

In-Ex

OWNER'S MANUAL
FOR THE



Spreader 300

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YOUR SAFETY IS IN-EX'S PRIMARY CONCERN

- It is important that you understand that any loads or attachments whether fastened to or placed on a vehicle or ATV will alter the stability and handling characteristics of that vehicle or ATV.
- FAILURE TO FOLLOW THESE RULES CAN RESULT TO SEVERE INJURY OR DEATH TO OPERATORS OR BYSTANDERS.
- We take this opportunity to remind you about the simple, basic and common sense rules of safety when using spray tanks or other equipment.
- NEVER EXCEED THE LOAD LIMIT CAPACITY OF THE ATV OR OTHER VEHICLE.
- Spray tanks or other equipment must be filled to a level where the gross weight is within the load limit of the ATV or other vehicle.
- ALWAYS EXERCISE EXTREME CAUTION WHEN OPERATING EQUIPMENT, ESPECIALLY ON UNDULATING TERRAIN.
- Operators MUST BE AWARE that they have a responsibility to ensure that anyone using this equipment is familiar with the manufacturers safe operating instructions.
- PLEASE BE CAREFUL!

SAFETY PRECAUTIONS

Before attempting to install or operate the equipment, read and understand the manual thoroughly. Failure to comply with this instruction constitutes improper use and will invalidate the warranty.

Throughout this manual there are highlighted text boxes containing warnings, cautions and notes.

Warnings are mandatory instructions to prevent serious injury or permanent damage.

Cautions are advisory instructions to ensure reliable operation of the equipment.

Notes are for convenient operation

Do not overload your spreader. The maximum permissible payload is 250 Kg.

Never use dirty product or product with stones or lumps.

Ensure that your towing vehicle is adequate for the task. The maximum tare weight is 350 Kg.

If using the spreader over hilly terrain the payload should be reduced to ensure that the spreader stability is not compromised.

Never allow anyone to ride on or in the spreader.

Keep the spreader in good condition. Cleanliness and maintenance are essential for safe and trouble free operation.

Never leave product in the hopper or store the spreader without cleaning it.

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(Pt.No.2400-6950 Issue 4, October 2015)

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DESCRIPTION

The IN-EX Spreader 300 is a ground-driven spreader designed for application of pelleted fertilisers. It can also be used for application of other products such as grass seed and magnesium oxide. The uniquely designed 300-litre translucent non-corrosive polyethylene hopper is specially profiled for good product flow and ease of filling. The convenient flexible polypropylene cover is easy to remove, install and store if not required. A high-quality stainless steel agitator and shutter ensures even flow of product to the spinner. A unique spinner design ensures wide, even spread of product over 180 degrees (Urea). The heavy-duty galvanised frame is fitted with chunky turf tyres as standard. The drive train uses high quality steel and a double sealed self-aligning bearing and heavy-duty gearbox for maximum durability. The drive can be disconnected using a convenient pin clutch. The dual control levers allow instant setting of product feed rate and product control.

Specifications

(Specifications subject to change without notice)

Dry Weight	75 Kg
Dimensions	W1430mm, H1200mm, L1700mm W1450mm (Wide wheel models)
Capacity	300 litre (250Kg Urea)
Drive	Ground driven (single wheel)
Wheels	18x950x8 Chunky turf tyres
Tyre Pressure	12 PSI
Clutch	Removable Pin
Control	Adjustable stainless steel slide with index handle
Agitator	Mechanical arm, stainless steel
Spinner	Galvanised steel with three-position adjustable vanes
Hopper	Non-corrosive polyethylene, ergonomically designed for ease of filling and inspection
Hopper Cover	Lightweight polypropylene fabric
Frame	Galvanised steel
Gearbox	Heavy duty with double sealed bearings
Gearbox oil	400ml SAE30
Axle Bearings	Sealed ball races
Clutch bearing	Heavy-duty phosphor-bronze bush
Axle grease	General Purpose
Application Rate	140Kg per hectare @ 10 kph (nominal, Urea)
Spread width	18M (nominal, Urea @ 15 Kph)
Towing speed	15 Kph (Maximum recommended)

Order Information

IN-EX Spreader 300 part number: 3005

WARRANTY

1 WARRANTY AND LIABILITY

Use of the equipment

- 1.1 You must satisfy yourself as to the suitability of the equipment for your intended use(s) of the equipment.

Your relationship with the retailer

- 1.2 Where you consider you have a warranty claim (or any other claim) in relation to the equipment, you must contact the retailer who sold you the equipment, not C-Dax directly. The retailer is responsible for liaising with C-Dax in respect of your claim.

Warranty

- 1.3 C-Dax warrants to the original purchaser that the equipment is sold free from defects in materials and workmanship for a period of 12 months from date of first retail sale (6 months from date of first retail sale if the equipment is sold in the U.K.) subject to the terms set out below.

1.4 C-Dax will at its option repair or replace the defective equipment (or part of the equipment) or notify the retailer of the equipment to refund the purchase price for such defective equipment to you in the event of a breach of this warranty, subject to the terms set out below.

Liability

1.5 Except for the warranty set out in clause 1.2 above, all warranties and representations (including those expressed or implied by law) in respect of the equipment or advice relating to the equipment provided to you by C-Dax are excluded to the extent permitted by law.

1.6 Notwithstanding anything else in this manual, C-Dax's maximum liability to you (in the event that such liability exists) in respect of any breach of warranty, any matter set out in this manual, or for defective equipment or advice relating to the equipment provided is limited at C-Dax's option to:

- (a) repairing or replacing the equipment (or part of the equipment); or
- (b) notifying the retailer of the equipment to refund the price for the equipment paid by you.

1.7 Notwithstanding anything else in this manual, in no event will C-Dax be liable, whether in contract, tort (including negligence) or otherwise:

- (a) where you have altered or modified the equipment, misused or misapplied the equipment, or the equipment has been subjected to any unusual, excessive or non-recommended use, service or handling (including as set out in this manual);
- (b) where the equipment is not transported, stored, handled or used in accordance with any directions given by C-Dax (or the retailer) to you (including as set out in this manual);
- (c) where the equipment:
 - (i) has been subject to neglect, accident or hireage, or the damage arises from fair wear and tear, battery damage or chemical attack;
 - (ii) has been built to a customer's specifications; or
 - (iii) has been dismantled, repaired or serviced other than by an authorised service agent of C-Dax;
- (d) for loss or damage caused by any factors beyond C-Dax's control; or
- (e) for any loss of profit or revenue, or for any special, indirect, incidental or consequential damage, loss or injury of any kind suffered by you.

1.8 Where C-Dax elects to repair or replace the equipment it will use reasonable endeavours to do so as soon as practicable but will not be liable for any delay in doing so.

1.9 You agree that the transactions entered into between you and the retailer (and C-Dax) are for the purposes of trade and that, having regard to all relevant circumstances of the transactions, it is fair and reasonable that the provisions of the Consumer Guarantees Act 1993 (NZ) do not apply to those transactions to the fullest extent permitted by law.

OPERATION

The product to be spread is placed in the hopper. When the spreader is towed forward, the right hand wheel drives through the pin clutch and gearbox to turn the spinner in a clockwise direction. When the shutter handle is pulled forward, the shutter at the bottom of the hopper rotates to an open position. The size of the opening is set by a shutter stop lever, which locates into one of nine pre-set positions.

An extension of the spinner boss is connected to a stainless steel agitator arm inside the bottom of the hopper. The agitator ensures that product flows continuously out of the hopper to the spinning disk.

A delivery chute on the bottom of the hopper ensures that product is delivered to the correct spot of the disk so that the deflectors distribute the product over a wide angle behind and to each side of the spreader.

The drive from the wheel to the gearbox may be disengaged by removing a pin from the axle. The pin may then be stowed by inserting it into a holder on the side of the frame.

A fabric hopper cover with an elastic band sewn into the outer edge to grip the lip of the hopper can be fitted to prevent rain and debris from entering the hopper.

CALIBRATION

Shut the Shutter Control Handle to the closed position.

To calibrate your spreader, place a measured amount of product (10 Kg) in the hopper.

Set the Shutter Stop Lever to the position (1-9) indicated in the Calibration Guide below. Hole position 9 (shutter fully open) is denoted by two holes vertically one above the other.

Ensure the drive pin is correctly inserted into the hole in the drive axle.

Tow the spreader at the desired speed and pull the Shutter Control Handle forward.

When the product has been exhausted, measure the distance covered and band width in metres. It is recommended that this be done over an area where the product can be seen on the ground so that the spread width can be measured.

Check the application rate using the following formula:

$$\text{Rate (Kg/ha)} = \frac{\text{Product applied (Kg)} \times 10,000}{\text{Distance travelled (metres)} \times \text{spread width (metres)}}$$

Adjust either the Shutter Stop Lever or the speed of travel until the desired application rate is achieved.

NOTE

Because of variations in product characteristics, speedometer calibration and driving speed, the information in the calibration guide should be regarded as a starting point only. It is recommended that the spreader be calibrated before use.

Calibration Guide
(Average Speed 10 Kph)

Product	Rate (Kg/ha)	Shutter Setting (Lever Position)	Nominal Spread (Metres)
Urea or DAP	50	4	15
Urea or DAP	75	5	15
Urea or DAP	100	6	15
Super phosphate	100	7	12
30% Potassic Super	100	8	10
Rye Grass	30	3	4

Magnesium Oxide

Magnesium Oxide powder is applied at a rate determined by the number of cows to be treated. When spreading this product, calculate the weight of powder to be applied and apply this amount using shutter setting 4 or 5. Because this product may set hard if left exposed to air, it must not be stored in the machine even for a short time. Load the spreader only with the amount required to be spread and clean all traces of product from the machine after use.

OPERATING THE SPREADER

When the spreader has been correctly calibrated, the hopper may be filled to the required level and spreading commenced.

To reduce agitator damage to product and to ensure that product is not forced past the agitator shaft when towing the spreader to the area to be treated, the drive to the gearbox should be disconnected by removing the pin from the drive axle until spreading is to be commenced. The pin can be stowed by inserting it through a receptacle provided on the right hand side of the hopper frame.

WARNING

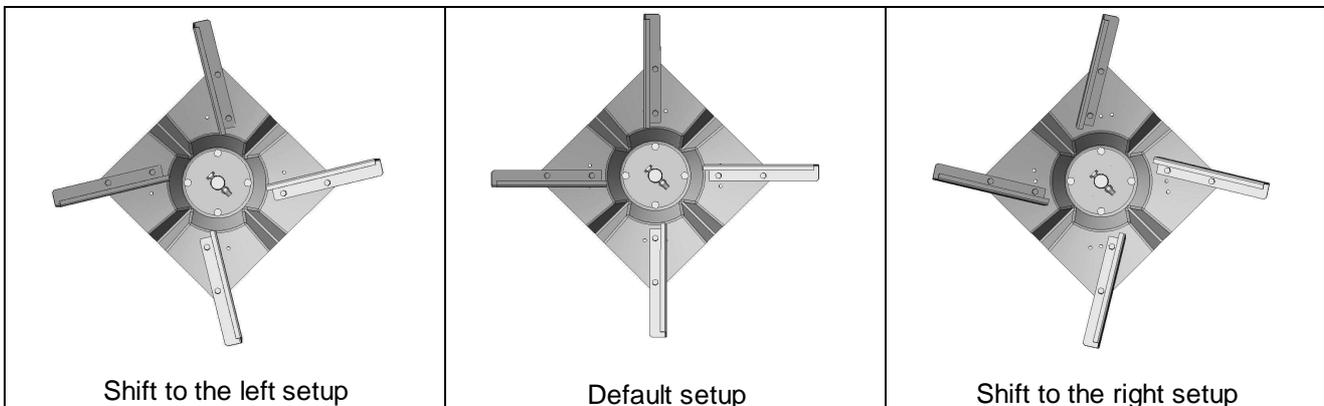
To prevent damage to the spreader do not tow the spreader at speeds in excess of 15 Kph.

To prevent inadvertent operation of the shutter while the spreader is in transit it is recommended that the Shutter Stop Lever be moved to Position 1 to lock the shutter closed.

To prevent the shutter from vibrating closed when the spreader is operated over rough ground, the Shutter Control Handle friction may be increased by tightening the adjustment nut at the bottom of the Handle.

Adjusting the Spread Pattern

The spreader has been set up for spreading pelletised fertiliser. When spreading lighter products or products with a high powder content it may be necessary to adjust the deflectors on the spinner to centralise the spread pattern. To shift the pattern to the left (facing forward) the inside end of the vanes should be moved anti-clockwise. To shift the pattern to the right (facing forward) the inside end of the vanes should be adjusted clockwise. These positions are highlighted in the diagram on the following page.



Fitting the Rain Cover

To fit the rain cover to the hopper, loop one corner of the cover over a corner of the hopper then stretch the cover over the opposite corner of the hopper so that the elastic edge holds it in place. Then stretch the third corner over the hopper rim followed by the last corner. Ensure that the cover is properly stretched over the hopper rim before moving off.

MAINTENANCE

The following maintenance actions are mandatory for reliable use of the spreader.

Before Use

Check the tyre pressures and charge with air as required. The correct pressure is 12 psi. (80 Kpa)

Remove the gearbox drive pin and turn the spinner by hand to ensure that it is free to turn without interference.

Check the hopper to ensure that no debris is inside.

Check for any loose fasteners and tighten as required.

If the spreader has not been used for some time, grease the bearings (pay particular attention to the pin clutch bearing).

Check the gearbox for leaks. If leaks are detected it will be necessary to drain and replenish the gearbox with 400ml of SAE 30 oil.

CAUTION

To replenish the gearbox the spreader may be inverted to place the filler plug uppermost. However in doing so extreme care must be taken to prevent damage to the spinner and deflectors.

After Each Use or Daily when in Use

Remove all traces of product from the spreader by brushing or washing. Pay particular attention to areas where product has accumulated and built up. Remove by scraping if necessary taking care not to damage the surface finish of the spreader or its components.

If washing do not direct high-pressure water onto the gearbox, axle or wheel bearing seals.

After washing, grease the bearings (three places) and apply water displacing fluid such as WD 40 or LPS3 to all metal parts.

Check for damaged or worn components and replace as required.

HINTS

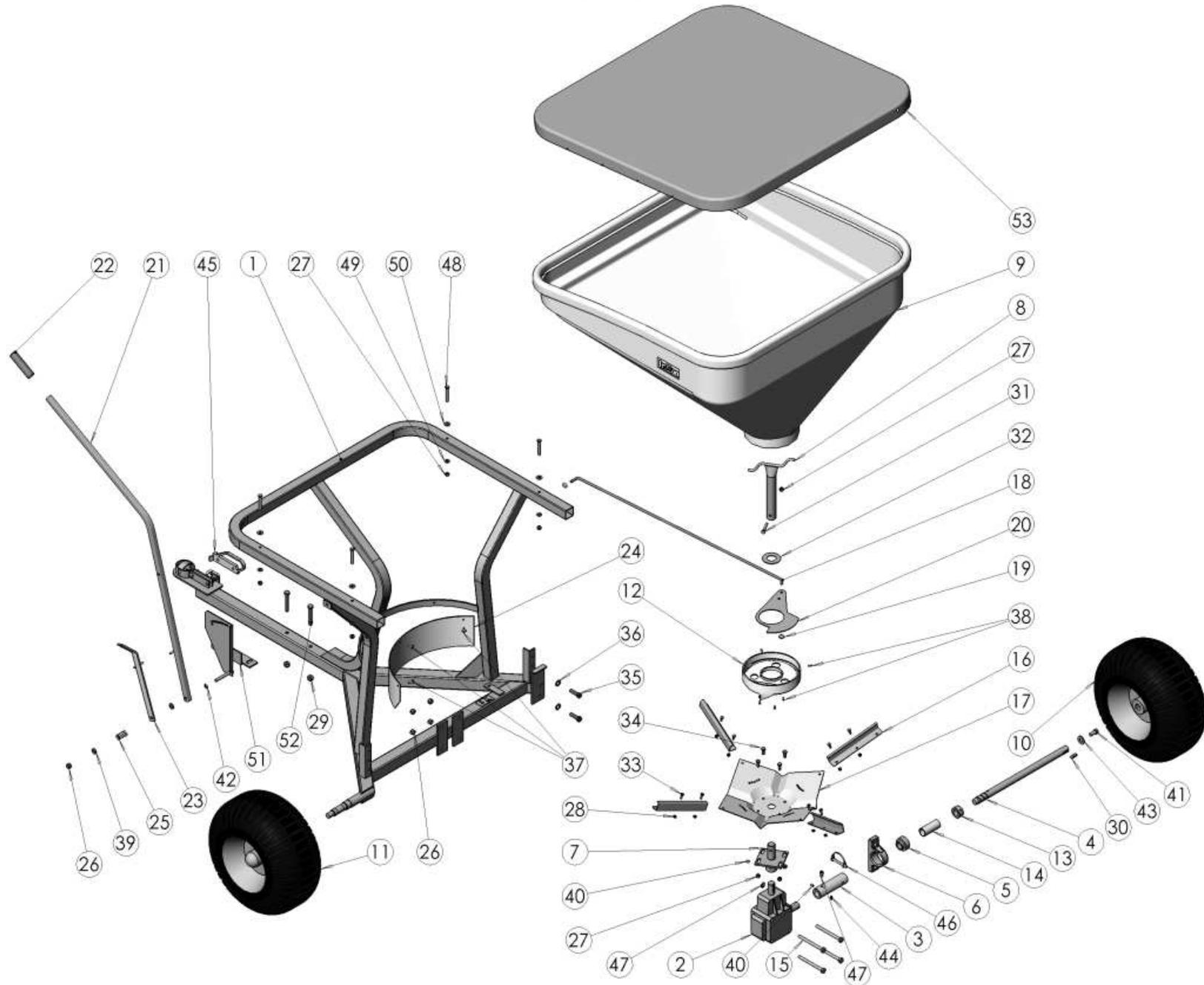
When greasing the pin clutch bearing in the axle assembly, leave the pin in place. This will assist the grease to fully enter the scroll in the axle and prevent the axle from being displaced if the bearing housing should be over pressurised with grease.

If the drive axle is removed from the axle housing for any reason care must be taken to ensure that both the axle scroll and bronze bush are clean and free of debris before reassembly.

To remove the agitator from the hopper knock out the roll pin or remove the bolt, which attaches the agitator shaft to the spinner flange assembly then withdraw the agitator from inside the hopper.

When ordering replacement parts always quote the spreader model and the Part Number of the required part.

PARTS DIAGRAM



PARTS LIST

Item No.	QTY.	Part No.	Description
1	1	3500-5600	Frame-Spreader-CDIT300GT-GL
2	1	3800-1000	Gearbox-Ferroni-RV10-Ratio 1 to 2.78
3	1	5200-5200	Machined-Housing-Drive Axle-INEX300/INEX130-ZP
4	1	5200-6500	Machined-Shaft-Axle-CDIT300GT-ZP
5	1	1140-1200	Bearing-Ball-Pillow Block-Drive Axle-Spreaders
6	1	1140-4000	Bearing-Housing-Pillow Block-Drive Axle-Spreaders
7	1	8200-5200	Spinner-Mount-CDIT300/400/INEX300-ZP
8	1	1036-8240	Agitator-Spreader-CDIT300/400-In-Ex300/400-SS
9	1	7500-2120	Rota-Hopper-Spreader 300 -Natural-MDPE-In-Ex
10	1	9200-8900	Wheel-Turf-Keyed-18x950x8-4 Ply
11	1	9200-8700	Wheel-Turf-Bearing-18x950x8-4 Ply
12	1	7500-2795	Rota-Spout-Spreader-165/300/400-Natural-MDPE
13	1	2150-0025	Collar-Shaft-ID25-ZP
14	1	2250-7940	Cover-Shaft-Drive Axle-77mm Long-Spreader 300-PVC
15	4	2840-1120	Fastener-Bolt&Nut-Hex-8.8 Grade-M10x120-ZP
16	4	6500-8950	Profiled-Vane-Spinner-Spreader-CDIT300/400-Galv
17	1	8200-2100	Spinner-Disc-CDIT300/400/1300
18	1	5050-7940	Linkage-Shutter-In-Ex Spreader 300-ZP
19	2	3230-0008	Fastener-Retainer Cap-Starlock-8mm-Nickle Plated
20	1	6500-7770	Profiled-Shutter-CDIT300/400
21	1	4050-1600	Handle-In-Ex Spreader 300-ZP
22	1	3865-3800	Grip-Handle-7/8"-PVC-Black-Plastic
23	1	4050-4200	Handle-Indicator-In-Ex 300-ZP
24	1	7970-8100	Shroud-Spreader 300-MDPE-Natural
25	1	8250-1800	Spring-Compression-Crinkle Plate-ZP
26	5	3170-0010	Fastener-Nut-Nyloc-M10-ZP
27	9	3170-0008	Fastener-Nut-Nyloc-M8-ZP
28	8	3170-0006	Fastener-Nut-Nyloc-M6-ZP
29	4	3170-0012	Fastener-Nut-Nyloc-M12-ZP
30	1	5200-6300	Machined-Key-8x8-Ground Drive Spreaders
31	1	3290-0850	Fastener-Set Screw-Hex-8.8 Grade-M8x50-ZP
32	1	6500-9000	Profiled-Washer-Spinner Shaft-34.9x67x2mm-Stainless 304
33	8	3290-0616	Fastener-Set Screw-Hex-8.8 Grade-M6x16-ZP
34	4	3290-0820	Fastener-Set Screw-Hex-8.8 Grade-M8x20-ZP
35	2	3290-1240	Fastener-Set Screw-Hex-8.8 Grade-M12x40-ZP
36	2	3310-6012	Fastener-Washer-Flat-M12-ZP
37	3	3240-0018	Fastener-Rivet-Blind-Truss Head-3/16x18mm-Aluminium
38	6	3270-8012	Fastener-Self Tap-Screw-CSK-8Gx1/2"-Pozi-Stainless
39	2	3310-6010	Fastener-Washer-Flat-M10-ZP
40	2	3010-0810	Fastener-Grub Screw-Socket Head-M8x10-Stainless
41	1	3290-1225	Fastener-Set Screw-Hex-8.8 Grade-M12x25-ZP
42	1	3320-7010	Fastener-Washer-Shakeproof-External Star-M10-ZP
43	1	3310-5012	Fastener-Washer-Flat-Heavy-M12x32x3-Galv
44	1	5270-0003	Nipple-Grease-Straight-Short-M6-ZP
45	1	8800-3800	Tow-Coupling-Handle-Double Ended-1 78 x 50mm-ZP

46	1	6100-4860	Pin-Locking-8x57mm-ZP
47	2	2890-0812	Fastener-Cap Head-Allen-Screw-12.9 Grade-M8x12-Black
48	4	2810-0860	Fastener-Bolt&Nut-Hex-304 Grade-M8x60-Stainless
49	4	3310-6008	Fastener-Washer-Flat-M8-ZP
50	4	3310-2809	Fastener-Washer-Flat-M8x22x1.5-Grade 316-Stainless
51	1	5245-3905	Mount-Handle-Spreader 300-ZP
52	2	3290-1275	Fastener-Set Screw-Hex-8.8 Grade-M12x75-ZP
53	1	2250-4100	Cover-Hopper-Silver Fabric-Spreader CDIT300