# **Operating Instructions**



# Matterhorn Salt Spreader

**M 4.1** 

### 1. Health and Safety Instructions

- When filling the spreader, take due care and follow the instructions supplied with the salt or other spreading material.
- When operating the spreader do not try to adjust or clean the gear of the spreader with bare hands always use an appropriate tool. The spreader mechanism contains sharp parts and there is a danger of injury. Never try to handle the spreader mechanism whilst the spreader is in motion.
- The salt material must not touch the skin, as the material is corrosive and could damage the skin. The symbols below are provided to enhance personal safety when operating the spreader.

| $\underline{\land}$                |                              | A A                     |  |
|------------------------------------|------------------------------|-------------------------|--|
|                                    |                              | ₽↔                      | ¥  |
| 1                                  | 2                            | 3                       | 4  |
| Always read<br>the<br>instructions | Do not touch<br>moving parts | Keep a safe<br>distance | Do not allow<br>the spreading<br>material to<br>touch the skin |

#### Do not use the spreader:

- Where you do not know the condition of the surface
- Where there might be dangerous objects such as scrap glass, bottles, rubbish, stones, ropes, wires etc.
- Where there is a danger of people moving close to the machine (20 m clearance should be left around the machine)

### 2. Operation

The weight of the spreader is 8 kg.

The Matterhorn Spreader is designed for salting pavements and other small areas such as car parks and playgrounds during winter.

To achieve the optimum coverage, the operator should adjust the opening of the feeding holes in the bottom of the spreader. The level of adjustment will depend on the material used, the required area to be covered and the actual working environment.

**Attention:** The opening is sensitive to the actual working conditions a trial run before the work commences is recommended to avoid over or under usage of salt.

Under normal conditions a full hopper will cover  $400m^2$  of area with the feeder holes fully opened. Depending on the speed, the spreader will cover a 3 m width.

Before filling the hopper with the salt material ensure that the feeder holes at the bottom of the hopper are closed. Do not overfill the hopper. Maximum fill should finish 50 mm (2 inches) below the top rim of the hopper.

Always put the lid back on the hopper - this stops the material becoming too wet.

The spreader is designed for use with normal highway de-icing salt with moisture content not exceeding 4% of weight. The spreader will deal with most materials, however, successful spreading of material with the moisture content exceeding 4% cannot be guaranteed.

| Based on using<br>British 6mm road<br>salt<br>BS 3247:1991                            | 1   | AUTIONARY<br>FROST<br>TECTION | FROS<br>CLEARA      |                       |    | SNOW<br>CLEARANCE                                     |  |
|---|-----|-------------------------------|---------------------|-----------------------|----|---|--|
|   | 10g | g per m <sup>2</sup>          | 20g per             | m <sup>2</sup>        |    | 40g per m <sup>2</sup>                                |  |
| Based on using Britis<br>road salt<br>BS 3247:1991 Travel<br>spreading<br>Steady walk |     | FEEDER<br>HOLES               | SPREAD<br>in metres | APPR<br>GRAI<br>per r | MS | APPROX.<br>COVERAGE<br>FOR A FULL<br>HOPPER<br>(25KG) |  |
|   |     | Fully Open                    | 3m                  | 63g                   | 5  | 400 m <sup>2</sup>                                    |  |
|   |     | Half Open                     | 3m                  | 40g                   | 5  | 625 m <sup>2</sup>                                    |  |

## RECOMMENDED AMOUNT OF SALT PER m<sup>2</sup>

#### 3. Maintenance

After each use, it is recommended that the spreader is cleaned of the remaining material by hosing down with water and drying (air dry). This should be carried out particularly if the spreader is not to be used for some time.

Oiling the moveable parts occasionally is recommended. This will improve performance and will reduce the impact of salt.

Use waterproof grease:

- Morris K2EP400 Lithium GB.
- MOL Chemresist 2 EU.

#### **Appendix 1** Assembly Instructions

Take the spreader out of the box including all loose parts. 1.

The handlebars come in two parts. Take the bottom part Fig (1) 1 and 2. engage into the openings in the spreader Fig (1) 2 and secure the bars with split pins Fig (1) 3. Then engage the top part on the bottom part Fig (1) 4 and secure the bars with plastic thumb

screws Fig (1) 5.

Remove nuts from the guide rod 3. Fig (1) 6 and thread the guide rod through the hole in the end-part of the handlebars Fig(1) 7. Thread the bottom guide rod through the plastic guard, connect to the shutter opening and secure with a split pin Fig (1) 8. Push the guide rod to close the shutter holes in hopper. Then screw back one nut to the guide rod. 4. Put the control lever Fig (1) 9 into the groove at the top of the handlebars Fig (1) 10 and then put the guide rod through the hole in the bottom of the control lever and replace the second nut. (the bend in the top of the guide rod should face downwards)



**Fig** (1)

5. When "Shut" shows above the groove in the handle bars the holes in the hopper should be closed. Likewise when "5" is above the groove the holes will be fully open. The spreader is now ready for use.

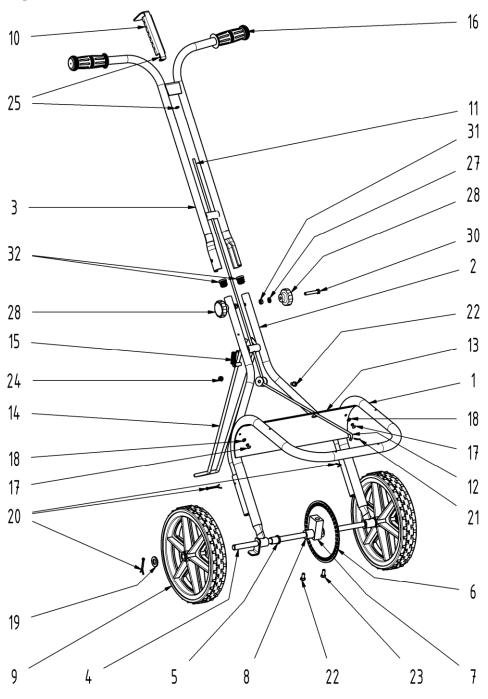
#### **Appendix 2 Description**

It has a tubular metal frame on two wheels.

A self-supporting frame carries a rectangle hopper with a lid.

The metal surfaces are treated with komaxit, a chemical protective paint, the hopper and lid are in plastic. The spreading wheel, the feeder holes shutters and the guide bar are stainless steel. Opening and closing the shutters of the feeder holes regulates the discharge of the salt. The power of the wheels is transferred to the spreading mechanism via special gear coupling.

**Fig** (2)



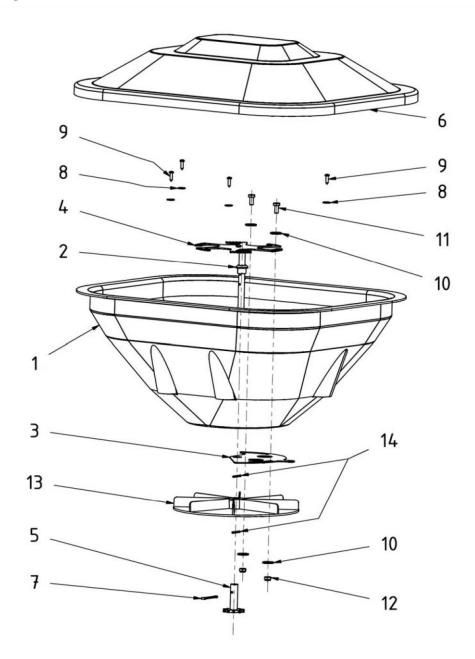
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Spare parts catalogue Fig (2)

| Art. | Item                         | Pcs | Order No. |
|------|------------------------------|-----|-----------|
| 1    | Hopper support tube frame    | 1   | 11270.013 |
| 2    | Handle lower part            | 1   | 11231.078 |
| 3    | Handle top part              | 1   | 11231.076 |
| 4    | Axle                         | 1   | 12010.036 |
| 5    | Axle bearing                 | 2   | 41000.220 |
| 6    | Power Wheel                  | 1   | 51200.079 |
| 7    | Gear coupling                | 1   | 31000.108 |
| 8    | Gear coupling fitting        | 1   | 12010.038 |
| 9    | Wheels                       | 2   | 41000.210 |
| 10   | Control lever                | 1   | 50000.051 |
| 11   | Guide bar                    | 1   | 41220.044 |
| 12   | Lower guide bar              | 1   | 41220.039 |
| 13   | Salt guard                   | 1   | 31231.012 |
| 14   | Stabilizer leg               | 1   | 12010.037 |
| 15   | Stabilizer leg spring        | 1   | 31100.075 |
| 16   | Rubber handle grips          | 2   | 21000.090 |
| 17   | Guard fitting                | 2   | 33030.012 |
| 18   | Stainless steel washer No. 3 | 2   | 96100.028 |
| 19   | Zinc plated washer No. 13    | 2   | 96100.050 |
| 20   | Split Pin 3                  | 4   | 96300.010 |
| 21   | Split Pin 2                  | 1   | 96300.009 |
| 22   | Zinc bolts M6x12             | 2   | 96000.160 |
| 23   | Bolts M6x14 Stainless steel  | 1   | 96000.159 |
| 24   | Self-tapping nut M6 zinc.    | 1   | 96200.009 |
| 25   | Nut M5 Zinc                  | 2   | 96200.011 |
| 27   | Zinc plated washer No. 6     | 2   | 96100.060 |

| 28 | Plastic thumb screws | 2 | 41000.255 |
|----|----------------------|---|-----------|
| 30 | Zinc bolts M6x35     | 2 | 96000.013 |
| 31 | Nut M6 Zinc          | 2 | 96200.050 |
| 32 | Tube ends 18x1-2     | 2 | 21000.049 |

**Fig** (3)



Spare parts catalogue Fig (3)

| Art. | Item                          | Pcs | Order No. |
|------|-------------------------------|-----|-----------|
| 1    | Hopper                        | 1   | 21010.014 |
| 2    | Activator bearing             | 1   | 41000.219 |
| 3    | Shutter Plate                 | 1   | 31000.003 |
| 4    | Double Manx Activator         | 1   | 12010.063 |
| 5    | Transmission shaft            | 1   | 51200.078 |
| 6    | Lid                           | 1   | 21010.020 |
| 7    | Split Pin 3.2                 | 1   | 96300.010 |
| 8    | Stainless steel washer No. 4  | 4   | 96100.029 |
| 9    | Stainless steel hopper fixing | 4   | 96000.001 |
| 10   | Stainless steel washer No. 6  | 4   | 96100.064 |
| 11   | Stainless steel bolt M6x14    | 2   | 96000.159 |
| 12   | Self tapping SS nut M6        | 2   | 96200.012 |
| 13   | Spreading Plate               | 1   | 51230.036 |
| 14   | Stainless steel spring pin 3  | 2   | 33030.004 |