broom and secure; torque attaching bolt light tight only, to avoid damage to the broom hub.



- 1 side broom attaching bolt
- 2 round belt for side broom drive
- 3 V-belt for broom roller drive

### Replacing the Side Broom V-Belt

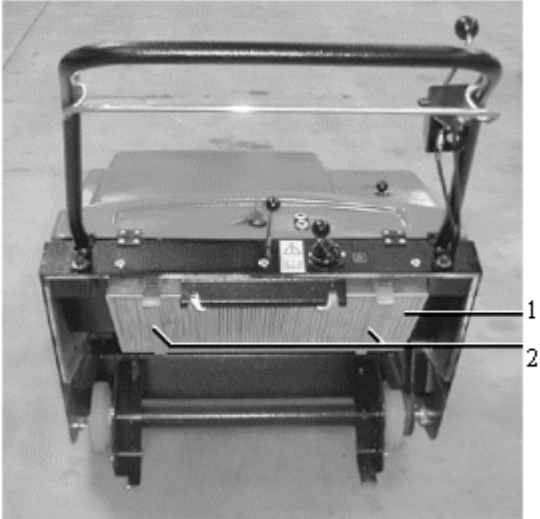
- Tilt the Kleen Sweep 35W back on its handlebar (refer to section, “Replace Broom Roller”)
- Remove hood (3 ea. Screws)
- Lift side broom and uncock round belt
- Remove round belt and assemble new one.
- **NOTE:** Refer to direction arrow.



- 4 Round belt
- 5 Pulley

### Filter System – Dust Extractor

fine dust in the broom housing is suctioned through a filter module by the dust extractor fan. The filter module (1) is located in the rear part of the machine and is removed as follows:



1. Filter Module
2. Straps

- Disconnect Power
- Remove dirt hopper
- Unhook straps (2) at top end and remove filter module (1)
- Carefully shake filter clean or clean with vacuum cleaner (do not damage filter element)
- Re-assemble filter module in true position (arrow towards machine) and re-attach straps
- Install dirt hopper

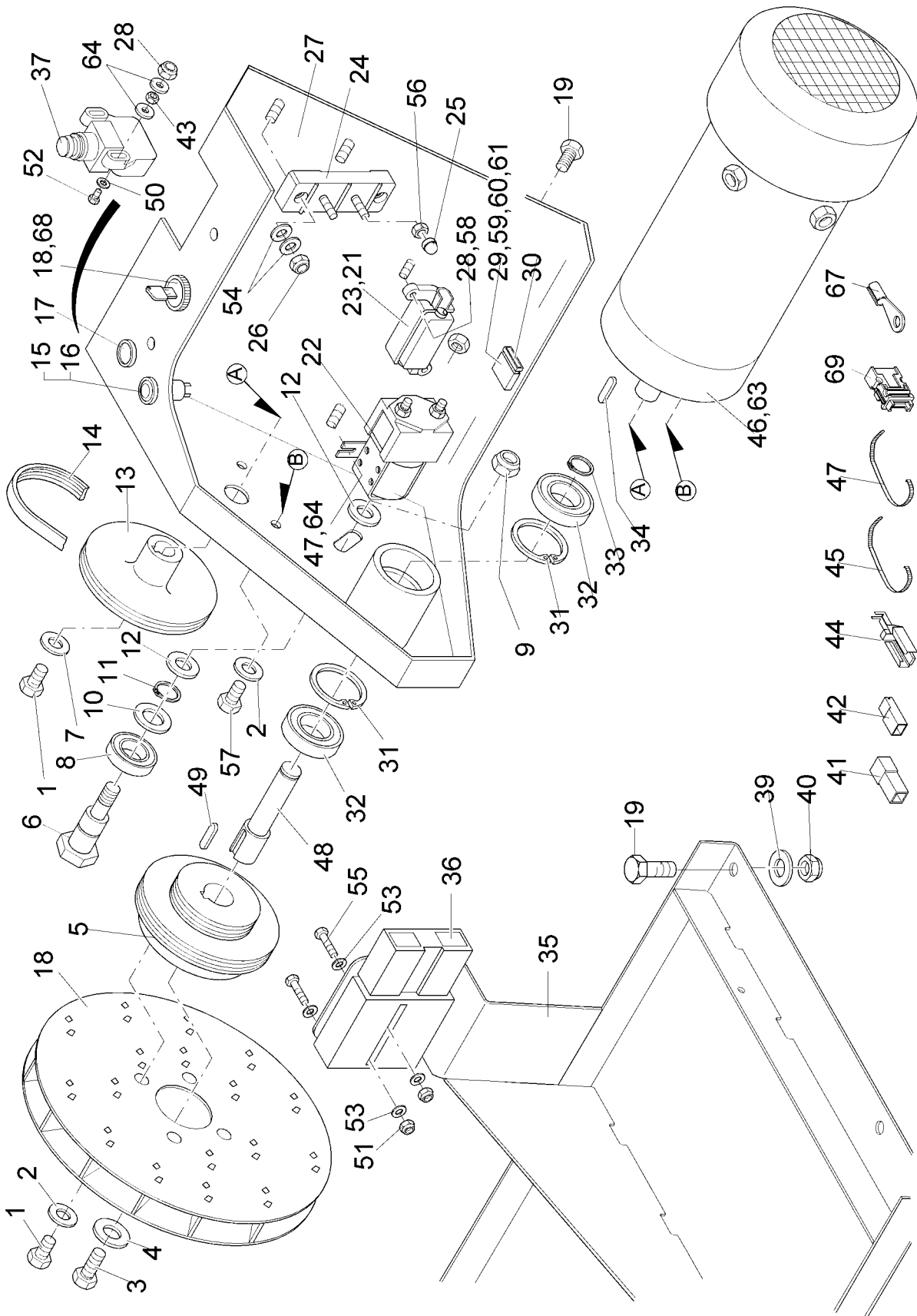
## Maintenance

Compliance with our recommended maintenance and service schedule will guarantee a dependable machine all the time. It is better and cheaper to take precautions instead of facing costly repair work. If your in-house facilities are unable to perform the work per maintenance schedule, your authorized distributor will be glad to conclude a maintenance agreement with you. For all inquiries or parts orders, always specify chassis and motor numbers as printed on the data plate. The data plate is located on the left side under the hood of the handlebar. When performing cleaning or service work or replacing parts, stop the motor, pull ignition key and disconnect the power. Use adequate tooling for maintenance, servicing and adjustment jobs only. As far as safety is concerned, spare parts will at least be of the same quality as genuine parts. When working on the electrical system, disconnect battery plug.

| Daily   | Per Service Hours  |  |  |  |
|---|--|--|--|--|
|   | 50   | 100  | 200  |  |
| Empty dirt hopper, clean the guide edges inside the chassis | Check broom roller and side broom for wear and foreign matter (e.g. Tape, Wire), replace as required |  |  |  |
| Charge Batteries  |  |  |  | Check sweeping track width, adjust as required   |
|   |  |  |  | Check all sealing strips for appearance, replace as required. Strip tips should slightly touch the floor; adjust as required |
|   |  | Check drive belts for wheel, extractor fan, broom roller and side broom for appearance and wear, adjust tension or replace as required |  |  |
|   |  | Check traction drive control cable, adjust as required   |  |  |
|   |  | Check dust extractor and filter system for good seal, replace as required  |  |  |
|   |  | Check dust extractor fan and flap for function   |  |  |
|   |  | Check dirt hopper lock   |  |  |
|   |  |  | Clean Motor, Check carbon brushes for ease of movement and wear, clean as required |  |

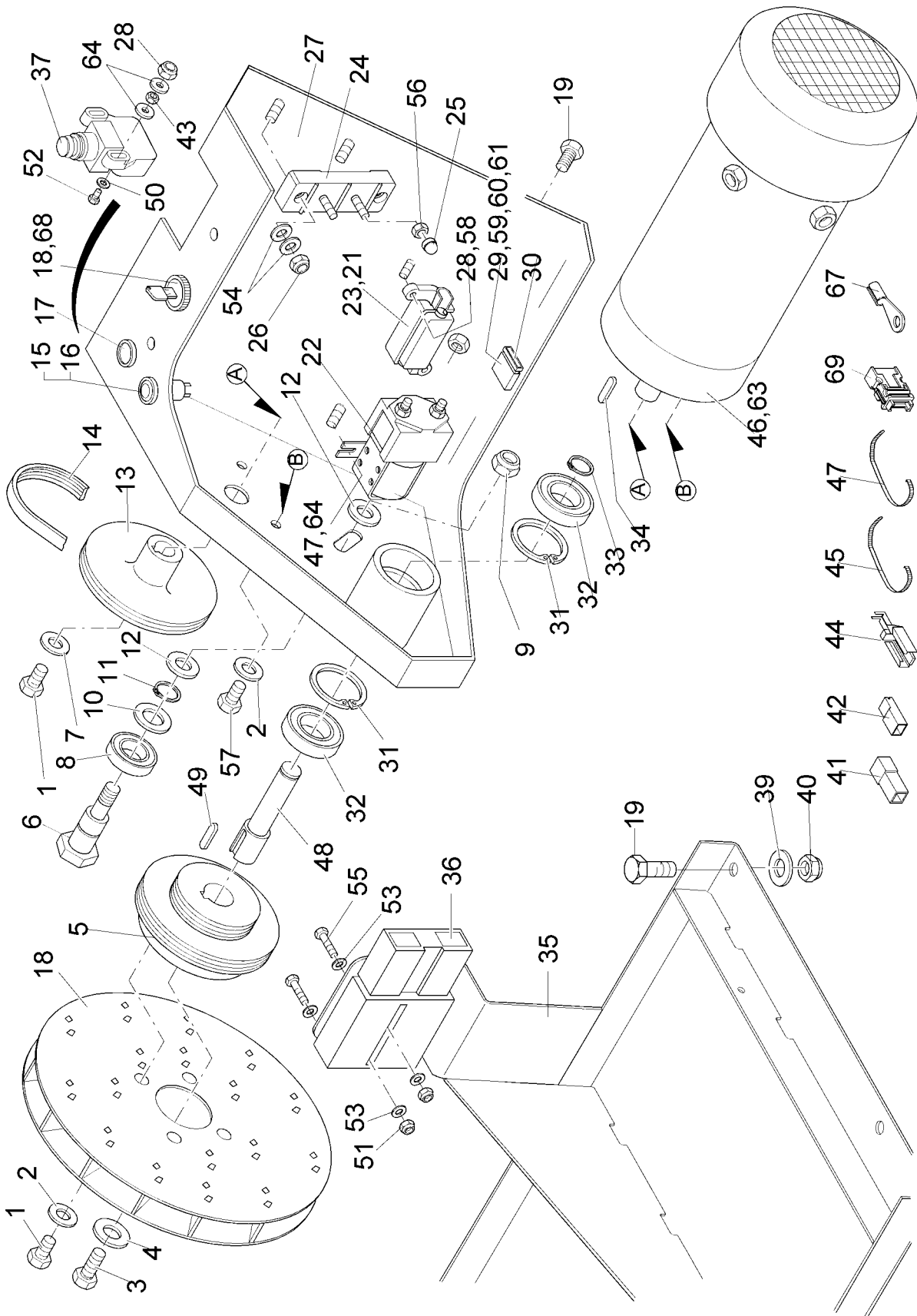


## Exploded views



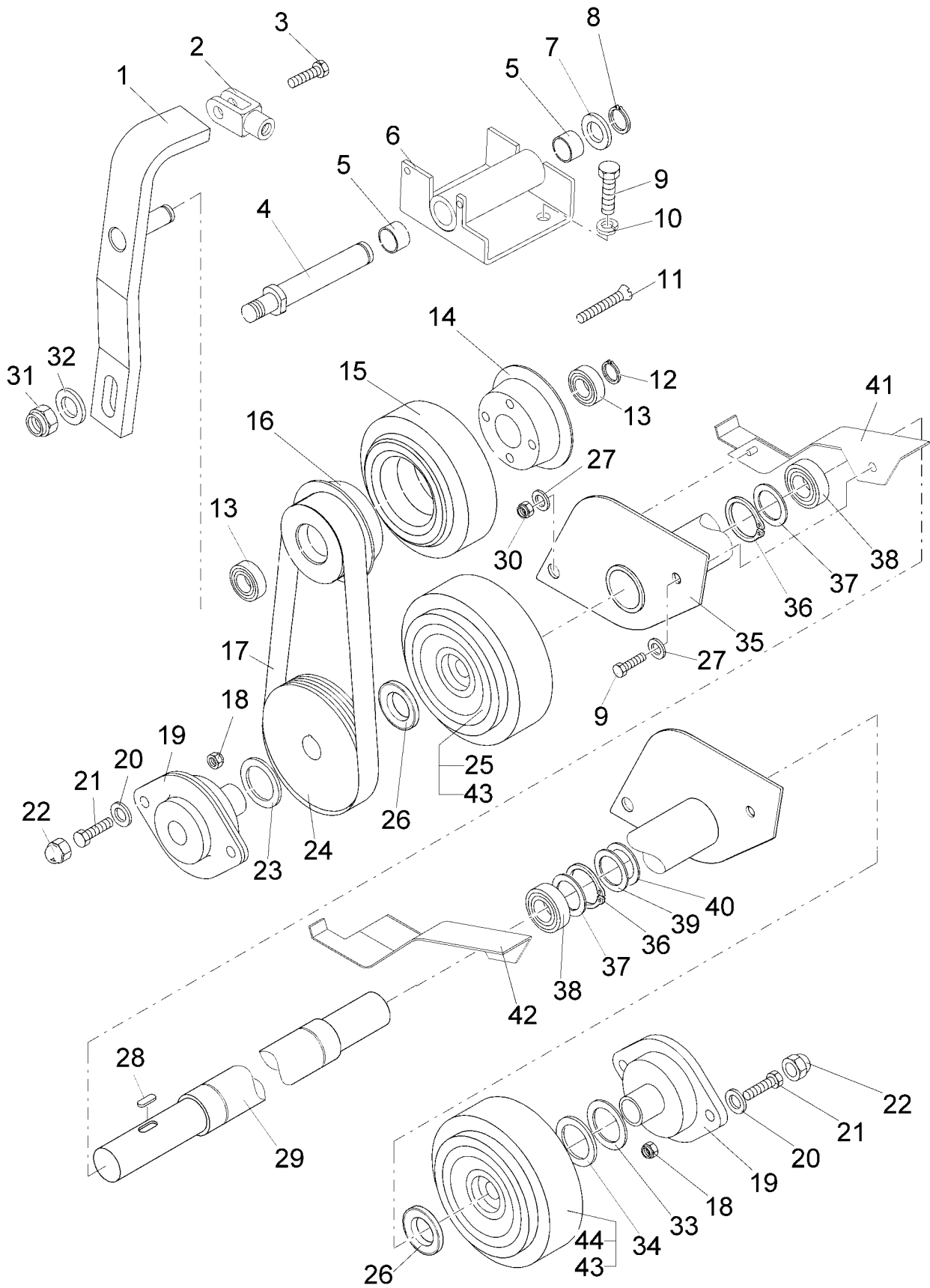
## Traction Drive

| Bild<br>Item<br>Rép. | Best.-Nr.<br>PN<br>Réf. No. | Stck.<br>Qty.<br>Qté. | Teilbezeichnung      | Description       |
|----------------------|-----------------------------|-----------------------|----------------------|-------------------|
| 1                    | 10-450                      | 5                     | 6kt-Schraube         | Hex. bolt         |
| 2                    | 73-094                      | 8                     | Sperrkantscheibe     | Detent washer     |
| 3                    | 05-309                      | 3                     | 6kt-Schraube         | Hex. bolt         |
| 4                    | 04-290                      | 1                     | Scheibe              | Washer            |
| 5                    | 53-168                      | 1                     | Riemenscheibe        | Belt pulley       |
| 6                    | 53-173                      | 1                     | Bolzen               | Bolt              |
| 7                    | 13-512                      | 2                     | Scheibe              | Washer            |
| 8                    | 70-541                      | 1                     | Kugellager           | Ball bearing      |
| 9                    | 05-150                      | 1                     | 6kt-Mutter           | Hex. nut          |
| 10                   | 15-518                      | 3                     | Paßscheibe           | Adjusting shim    |
| 11                   | 02-223                      | 1                     | Sicherungsring       | Retaining ring    |
| 12                   | 04-652                      | 2                     | Scheibe              | Washer            |
| 13                   | 74-590                      | 1                     | Riemenscheibe        | Belt pulley       |
| 14                   | 71-224                      | 1                     | Riemen Conti-V       | Belt conti-V      |
| 15                   | 13-375                      | 1                     | Kontrolleuchte, grün | Pilot lamp, green |
| 16                   | 101-426                     | 1                     | Glühlampe            | Bulb              |
| 17                   | 107-492                     | 1                     | Verschlussstopfen    | Plug              |
| 18                   | 02-171                      | 1                     | Schlüsselschalter    | Key switch        |
| 19                   | 05-308                      | 6                     | 6kt-Schraube         | Hex. bolt         |
| 20                   | 66-168                      | 1                     | Lüfterrad            | Fan wheel         |
| 21                   | 90-355                      | 1                     | Sicherung            | Fuse              |
| 22                   | 74-468                      | 1                     | Magnetschalter       | Ignition switch   |
| 23                   | 90-351                      | 1                     | Sicherungshalter     | Fuse holder       |
| 24                   | 15-283                      | 1                     | Klemmblock           | Clamping block    |
| 25                   | 52-591                      | 2                     | Schutzkappe          | Protective cap    |
| 26                   | 05-134                      | 3                     | 6kt-Mutter           | Hex. nut          |
| 27                   | 32-192                      | 1                     | Halterahmen          | Hold frame        |
| 28                   | 13-383                      | 2                     | 6kt-Mutter           | Hex. nut          |
| 29                   | 50-956                      | 1                     | Sicherungsgehäuse    | Fuse box          |
| 30                   | 90-612                      | 1                     | Stecksicherung       | Fuse link         |
| 31                   | 12-632                      | 2                     | Sicherungsring       | Retaining ring    |
| 32                   | 70-636                      | 2                     | Kugellager           | Ball bearing      |
| 33                   | 02-234                      | 1                     | Sicherungsring       | Retaining ring    |
| 34                   | 05-426                      | 1                     | Paßfeder             | Adjusting spring  |



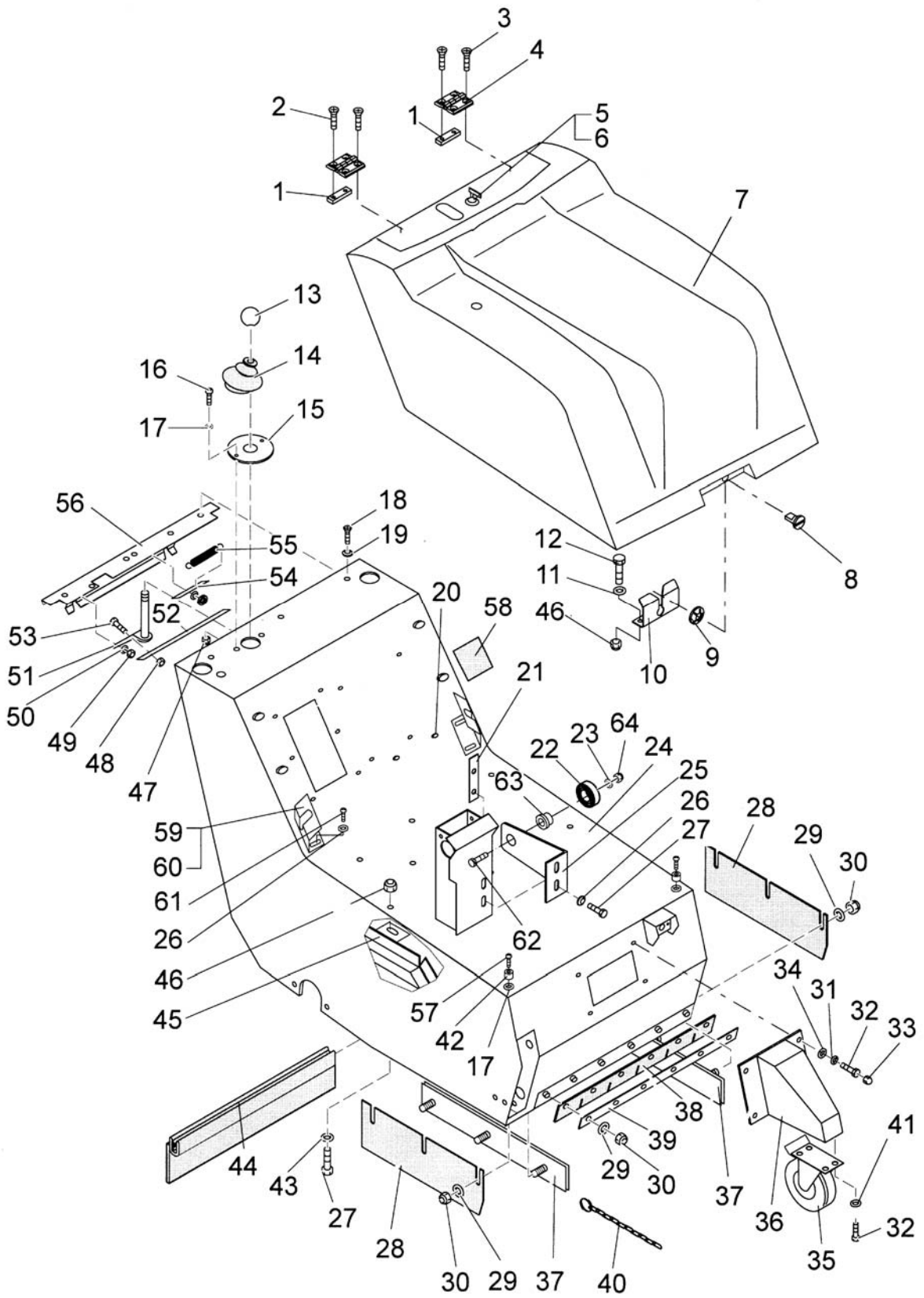
## Traction Drive

| Bild<br>Item<br>Rép. | Best.-Nr.<br>PN<br>Réf. No. | Stck.<br>Qty.<br>Qté. | Teilbezeichnung     | Description           |
|----------------------|-----------------------------|-----------------------|---------------------|-----------------------|
| 35                   | 105-477                     | 1                     | Batteriewanne       | Battery tray          |
| 36                   | 107-555                     | 1                     | Batteriestecker     | Connector             |
| 37                   | 92-761                      | 1                     | Schalter            | Switch                |
| 39                   | 05-375                      | 8                     | Scheibe             | Washer                |
| 40                   | 05-151                      | 4                     | 6kt-Mutter          | Hex. nut              |
| 41                   | 08-365                      | 1                     | Gehäuse für Stecker | Plug housing          |
| 42                   | 08-364                      | 9                     | Gehäuse für Hülse   | Socket housing        |
| 43                   | 05-281                      | 2                     | 6kt.Mutter          | Hex. Nut              |
| 44                   | 55-967                      | 1                     | Flachsteckhülse     | Flat connector sleeve |
| 45                   | 12-101                      | 6                     | Kabelbinder         | Cable tie             |
| 46                   | 71-223                      | 1                     | Elektromotor        | Electro motor         |
| 47                   | 12-115                      | 3                     | Kabelbinder         | Cable tie             |
| 48                   | 53-172                      | 1                     | Welle               | Shaft                 |
| 49                   | 12-628                      | 1                     | Paßfeder            | Adjusting spring      |
| 50                   | 55-715                      | 2                     | Scheibe             | Washer                |
| 51                   | 05-152                      | 2                     | 6kt-Mutter          | Hex. nut              |
| 52                   | 02-720                      | 2                     | Linsenschraube      | Fillister-head screw  |
| 53                   | 05-373                      | 2                     | Scheibe             | Washer                |
| 54                   | 95-877                      | 6                     | Scheibe             | Washer                |
| 55                   | 05-329                      | 2                     | 6kt-Schraube        | Hex. bolt             |
| 56                   | 05-333                      | 4                     | 6kt-Mutter          | Hex. nut              |
| 57                   | 05-301                      | 4                     | 6kt-Schraube        | Hex. bolt             |
| 58                   | 05-371                      | 2                     | Scheibe             | Washer                |
| 59                   | 02-218                      | 1                     | 6kt.-Schraube       | Hex. bolt             |
| 60                   | 55-374                      | 1                     | Scheibe             | Washer                |
| 61                   | 02-220                      | 1                     | 6kt-Mutter          | Hex. nut              |
| 63                   | 87-667                      | 4                     | Kohlebürste         | Carbon brush          |
| 64                   | 55-552                      | 2                     | Scheibe             | Washer                |
| 67                   | 12-640                      | 1                     | Kabelschuh          | Ring terminal         |
| 68                   | 74-589                      | 1                     | Schlüssel           | Key                   |
| 69                   | 73-365                      | 1                     | Sicherungshalter    | Fuse holder           |



## Travel Drive

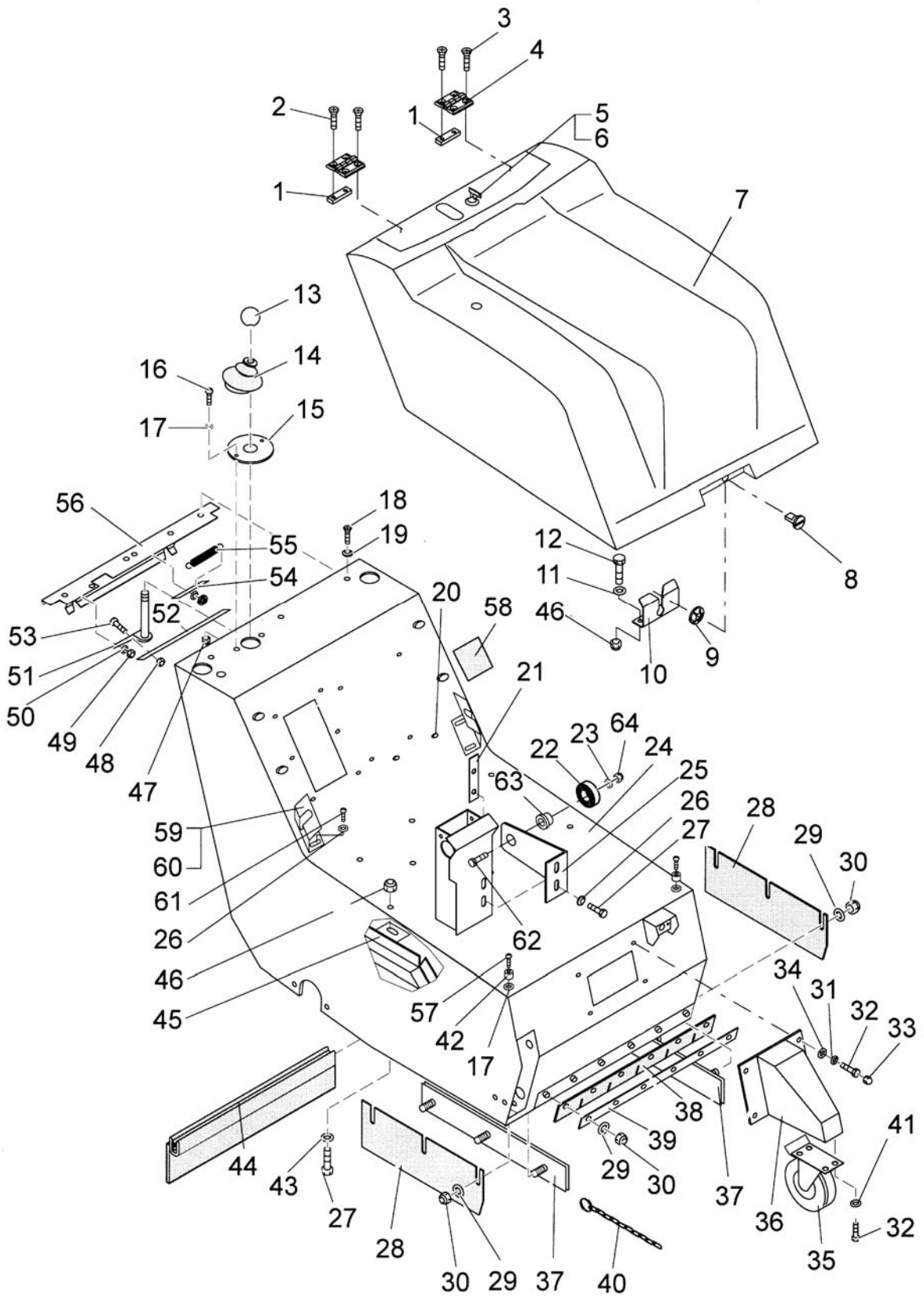
| Bild<br>Item<br>Rép. | Best.-Nr.<br>PN<br>Réf. No. | Stck.<br>Qty.<br>Qté. | Teilbezeichnung  | Description       |
|----------------------|-----------------------------|-----------------------|------------------|-------------------|
| 1                    | 105-100                     | 1                     | Hebel            | Lever             |
| 2                    | 85-157                      | 1                     | Gabelkopf        | Fork head         |
| 3                    | 05-303                      | 1                     | 6kt-Schraube     | Hex. bolt         |
| 4                    | 105-102                     | 1                     | Bolzen           | Bolt              |
| 5                    | 04-656                      | 2                     | DU-Buchse        | DU-Bushing        |
| 6                    | 105-101                     | 1                     | Halter           | Holder            |
| 7                    | 05-378                      | 1                     | Scheibe          | Washer            |
| 8                    | 02-234                      | 1                     | Sicherungsring   | Retaining ring    |
| 9                    | 05-308                      | 6                     | 6kt-Schraube     | Hex. bolt         |
| 10                   | 05-341                      | 2                     | Federring        | Lock washer       |
| 11                   | 52-926                      | 4                     | Senkschraube     | Countersunk screw |
| 12                   | 07-244                      | 1                     | Sicherungsring   | Retaining ring    |
| 13                   | 12-483                      | 2                     | Kugellager       | Ball bearing      |
| 14                   | 95-878                      | 1                     | Felgenhälfte     | Rim half          |
| 15                   | 91-186                      | 1                     | Reifen           | Tyre              |
| 16                   | 95-879                      | 1                     | Riemenscheibe    | Belt pulley       |
| 17                   | 91-184                      | 1                     | Riemen Conti-V   | Belt conti-V      |
| 18                   | 05-152                      | 4                     | 6kt-Mutter       | Hex. nut          |
| 19                   | 92-852                      | 2                     | Flanschlager     | Bearing           |
| 20                   | 05-373                      | 4                     | Scheibe          | Washer            |
| 21                   | 05-301                      | 4                     | 6kt-Schraube     | Hex. bolt         |
| 22                   | 52-591                      | 4                     | Schutzkappe      | Protective cap    |
| 23                   | 04-159                      | 1                     | Stützscheibe     | Back-up disc      |
| 24                   | 53-150                      | 1                     | Riemenscheibe    | Belt pulley       |
| 25                   | 107-043                     | 1                     | Rad, rechts      | Wheel, R.H.       |
| 26                   | 10-241                      | 2                     | Nilos-Ring       | Nilos-ring        |
| 27                   | 74-008                      | 2                     | Sperrkantscheibe | Safety washer     |
| 28                   | 12-628                      | 1                     | Paßfeder         | Adjusting spring  |
| 29                   | 107-044                     | 1                     | Radachse         | Wheel axle        |
| 30                   | 05-335                      | 2                     | 6kt-Mutter       | Hex. nut          |
| 31                   | 05-149                      | 2                     | 6kt-Mutter       | Hex. nut          |
| 32                   | 15-120                      | 2                     | Scheibe          | Washer            |
| 33                   | 12-568                      | 1                     | Paßscheibe       | Adjusting shim    |
| 34                   | 05-379                      | 1                     | Scheibe          | Washer            |
| 35                   | 105-480                     | 1                     | Wippe            | Rocker            |
| 36                   | 05-431                      | 2                     | Sicherungsring   | Retaining ring    |
| 37                   | 13-651                      | 2                     | Stützring        | Back-up disc      |
| 38                   | 04-625                      | 2                     | Kugellager       | Ball bearing      |
| 39                   | 04-643                      | 2                     | Paßscheibe       | Adjusting shim    |
| 40                   | 15-370                      | 1                     | Paßscheibe       | Adjusting shim    |
| 41                   | 105-481                     | 1                     | Winkel, links    | Angle, L.H.       |
| 42                   | 105-482                     | 1                     | Winkel, rechts   | Angle, R.H.       |
| 43                   | 04-145                      | 2                     | Innen ring       | Inside ring       |
| 44                   | 107-042                     | 1                     | Rad, links       | Wheel, L.H.       |





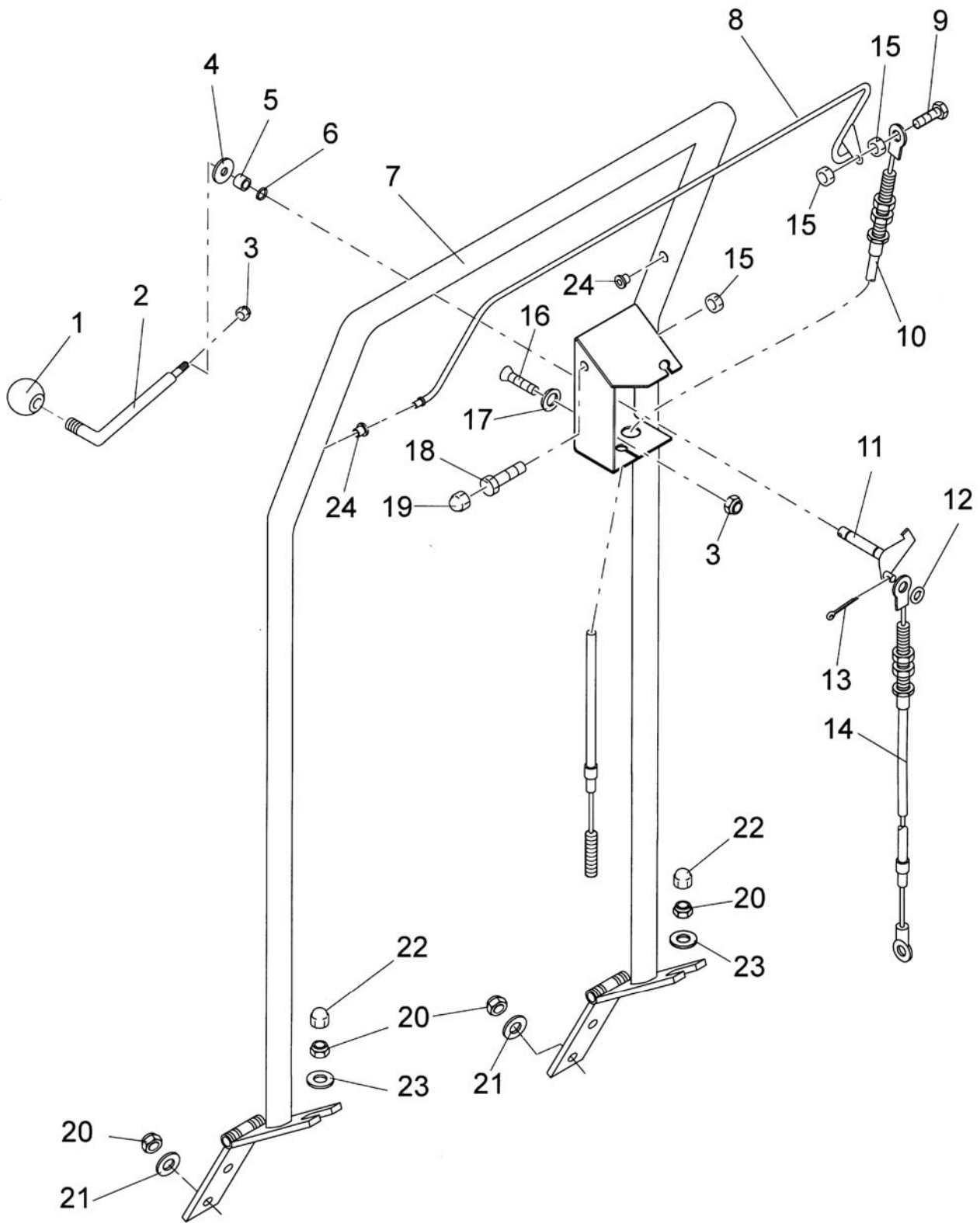
## Chassis – Covering

| Bild<br>Item<br>Rép. | Best.-Nr.<br>PN<br>Réf. No. | Stck.<br>Qty.<br>Qté. | Teilbezeichnung   | Description         |
|----------------------|-----------------------------|-----------------------|-------------------|---------------------|
| 1                    | 85-368                      | 2                     | Lasche            | Plate               |
| 2                    | 15-774                      | 4                     | Senkschraube      | Countersunk screw   |
| 3                    | 04-455                      | 4                     | Senkschraube      | Countersunk screw   |
| 4                    | 02-923                      | 2                     | Scharnier         | Hinge               |
| 5                    | 02-169                      | 1                     | Zündschalter      | Ignition switch     |
| 6                    | 74-589                      | 1                     | Schlüssel (Satz)  | Key (set)           |
| 7                    | 107-554                     | 1                     | Haube             | Hood                |
| 8                    | 105-096                     | 1                     | Drehriegel        | Twistlock           |
| 9                    | 53-879                      | 1                     | Sicherungsscheibe | Retaining disc      |
| 10                   | 105-095                     | 1                     | Riegelblech       | Locking plate       |
| 11                   | 13-512                      | 6                     | Scheibe           | Washer              |
| 12                   | 05-301                      | 2                     | 6kt-Schraube      | Hex. bolt           |
| 13                   | 15-467                      | 1                     | Kugelkopf         | Ball element        |
| 14                   | 53-112                      | 1                     | Gummibalg         | Rubber below        |
| 15                   | 53-111                      | 1                     | Haltescheibe      | Locking disc        |
| 16                   | 73-155                      | 2                     | Linsenschraube    | Fillister head srew |
| 17                   | 05-371                      | 6                     | Scheibe           | Washer              |
| 18                   | 15-468                      | 3                     | Senkschraube      | Countersunk screw   |
| 19                   | 15-769                      | 3                     | Hohlscheibe       | Hollow disc         |
| 20                   | 07-380                      | 2                     | Verschlußstopfen  | Plug                |
| 21                   | 04-144                      | 1                     | Gewindeplatte     | Threaded plate      |
| 22                   | 70-541                      | 1                     | Kugellager        | Ball bearing        |
| 23                   | 74-008                      | 1                     | Sperrkantscheibe  | Safety washer       |
| 24                   | 107-409                     | 1                     | Fahrgestell       | Chassis             |
| 25                   | 04-143                      | 1                     | Haltewinkel       | Locking angle       |
| 26                   | 13-512                      | 6                     | Scheibe           | Washer              |
| 27                   | 05-301                      | 3                     | 6kt-Schraube      | Hex. bolt           |
| 28                   | 02-168                      | 2                     | Dichtleiste       | Sealing tape        |
| 29                   | 05-372                      | 13                    | Scheibe           | Washer              |
| 30                   | 04-236                      | 13                    | Hutmutter         | Cap nut             |
| 31                   | 05-341                      | 4                     | Federring         | Lock washer         |
| 32                   | 05-308                      | 8                     | 6kt-Schraube      | Hex. bolt           |
| 33                   | 13-161                      | 4                     | Schutzkappe       | Protective cap      |
| 34                   | 05-375                      | 4                     | Scheibe           | Washer              |
| 35                   | 11-211                      | 1                     | Lenkrolle         | Guide roller        |
| 36                   | 105-544                     | 1                     | Halter            | Holder              |
| 37                   | 53-101                      | 2                     | Klemmleiste       | Clamping strip      |
| 38                   | 105-550                     | 1                     | Schürze           | Apron               |
| 39                   | 105-549                     | 1                     | Strebe            | Strut               |
| 40                   | 04-283                      | 1                     | Erdungskette      | Earth chain         |
| 41                   | 74-009                      | 4                     | Sperrkantscheibe  | Detent washer       |
| 42                   | 74-036                      | 2                     | Kabelmuffe        | Grommet             |
| 43                   | 05-373                      | 2                     | Scheibe           | Washer              |
| 44                   | 105-548                     | 1                     | Dichtprofil       | Seal profil         |



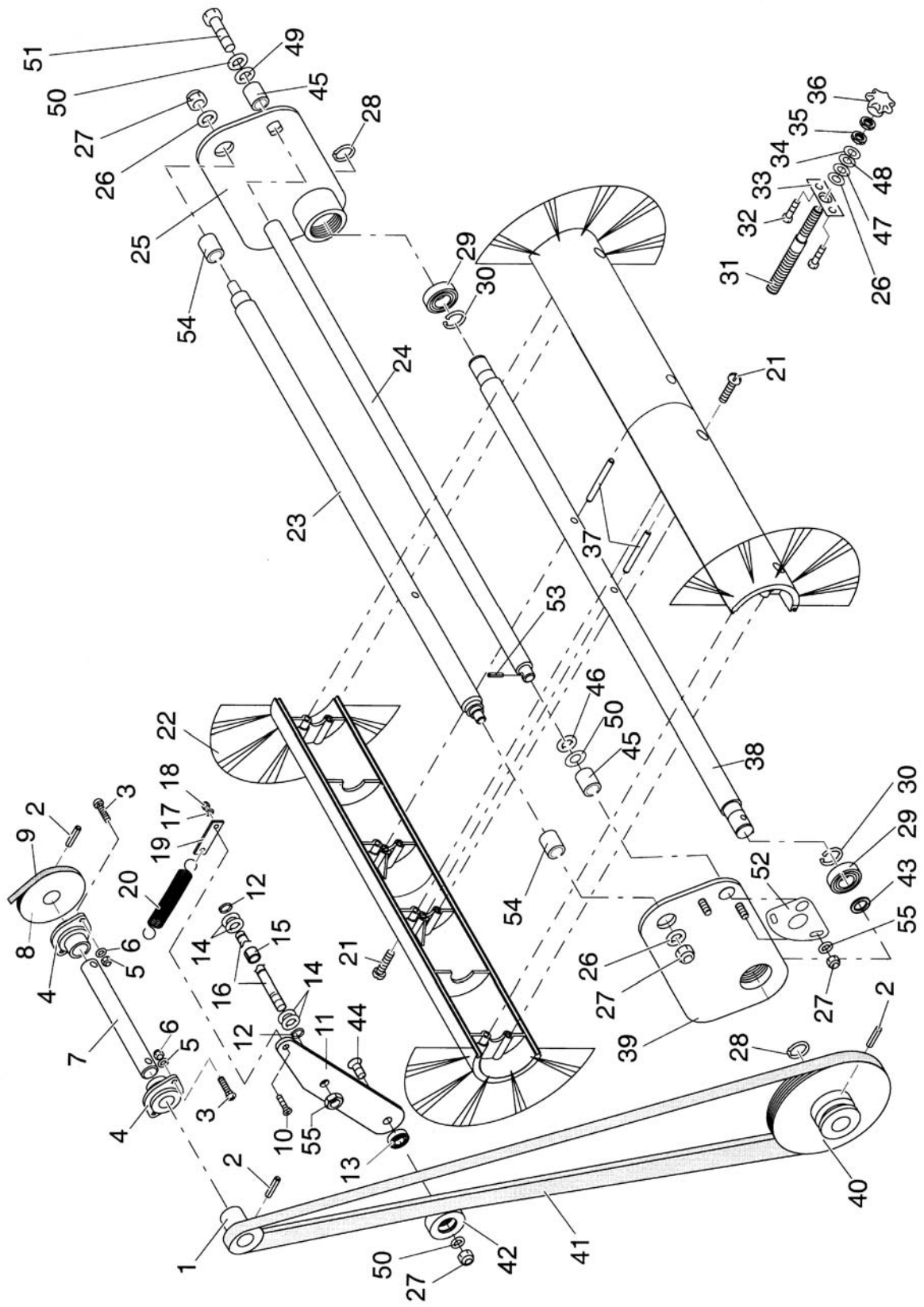
## Chassis – Covering

| Bild<br>Item<br>Rép. | Best.-Nr.<br>PN<br>Réf. No. | Stck.<br>Qty.<br>Qté. | Teilbezeichnung                   | Description                      |
|----------------------|-----------------------------|-----------------------|-----------------------------------|----------------------------------|
| 45                   | 105-545                     | 1                     | Halter                            | Holder                           |
| 46                   | 05-152                      | 3                     | 6kt-Mutter                        | Hex. nut                         |
| 47                   | 13-383                      | 2                     | 6kt-Mutter                        | Hex. nut                         |
| 48                   | 05-332                      | 2                     | 6kt-Mutter                        | Hex. nut                         |
| 49                   | 05-151                      | 2                     | 6kt-Mutter                        | Hex. nut                         |
| 50                   | 07-423                      | 4                     | Scheibe                           | Washer                           |
| 51                   | 53-105                      | 1                     | Hebel                             | Lever                            |
| 52                   | 53-108                      | 2                     | Strebe                            | Strut                            |
| 53                   | 15-280                      | 2                     | 6kt-Schraube                      | Hex. bolt                        |
| 54                   | 53-107                      | 1                     | Platte                            | Plate                            |
| 55                   | 70-531                      | 1                     | Zugfeder                          | Pull spring                      |
| 56                   | 105-547                     | 1                     | Winkel                            | Angle                            |
| 57                   | 13-485                      | 2                     | Blechschaube                      | Panel screw                      |
| 58                   | 73-962                      | 1                     | Moosgummi                         | Foam rubber                      |
| 59                   | 105-546                     | 1                     | Winkel                            | Angle                            |
| 60                   | 02-880                      | 2                     | Tülle                             | Bush                             |
| 61                   | 05-396                      | 4                     | Linsenblechschaube                | Raised countersunk head<br>screw |
| 62                   | 05-311                      | 1                     | 6kt-Schraube                      | Hex. bolt                        |
| 63                   | 107-338                     | 1                     | Buchse                            | Bushing                          |
| 64                   | 05-335                      | 1                     | 6kt-Mutter                        | Hex. nut                         |
|                      |                             |                       | Aufkleber                         | Decal                            |
|                      | 105-540                     | 1                     | Aufkleber,<br>Haubenverriegelung  | Decal, look guard of hood        |
|                      | 73-971                      | 1                     | Aufkleber, Gebläse                | Decal, ventilator                |
|                      | 73-972                      | 1                     | Motor, Start                      | Motor, start                     |
|                      | 107-353                     | 1                     | Trägerfolie                       | Decal                            |
|                      | 300-116                     | 1                     | Aufkleber, Seitenbesen            | Decal, side broom                |
|                      | 113-269                     | 1                     | Aufkleber 12V                     | Decal, 12V                       |
|                      | 300-118                     | 1                     | Aufkleber, Kehrwalze              | Decal, Sweeper roller            |
|                      | 107-171                     | 1                     | Aufkleber,<br>Bedienungsanleitung | Decal, instruction manual        |
|                      | 300-119                     | 1                     | Aufkleber, Pfeil                  | Decal                            |
|                      | 113-159                     | 1                     | Aufkleber, drehende Teile         | Decal, rotating parts            |



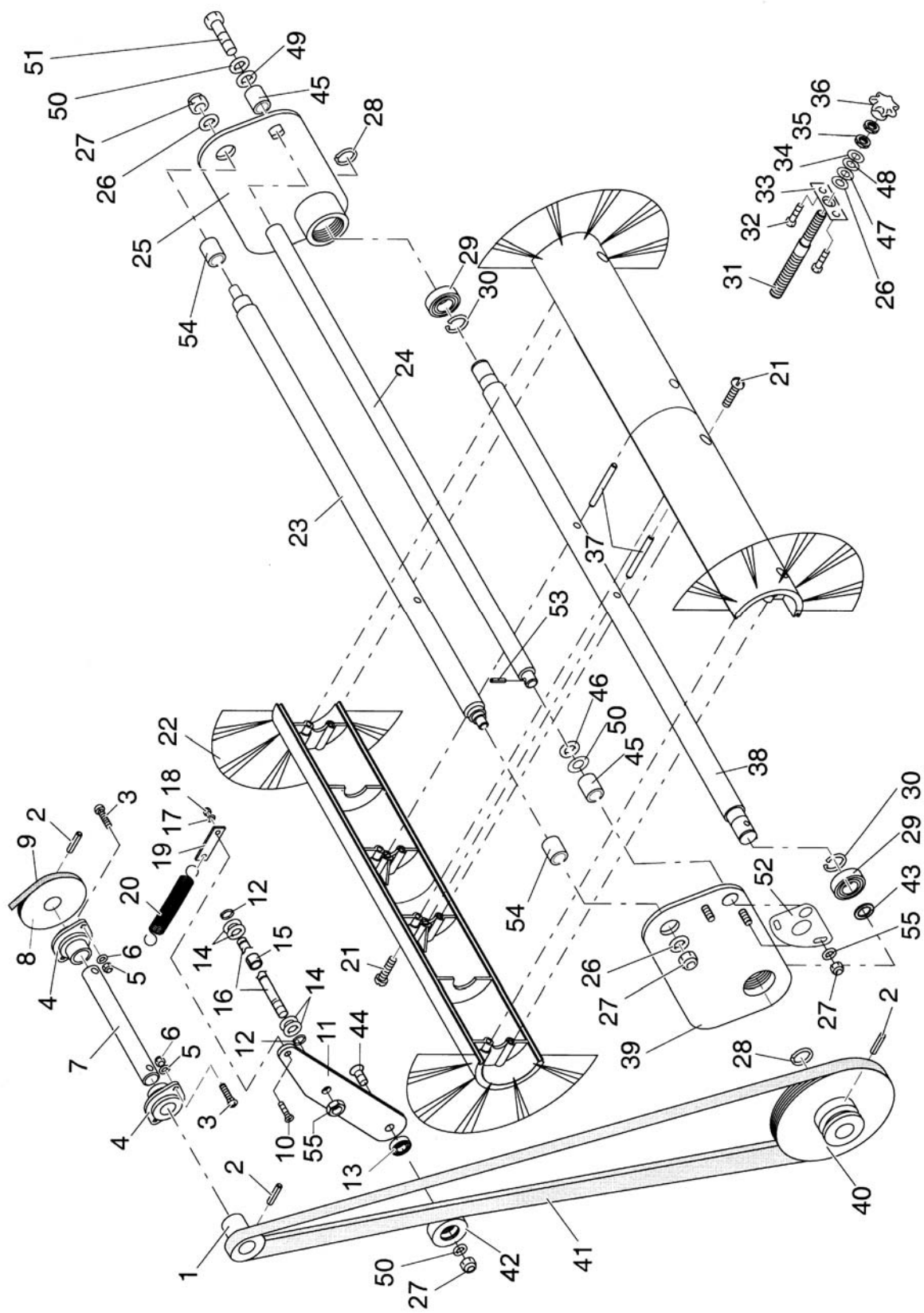
## Steering Handle

| Bild<br>Item<br>Rép. | Best.-Nr.<br>PN<br>Réf. No. | Stck.<br>Qty.<br>Qté. | Teilbezeichnung  | Description           |
|----------------------|-----------------------------|-----------------------|------------------|-----------------------|
| 1                    | 12-223                      | 1                     | Kugelknopf       | Ball end              |
| 2                    | 53-161                      | 1                     | Schalthebel      | Shift lever           |
| 3                    | 05-152                      | 1                     | 6kt-Mutter       | Hex. nut              |
| 4                    | 15-120                      | 1                     | Scheibe          | Washer                |
| 5                    | 07-790                      | 1                     | DU-Buchse        | DU-bushing            |
| 6                    | 07-244                      | 2                     | Sicherungsring   | Retaining ring        |
| 7                    | 105-265                     | 1                     | Lenkholm         | Steering handle       |
| 8                    | 105-264                     | 1                     | Griffbügel       | Bow, handle           |
| 9                    | 05-302                      | 1                     | 6kt-Schraube     | Hex. bolt             |
| 10                   | 107-084                     | 1                     | Bowdenzug        | Bowden cable          |
| 11                   | 53-165                      | 1                     | Schaltwelle      | Shift shaft           |
| 12                   | 05-373                      | 1                     | Scheibe          | Washer                |
| 13                   | 53-454                      | 1                     | Splint           | Cotter pin            |
| 14                   | 24-660                      | 1                     | Bowdenzug        | Bowden cable          |
| 15                   | 05-333                      | 3                     | 6kt-Mutter       | Hex. nut              |
| 16                   | 15-468                      | 1                     | Senkschraube     | Countersunk screw     |
| 17                   | 15-769                      | 1                     | Hohlscheibe      | Hollow disc           |
| 18                   | 05-329                      | 1                     | 6kt-Schraube     | Hex. bolt             |
| 19                   | 52-591                      | 1                     | Schutzkappe      | Protective cap        |
| 20                   | 05-151                      | 6                     | 6kt-Mutter       | Hex. nut              |
| 21                   | 74-009                      | 4                     | Sperrkantscheibe | Detent washer         |
| 22                   | 13-161                      | 2                     | Schutzkappe      | Protective cap        |
| 23                   | 04-290                      | 2                     | Scheibe          | Washer                |
| 24                   | 04-140                      | 2                     | Gleitlagerbuchse | Slide bearing bushing |



## Sweep Roller with Travel Drive

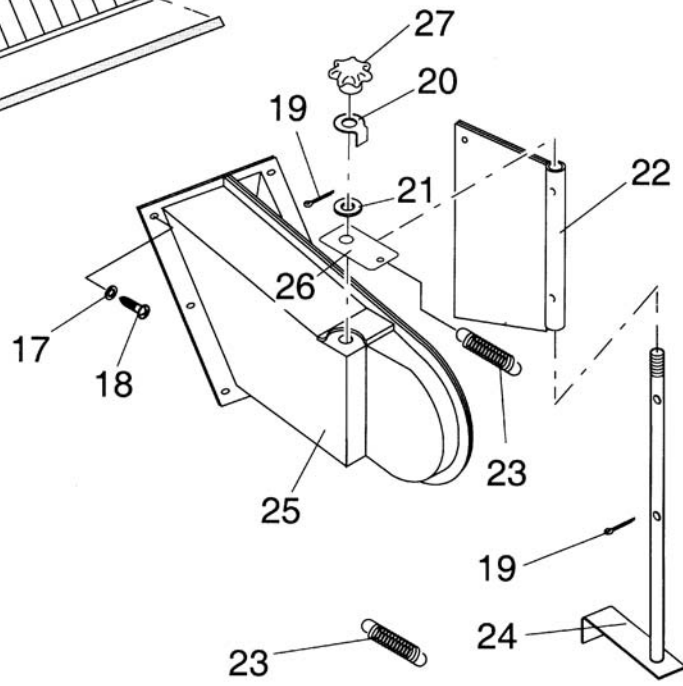
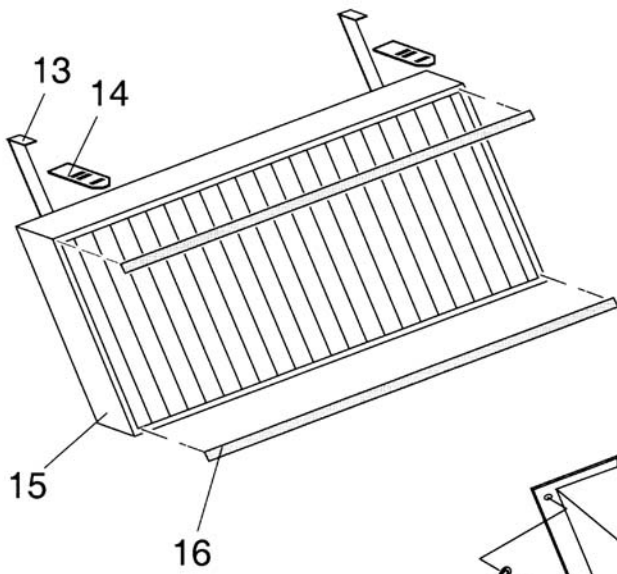
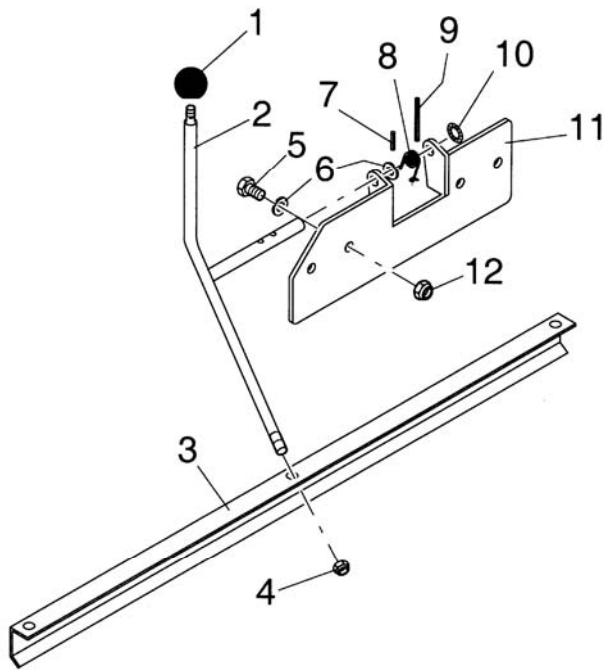
| Bild<br>Item<br>Rép. | Best.-Nr.<br>PN<br>Réf. No. | Stck.<br>Qty.<br>Qté. | Teilbezeichnung       | Description                   |
|----------------------|-----------------------------|-----------------------|-----------------------|-------------------------------|
| 1                    | 53-129                      | 1                     | Riemenscheibe         | Belt pulley                   |
| 2                    | 05-758                      | 3                     | Spannhülse            | Tensioning sleeve             |
| 3                    | 07-654                      | 4                     | Flachrundschraube     | Screw                         |
| 4                    | 92-852                      | 2                     | Flanschlager          | Bearing                       |
| 5                    | 05-373                      | 4                     | Scheibe               | Washer                        |
| 6                    | 05-152                      | 4                     | 6kt-Mutter            | Hex. nut                      |
| 7                    | 105-510                     | 1                     | Welle                 | Shaft                         |
| 8                    | 53-132                      | 1                     | Riemenscheibe         | Belt pulley                   |
| 9                    | 91-179                      | 1                     | Riemen Conti-V        | Belt conti-V                  |
| 10                   | 15-774                      | 1                     | Senkschraube          | Countersunk screw             |
| 11                   | 107-113                     | 1                     | Hebel                 | Lever                         |
| 12                   | 10-323                      | 2                     | Sicherungsring        | Retaining ring                |
| 13                   | 12-633                      | 1                     | Kugellager            | Ball bearing                  |
| 14                   | 10-670                      | 2                     | Scheibe               | Washer                        |
| 15                   | 96-769                      | 1                     | Gleitlager            | Slide bearing                 |
| 16                   | 107-415                     | 1                     | Bolzen                | Bolt                          |
| 17                   | 05-372                      | 1                     | Scheibe               | Washer                        |
| 18                   | 05-134                      | 1                     | 6kt-Mutter            | Hex. nut                      |
| 19                   | 53-143                      | 1                     | Platte                | Plate                         |
| 20                   | 70-531                      | 1                     | Zugfeder              | Pull spring                   |
| 21                   | 90-607                      | 8                     | Linsenkopfschraube    | Raised countersunk head screw |
| 22                   | 105-503                     | 1                     | Kehrwalze             | Sweeper roller                |
| 23                   | 105-512                     | 1                     | Verstellachse         | Adjusting axle                |
| 24                   | 105-511                     | 1                     | Drehachse             | Axle of rotation              |
| 25                   | 105-508                     |                       | Besenschwinge, links  | Brushrocker, L.H.             |
| 26                   | 05-375                      | 3                     | Scheibe               | Washer                        |
| 27                   | 05-151                      | 4                     | 6kt-Mutter            | Hex. nut                      |
| 28                   | 02-223                      | 2                     | Sicherungsring        | Retaining ring                |
| 29                   | 70-541                      | 2                     | Kugellager            | Ball bearing                  |
| 30                   | 13-310                      | 4                     | Sicherungsring        | Retaining ring                |
| 31                   | 53-137                      | 1                     | Gewindebolzen         | Threaded bolt                 |
| 32                   | 15-280                      | 2                     | 6kt-Schraube          | Hex. bolt                     |
| 33                   | 105-507                     | 1                     | Lasche                | Plate                         |
| 34                   | 12-607                      | 1                     | Kugelscheibe          | Ballwasher                    |
| 35                   | 73-355                      | 2                     | 6kt.-Mutter           | Hex. nut                      |
| 36                   | 48-043                      | 1                     | Handrad               | Hand wheel                    |
| 37                   | 90-608                      | 2                     | Zylinderstift         | Cylinder pin                  |
| 38                   | 105-502                     | 1                     | Besenwelle            | Brush shaft                   |
| 39                   | 105-509                     | 1                     | Besenschwinge, rechts | Brushrocker, R.H.             |





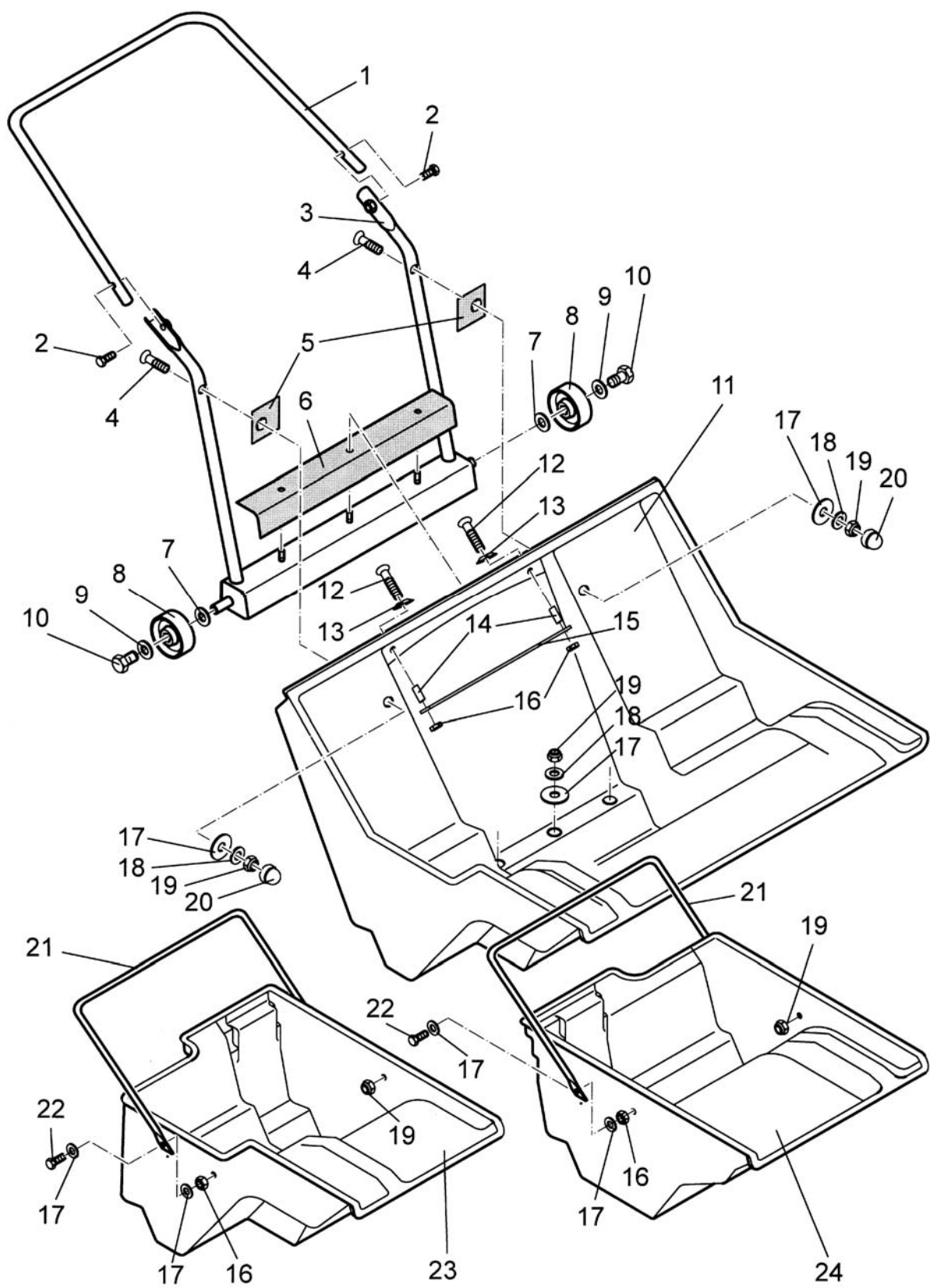
## Sweep Roller with Travel Drive

| Bild<br>Item<br>Rép. | Best.-Nr.<br>PN<br>Réf. No. | Stck.<br>Qty.<br>Qté. | Teilbezeichnung  | Description       |
|----------------------|-----------------------------|-----------------------|------------------|-------------------|
| 40                   | 53-130                      | 1                     | Riemenscheibe    | Belt pulley       |
| 41                   | 91-182                      | 1                     | Riemen Conti-V   | Belt conti-V      |
| 42                   | 53-135                      | 1                     | Spannrolle       | Idler pulley      |
| 43                   | 04-159                      | 2                     | Stützscheibe     | Back-up disc      |
| 44                   | 85-546                      | 2                     | Senkschraube     | Countersunk screw |
| 45                   | 105-514                     | 2                     | Gleitlagerbuchse | Bushing           |
| 46                   | 90-602                      | 2                     | Paßscheibe       | Adjusting shim    |
| 47                   | 95-924                      | 1                     | Fächerscheibe    | Washer            |
| 48                   | 50-307                      | 4                     | Tellerfeder      | Cup spring        |
| 49                   | 15-253                      | 1                     | Stützscheibe     | Back-up disc      |
| 50                   | 74-009                      | 2                     | Sperrkantscheibe | Detent washer     |
| 51                   | 05-309                      | 1                     | 6kt-Schraube     | Hex. bolt         |
| 52                   | 105-513                     | 1                     | Platte           | Plate             |
| 53                   | 04-562                      | 1                     | Spannhülse       | Tensioning sleeve |
| 54                   | 105-515                     | 1                     | Gleitlagerbuchse | Bushing           |
| 55                   | 07-471                      | 1                     | 6kt-Mutter       | Hex. nut          |
| 56                   | 107-557                     | 1                     | Buchse           | Bushing           |
| 57                   | 12-632                      | 1                     | Sicherungsring   | Retaining ring    |



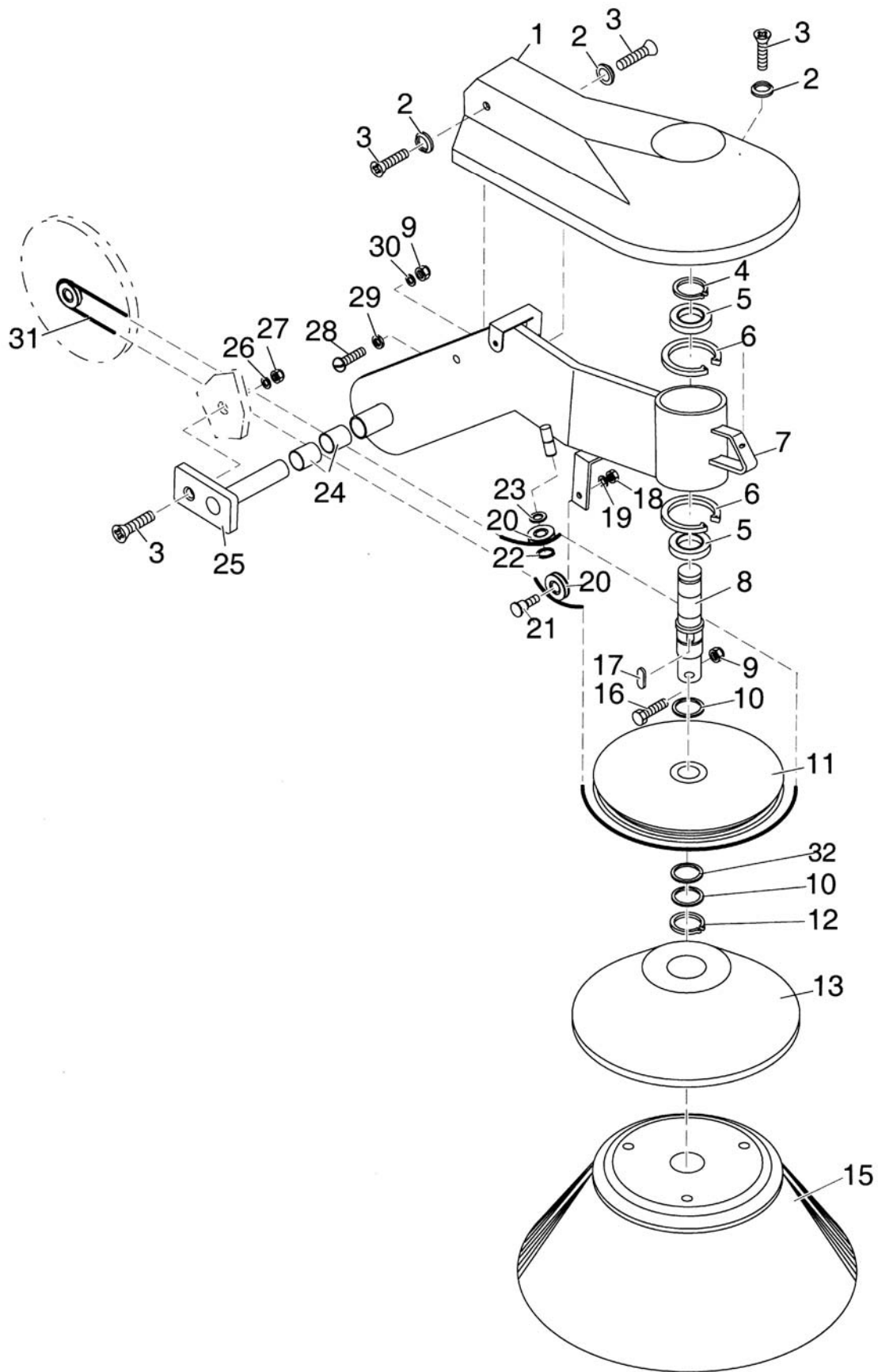
## Filter Installation

| Bild<br>Item<br>Rép. | Best.-Nr.<br>PN<br>Réf. No. | Stck.<br>Qty.<br>Qté. | Teilbezeichnung     | Description                   |
|----------------------|-----------------------------|-----------------------|---------------------|-------------------------------|
| 1                    | 15-467                      | 1                     | Kugelkopf           | Ball element                  |
| 2                    | 69-678                      | 1                     | Hebel               | Lever                         |
| 3                    | 28-228                      | 1                     | Profilschiene       | Profile bar                   |
| 4                    | 05-152                      | 1                     | 6kt-Mutter          | Hex. nut                      |
| 5                    | 05-310                      | 4                     | 6kt-Schraube        | Hex. bolt                     |
| 6                    | 05-375                      | 5                     | Scheibe             | Washer                        |
| 7                    | 02-506                      | 1                     | Spannstift          | Tightening pin                |
| 8                    | 69-667                      | 1                     | Schenkelfeder       | Spring                        |
| 9                    | 04-680                      | 1                     | Spiralstift         | Spiral pin                    |
| 10                   | 85-442                      | 1                     | Sicherungsscheibe   | Retaining washer              |
| 11                   | 69-679                      | 1                     | Halteplatte         | Hold plate                    |
| 12                   | 05-151                      | 4                     | 6kt-Mutter          | Hex. nut                      |
| 13                   | 05-989                      | 2                     | Spannband           | Tightening strap              |
| 14                   | 107-276                     | 2                     | Lasche              | Plate                         |
| 15                   | 34-091                      | 1                     | Plattenfilter       | Plate filter                  |
| 16                   | 74-862                      | 2                     | Tesamoll            | Tesamoll                      |
| 17                   | 13-512                      | 6                     | Scheibe             | Washer                        |
| 18                   | 05-396                      | 6                     | Linsenblechschraube | Raised countersunk head screw |
| 19                   | 96-152                      | 2                     | Splint              | Cotter pin                    |
| 20                   | 05-250                      | 1                     | Sicherungsblech     | Locking plate                 |
| 21                   | 02-061                      | 1                     | Stützscheibe        | Back-up disc                  |
| 22                   | 53-156                      | 1                     | Klappe              | Flap                          |
| 23                   | 53-695                      | 2                     | Zugfeder            | Pull spring                   |
| 24                   | 53-157                      | 1                     | Drehhebel           | Turning lever                 |
| 25                   | 91-197                      | 1                     | Saugkanal           | Suction channel               |
| 26                   | 53-154                      | 1                     | Platte              | Plate                         |
| 27                   | 107-105                     | 1                     | Kreuzgriff          | Star handle                   |



## Lifter Hopper

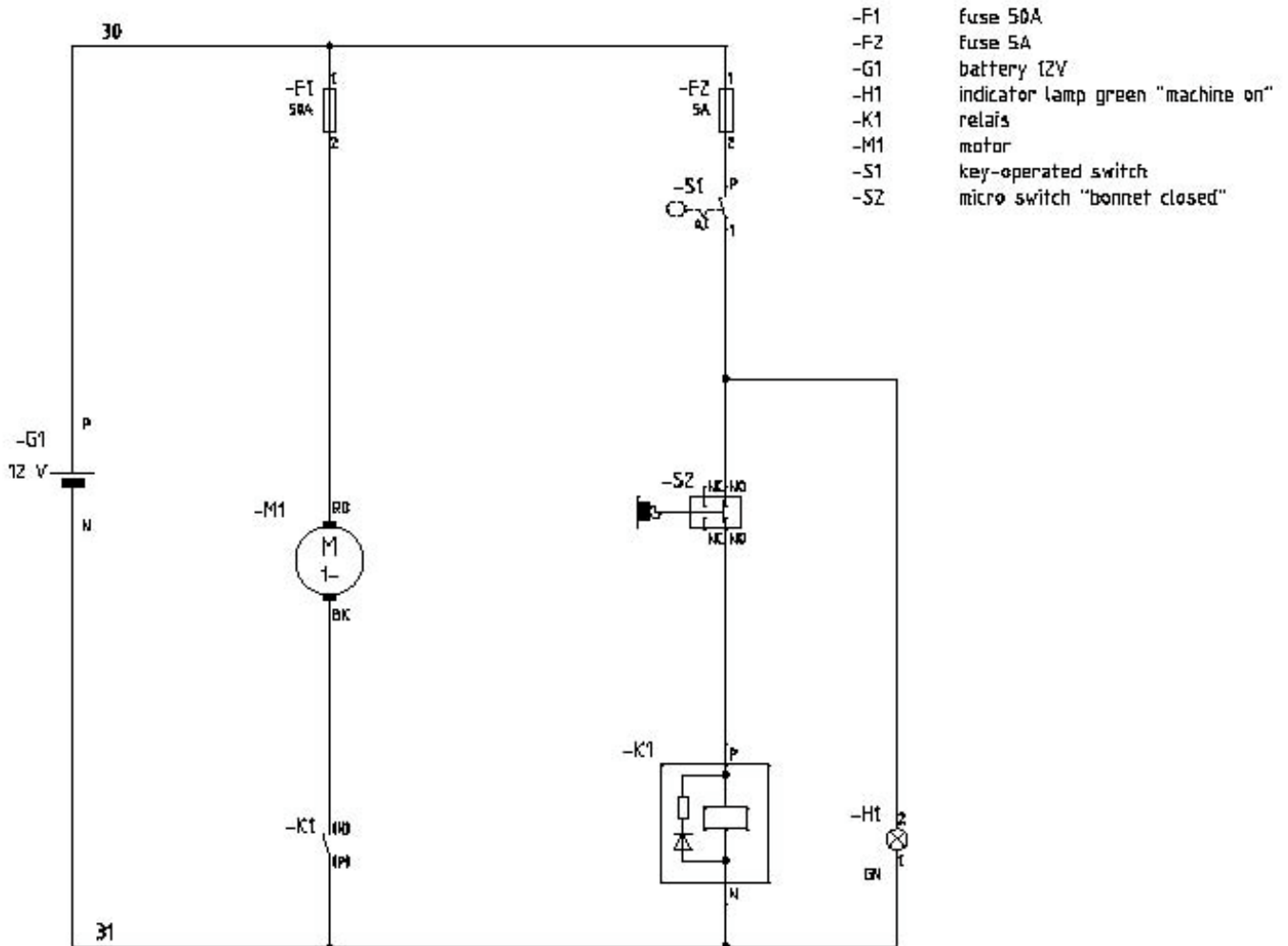
| Bild<br>Item<br>Rép. | Best.-Nr.<br>PN<br>Réf. No. | Stck.<br>Qty.<br>Qté. | Teilbezeichnung  | Description       |
|----------------------|-----------------------------|-----------------------|------------------|-------------------|
| 1                    | 105-516                     | 1                     | Bügelgriff       | Bow handle        |
| 2                    | 55-116                      | 2                     | Senkschraube     | Countersunk screw |
| 3                    | 105-517                     | 1                     | Träger           | Bracket           |
| 4                    | 12-601                      | 2                     | Senkschraube     | Countersunk screw |
| 5                    | 105-523                     | 2                     | Gummilasche      | Rubber strap      |
| 6                    | 105-524                     | 1                     | Gummiabdeckung   | Rubber covering   |
| 7                    | 05-378                      | 2                     | Scheibe          | Washer            |
| 8                    | 105-522                     | 2                     | Rad              | Wheel             |
| 9                    | 74-008                      | 2                     | Sperrkantscheibe | Safety washer     |
| 10                   | 15-181                      | 2                     | 6kt-Schraube     | Hex.bolt          |
| 11                   | 107-553                     | 1                     | Schmutzbehälter  | Lifter hopper     |
| 12                   | 10-950                      | 2                     | Senkschraube     | Countersunk screw |
| 13                   | 15-769                      | 2                     | Hohlscheibe      | Hollow disc       |
| 14                   | 53-160                      | 2                     | Abstandshülse    | Spacer sleeve     |
| 15                   | 53-158                      | 1                     | Strebe           | Strut             |
| 16                   | 13-579                      | 6                     | 6kt-Mutter       | Hex. nut          |
| 17                   | 13-512                      | 17                    | Scheibe          | Washer            |
| 18                   | 10-072                      | 5                     | Scheibe          | Washer            |
| 19                   | 05-152                      | 9                     | 6kt-Mutter       | Hex. nut          |
| 20                   | 52-591                      | 2                     | Schutzkappe      | Protective cap    |
| 21                   | 105-521                     | 2                     | Bügelgriff       | Bow handle        |
| 22                   | 15-407                      | 4                     | 6kt-Schraube     | Hex. bolt         |
| 23                   | 105-519                     | 1                     | Behälter, rechts | Hopper, R.H.      |
| 24                   | 105-520                     | 1                     | Behälter, links  | Hopper, L.H.      |



## Side Brush Drive

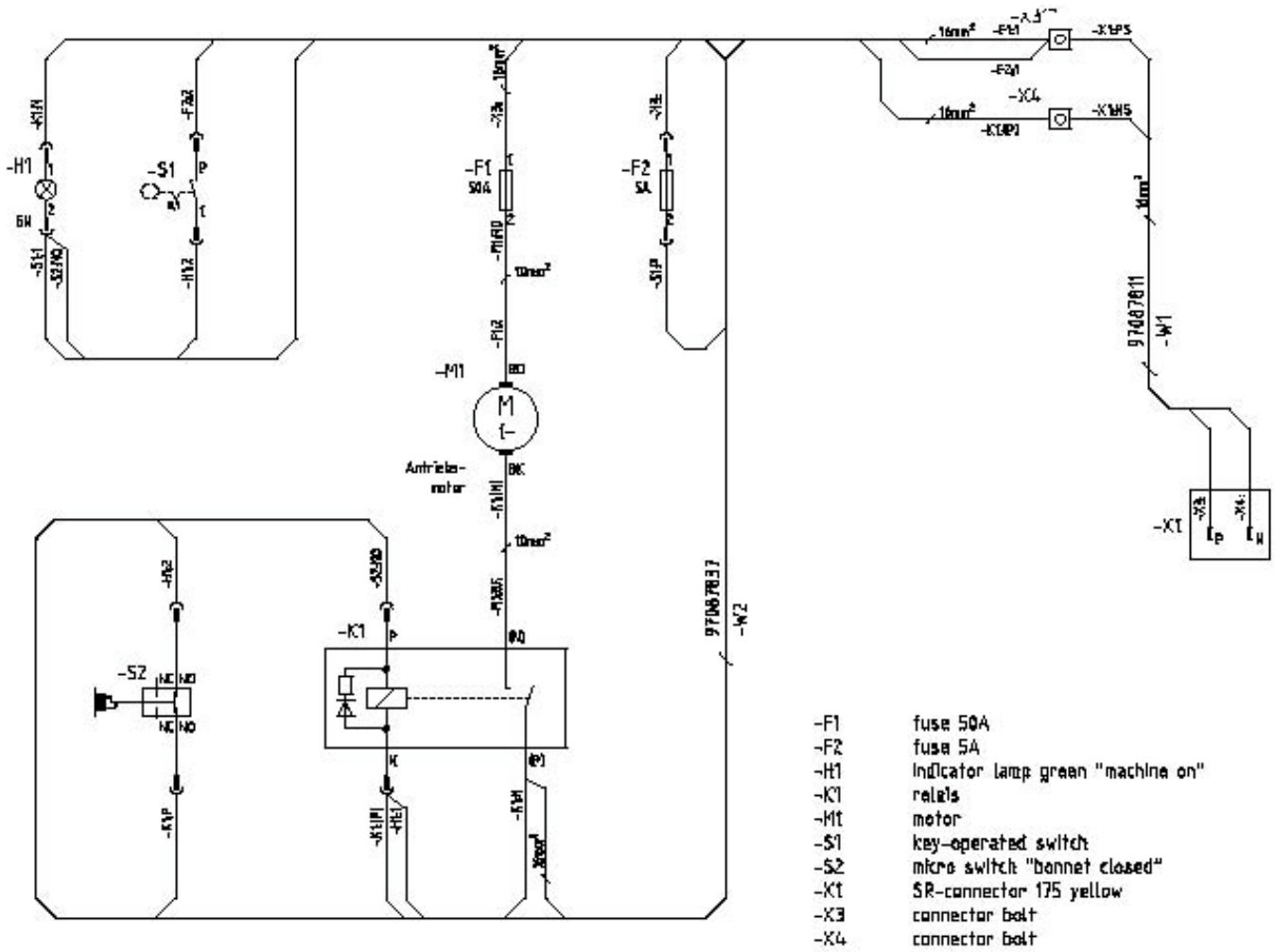
| Bild<br>Item<br>Rép. | Best.-Nr.<br>PN<br>Réf. No. | Stck.<br>Qty.<br>Qté. | Teilbezeichnung | Description       |
|----------------------|-----------------------------|-----------------------|-----------------|-------------------|
| 1                    | 91-194                      | 1                     | Abdeckhaube     | Covering hood     |
| 2                    | 07-621                      | 3                     | Hohlscheibe     | Hollow disc       |
| 3                    | 15-774                      | 4                     | Senkschraube    | Countersunk screw |
| 4                    | 02-234                      | 1                     | Sicherungsring  | Retaining ring    |
| 5                    | 70-636                      | 2                     | Kugellager      | Ball bearing      |
| 6                    | 12-632                      | 2                     | Sicherungsring  | Retaining ring    |
| 7                    | 91-192                      | 1                     | Besenarm        | Brush arm         |
| 8                    | 53-117                      | 1                     | Welle           | Shaft             |
| 9                    | 05-152                      | 2                     | 6kt-Mutter      | Hex. nut          |
| 10                   | 10-176                      | 2                     | Paßscheibe      | Adjusting shim    |
| 11                   | 53-120                      | 1                     | Riemenscheibe   | Belt pulley       |
| 12                   | 10-145                      | 1                     | Sicherungsring  | Retaining ring    |
| 13                   | 67-089                      | 1                     | Abweisteller    | Fleeting plate    |
| 15                   | 01-073                      | 1                     | Seitenbesen     | Side brush        |
| 16                   | 05-304                      | 1                     | 6kt-Schraube    | Hex. bolt         |
| 17                   | 96-749                      | 1                     | Paßfeder        | Adjusting spring  |
| 18                   | 05-333                      | 1                     | 6kt-Mutter      | Hex. nut          |
| 19                   | 05-340                      | 1                     | Federring       | Lock washer       |
| 20                   | 53-122                      | 2                     | Seilrolle       | Rope pulley       |
| 21                   | 53-124                      | 1                     | Bolzen          | Bolt              |
| 22                   | 10-323                      | 1                     | Sicherungsring  | Retaining ring    |
| 23                   | 10-670                      | 1                     | Scheibe         | Washer            |
| 24                   | 10-696                      | 2                     | DU-Buchse       | DU-bushing        |
| 25                   | 53-113                      | 1                     | Steckbolzen     | Socket pin        |
| 26                   | 05-372                      | 1                     | Scheibe         | Washer            |
| 27                   | 05-134                      | 1                     | 6kt-Mutter      | Hex. nut          |
| 28                   | 10-179                      | 1                     | Schraube        | Screw             |
| 29                   | 13-579                      | 1                     | 6kt-Mutter      | Hex. nut          |
| 30                   | 05-373                      | 1                     | Scheibe         | Washer            |
| 31                   | 91-177                      | 1                     | Rundriemen      | Round belt        |
| 32                   | 90-602                      | 1                     | Paßscheibe      | Adjusting shim    |

# Circuit Diagram





# Wiring Diagram



## LIMITED WARRANTY

Minuteman International, Inc. warrants to the original purchaser/user that this product is free from defects in workmanship and materials under normal use and service for a period of one year from date of purchase. In addition, Minuteman International, Inc. will, at its option, honor labor warranty claims for the first 6 months from date of sale, provided such claims are submitted through and approved by factory authorized repair stations. Minuteman International, Inc. will, at its option, repair or replace without charge, except for transportation costs, parts that fail under normal use and service when operated and maintained in accordance with the applicable operation and instruction manuals.

This warranty does not apply to normal wear, or to items whose life is dependent on their use and care, such as belts, cords, switches, hoses, rubber parts, electrical motor components or adjustments. Parts not manufactured by Minuteman International, Inc. such as engines, batteries, battery chargers, hydraulic pumps, and tires are covered by and subject to the warranties and/or guarantees of their manufacturers. Please contact Minuteman International, Inc. for procedures in warranty claims against these manufacturers.

**Special warning to purchaser** -- Use of replacement filters and/or prefilters not manufactured by Minuteman International, Inc. or its designated licensees, will void all warranties expressed or implied.

A potential health hazard exists without exact original equipment replacement.

All warranted items become the sole property of Minuteman International, Inc. or its original manufacturer, whichever the case may be.

Minuteman International, Inc. disclaims any implied warranty, including the warranty of merchantability and the warranty of fitness for a particular purpose. Minuteman International, Inc. assumes no responsibility for any special, incidental or consequential damages.

This limited warranty is applicable only in the U.S.A. and Canada, and is extended only to the original user/purchaser of this product. Customers outside the U.S.A. and Canada should contact their local distributor for export warranty policies. Minuteman International, Inc. is not responsible for costs or repairs performed by persons other than those specifically authorized by Minuteman International, Inc. This warranty does not apply to damage from transportation, alterations by unauthorized persons, misuse or abuse of the equipment, use of non-compatible chemicals, or damage to property, or loss of income due to malfunctions of the product.

If a difficulty develops with this machine, you should contact the dealer from whom it was purchased.

This warranty gives you specific legal rights, and you may have other rights which vary from state to state. Some states do not allow the exclusion or limitation of special, incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above exclusions and limitations may not apply to you.

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