MANUAL

CK-1418

MNL-00103

⚠ **WARNING - Reliance on this Manual Could Result in Severe Bodily Injury or Death!**

This manual is out-of-date and is provided only for its technical information, data and capacities. Portions of this manual detailing procedures or precautions in the operation, inspection, maintenance and repair of the product forming the subject matter of this manual may be inadequate, inaccurate, and/or incomplete and cannot be used, followed, or relied upon. Contact Conair at info@conairgroup.com or 1-800-654-6661 for more current information, warnings, and materials about more recent product manuals containing warnings, information, precautions, and procedures that may be more adequate than those contained in this out-of-date manual.

Contents

1. Introduction

This manual is for CONAIR MARTIN's granulators in the 1418 series, which includes the 1418 and 1418.

The abbreviations mean:

K = insulated against noise, U = suction blower.

The manual **should** be studied carefully before installing and using the equipment, in order to prevent personal injury and damage to the machinery.

Always take great care when the knives are within reach, since they are very sharp and can cause personal injury.

CONAIR MARTIN granulators are built for granulation of injection moulded, blow moulded or extruded plastic waste where the granulator's size and performance corresponds to the type of waste. For any other products or materials, approval must be obtained from the dealer or head-office in order for the conditions of the guarantee to remain valid.

The different types of granulator are designed so that maintenance and cleaning can be carried out quickly and simply, both during routine maintenance as well as when changing colour or material.

All servicing work should be carried out by a person with technical training or corresponding professional experience. The manual contains instructions for both handling and servicing the granulator. Chapter 7, which contains servicing instructions, is intended for service engineers. Other chapters contain instructions for the daily operator.

Delivered with the granulator are a manual, tool kit, knife fixture, and touch-up paint.

Any modifications, changes, or rebuilding of the granulator must be approved by CONAIR MARTIN in order to avoid personal injury and damage to machinery and to ensure that the documentation remains correct.

If you have any questions, please contact your local dealer or our head-office.

2. Technical specifications

2.1 Dimensions

See chapter 10, Layout.

2.2 Data

Serial Number _____

Motor power ..... _____

V-belts ..... _____

Voltage ..... _____

Rotating knives ..... _____

Fixed knives ..... _____

Screen ..... _____

Weight ..... -K = 630 kg

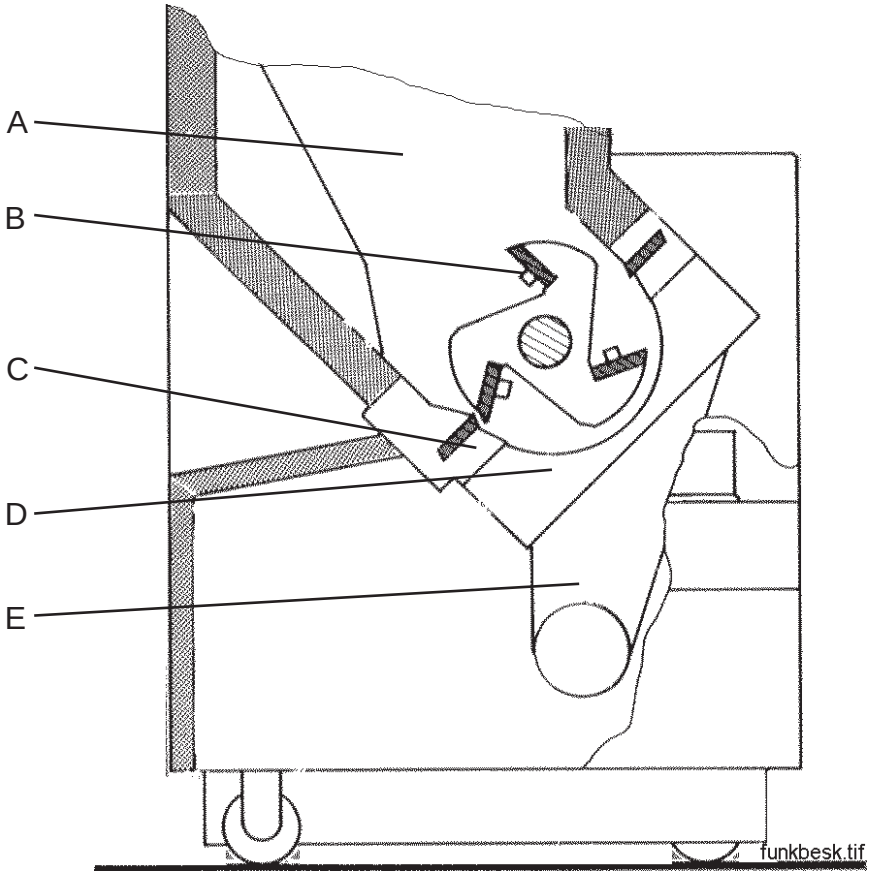
..... -KU = 800 kg

3. Functional description

3.1 Overview

Granulators 1418 and 1418 are designed for grinding different types of plastic waste.

The granulator is controlled from a control panel with a start/stop function and an emergency stop button.



The material is fed into the hopper (A) and falls down to the rotor. The rotor's knives (B) grind the material against the fixed knives (C) in the cutter housing. Both the fixed and rotating knives can be changed or re-sharpened when necessary. The sharpening is carried out in a special fixture outside of the granulator.

Under the rotor is a screen (D) through which the granulate passes before it comes down into the granule bin. The screen is available with various hole sizes depending on the required degree of coarseness of the granulate.

The granulated material is then collected in the granule bin (E). For the 1418, the operator must open the front door and empty the granule bin. However, for the 1418, there is a suction blower which sucks the granulate out of the granule bin.

The granule bin, screen and screen box are designed to be removed so that the rotor can easily be cleaned. The hopper is constructed so that it can be opened up to allow improved access for cleaning and maintenance.

3.2 Safety system

Since there are rotating knives inside the granulator, there is a built-in safety system to prevent personal injury.

Emergency stop: The equipment is fitted with an emergency stop switch on the control panel. The emergency stop is activated by pushing the button. It is reset by turning the button in the direction of the arrow (anti-clockwise).

Safety switches: The safety system includes 2 safety switches. The switches are located as follows:

- 1 by the front door
- 1 by the hopper

The system is designed so that you have to release a catch on the right-hand side below the door to be able to open it. The catch's break screw actuates the safety switch, which cuts off the power so that the rotor stops before the door can be opened.

The hopper must be lowered and locked before the granulator can be operated. The safety switch has been installed so that it is not possible to start the granulator when the hopper is open.

4. Safety regulations

4.1 Overview

The granulator is equipped with safety switches to prevent the front door and the hopper from being opened during operation.

The following safety measures should always be observed when handling the granulator:

- **Always switch off the power supply using the main circuit-breaker (on top of the electrical cabinet) before opening the granulator.**
- **Never put any part of your body into any openings on the granulator unless the main circuit-breaker is in the "OFF" (=0) position.**
- **Always be careful when the knives are in reach since they are very sharp. When the rotor has to be rotated manually, this must be done with the greatest care!**
- **Be careful when the hopper and screenbox are opened and closed so that no part of your body gets caught.**
- **The granulator cannot be started until the doors and the hopper are locked.**

4.2 Sound level

- Equivalent continuous A-weighted acoustic pressure level 83 dBA

  Value measured 1 m from the surface of the machine and 1.6 m above the surface of the floor during grinding of 5 litres of PE bottles (polyethylene).

- Sound effect level K=?, KU=80 dBA

5. Installation

All instructions must be carried out in the order described, to prevent personal injury or damage to machinery.

Always take great care when handling the knives since they are very sharp and can cause personal injury.

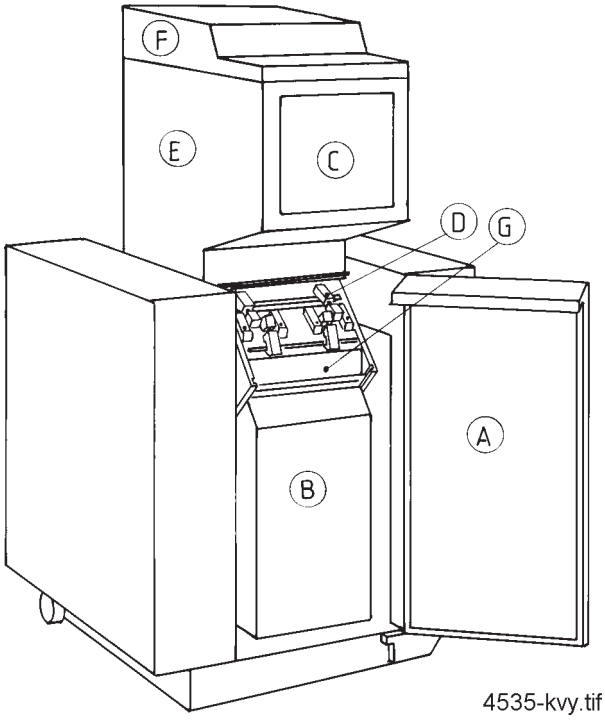
The granulator should be connected to the mains supply by an authorised electrician.

5.1 Pre-start checks

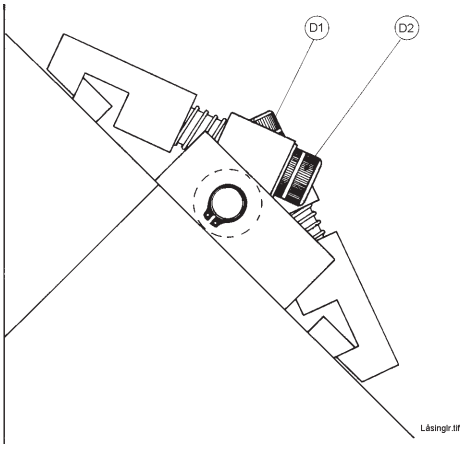
- Before the granulator is installed, the rust preventive should be carefully cleaned from the parts which are not painted or rustproof.

5.2 Opening and closing the hopper and screenbox

1. Unscrew the breakscrews at the bottom-right of the front door until the door's stop cleat is released. A safety switch is then activated, which cuts off the current to prevent the machine from being started when the door is open.
2. Open the front door (A) by first lifting it and then swinging it outwards.
3. Pull out the granule bin (B) and (when cleaning) the flaps (C). On the 1418, a quick-coupling ring next to the granule bin's outlet flange must first be loosened.



4535-kvy.tif



4. Loosen the screws on the upper loops (D2) a few turns using the socket-head key kept in a holder next to the door's inner hinge side. The hopper (E) can now be opened. When the hopper is opened, a safety switch on the back of the cutter-housing is activated to prevent the machine from starting when the hopper is open.

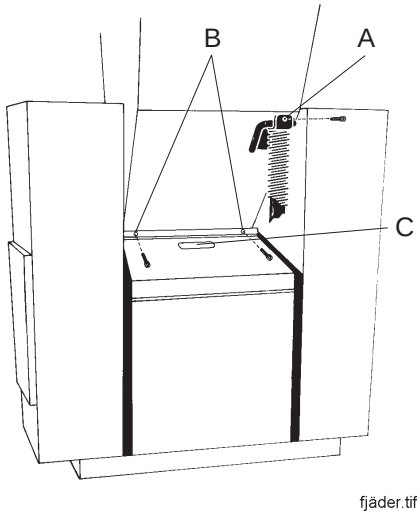
5. Loosen the lower loop screws (D1), raise the screenbox (G) and remove the loops, lower the screenbox and lift out the screen. NOTE: To prevent the screenbox from dropping and causing injury, it should be held with a firm grip.

5.3 Electrical connection

The granulator should be connected up by an authorised electrician.

- Connect the granulator to the mains supply. See Electrical scheme, chapter 9, connecting (Q1).

Check the granulator motor's rotation direction as follows:



- Loosen the socket-head screw (A) which holds the spring mechanism on the back of the granulator and move the spring aside.
- Unscrew the two socket-head screws (B) and move the rear opening (C) aside.

  NOTE: Hold the rear opening with a firm grip in order to prevent it from dropping and causing injury.
- Set the main circuit-breaker on the control box to position (1) = "On".
- Check that the emergency stop switch is not activated. It can be reset by turning the knob in the direction of the arrow (anti-clockwise).
- Check that the break screw to the door's safety switch is completely tightened.
- Press in the change-over button "START".
- Check that the granulator motor's rotation direction is consistent with the arrow on the hood. The arrow is visible through the rear opening.

  NOTE: Be careful not to get caught between the belt and pulley!

If a blower is connected (1418), check that its rotation direction is consistent with the arrow on the blower hood. If the rotation direction is not correct:

- Change the incoming phases.

6. Operation and daily maintenance

6.1 Starting and stopping

The start and stop functions are controlled by a change-over button on the control panel.

NOTE: The granulator should not be stopped until it has finished grinding all the material in the hopper and cutter housing. Any remaining material can slow down the rotor when it is re-started which can overload the motor and trigger the overload protector.

6.2 Inspection

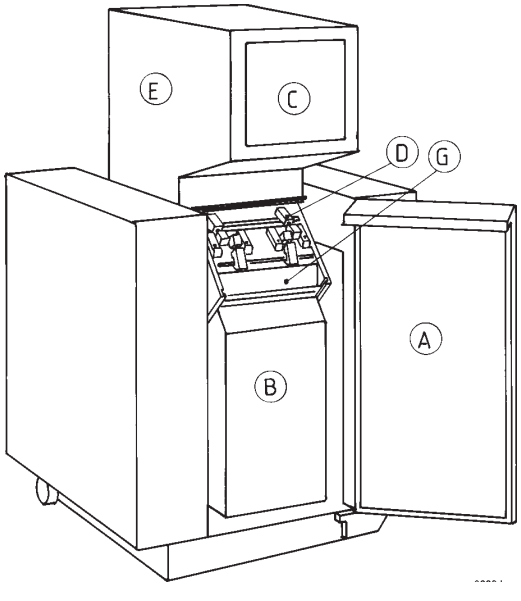
There should **not** be any material in the granulator when the inspection is to be carried out.

6.2.1 Daily inspection

- **Flaps in the hopper**. Check that the flaps are not damaged. Damaged parts should be replaced immediately to prevent bits of the flaps from falling into the cutter housing and damaging the knives.
- **Emergency stop**. Check the emergency stop function by starting the granulator and then stopping it using the emergency stop button. The emergency stop is reset by turning the emergency stop button in the direction of the arrow. The machine can then be re-started by pressing “START”.

6.2.2 Weekly inspection

- **Cables**. Inspect all cabling in the machine to see that there is no wear or other damage. For reasons of personal protection, damaged parts should be replaced immediately.
- **Safety switches**. There are two safety switches, one for the hopper and one for the door:



Front door: Check the switch by starting the granulator and then unscrewing the star knob by the lower edge of the door. The granulator should have stopped before you are able to open the door.

Hopper: Open the hopper as described in chapter 5.2, but close and lock the front door. Check the safety switch to the hopper by starting the granulator. It should not be possible to start the granulator until the hopper is lowered, the locking hooks are fastened and the screws (D) are tightened.

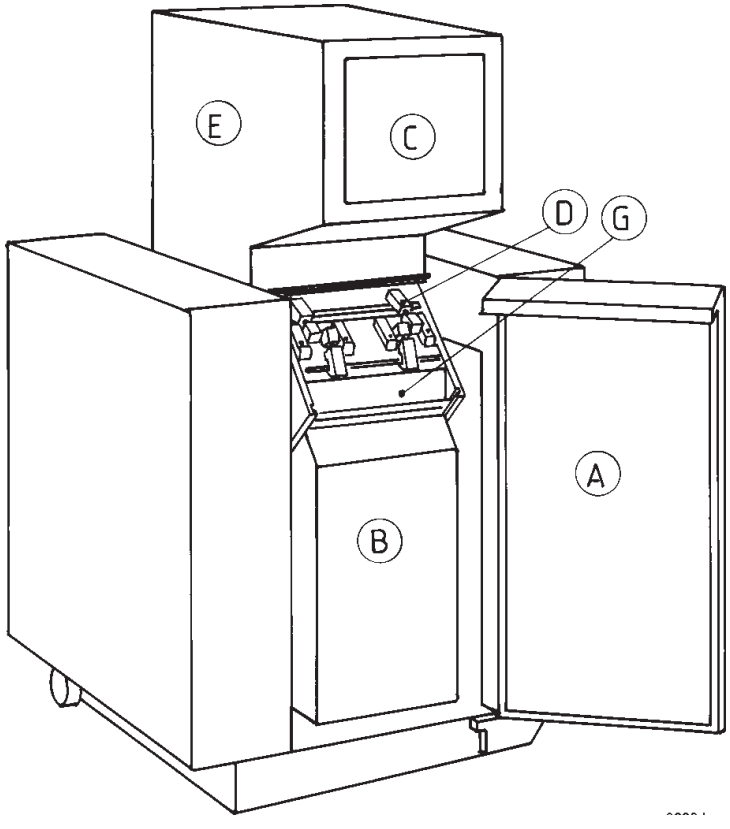
6.3 Cleaning

1. Open the hopper and screenbox as described in chapter 5.2.

   Always take great care when handling the knives since they are very sharp and can cause personal injury.

2. Clean the hopper, flaps, screen and screenbox and granule bin.
3. Clean the cutter-housing and inside the stand.
4. Replace all parts in reverse order.

   Note: Steps 2 - 4 should be carried out every time the machine is cleaned, or at least once every 300 hours.



7. Servicing

All servicing work should be carried out by a qualified service engineer and in the order described, to prevent personal injury or damage to machinery.

7.1 Changing the knives

When changing the knives, also check for any wear to the screen. For safety reasons, this should be replaced when the holes in the screen become drop-shaped.

Always take great care when handling the knives since they are very sharp and can cause personal injury. Use protective gloves!

7.1.1 Changing the fixed and rotating knives

For safety reasons, damaged screws *must* be replaced.

Demounting the rotating knives (A):

1. Remove the fastening screws (F) and washers (H).

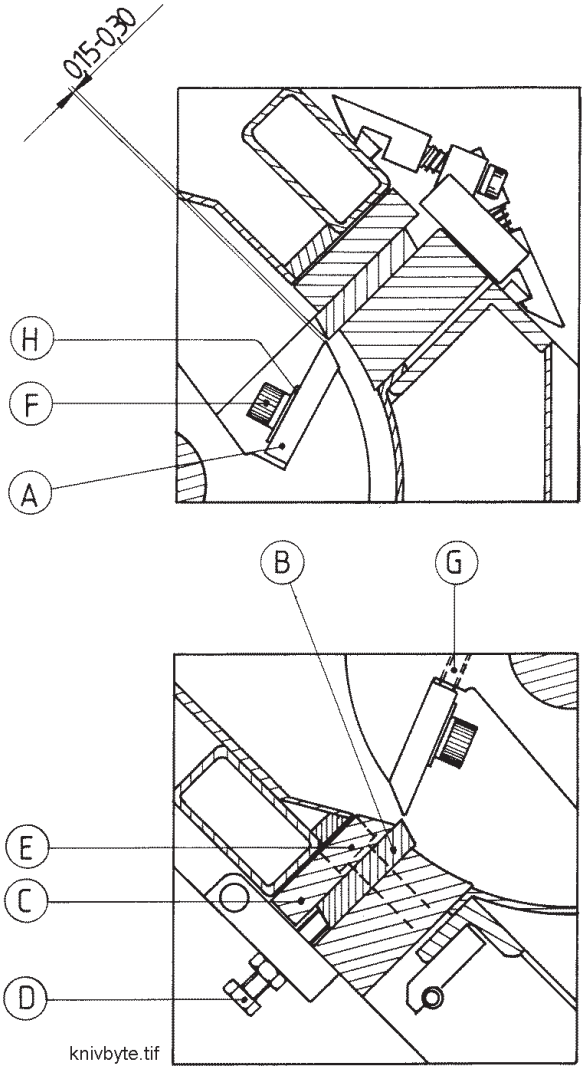
Demounting the fixed knives (B)
NOTE: For granulators with a third knife, see below.

1. Loosen the adjusting screws (D).
2. Remove the fastening screws (E) and retaining ruler (C).

Mounting the rear fixed knife.

For granulators equiped with a third fixed knife, see instructions in chapter 11.

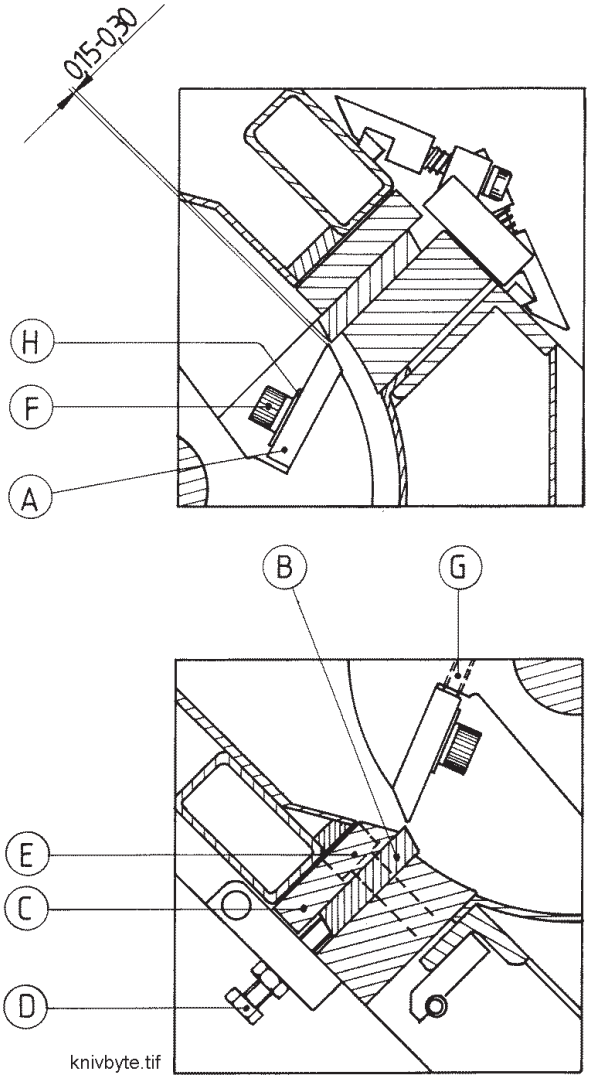
1. Check that the surfaces where the knives are to be set are free from plastic waste, etc.
2. Position the rear fixed knife and retaining ruler using the screws (E). Tighten gently.
3. Adjust the rear knife to its forward position using the adjusting screws (D). Carefully check that the knife is straight.
4. Tighten the screws (E) with a torque of 220Nm.



Mounting the rotating knives

Regarding pre-set knives, see chapter 11.

1. Clean the cutter's knife location and place a rotating knife in position.
2. Fasten the screws (F) together with the washers (H) and gently tighten them.
3. Adjust the knife using the screws (G) to give the correct amount of play, 0.15 - 0.30 mm (0.10 mm for sheet), between the fixed and rotating knives.
4. Tighten the screw (H) with a torque of 220 Nm.
5. Tighten the screw (G) with a torque of 100 Nm.
6. Rotate the rotor and replace the other rotating knives in the same way.



Mounting the forward fixed knife

1. Position the forward fixed knife with retaining ruler.
2. Gently tighten and adjust the knife so that the correct amount of play is obtained.
3. Tighten with a torque of 220 Nm.

Using a feeler gauge, check the distance between the fixed and rotating knives. The distance should not be less than 0.15 mm (0.10 mm for sheet).

Granulator fitted with a third fixed knife:

See instructions in chapter 11.

Installing pre-set knives:

See instructions in chapter 11.

7.2 Sharpening the knives

Always take great care when sharpening the knives since they are very sharp and can cause personal injury.

7.2.1 Overview

NOTE: Use the services of a skilled person when re-sharpening the knives and only sharpen the edges marked with the special sign! (see diagram under 7.2.2 and 7.2.3)

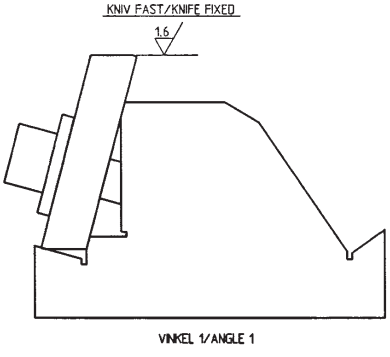
The knives must be sharpened so that the correct grinding angles are obtained, otherwise the granulator will not operate effectively with lightly cutting knives.

During sharpening, the knife must be cooled the whole time with plenty of water and must definitely not burn or start blueing on the edge since this means that the knife lacks durability and stability. If this occurs, the knife cannot be repaired by further grinding down or grinding away of the blued or burnt colour. The tempered knife may have deep deformations with possible cracking as a consequence.

The following instructions apply only if you are using CONAIR MARTIN's sharpening fixture 1418. The sharpening fixture is intended for use in a surface grinding machine and should be fixed on a magnetic board.

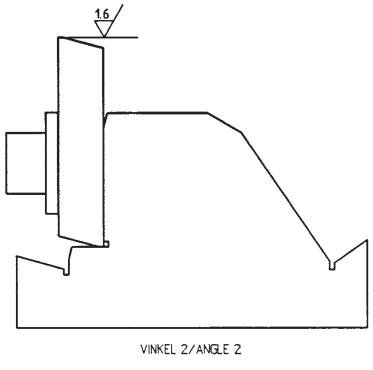
7.2.2 Sharpening the fixed knives

Regarding the third fixed knife, see chapter 11.

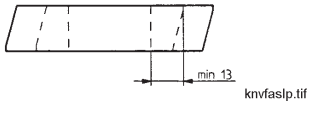


NOTE: Only the surfaces marked with the special sign should be sharpened. The specified measurements apply when sharpening the knives.

- The fixed knives are fastened as shown in the adjacent figure and the relief angle is sharpened on both sides.



- Then the knive is fastened in a vertical position as shown in the adjacent figure and the cutting angle is sharpened. The fixed knives can be turned so that two edges can be used before re-sharpening.

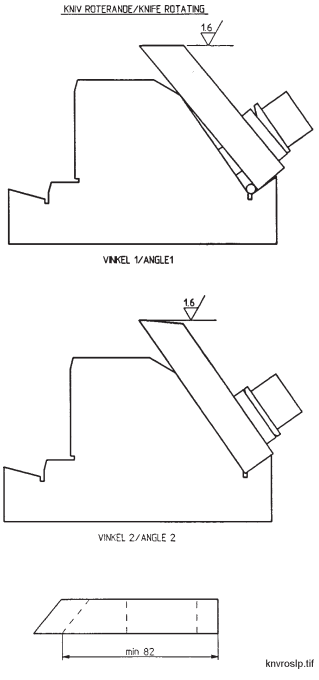


- The knives can be sharpened only as much as is shown in the adjacent figure. After that, they are worn out and should be replaced by new ones in order for the granulation to be effective.

7.2.3 Sharpening the rotating knives

NOTE: All rotating knives should be sharpened equally so that the cutter does not become unbalanced.

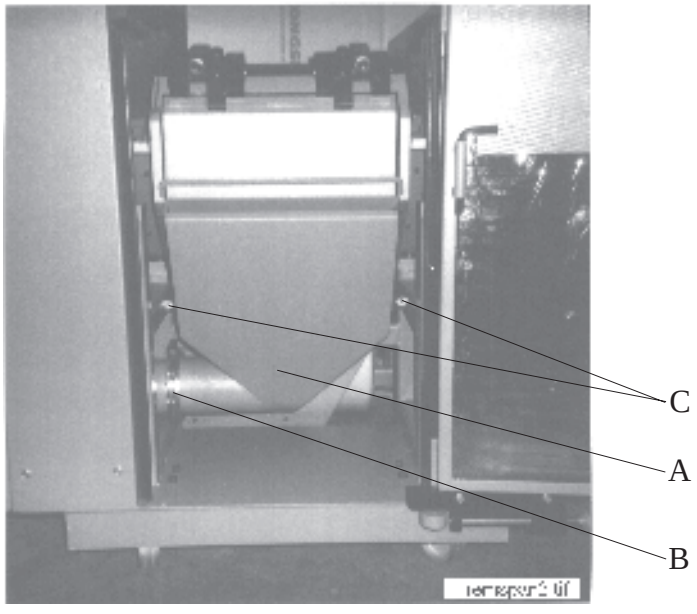
- The rotating knife is fastened with the stirrup under the lower part of the knife, as shown in the adjacent figure. Ball washers should be used when tightening. In this position the relief angle is sharpened.
- Loosen the screws and remove the pad, fasten the knife as shown in the adjacent figure. In this position the cutting angle is sharpened.
- The knives can be sharpened only as much as is shown in the adjacent figure. After that, they are worn out and should be replaced by new ones in order for the granulation to be effective.



7.3 Inspecting and adjusting the belts

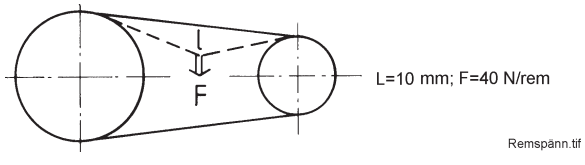
The V-belts must be inspected after 30 hours' operation.

- Open the granulator's door by following the instructions in section 5.2 Opening and closing the hopper and screenbox.



- If the V-belt needs to be tensioned, start by removing the granule bin (A) by loosening the quick-coupling ring (B) and sliding it to the left. Pull up the granule bin.

- Load one of the V-belts between the rotor pulley and the motor pulley with 75 N in the middle of and at a right angle to the belt.



Measure the deflection and adjust the distance between the pulleys as necessary until the tension is correct. The V-belt should stretch 10 mm.

- Tension the V-belt by screwing in the flange nuts (C).

7.4 Lubrication

CONAIR MARTIN recommends the following for mounting and lubrication of bearings.

Bearing housing: SKF SNH 215

Bearing: SKF 22215

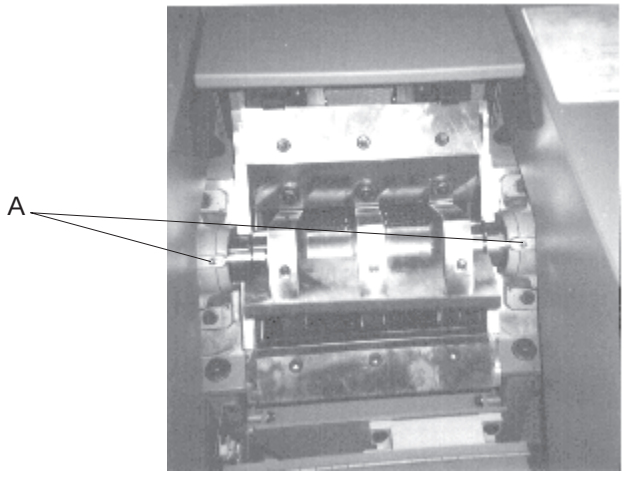
Quantity of grease: 190 g (when changing); 20 g (re-lubrication)

Lubricant: When delivered, the machine is filled with Spheerol APS from Castrol. Other suitable lubricants are:

- SKF; SKF Grease LGEP 2
- BP; BP Grease XRB2-EP
- Chevron; Dura-lith Grease EP2
- Chevron; Alexol HMP 1 EP, Alexol HMP 2 EP
- ESSO; Beacon EP1, Beacon EP2
- FINA; Marson HFF 2 EP
- Gulf; Synthetic Grease Gulflex MP
- Mobil; Mobilux EP2
- Nynäs; L 62 EP
- OK; Oktosol Grease EP2
- Shell; Shell Alvania EP2
- Texaco; Multifak EP2, Novotex Grease EP2

Re-lubrication interval: 5000 hours of operation or each year.

Grease points: Grease nipples (A) are indicated in the figure below. Steps 1 - 5 in section "5.2 Pre-start checks" describe how to open the granulator. **NOTE:** Be very careful when the hopper is open since the knives are now within reach.

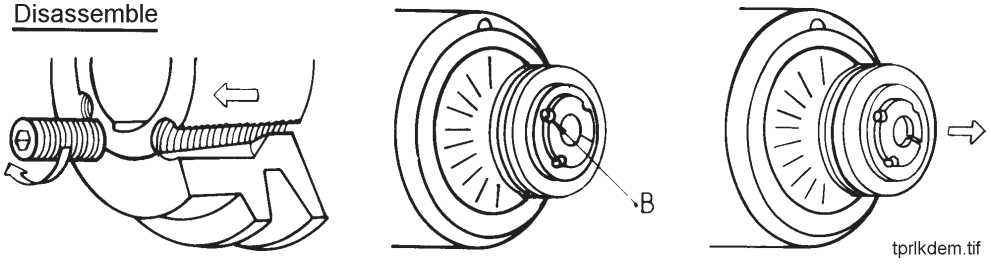


7.5 Mounting and demounting the Taperlock and rotor pulley

7.5.1 Taperlock

Demounting:

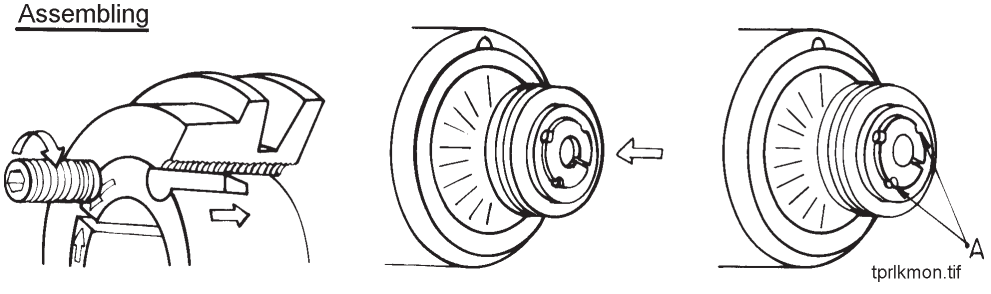
1. Thread the screws out and place one of them in the puller-tool hole (E), i.e. the half-threaded hole in the bushing, and tighten. This causes the Taperlock bushing to loosen.



2. Pull off the loose disk by hand without knocking it.

Mounting:

1. Clean and degrease all exposed surfaces. Mount the pulley and bushing by aligning the holes (A) and gently inserting the screws.
2. Slide the disk/bushing unit onto the axle, align it correctly and tighten the



screws uniformly. The torque for tightening the motor pulley = 65 Nm.

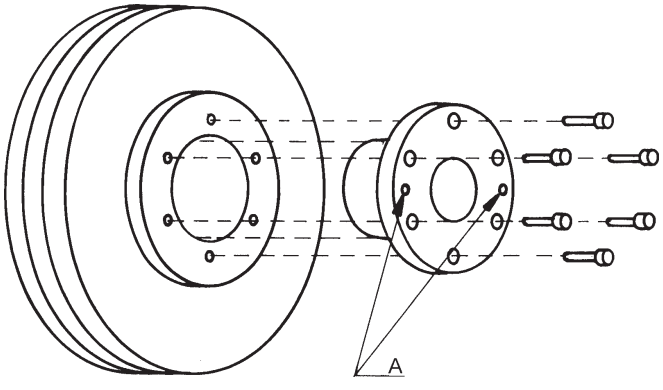
7.6 Rotor pulley

Demounting

1. Loosen all screws a few turns.
2. Unscrew two of the screws.
3. Lubricate both screws and screw them into the demounting holes (A).
4. Tighten both demounting screws alternately until the flange bushing comes loose from the hub and the unit sits freely on the axle.
5. Lift the whole unit from the axle.

Mounting

1. Clean and degrease the contact surfaces carefully.
2. Place the "flange bushing" in the hub so that the bolt holes line up with each other.
3. Lubricate the screws. Mount all screws without tightening them completely.
4. If a key is used, it should be placed in the key way before the "flange bushing" is fitted in. Check that there is sufficient play over the key.



5. Fit the hub with the "flange bushing" on the axle.
6. Tighten the screws alternately until approximately half the torque has been reached (49/2=24,5Nm).
7. Tap lightly between the axle and the bolts on the "flange bushing". Use a block of wood or plastic to protect against damage.
8. Continue to alternately bolt and tighten the screws once or twice until the correct torque has been reached, i.e. 49 Nm.

8. Spare parts list

8.1 Overview

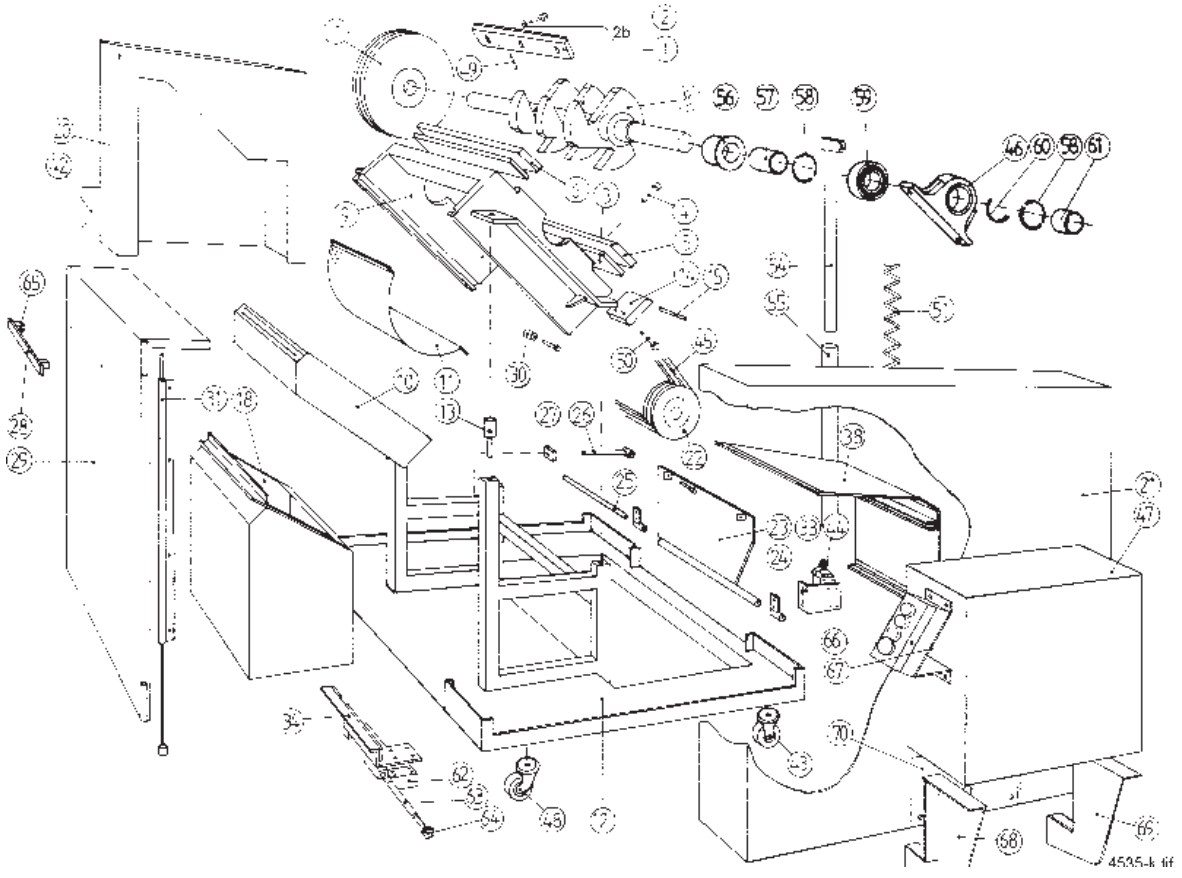
Use only spare parts from CONAIR MARTIN when replacing machine parts.

To be as clear as possible, the spare parts list is divided into modules. Each module illustrates a particular part of the granulator.

All spare parts are specified with their article number and quantity.

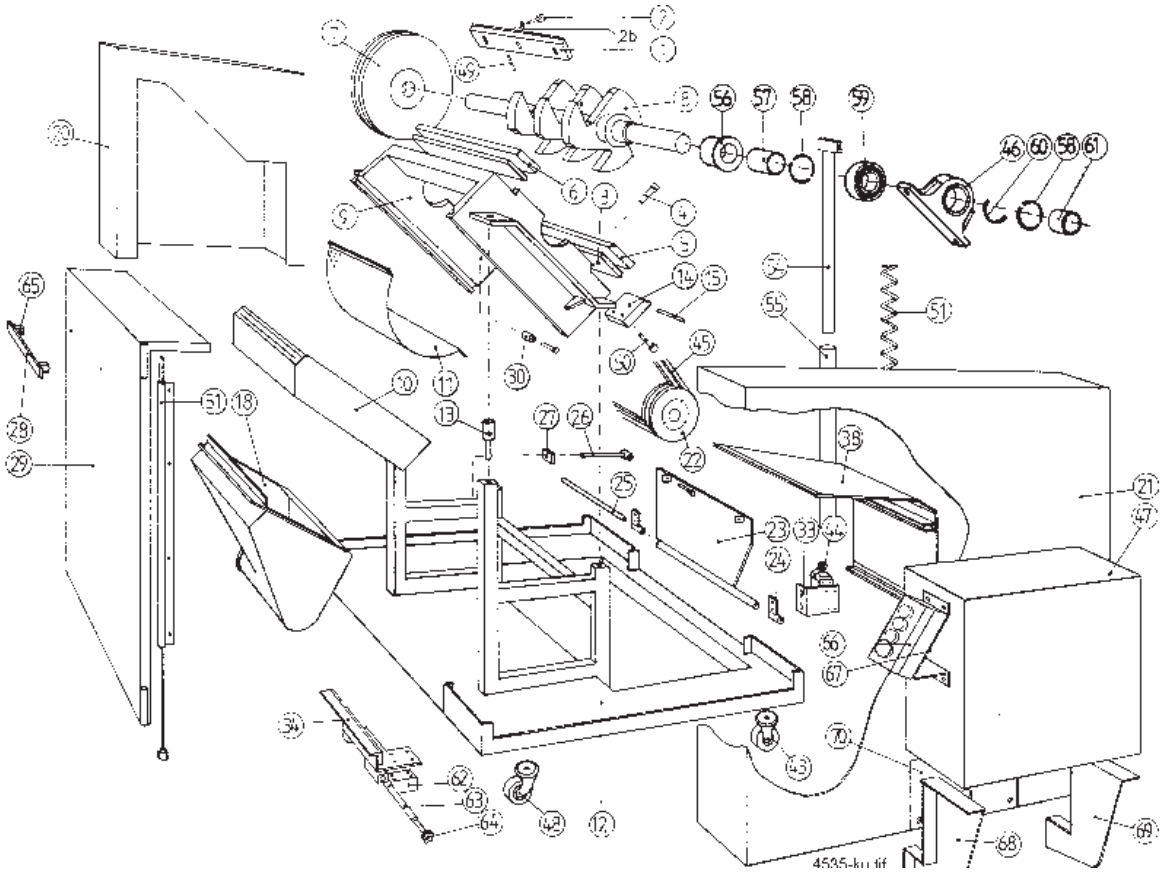
The granulator is divided into the following modules:

8.1.1 1418



Pos.	Qty.	Part no.	Pos.	Qty.	Part no.	Pos.	Qty.	Part no.
1	3	2-07050	23	1	2-07058	50a	2	9-40268
2a	9	9-40405	24	2	4-06350	50b	2	9-40369
2b	9	4-11835	25	1	4-07032	51	1	4-08865
3	2	2-07051	26	2	4-19995	54	1	3-08867
4	6	9-40506	27	2	4-07033	55	1	3-08866
5	1	2-09972	28	1	4-06388	56a	1	3-07057
6	1	2-09971	29	1	2-07097	56b	1	3-07021
7	1	9-30137	30	2	4-07061	57	2	4-07022
8	1	1-19494	31a	1	4-08859	58	2x4	9-60108
9	1	1-16945	31b	1	4-08858	59	2	9-60008
10	1	1-07011	33	1	3-08861	60	2	9-60075
11	1	2-07010	34	1	2-17470	61	2	4-08864
12	1	2-07030	38	1	1-07096	62	1	9-10570
13	2	4-07073	42	1	3-08891	63	1	4-08890
14a	1	3-17389	43	2	9-50191	64	1	4-02292
14b	1	3-17390	44	1	9-10573	65	2	4-06387
15	2	4-17391	45	4	9-30093	66	1	9-90161
18	1	2-21657	46a	1	3-07071	67	1	3-20942
20	1	2-07045	46b	1	3-07072	68	1	2-23226
21	1	2-23225	47	1	9-10926	69	1	2-23227
22	1	9-30136	48	2	9-50192	70	1	3-13717
22	1	9-30136	49	9	9-40360			

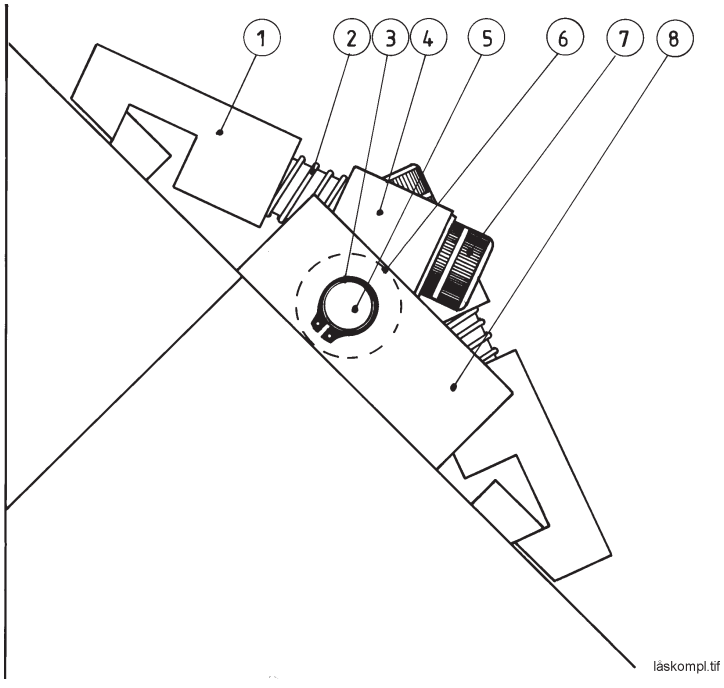
8.1.2 1418



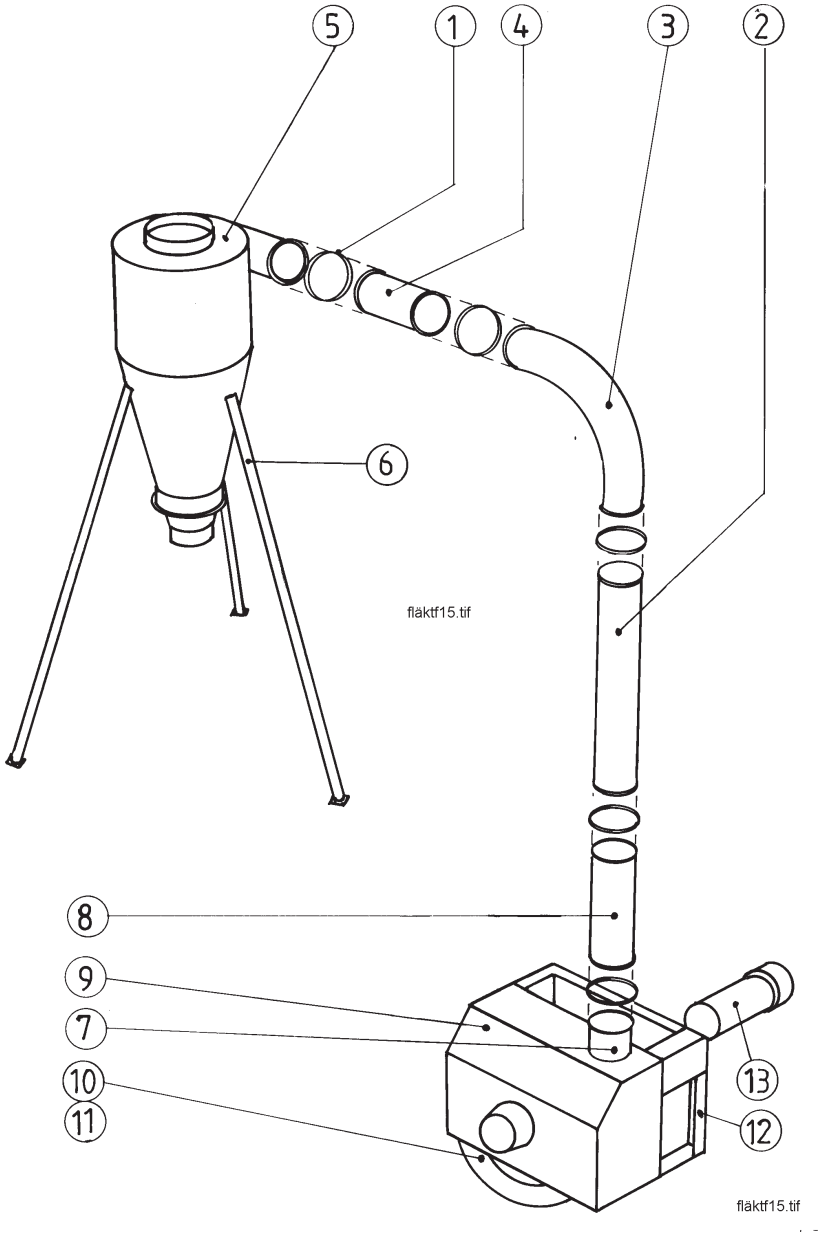
Pos.	Qty.	Part no.	Pos.	Qty.	Part no.	Pos.	Qty.	Part no.
1	3	2-07050	23	1	2-07058	50a	2	9-40268
2a	9	9-40405	24	2	4-06350	50b	2	9-40369
2b	9	4-11835	25	1	4-07032	51	1	4-08865
3	2	2-07051	26	2	4-19995	54	1	3-08867
4	6	9-40506	27	2	4-07033	55	1	3-08866
5	1	2-09972	28	1	4-06388	56a	1	3-07057
6	1	2-09971	29	1	2-07097	56b	1	3-07021
7	1	9-30137	30	2	4-07061	57	2	4-07022
8	1	1-19494	31a	1	4-08859	58	2x4	9-60108
9	1	1-16945	31b	1	4-08858	59	2	9-60008
10	1	1-07011	33	1	3-08861	60	2	9-60075
11	1	2-07010	34	1	2-17470	61	2	4-08864
12	1	2-07030	38	1	1-07096	62	1	9-10570
13	2	4-07073	42	1	3-08891	63	1	4-08890
14a	1	3-17389	43	2	9-50191	64	1	4-02292
14b	1	3-17390	44	1	9-10573	65	2	4-06387
15	2	4-17391	45	4	9-30093	66	1	9-90161
18	1	2-21657	46a	1	3-07071	67	1	3-20942
20	1	2-07045	46b	1	3-07072	68	1	2-23226
21	1	2-23225	47	1	9-10928	69	1	2-23227
22	1	9-30136	48	2	9-50192	70	1	3-13717
22	1	9-30136	49	9	9-40360			

8.1.3 Complete lock

Pos.	Qty.	Part no.
1	4	4-11841
2	4	9-50190
3	4	9-50101
4	4	4-07065
5	2	4-07068
6	2	9-40370
7	4	9-40485
8	4	9-40134



8.1.4 Blower connection F15



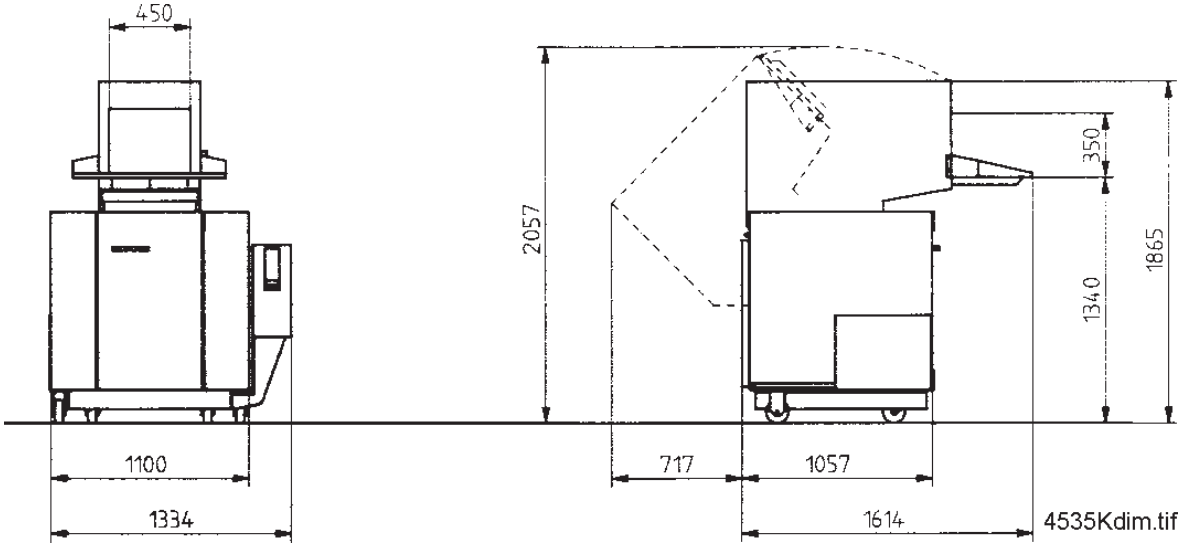
Pos.	Qty.	Part no.	Pos.	Qty.	Part no.
1	5	9-20415	8	1	9-20423
2	1	4-11761	9	1	1-11830
3	1	4-11768	10	1	9-20421
4	1	4-11762	11	1	3-14773
5	1	2-12174	12	1	1-11831
6	3	4-00487	13	1	3-21985
7	1	3-10332			

9. Electrical scheme

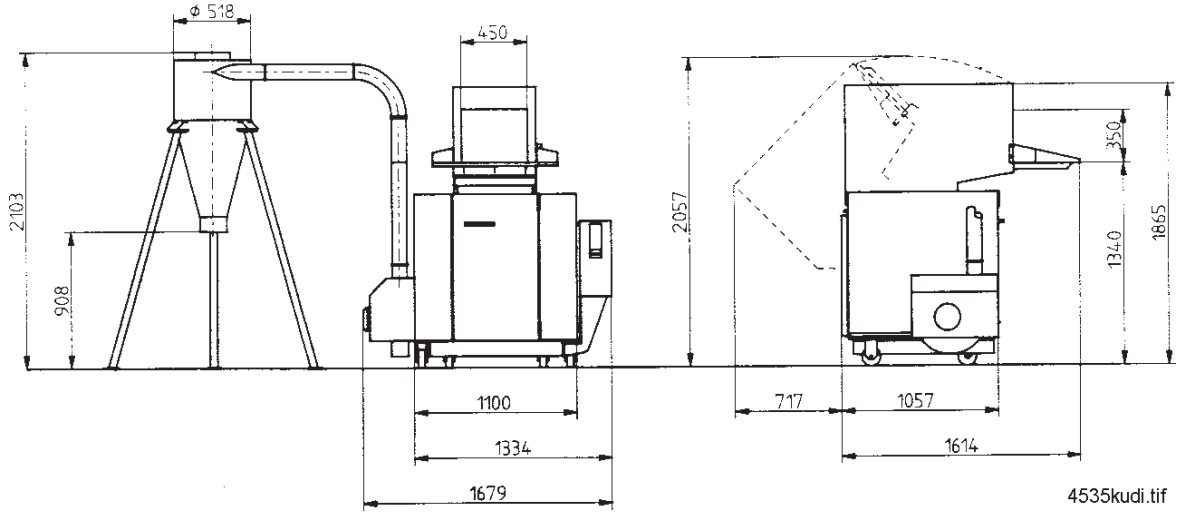
10. Layout

10.1 Dimensions

1418



1418 with Blower connection F 15



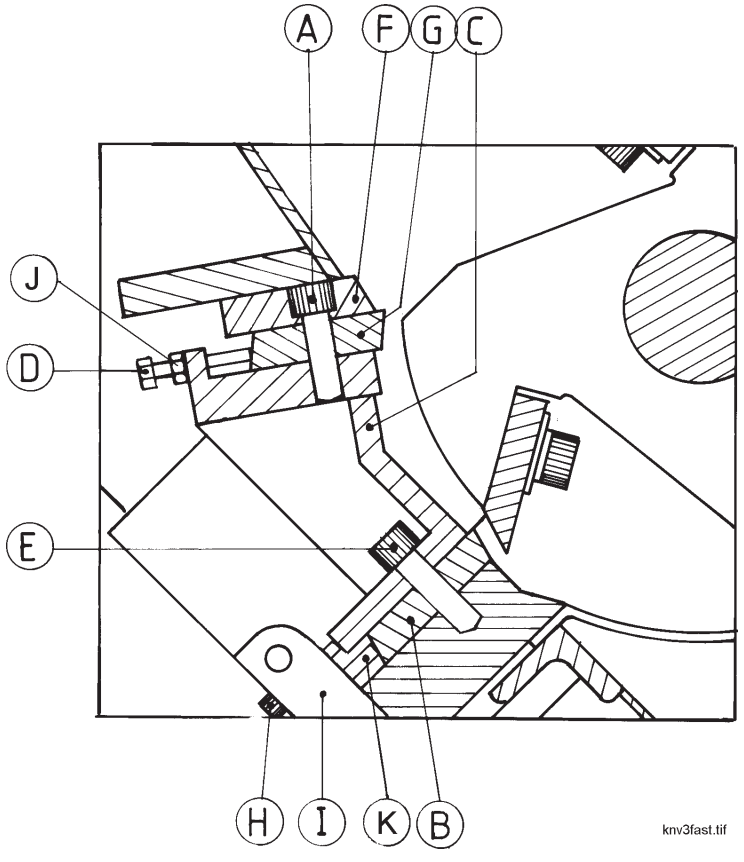
11. Options

Use only spare parts from CONAIR MARTIN when exchanging machine parts.

The following optional extras are described.

11.1 Third fixed knife

Pos	Ant.	Det.-nr
A	3	9-40177
C	1	1-14122
D	2	9-40245
E	3	9-40134
F	1	2-14124
G	1	2-17103
J	2	9-40045



Demounting the third fixed knife and rear fixed knife

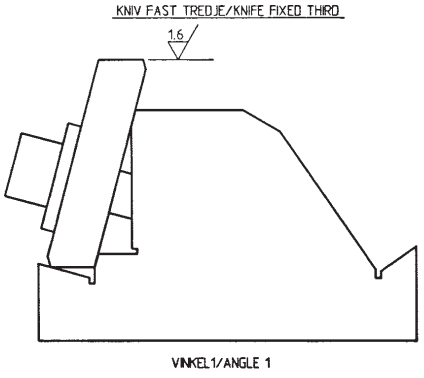
1. Loosen and remove the screws (A).
2. Remove the retaining ruler (F) and knife (G).
3. Remove the screws (E).
4. Remove the holder (C).

Mounting the third fixed knife and rear fixed knife

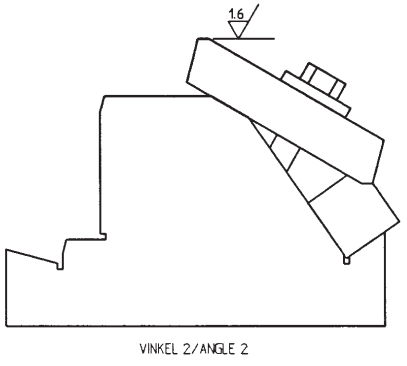
1. Place the knife (B) in position.
2. Fasten the holders (C) with the screws (E) and tighten gently.
3. Adjust the knife to its forward position using the screws (K).
4. Tighten the screws (E) with a torque of 220 Nm.
5. Set the knife (G) and retaining ruler (F) in place with the screws (A) and tighten gently.
6. Adjust the knife using the screws (D) until the correct amount of play is obtained, 0.15 - 0.30 mm (0.10 mm for sheet) between the fixed and rotating knife.
7. Tighten the screws (A) with a torque of 220 Nm.

Sharpening the fixed third knife

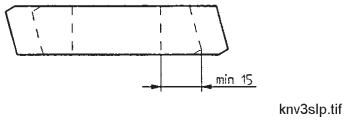
- The fixed third knife is set as shown in the adjacent figure, and the relief angle is sharpened.



- The knife is then set in position as shown in the adjacent figure, and the cutting angle is sharpened.



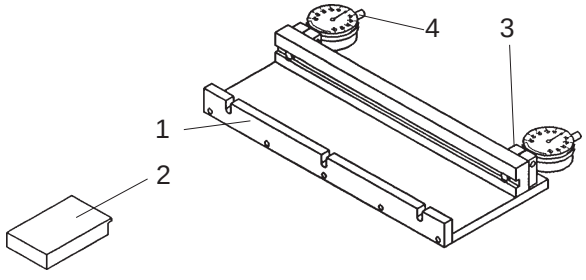
- The knives can be sharpened only as much as is shown in the adjacent figure. After that, they are worn out and should be replaced by new ones in order for the granulation to be effective.



11.2 Fixture for pre-setting the rotating knives

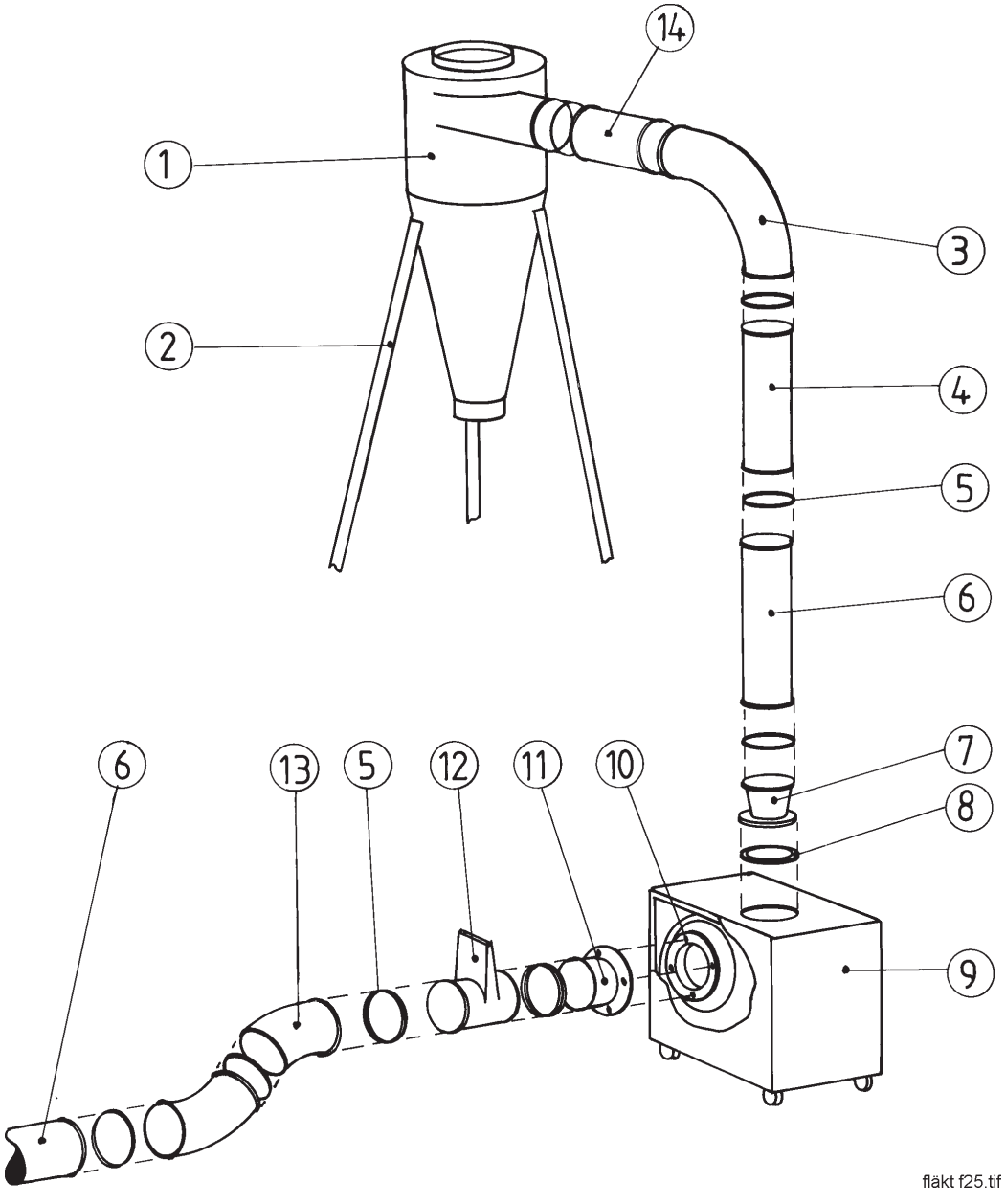
The basic setting of the knife fixture (1) is done using the knife gauge (2).

- Reset the thread indicator (4).
- Place the knife in the knife fixture. Adjust the outer setting screws so that the thread indicator shows "0".
- Then adjust the middle setting screw as long as the indicator moves. Then adjust the setting screw back until the thread indicator shows "0" again.
- The knife can now be placed in the cutter against the welded setting screws and tightened with a torque of 280 Nm.



Pos.	Ant.	Det.-nr
1	1	3-19865
2	1	3-20058
3	2	4-19013
4	2	9-70129

11.3 Blower connection F 25



fläkt f25.tif

Pos	Ant.	Det.-nr	Pos	Ant.	Det.-nr
1	1	3-03037	8	2	3-10989
2	3	4-00448	9	1	2-06036
3	1	4-11769	10	1	9-20210
4	1	4-11766	11	1	2-08679
5	10	9-20107	12	1	9-20197
6	2	9-20105	13	2	4-17781
7	1	2-08684	14	1	4-11767

12. Transporting and storing

12.1 Overview

Handling and transporting of the machinery should be carried out by specially trained personnel.

The machine is packed in weather-proof and partly shock-proof plastic sheeting. It is fixed with straps to a pallet for transportation.

12.1.1 Unpacking and checking

- Check that the machine has not been damaged in transit. Report any damage to the forwarder.
- Do not unpack the machine until it has been moved to its installation location.
- After unpacking, check that the delivery is complete by checking against the delivery note.

12.1.2 Lift and transport to installation location

For information about the machine's weight, refer to chapter 2, Technical data.

For information about the space required, refer to chapter 10, Layout.

The machine can be lifted and handled using a fork-lift truck.

12.1.3 Placing at the installation location

See chapter 5, Installation.

12.2 Storing

Normally, the machine is pre-packed for transport to the installation location where it is to be put into operation immediately. Therefore, it is only protected with rust-preventive oil.

12.2.1 Long-term storage

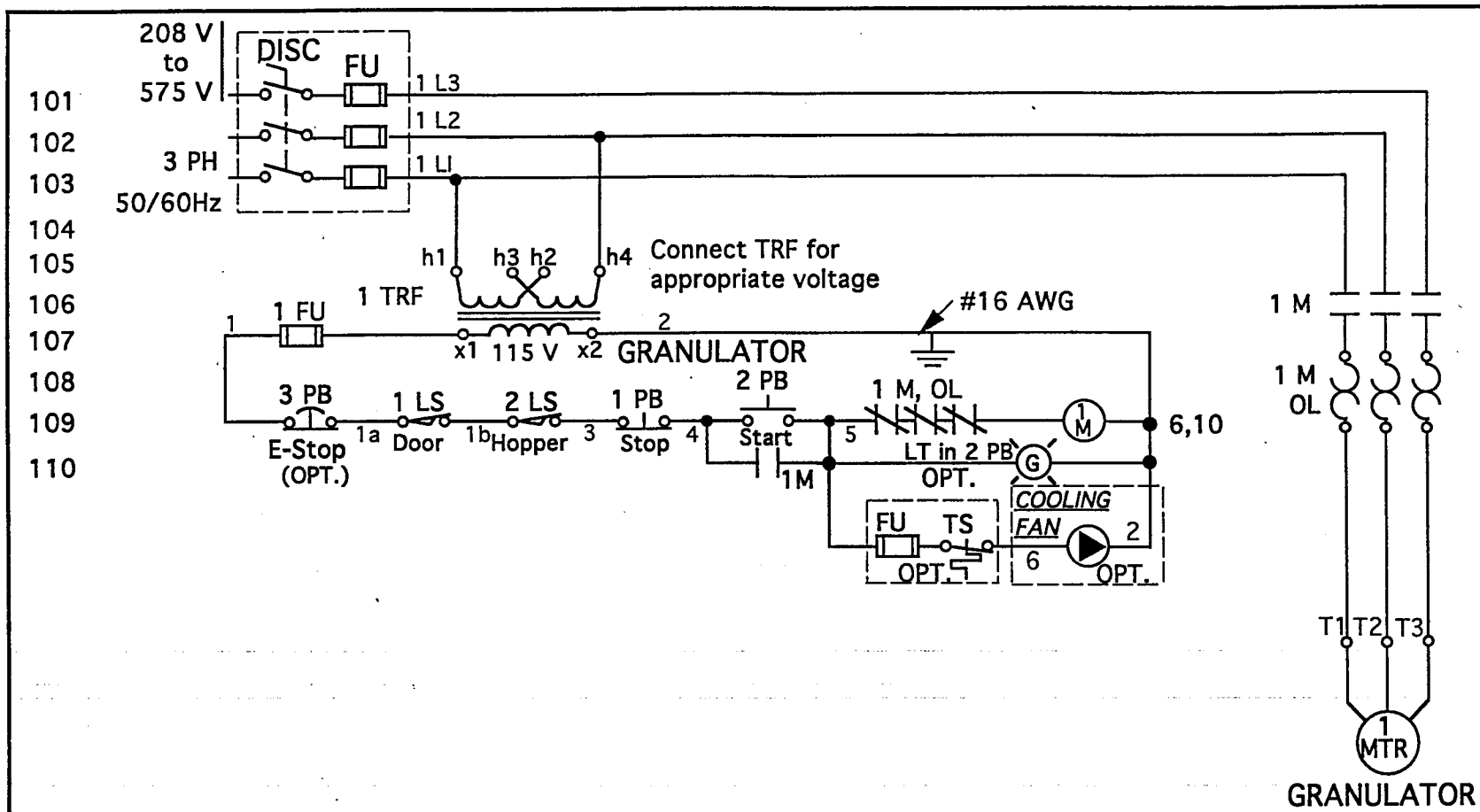
- The machine should be kept in a storage area with constant temperature and humidity.
- Before storing for a long time, the machine should be given a coating of long-term rust preventive, for example Castrol DWX 160 with durability 24 - 36 months in a suitable storage area.

12.2.3 Preservation

The machine is protected with rust-preventive oil Castrol DWX 22 on all surfaces which are not painted or rust-free.

12.2.4 Durability

The rust protection from the rust-preventive oil Castrol DWX 22 is effective for up to 12 months if the conditions described in 12.2.1 are fulfilled.



REV NO.	LET.	DESCRIPTION	BY	DATE
4	D	UPDATE	J.T.	11/03/94
3	C	UPDATE	J.T.	04/09/94
2	B	UPDATE	H.O.	04/06/93
1	A	UPDATE	H.O.	02/01/93

CONAIR MARTIN
Part of The Conair Group

NAME
ELEC. SCHEMATIC

1 MTR, 208 Thru 575V, W/FAN

MACHINE SIZE
CK 1012/1418/1831

DR. BY	DATE	CHK. BY	SCALE
H.O.	10-01-91		NONE

DWG NO. C-201-00-0558 | A | SHT. 1 OF 1