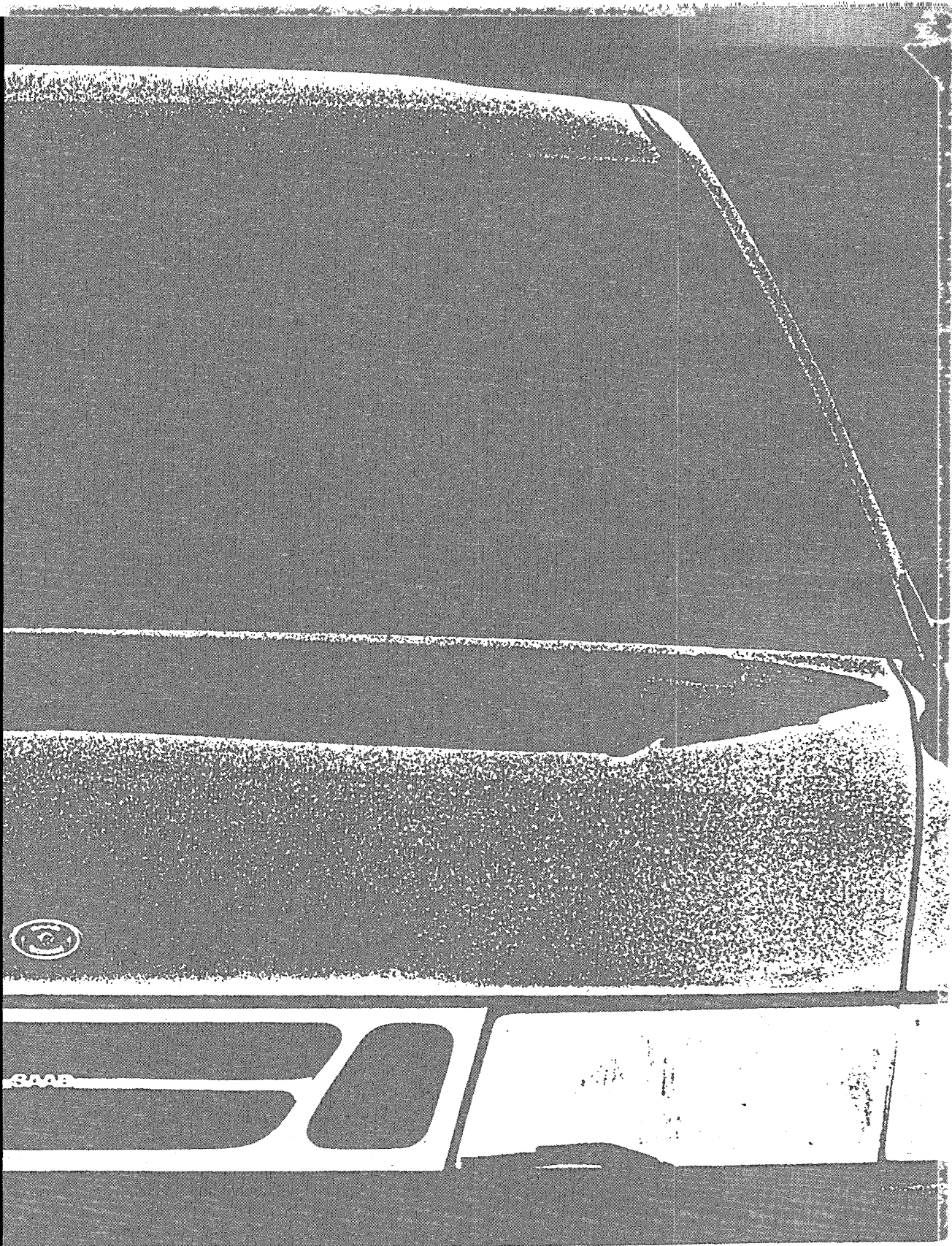


Saab



Service Manual

# 1:4 Workshop Equipment

Edition

1999

ENG



**SAAB**

# Saab

## SERVICE MANUAL

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### 1:4 Workshop Equipment

#### **Preface**

This manual contains technical requirements and descriptions of workshop equipment needed to run a rational repair and service operation. It is intended to be a support and aid when selecting equipment from Saab or any other supplier.

This manual replaces the 1995 edition and has been extended to include excerpts from Saab-Ana Konsult's product catalogue.

Information and illustrations in this manual are based on versions of tools and other equipment that were applicable at the time of going to press. Selections of technical data and equipment may vary from market to market and are subject to continuous revision.

We reserve the right to introduce changes without prior notice.

**Saab Automobile**



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**SAAB**

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# **WORKSHOP EQUIPMENT**

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# General information

## Important

### Warning, Important and Note

The headings "Warning", "Important" and "Note" occur from time to time in the Service Manual. They are used to draw the attention of the reader to information of special interest and seriousness. The importance of the information is indicated by the three different headings and the difference between them is explained below.

 **WARNING**

Warns of the risk of material damage and grave injury to mechanics and the driver, as well as serious damage to the car.

### Important

Points out the risk of minor damage to the car and also warns the mechanic of difficulties and time-wasting mistakes.

### Note

Hints and tips on how the work can be carried out in a way that saves both time and effort.

This information is provided as means of improving efficiency, not for reasons of safety.

### Market codes

The codes refer to market specifications.

AT	Austria
AU	Australia
BE	Belgium
CA	Canada
CH	Switzerland
CN	China
DE	Germany
DK	Denmark
ES	Spain
EU	Europe
FI	Finland
FR	France
GB	Great Britain
GR	Greece
IE	Ireland
IL	Israel
IS	Iceland
IT	Italy
JP	Japan
LA	Latin America
ME	Middle East
MT	Malta
NL	Netherlands
NO	Norway
PA	Asia/Pacific region
PT	Portugal
RU	Russia
SE	Sweden
TR	Turkey
US	USA
UC	US California
ZN	New Zealand



## Introduction

This manual contains technical requirements and descriptions of workshop equipment needed in a Saab garage in order to run the operation in a rational way.

It is intended to be an aid to selecting equipment that can be purchased either from your normal equipment supplier or from Saab.

Requirement specifications are used as a direct comparison to the technical specifications of the supplier.

The quality of the equipment has not been assessed in this manual. Normally, the price, after all, depends on functionality and the choice of components/materials. Therefore, never choose cheap equipment if you suspect it to be of inferior quality.

If only a part number is specified and no other information is quoted then type signal (16) is assumed to apply. In **Sweden**, type signal (45) should be used when ordering parts with numbers starting with 30.

The manual is divided into groups matching those in the Service Manuals, i.e. Engine, Electrical System, Transmission, etc. Besides these headings, you will also find the section "Workshop Layouts", which includes examples of workplaces and the location of equipment. Finally, there is the section "Hand Tools", which also covers protective equipment and the section "Diverse equipment, consumables", which is an excerpt from Saab-Ana Konsult's product catalogue.

Products in this catalogue can be purchased from either PAC (Parts Assistance Center) or QSVD Stefan Simonsson, Saab Automobile AB.

Every specification found in the catalogue can be related to technical requirements/preconditions we put on cars or workshops.

Observe the supplier's installation conditions carefully when requesting offers.

### Safety instructions

Working in a workshop involves coming in contact with more or less hazardous substances or machinery that can cause injury. Hazards to health can be minimized with suitable preparation and the work environment will be substantially improved. This applies to everything from the layout of the premises to personal conduct.

Below are a few points to consider when working in a workshop. It is essential that laws and regulations for respective countries are followed in order to maintain the highest level of safety in the workshop.

#### Working with refrigerants (A/C)

The following points must be taken into consideration when working with refrigerants:

- Wear tight fitting protective glasses if there is risk of the refrigerant escaping. Protect also hands and bare skin to avoid frost injuries.

- If refrigerant should come in contact with the skin, bathe the area with cold water and treat the injury as for burns.
- If refrigerant should come in contact with the eyes, rinse the eye with plenty of water, preferably for 15 minutes. Call a doctor if any symptoms persist.

#### **WARNING**

If a refrigerant cylinder becomes heated there is a high risk of explosion.

Gases formed when refrigerant is heated are a health hazard and can cause serious lung damage.

#### Work involving contact with oil

The following points must be taken into consideration when working with engine oil, transmission fluid, etc:

#### **WARNING**

Avoid long and repeated contact with oils. They can cause dry skin and eczema. Waste oil can be polluted and may be carcinogenic.

- Wear protective clothing, including impermeable gloves, if possible.
- Do not put oily rags into pockets.
- Do not wear oil-stained clothing. Wash all clothing regularly.
- Do not wear oily shoes.
- Immediately clean all open wounds and cover with a dressing.
- Use protective ointments. Rub into the skin before each shift so that it will be easier to wash off any oil.
- Remove oil from your face and hands, etc. by washing them thoroughly with soap and water (special skin cleansers and a nail brush will help). Preparations containing lanolin will restore the skin's natural moisture.
- Do not clean the skin with petrol, paraffin oil, diesel oil or thinners. Solvents can cause oil to enter the skin.
- Call a doctor if skin problems persist.

## 4 General information

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### Work involving contact with fuel

 **WARNING**

Provide adequate ventilation when working with fuels or fuel system components. Fumes are carcinogenic. If approved ventilation equipment for extracting fuel fumes is available, it must be used.

Smoking is absolutely forbidden.

Observe the risk of sparks when breaking or closing electrical circuits and in case of short circuits.

Always ensure that a class B fire extinguisher is close at hand.

#### Working with detergents.

Always store detergents in bottles or containers that indicate the contents and type.

If detergent should get into the eyes, keep the eyelids apart as much as is possible. Rinse with plenty of water for at least 15 minutes and then seek medical attention.

If detergent has been swallowed and the person is still conscious, give them water to drink. **Do not** provoke vomiting. Seek medical attention.

With all contact between detergents and skin the contact area should be meticulously rinsed clean.

 **WARNING**

It is strictly forbidden to apply detergent with a spray gun. This causes a mist of detergent that can easily be inhaled or contaminate skin and eyes, causing serious injury.

### Work involving contact with battery acids

 **WARNING**

Battery acid is caustic in contact with skin and eyes and if swallowed.

If battery acid comes in contact with the eyes, rinse with plenty of water for at least 15 minutes and then seek medical attention.

If battery acid is consumed, **do not** provoke vomiting but seek medical attention.

#### Working with loud machinery

Observe great care with noise levels when working with pneumatic tools and in the vicinity of large machines for washing, lifting, etc. Screen off especially noisy machinery. Always wear approved hearing protection when working with noisy machinery.

#### Working environment

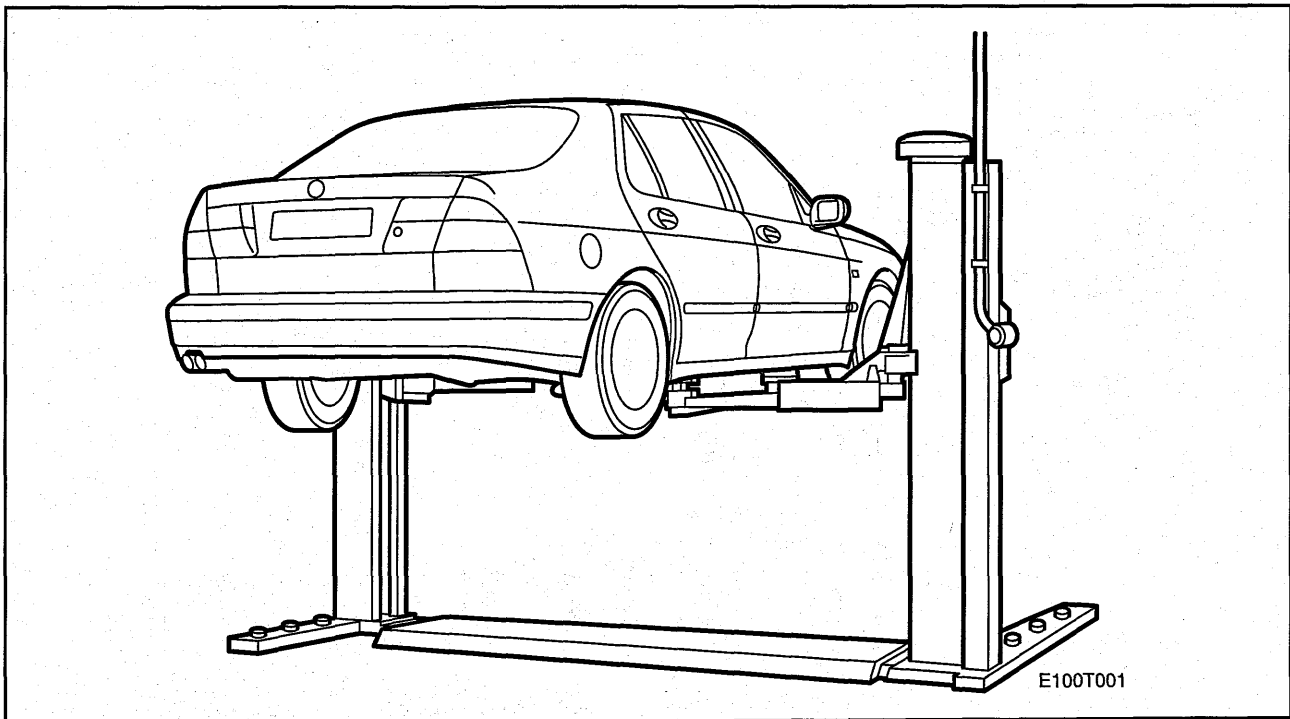
Good ventilation is essential for a safe and pleasant working environment.

Safety apparatus such as eye showers, fire blankets and fire extinguishers are not covered by this manual but should naturally be present and maintained in every workshop.

Exhaust extraction and extraction points are mentioned in this book and are required for a good working environment.

# Workshop Layouts

## General



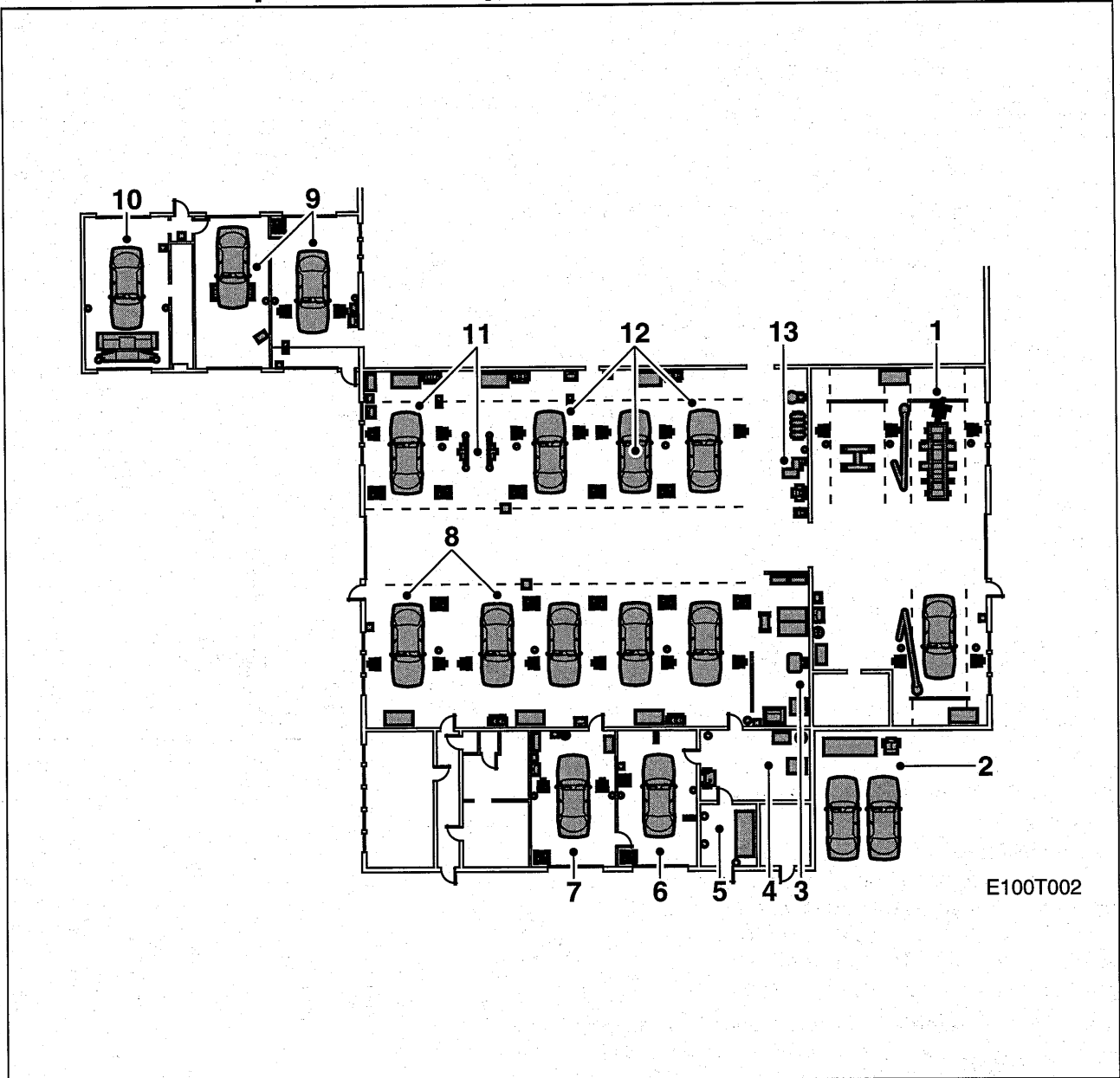
Under this heading there are several design lay-out sheets, typical design solutions for Saab planning solutions.

The specified equipment forms part of an rational Saab workshop and should be located according to the design layout unless otherwise stated by local agreement. Do not necessarily use the design layout as a construction plan but as a suggestion for good location of equipment.

Specified measurements in illustrations have been chosen so that a service mechanic will have sufficient room to work in comfort. It is also essential that doors, bonnets, etc. can be opened without being damaged.

Comply also with our recommendations for the interior with regard to the Saab Identity, see "Saab Corporate Identity Manual".

## Service and repair workshop 1



1 Repair workshop, see Workshop Layouts, "Saab repair workshop., (20)"

2 Extraction unit, waste oil

3 Section for small parts wash, washer machines and frame for engine parts

4 Section for compressor, air dryer, high-pressure washer and cold degreaser pump

5 Oil tank and pumps

6 Delivery area, see Workshop Layouts, "Delivery area., (14)"

7 Rapid service bay, see Workshop Layouts, "Saab rapid service bay, (9)"

8 Reconditioning, see Workshop Layouts, "Reconditioning section, (15)"

9 Diagnosis hall, see Workshop Layouts, "Diagnosis hall, (8)"

10 Automatic car wash bay, see Workshop Layouts, "Automatic car wash bay, (17)"

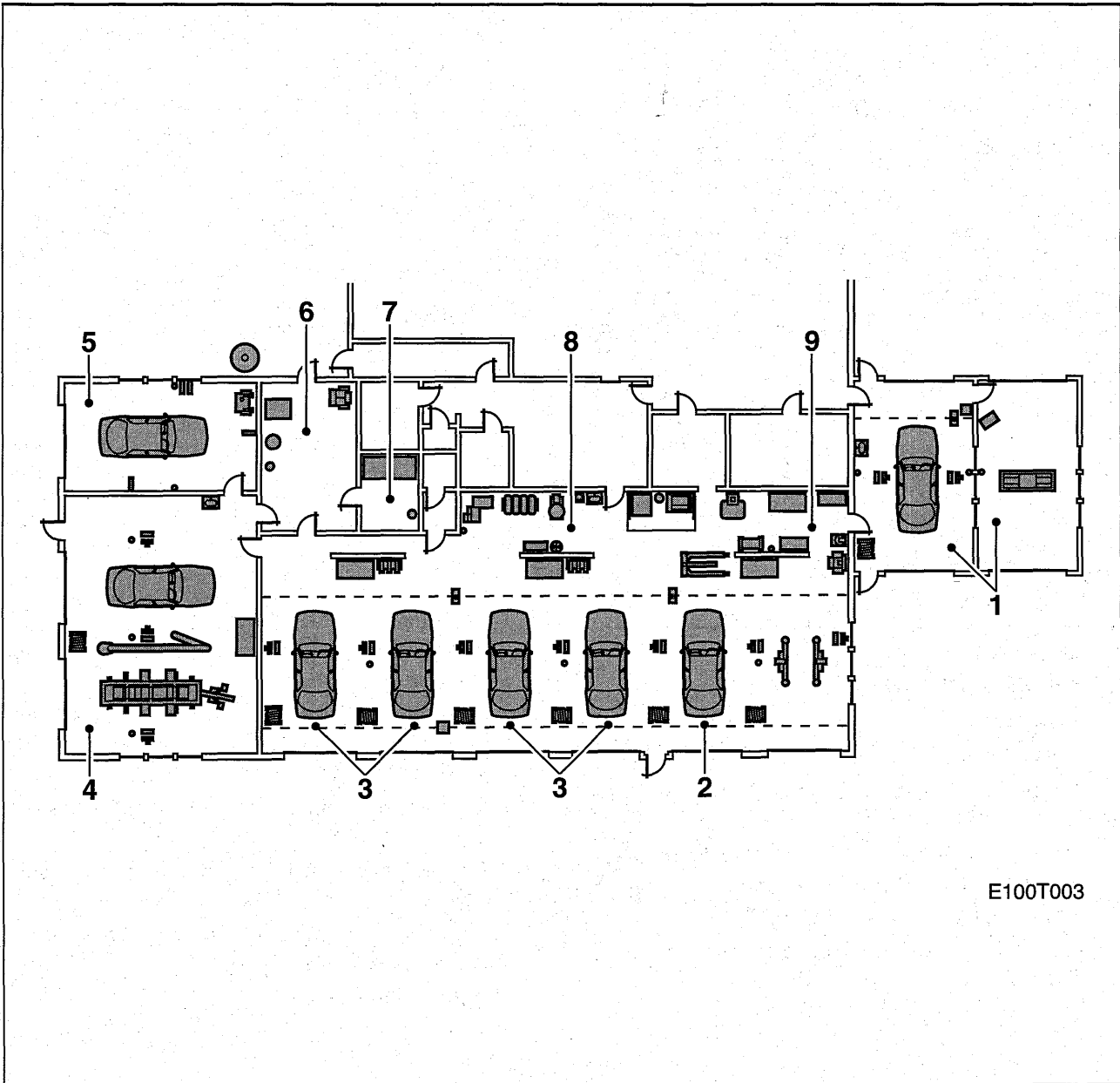
11 Service bay, see Workshop Layouts, "Service bay 1, (10)" and Workshop Layouts, "Service bay 2, (11)"

12 General working area, see Workshop Layouts, "General working area, (12)"

13 Tyre service, see Workshop Layouts, "Tyre service, (19)"

Suitable illumination for car service bay, see Workshop Layouts, "Lighting, (24)"

## Service and repair workshop 2

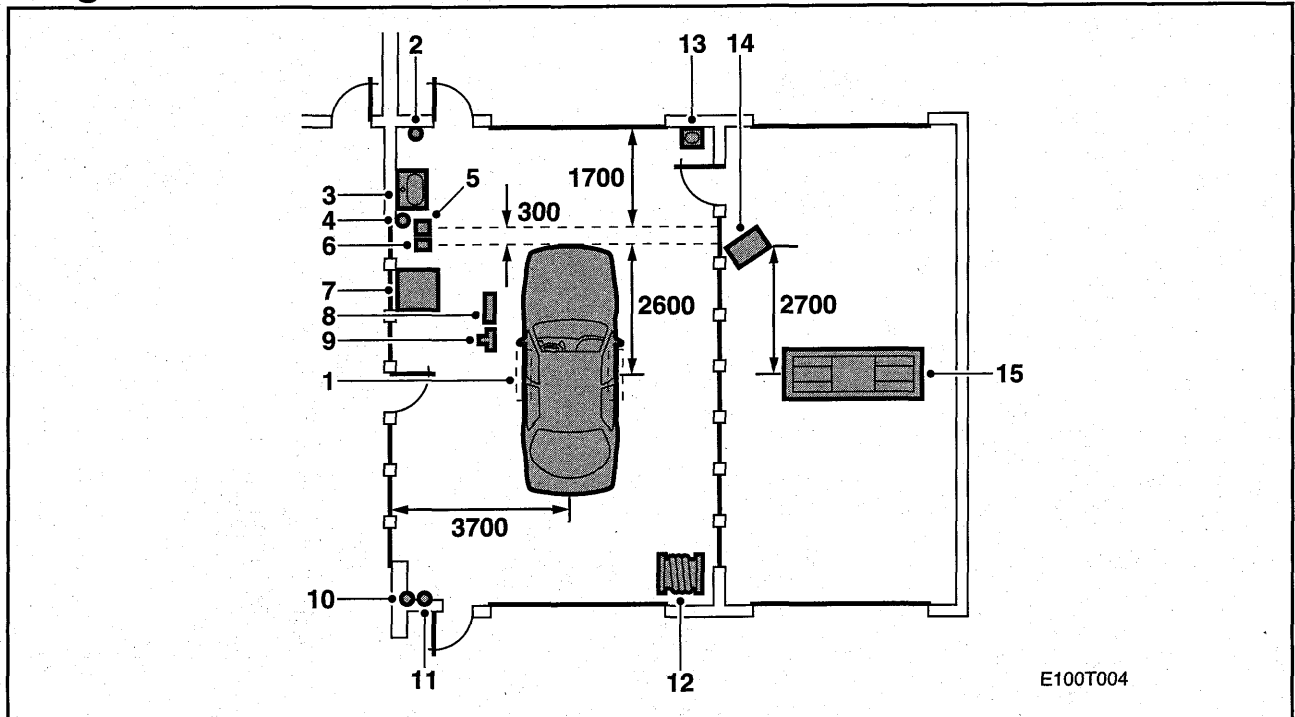


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- 1 Diagnosis hall, see Workshop Layouts, "*Diagnosis hall, (8)*"
- 2 General working area, see Workshop Layouts, "*General working area, (12)*"
- 3 Service bay, see Workshop Layouts, "*Service bay 1, (10)*" and Workshop Layouts, "*Service bay 2, (11)*"
- 4 Saab repair workshop, see Workshop Layouts, "*Saab repair workshop., (20)*"
- 5 Washing bay, see Workshop Layouts, "*Washing bay, (16)*"

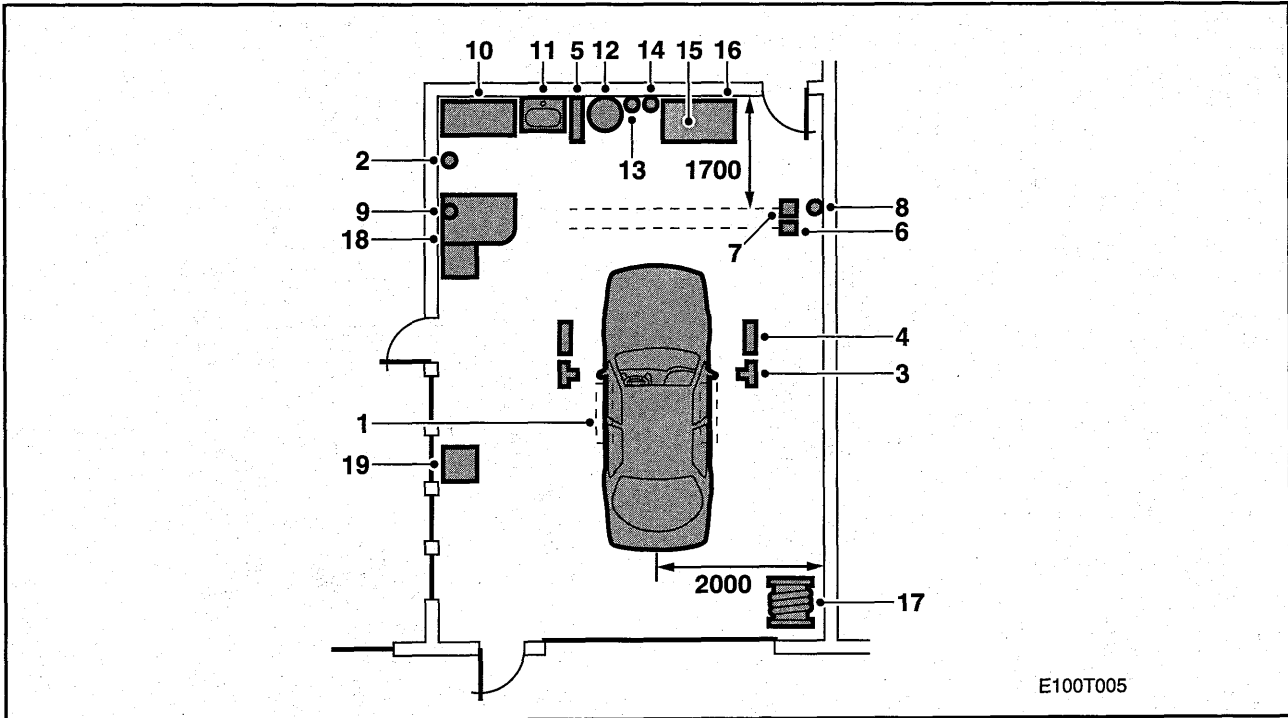
- 6 Section for central operation of extraction and compressed air
  - 7 Oil tank with pumps
  - 8 Tyre service, see Workshop Layouts, "*Tyre service, (19)*"
  - 9 Assemblage area, see Workshop Layouts, "*Assemblage area, (13)*"
- Suitable illumination for car service bay, see Workshop Layouts, "*Lighting, (24)*"

## Diagnosis hall



- |  |  |
|--|--|
| 1 Chassis lift   | 9 Cable reel for electrical outlet 3 metres above floor level  |
| 2 Control switch for chassis lift  | 10 Electrical outlets 1-phase and 3-phase 1.2 metres above floor level or according to local regulations |
| 3 Washing area   | 11 Compressed air outlet, double, 1.2 metres above floor level   |
| 4 Electrical outlet for 4 gas meter  | 12 Exhaust emission hose reel 3.5 metres above floor level   |
| 5 Bearing rail 3 metres above floor level for 4 gas metre                          | 13 Slop basin with mixer for hot and cold water  |
| 6 Bearing rail 3 metres above floor level for headlight beam adjustment instrument | 14 Brake testing, instrument   |
| 7 Report station   | 15 Brake testing machine   |
| 8 Hose reel for compressed air 3 metres above floor level                          |  |

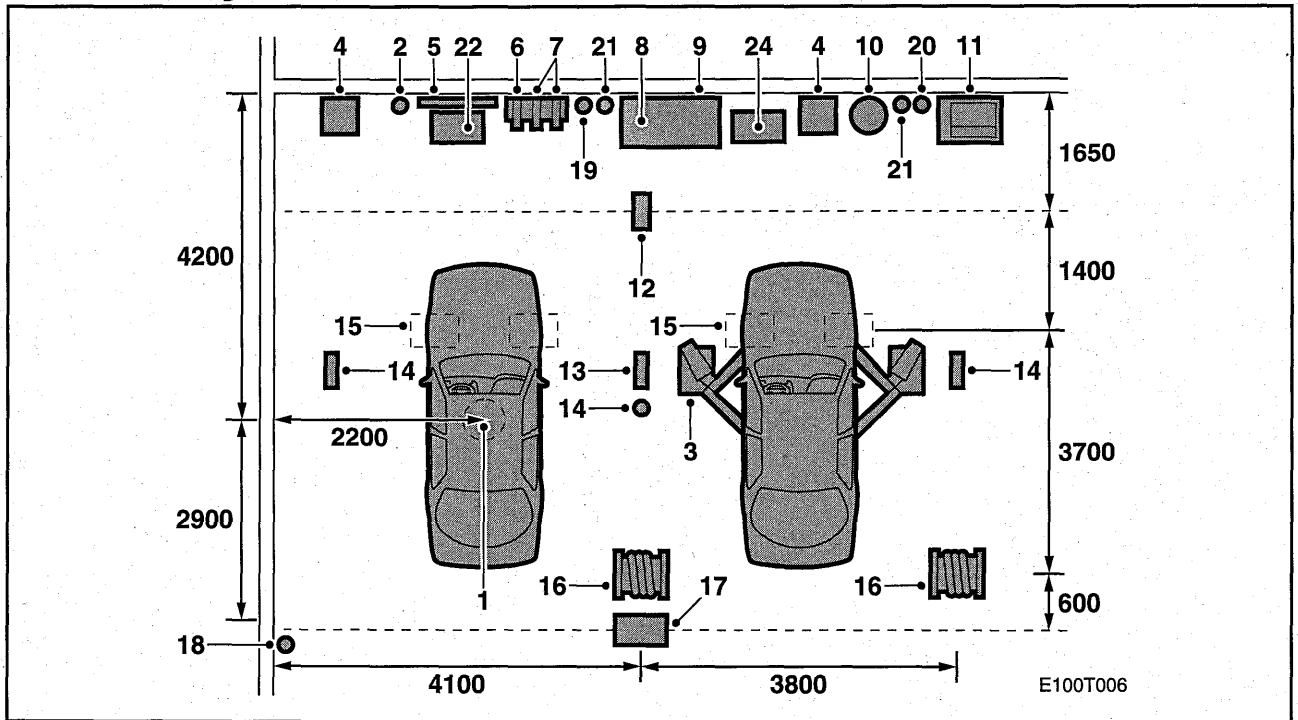
## Saab rapid service bay



E100T005

- |   |   |
|---|---|
| 1 Chassis lift  | 11 Washing area   |
| 2 Control panel for chassis lift  | 12 Waste container and paper towel dispenser  |
| 3 Cable reel for electrical outlet 3 metres above floor level                       | 13 Electrical outlets 1-phase and 3-phase 1 metre above floor level or according to local regulations |
| 4 Hose reel for compressed air 3 metres above floor level                           | 14 Compressed air outlet, double, 1.2 metres above floor level  |
| 5 Hose reel for water 2.5 m above floor level                                       | 15 Workbench 1000x600x900 mm (LxWxH)  |
| 6 Bearing rail 3 metres above floor level for head-light beam adjustment instrument | 16 Tool board "POWERTRAIN SERVICE" part no. 86 11 618   |
| 7 Bearing rail 3 metres above floor level for 4 gas metre                           | 17 Exhaust hose reel 3.5 m above floor level  |
| 8 Electrical outlet for 4 gas meter   | 18 Counter  |
| 9 Electrical outlet 1 metre above floor level or according to local regulations     | 19 Storage station for portable equipment   |
| 10 Spare parts cabinet 2100x1050x400 mm (HxWxD)                                     |   |

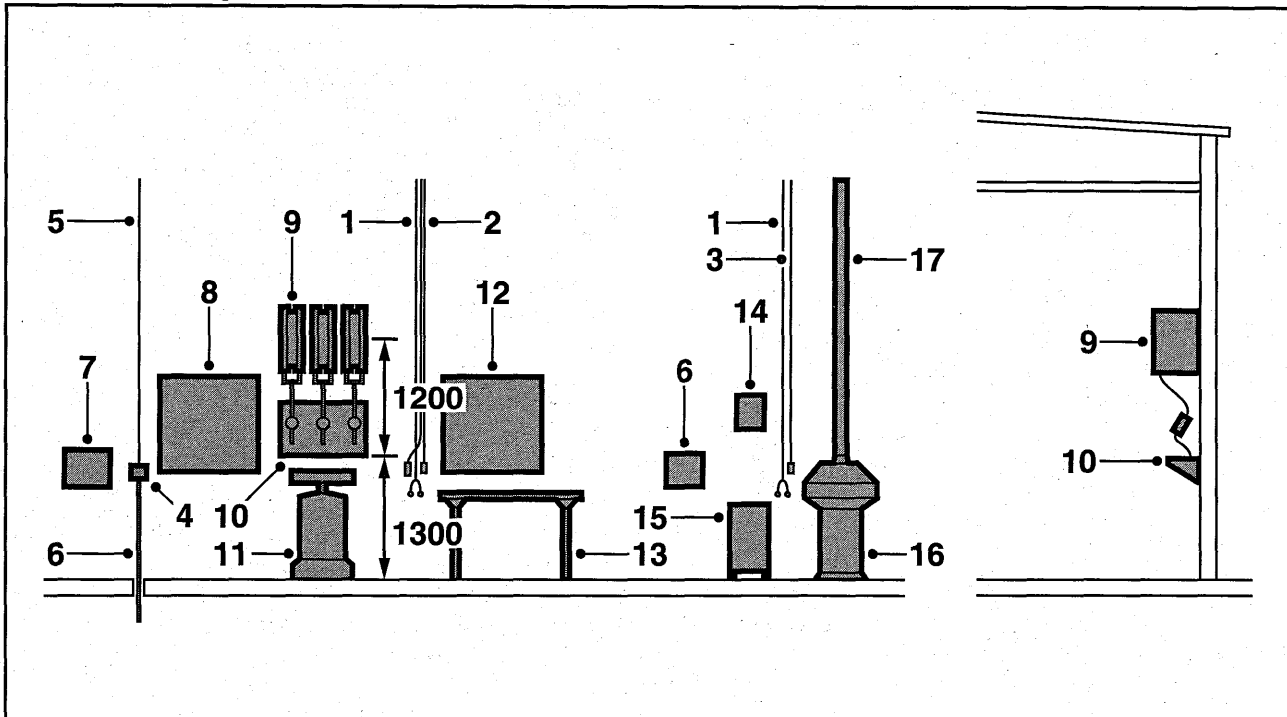
### Service bay 1



- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>1 Centre column lift</li> <li>2 Control unit for centre column lift</li> <li>3 2-column lift</li> <li>4 Report station</li> <li>5 Tool board for wheel alignment equipment</li> <li>6 Hose reel for water 2.5 m above floor level</li> <li>7 Hose reel for lubricant 2.5 m above floor level</li> <li>8 Workbench 1500x700 mm (LxW)</li> <li>9 Complete tool board, (full and half board) T-1 "POWERTRAIN SERVICE" part no. 86 11 618 and complete tool board, (full board) T-2 "CHASSIS-BODY SERVICE" part no. 86 11 600</li> <li>10 Waste container and paper towel dispenser</li> <li>11 Small parts wash with ventilation</li> </ul> | <ul style="list-style-type: none"> <li>12 Headlight beam alignment instrument with bearer rail 3 metres above floor level</li> <li>13 Hose reel for compressed air 3.5 metres above floor level</li> <li>14 Extractor point with flap valve and microswitch 2.1 metres above floor level</li> <li>15 Pits for setting the angle of torsion, with drains</li> <li>16 Hose reel for exhaust fume extraction 3.5 metres of floor level</li> <li>17 4 gas meter with bearing rail 30x30x2 mm 3.5 metres above floor level</li> <li>18 Electrical outlet for 4 gas meter 3.5 metres above floor level</li> <li>19 Electrical outlet 1-phase and 3-phase</li> <li>20 Electrical outlet 1-phase</li> <li>21 Compressed air outlet, double, 1 metre over floor level</li> <li>22 Tool trolley for Saab motor mechanics</li> </ul> |
|---|---|

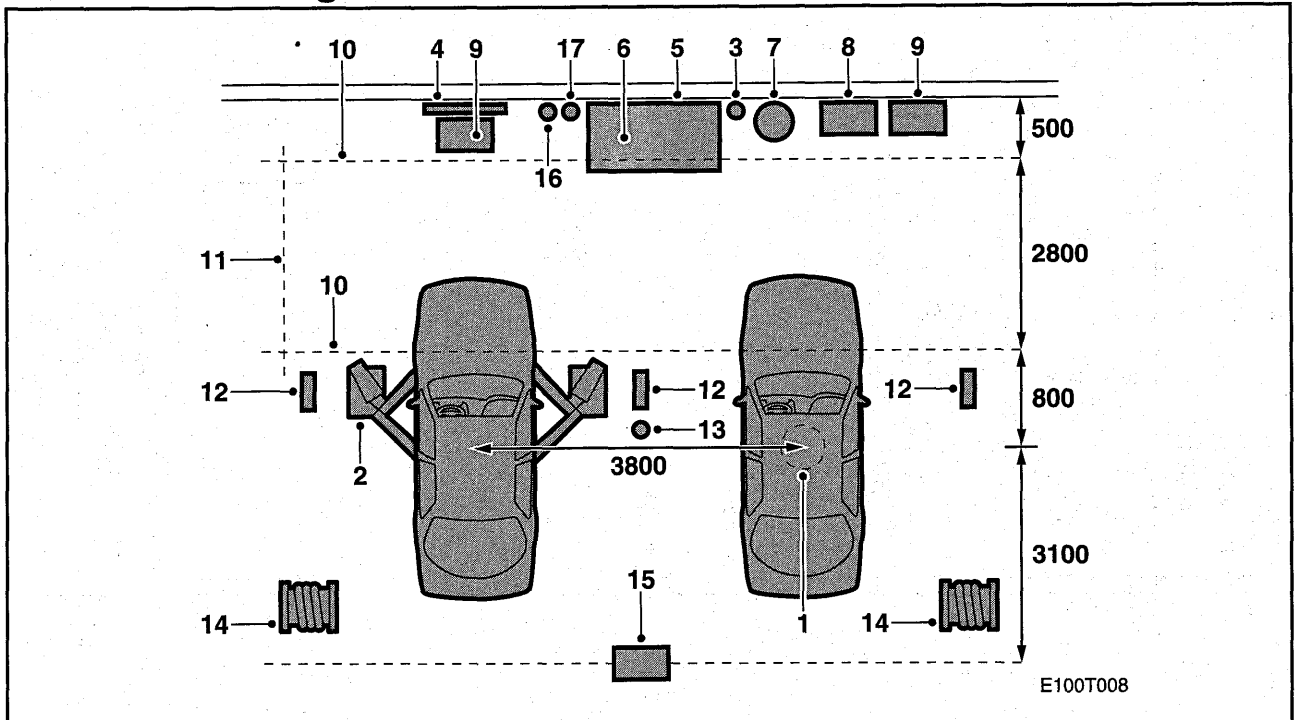


## Service bay 2



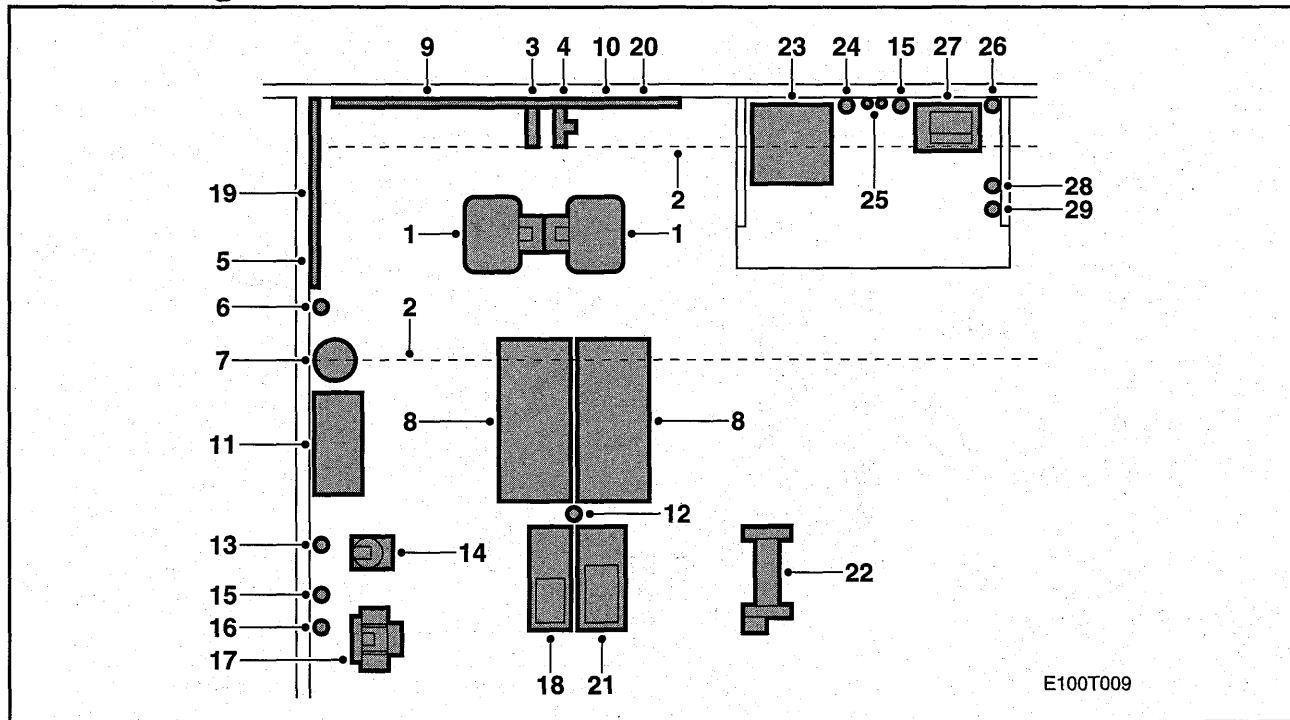
- |  |   |
|--|---|
| 1 Compressed air pipeline, 2 outlets 1 metre above floor level | 11 Waste oil assemblage   |
| 2 Electrical cables with 1-phase and 3-phase outlets           | 12 Complete tool board, (full and half board)<br>T-1 "POWERTRAIN SERVICE" part no. 86 11 618 and complete tool board, (full board)<br>T-2 "CHASSIS-BODY SERVICE" part no. 86 11 600 |
| 3 Electrical cable with 1-phase outlet                         | 13 Workbench 1500x700x900 mm (LxDxH)  |
| 4 Control unit for column lift                                 | 14 Paper towel dispenser  |
| 5 Electric leads for column lift                               | 15 Waste container  |
| 6 Tube with two electric leads for column lift                 | 16 Small parts wash   |
| 7 Report station   | 17 Ventilation pipe diameter 125 mm   |
| 8 Wheel alignment equipment                                    |   |
| 9 Hose reel for lubricant and water                            |   |
| 10 Drip pan  |   |

## General working area



- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>1 Centre column lift</li> <li>2 2-column lift</li> <li>3 Control unit for column lift</li> <li>4 Tool board</li> <li>5 Complete tool board, (full and half board) T-1 "POWERTRAIN SERVICE" part no. 86 11 618 and complete tool board, (full board) T-2 "CHASSIS-BODY SERVICE" part no. 86 11 600</li> <li>6 Workbench 1500x700 mm (LxW)</li> <li>7 Waste container and paper towel dispenser</li> <li>8 Supply trolley</li> <li>9 Tools for Saab mechanic</li> </ul> | <ul style="list-style-type: none"> <li>10 Traverse crane rail 4 metres above floor level</li> <li>11 Single beam traverse crane for 500 kg</li> <li>12 Hose reel for compressed air 3.5 metres above floor level</li> <li>13 Extractor point with flap valve and microswitch 2.1 metres above floor level</li> <li>14 Exhaust emission hose reel 3.5 metres above floor level</li> <li>15 4-gas meter with bearing rail 3.5 metres above floor level or according to local regulations</li> <li>16 Electric outlet 1-phase and 3-phase 1 metre above floor level or according to local regulations</li> <li>17 Compressed air outlet, double, 1 metre over floor level</li> </ul> |
|--|---|

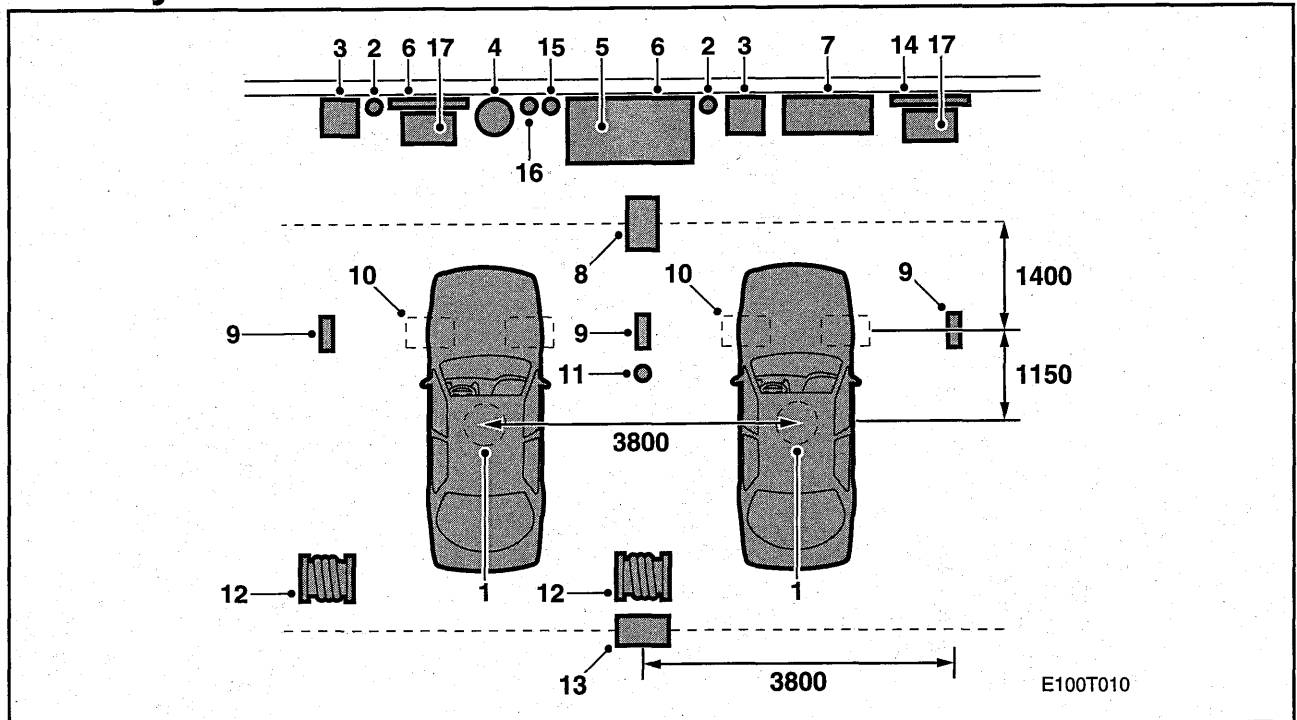
## Assemblage area



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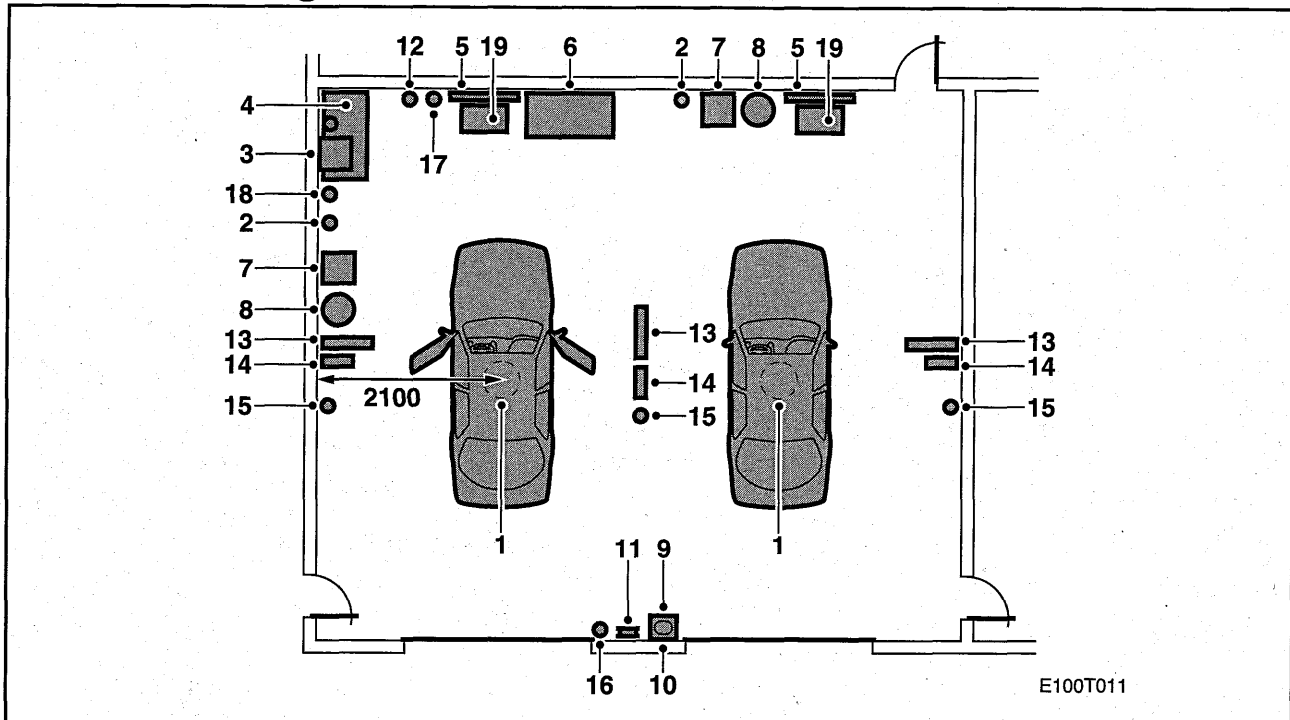
- |   |  |
|---|--|
| 1 Frame for engine and gearbox  | 16 Electrical connection for 3-phase upright grinder                         |
| 2 Traverse crane rails  | 17 Upright grinder   |
| 3 Hose reel for compressed air 2.5 metres above floor level                             | 18 Tool cabinet 925x500x910 mm (LxDxH)                                       |
| 4 Cable reel for 1-phase electricity 2.5 metres above floor level                       | 19 Complete tool board, (full board) T-6 "HOLDERS" part no. 86 11 568        |
| 5 Complete tool board (full board) T-2 "CHASSIS-BODY SERVICE" part no. 86 11 600        | 20 Complete tool board, (full board) T-5 "SAAB AUTOMATIC" part no. 86 11 576 |
| 6 Electrical outlet 1-phase and 3-phase   | 21 Workbench 1000x600x910 mm (LxDxH) and faceplate                           |
| 7 Waste container and paper towel dispenser   | 22 Workshop press 25 metric tons   |
| 8 Workbench 1500x700x900 mm (LxDxH).  | 23 Wash machine with ventilation   |
| 9 Complete tool board, (full board) T-3 "SAAB ENGINE" part no. 86 11 592                | 24 3-phase electrical connection for wash machine                            |
| 10 Complete tool board, (full and half board) T-4 "MANUAL GEARBOX" part no. 86 11 584   | 25 Hot and cold water mixer  |
| 11 Tool cabinet 1820x925x500 (HxWxD)  | 26 Electrical outlet for 1-phase small parts wash                            |
| 12 Service unit with compressed air and 3-phase electricity, 2 metres above floor level | 27 Small parts wash with ventilation   |
| 13 Electrical connection for 3-phase for upright drill                                  | 28 Pneumatic pump for waste oil  |
| 14 Upright drill  | 29 Outlet for cold degreasing agent  |
| 15 Compressed air outlet, double, 1.2 metres above floor level                          |  |

**Delivery area.**



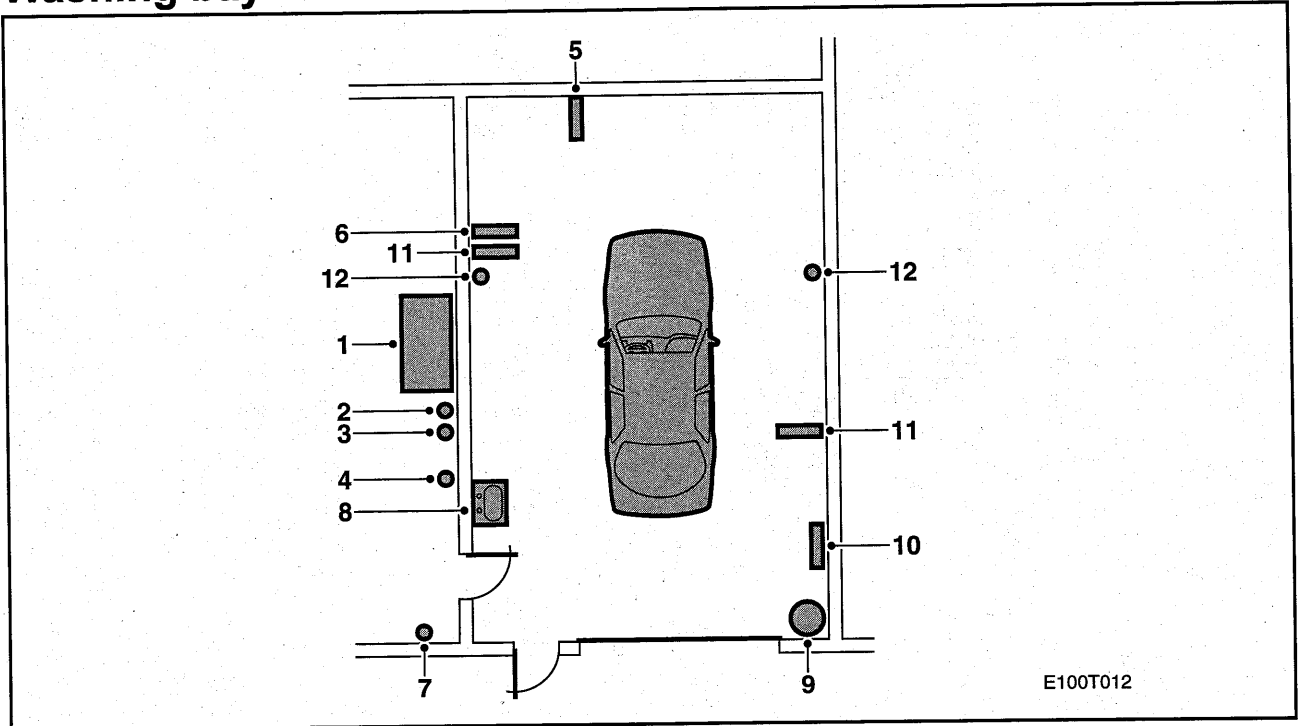
- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>1 Centre column lift</li> <li>2 Control unit for centre column lift</li> <li>3 Report station</li> <li>4 Waste container and paper towel dispenser</li> <li>5 Workbench 1500x700 mm (LxW)</li> <li>6 Tool board</li> <li>7 Storage cabinet 2100x1050x500 mm (HxWxD)</li> <li>8 Headlight beam alignment instrument with bearer rail 3 metres above floor level</li> <li>9 Hose reel for compressed air 3.5 metres above floor level</li> </ul> | <ul style="list-style-type: none"> <li>10 Pits for setting the angle of torsion, with drains</li> <li>11 Extractor point with flap valve and microswitch 2.1 metres above floor level</li> <li>12 Hose reel for exhaust hose 3.5 metres above floor level</li> <li>13 4 gas meter with bearing rail 30x30x2 mm 3.5 metres above floor level</li> <li>14 Tool board for wheel alignment</li> <li>15 Electrical outlet 1-phase and 3-phase</li> <li>16 Compressed air outlet, double, 1 metre above floor level</li> <li>17 Tool trolley for Saab motor mechanic</li> </ul> |
|---|---|

## Reconditioning section



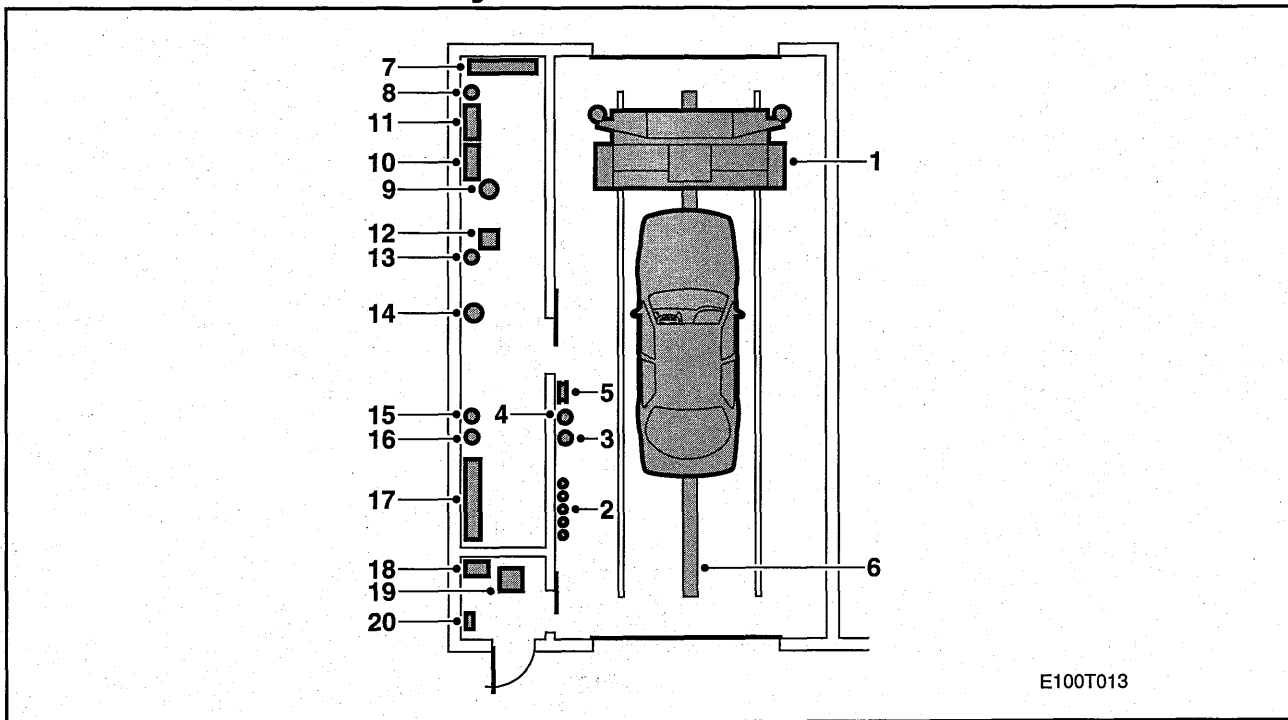
- |  |   |
|--|---|
| 1 Centre column lift or lifting table        | 11 Shelf for water hose   |
| 2 Control unit for centre column lift        | 12 Cold water outlet 1.2 metres above floor level                               |
| 3 Battery charger                            | 13 Hose reel for compressed air 3.5 metres above floor level                    |
| 4 Battery charging cabinet with ventilation. | 14 Electrical cable reel 1-phase 3.5 metres above floor level                   |
| 5 Tool board                                 | 15 Extractor point with flap valve and microswitch 2.1 metres above floor level |
| 6 Storage cabinet 2100x1050x500 mm (HxWxD).  | 16 Compressed air outlet, electrical outlet 1-phase and 3-phase                 |
| 7 Report station                             | 17 Compressed air outlet, double, 1 metre above floor level.                    |
| 8 Waste container and paper towel dispenser  | 18 Electrical outlet 1-phase  |
| 9 Slop basin                                 | 19 Supply trolley   |
| 10 Hot and cold water mixer                  |   |

## Washing bay



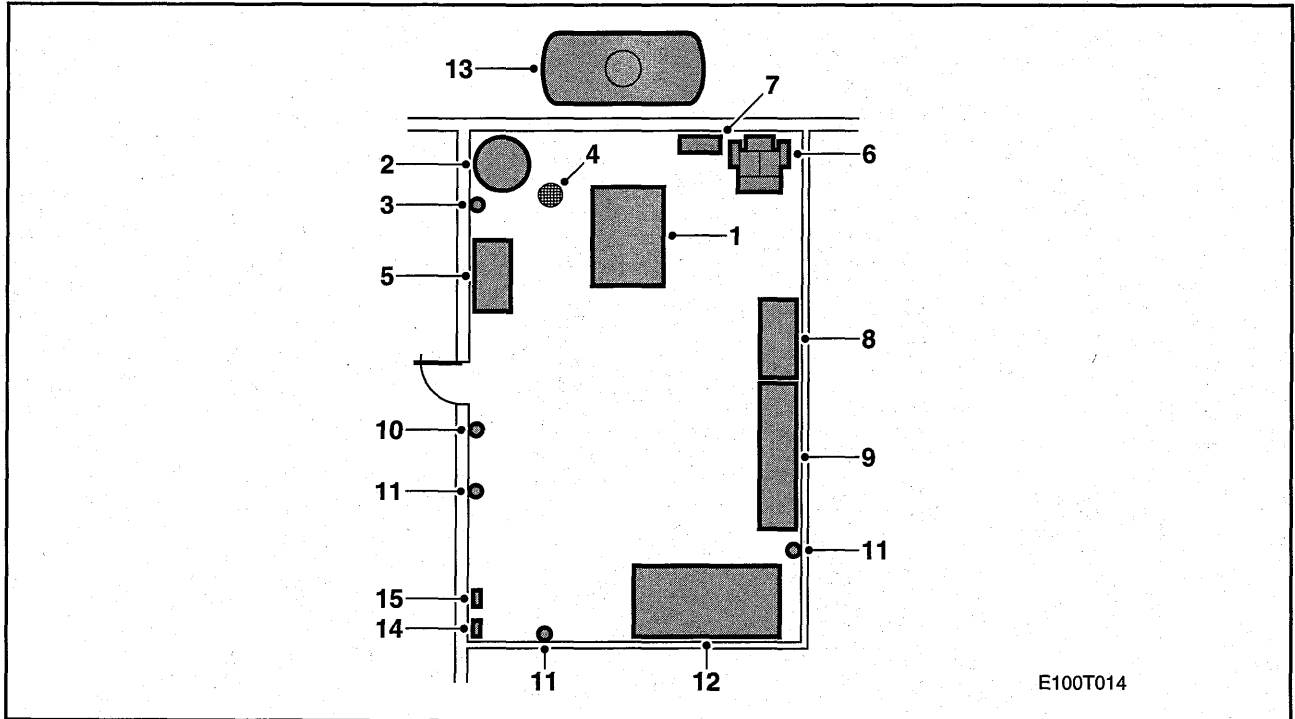
- |  |   |
|--|---|
| 1 High pressure unit   | 7 Electrical outlet 1-phase   |
| 2 Electrical outlet for washing assemblage                         | 8 Slop basin and mixer for hot and cold water                                   |
| 3 Mixer with thermostat for washing assemblage                     | 9 Waste container   |
| 4 Pneumatic pump for cold degreasing agent.                        | 10 Wringer for chamois leather 1.2 metres above floor level                     |
| 5 Hose reel for cold degreasing agent 3.5 metres above floor level | 11 Extractor point with flap valve and microswitch 2.1 metres above floor level |
| 6 Hose reel for compressed air 3.5 metres above floor level        |   |

## Automatic car wash bay



- |   |   |
|---|---|
| 1 Automatic car wash machine  | 11 YD switch  |
| 2 Connection points for washer machine, electricity, compressed air, degreaser and water 3 metres above floor level | 12 High-pressure pump and engine protection switches  |
| 3 Compressed air outlet 1 metre above floor level   | 13 Water connection                                   |
| 4 High pressure water outlet  | 14 Degreaser pump                                     |
| 5 Shelf for water hose  | 15 Compressed air outlet 1.2 metre above floor level. |
| 6 Connection point for underwash ramp   | 16 Electrical outlet 1-phase                          |
| 7 Electrical distribution box   | 17 Control cabinet                                    |
| 8 Water outlet  | 18 Push button box                                    |
| 9 Underwash ramp  | 19 Data box   |
| 10 Air box.   | 20 Door control                                       |

## Machine shop, stores

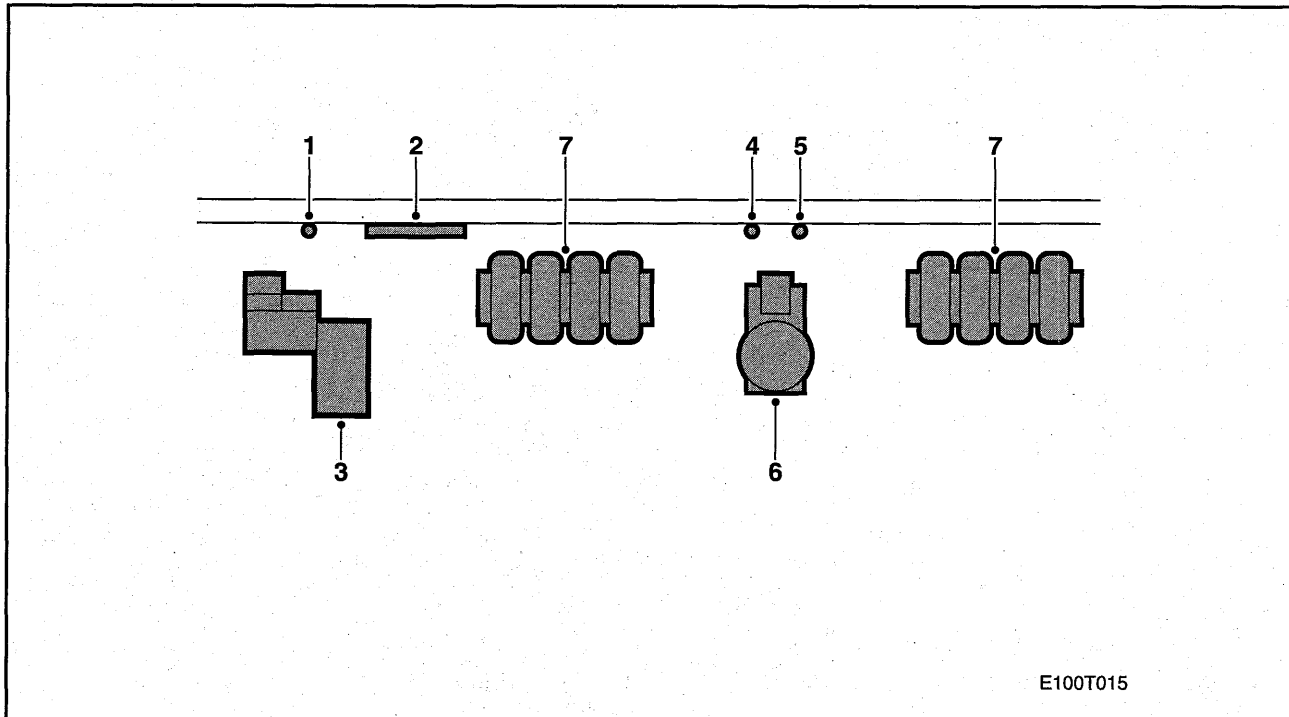


E100T014

- |                             |  |
|-----------------------------|--|
| 1 Screw compressor          | 9 Shelf stand  |
| 2 Air chamber               | 10 Compressed air outlet 1.2 metre above floor level |
| 3 Condensation separator    | 11 Pneumatic pump for lubricants                     |
| 4 Drain                     | 12 Lubricant tank                                    |
| 5 Cooling dryer             | 13 Waste oil sump                                    |
| 6 Vacuum cleaner assemblage | 14 Mixer pump for washer fluid                       |
| 7 Electrical cabinet        | 15 Mixer pump for anti-freeze                        |
| 8 Materials cabinet         |  |



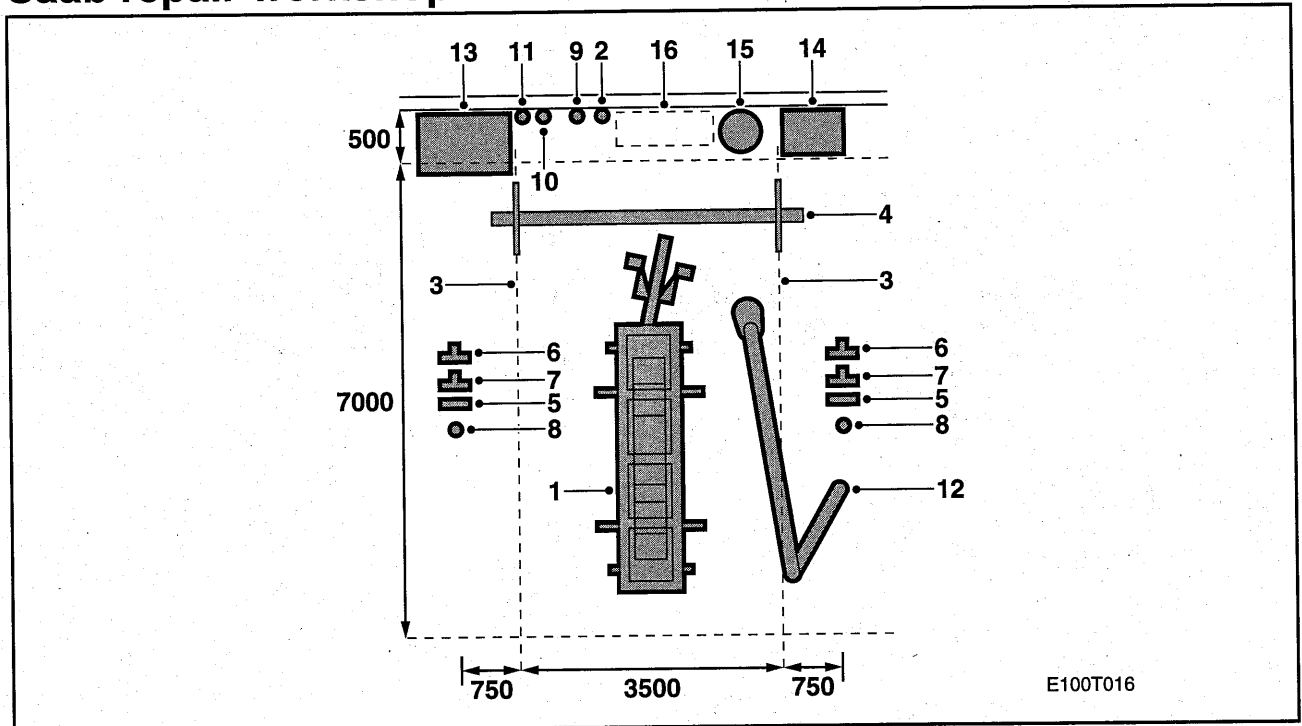
## Tyre service



- 1 Electrical connection for wheel balancing machine, 3-phase
- 2 Tool board
- 3 Wheel balancing machine
- 4 Compressed air outlet, double, 2 metre above floor level

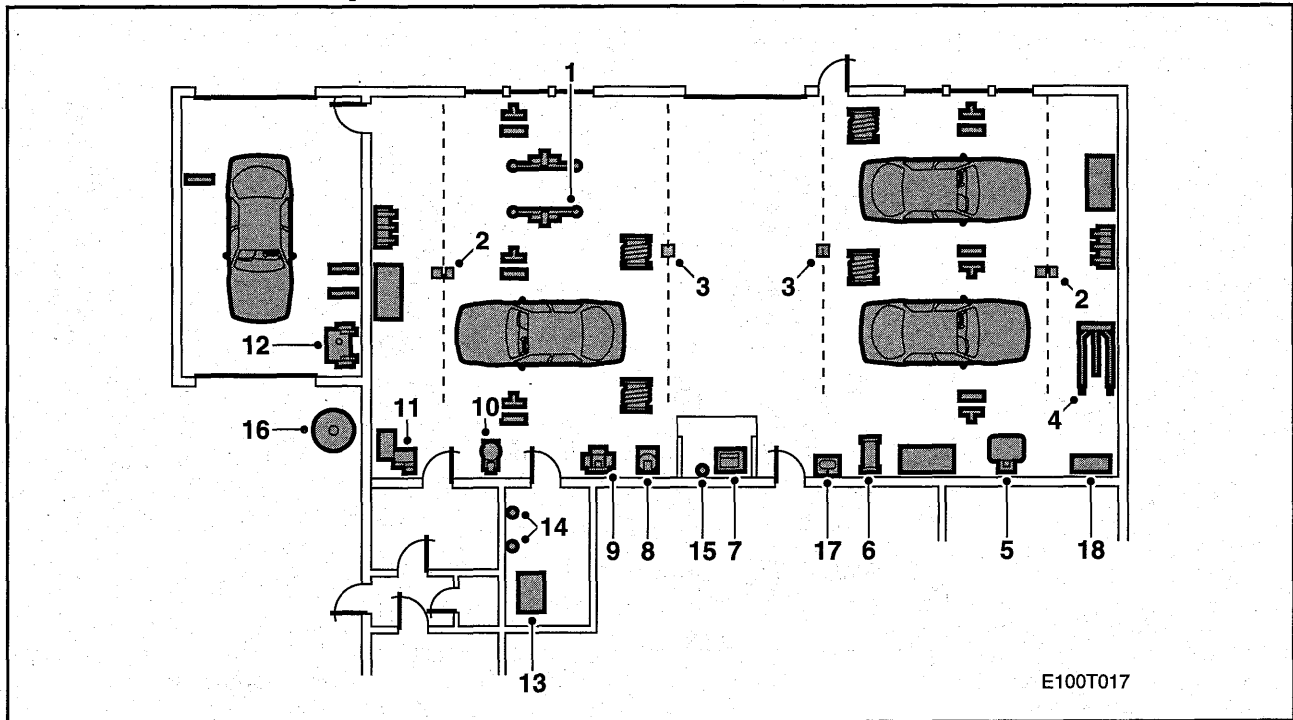
- 5 Electrical connection for tyre fitting machine 3-phase
- 6 Tyre fitting machine
- 7 Wheel stand

### Saab repair workshop.



- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>1 1-column lift and alignment bench</li> <li>2 Control panel for 1-column lift</li> <li>3 Traverse crane rail 3.8 metres above floor level</li> <li>4 Single beam traverse crane for 500 kg</li> <li>5 Hose reel for compressed air 3.5 metres above floor level</li> <li>6 Cable reel 1-phase 3.5 metres above floor level</li> <li>7 Cable reel 3-phase 3.5 metres above floor level</li> <li>8 Extractor point with flow valve</li> <li>9 Extraction point with flap valve and microswitch 1 metre above floor level</li> </ul> | <ul style="list-style-type: none"> <li>10 Compressed air outlet, double, 1 metre above floor level</li> <li>11 Electrical outlet 1-phase and 3-phase 1 metre above floor level</li> <li>12 "Smoke eater" with swivel arm 3 metres above floor level</li> <li>13 Workbench 1500x700 mm (LxD) tool board</li> <li>14 Materials cabinet 1820x925x500 mm (HxWxD)</li> <li>15 Waste container and paper towel dispenser</li> <li>16 Storage station for portable equipment</li> </ul> |
|---|--|

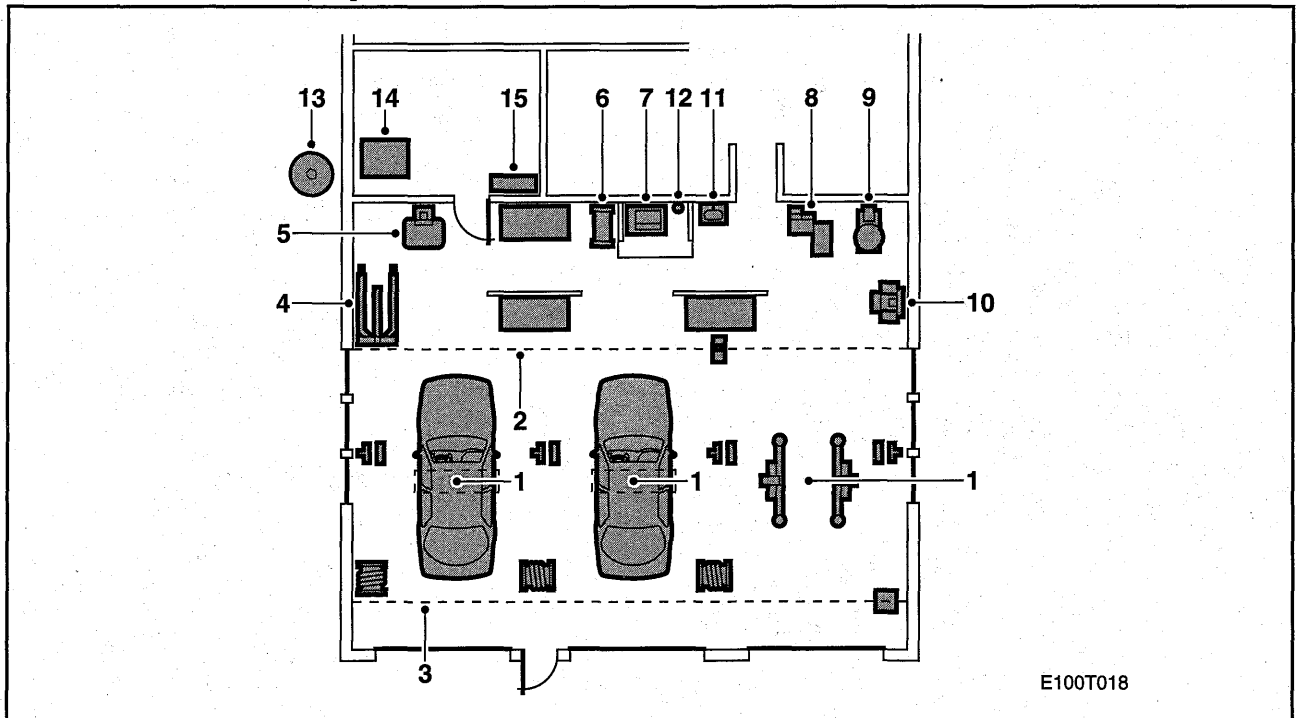
## Service workshop 1



E100T017

- |   |                                  |
|---|----------------------------------|
| 1 2-column lift   | 10 Tyre fitting machine          |
| 2 Headlight beam alignment instrument with bearer rail 3 metres above floor level | 11 Wheel balancing machine       |
| 3 4-gas meter with bearer rail 3.5 metres above floor level                       | 12 High pressure washer          |
| 4 Workshop crane  | 13 Screw compressor              |
| 5 Frame for engine and gearbox  | 14 Pneumatic pump for lubricants |
| 6 Workshop press  | 15 Pneumatic pump for waste oil  |
| 7 Small parts wash with ventilation   | 16 Waste oil sump                |
| 8 Upright drill   | 17 Washing area                  |
| 9 Upright grinder   | 18 Storage cabinet               |

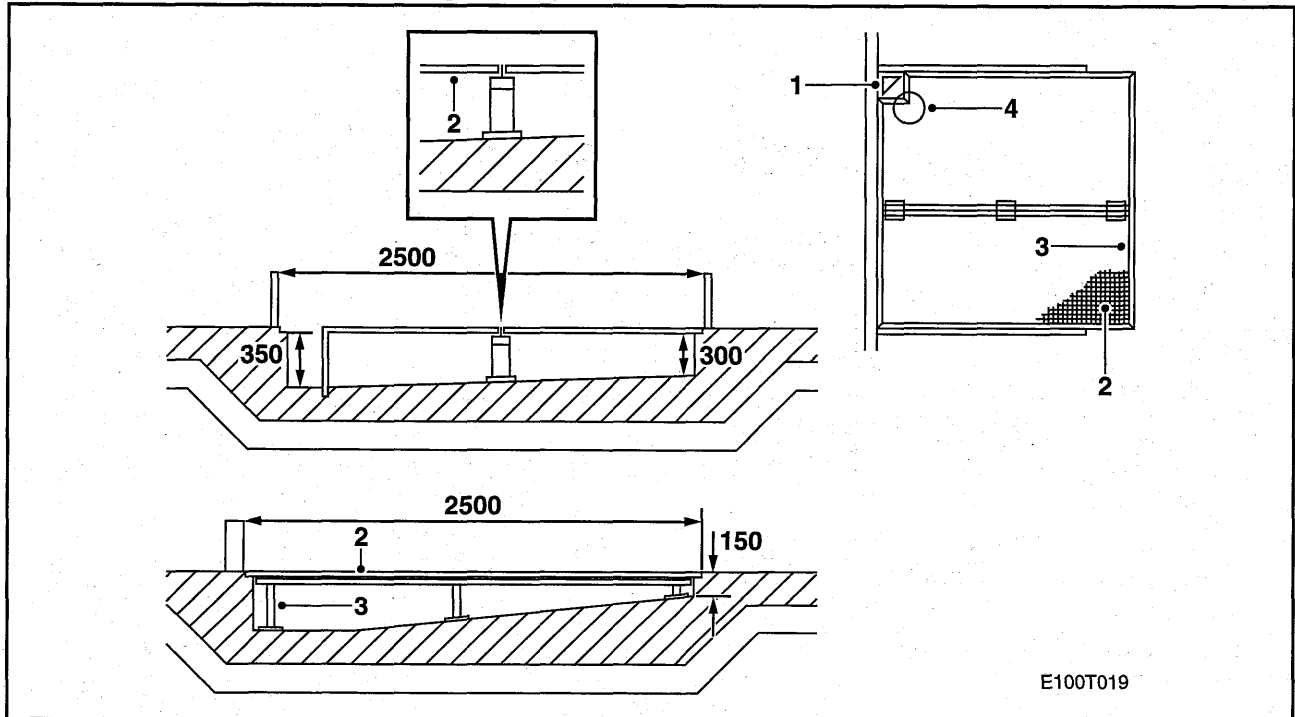
## Service workshop 2



E100T018

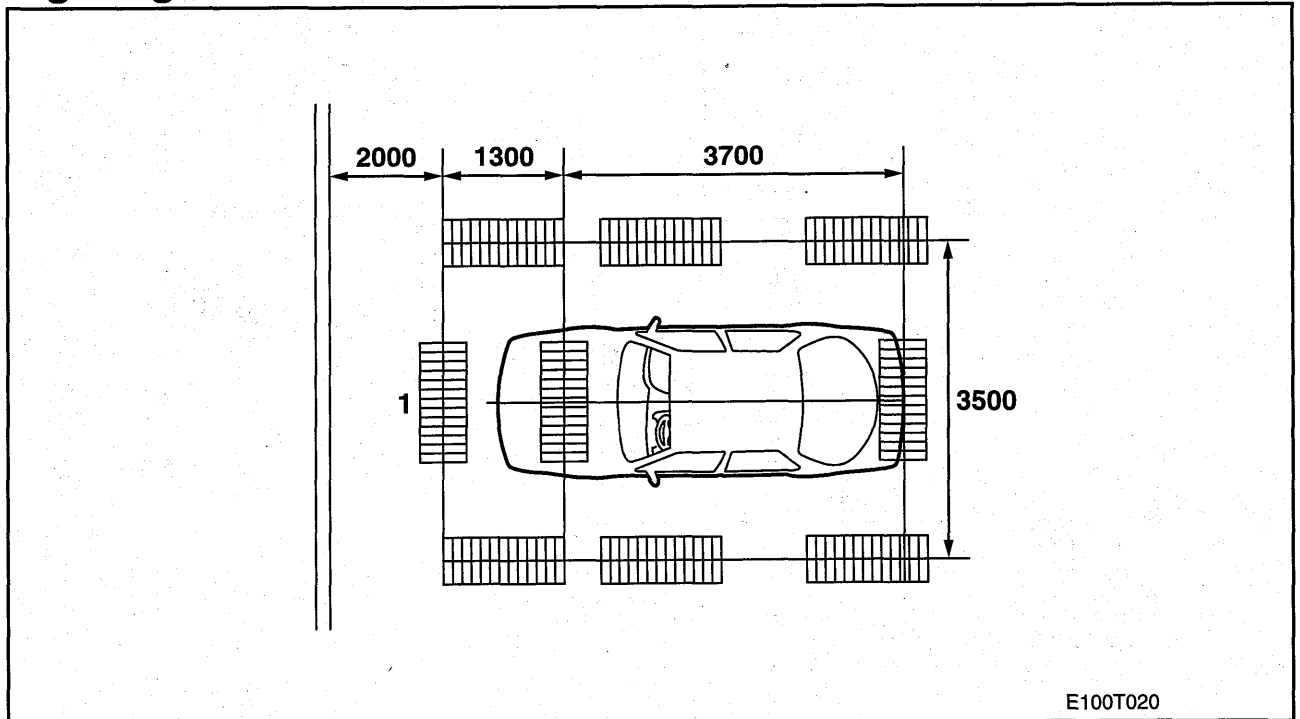
- |   |                                 |
|---|---------------------------------|
| 1 2-column lift   | 9 Tyre fitting machine          |
| 2 Headlight beam alignment instrument with bearer rail 3 metres above floor level | 10 Upright grinder              |
| 3 4-gas meter with bearer rail 3.5 metres above floor level                       | 11 Washing area                 |
| 4 Workshop crane  | 12 Pneumatic pump for waste oil |
| 5 Frame for engine and gearbox  | 13 Waste oil sump               |
| 6 Workshop press  | 14 Screw compressor             |
| 7 Small parts wash with ventilation   | 15 Storage cabinet              |
| 8 Wheel balancing machine   |                                 |

## Lubricant separation plant



- 1 Opening for ventilation pipe
- 2 Floor grate
- 3 L profile frame
- 4 Drain

## Lighting



### 1 Fluorescent lamps

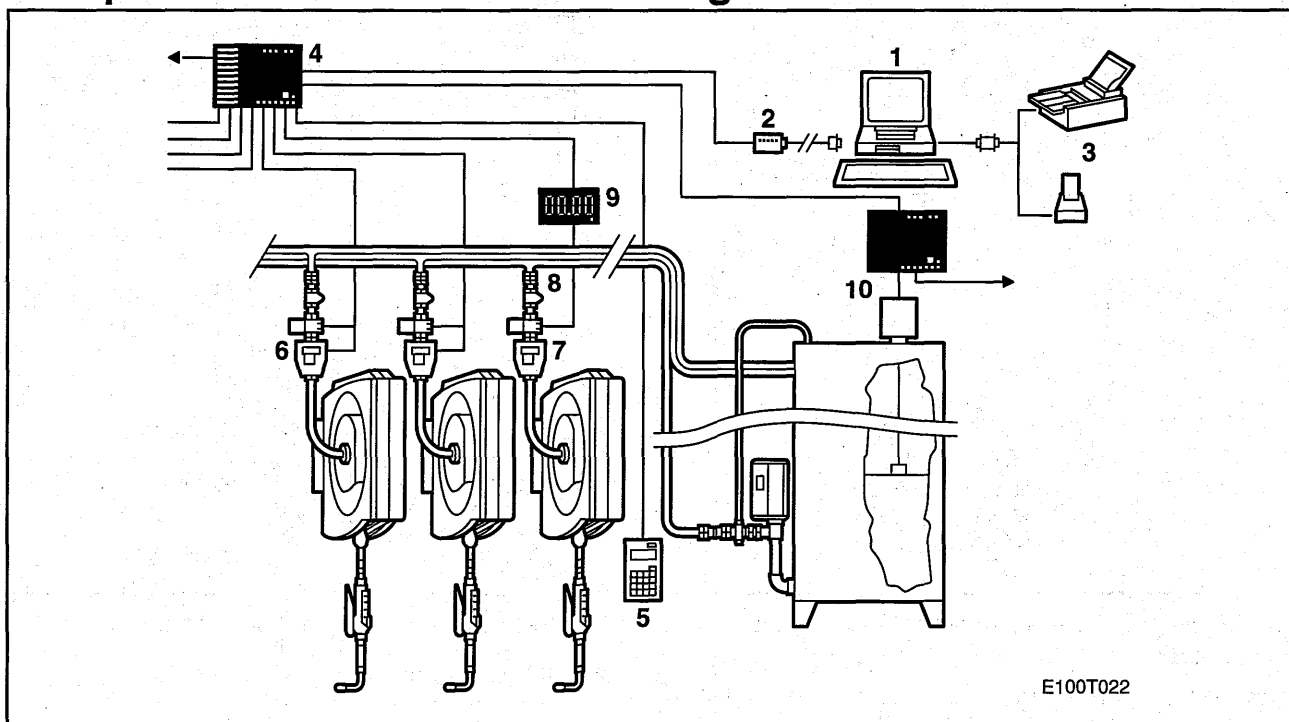
It is essential that the fluorescent lamps be placed in such a way that in relation to the lifts, the front lamps will provide good illumination of the engine bay.

The illumination should be at least 750 lux.

Recommended height above floor level for the lamp frames is 3.5–4 metres. The height should be adapted to the lifts and the characteristics of the premises in question.

# Engine

## Computerized oil and fluid handling



The distribution and handling of oils and fluids in medium and large-size workshops can be made easier with a computer controlled monitoring system.

The system is flexible and expandable to control several filling points and types of fluid. Levels in tanks for new oil and overflow protection in waste oil sumps can also be monitored by the system.

Desired volumes for each filling are easy to set with this type of system and they can subsequently be coupled to the relevant work order.

Several pieces of information can be generated:

- Time, date, user ID and work order number, transaction number.
- Filled volume, fluid name, hose reel number.

The following equipment can be included in the system:

- 1 PC with software for controlling and monitoring the system.

It is also possible to retrieve information on the amount of fluid that has been used and the level/volumes in each tank.

- 2 Communications adapter.

- 3 Printer/receipt printer for hard copy of fillings, reports, etc.

- 4 Central unit through which filling points are controlled from PCs or terminals.

- 5 Terminals for selecting oil/fluid and amount. The work order number can also be entered from here so that the filling is coupled to a certain job.

- 6 A number of hose reels with nozzles for various oils and fluids.

- 7 Volumeter and solenoid valve.

- 8 Strainer.

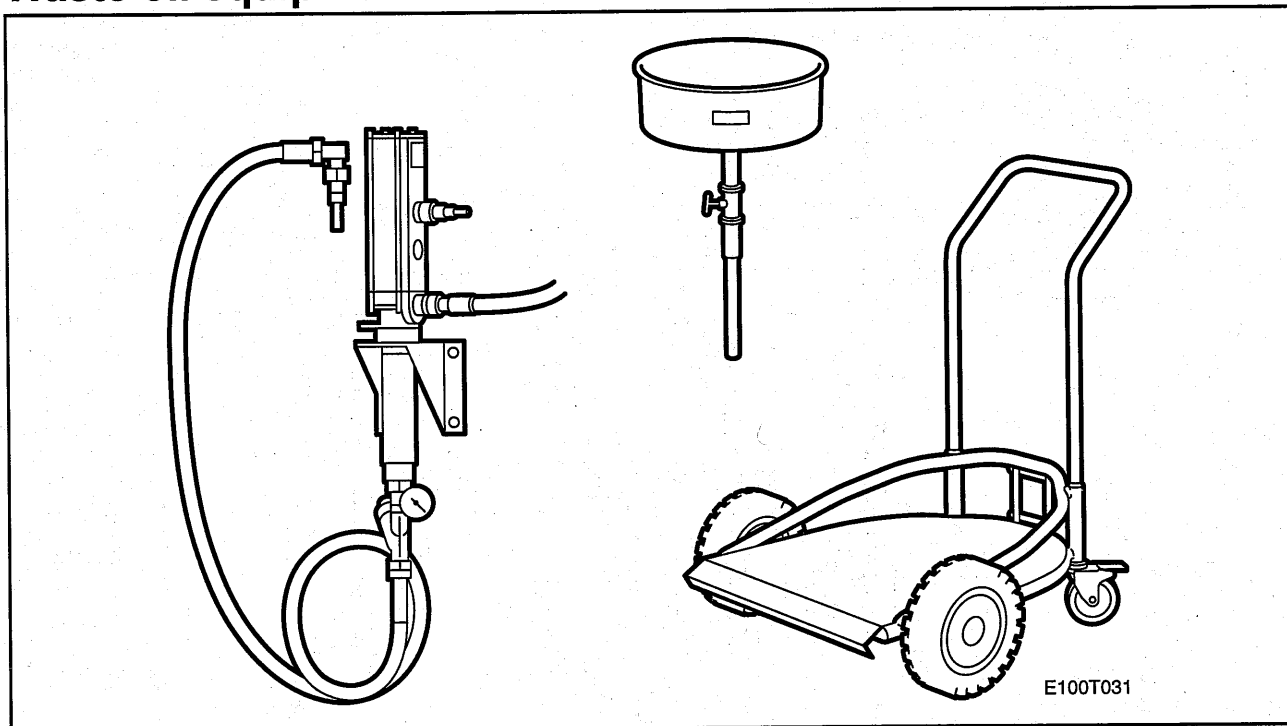
- 9 Large display to show volumes.

- 10 Tank level module and tank level sensor.

The following equipment is compatible:

- Alentec Orion

## Waste oil equipment



The equipment consists of a cart for oil drums plus pump and bowl.

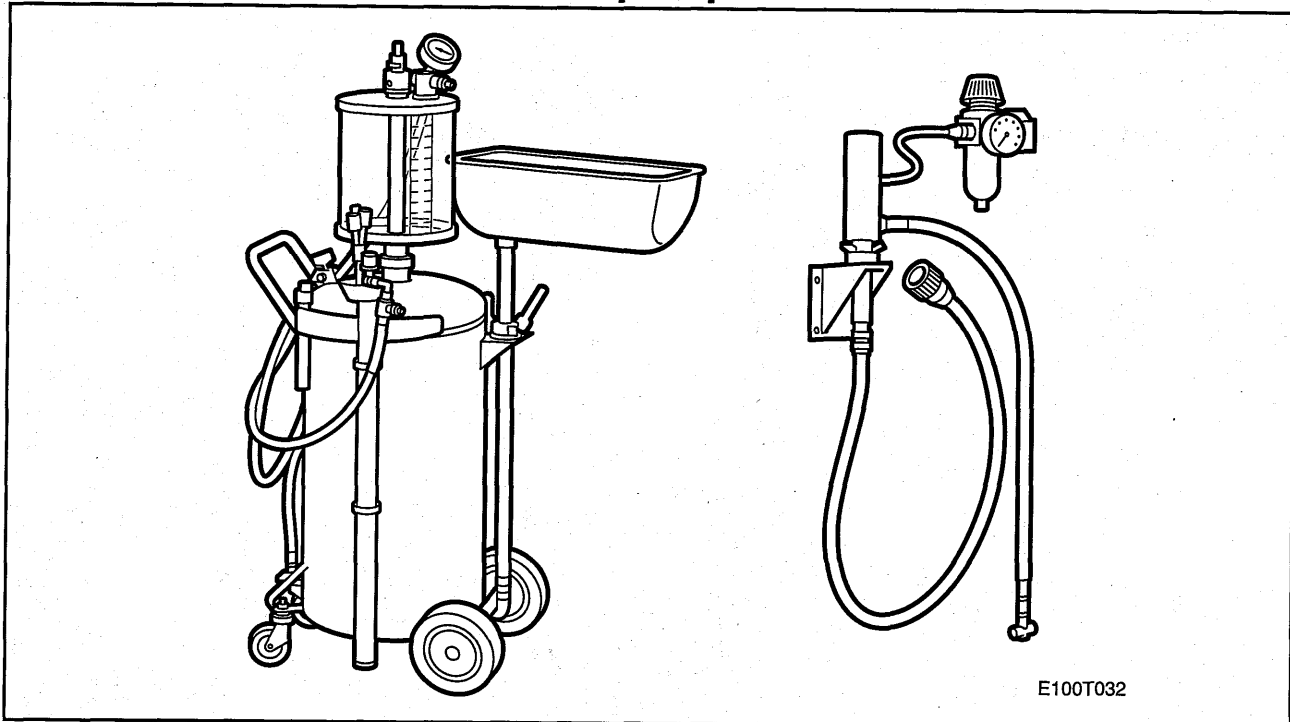
Draining is performed in a closed system with suction hose. The pump is connected to the normal compressed air system in the workshop.

The following equipment is compatible:

- Alentec Orion



## Waste oil container and drain pump



### Waste oil container

The waste oil container is equipped with wheels and vertically adjustable bowl. The amount of oil in the container is shown on a glass gauge. The container can be emptied either with compressed air or with a drain pump.

Capacity, container	80 litres
Capacity, bowl	10 litres
Max. pressure when draining with compressed air	0.5 bar

### Drain pump

Pneumatic twin-action reciprocating pump for draining waste oil car. Can be mounted on wall.

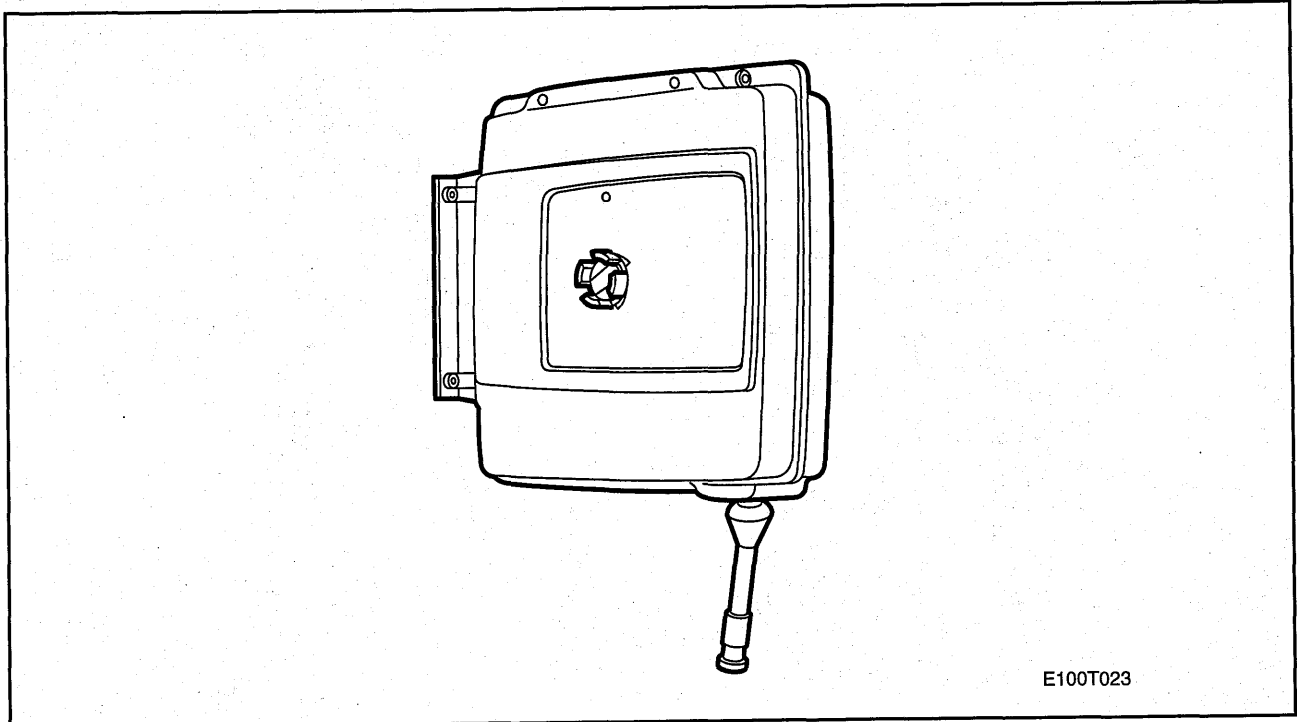
Supplied with suction pump, air hose, regulator with filter, outlet hose, quick-release coupling and wall bracket.

Quick-release coupling kit, part no. Orion 29109, is required when mounting on waste oil container.

The following equipment is compatible:

- Alentec Orion

## Oil hose reel



E100T023

Reel for convenient storage of hose and hand meter when not in use. The hose is reeled onto a spring-loaded drum with catch mechanism for optional position. Hose outlet with 6 guide rollers for low hose wear. Adjustable spring setting.

For ceiling, wall or floor mounting.

The hose reel is supplied with 0.5 metre connecting hose. Swivel wall bracket available as accessory.

The hose reel is also available for air, water and grease with various installation alternatives.

Contact your supplier for further information on dimensions, choice of hose lengths and accessories such as measuring grip, outlet valves, etc.

### Dimensions

Length	470 mm
Width	215 mm
Height	450 mm
Weight	17 kg

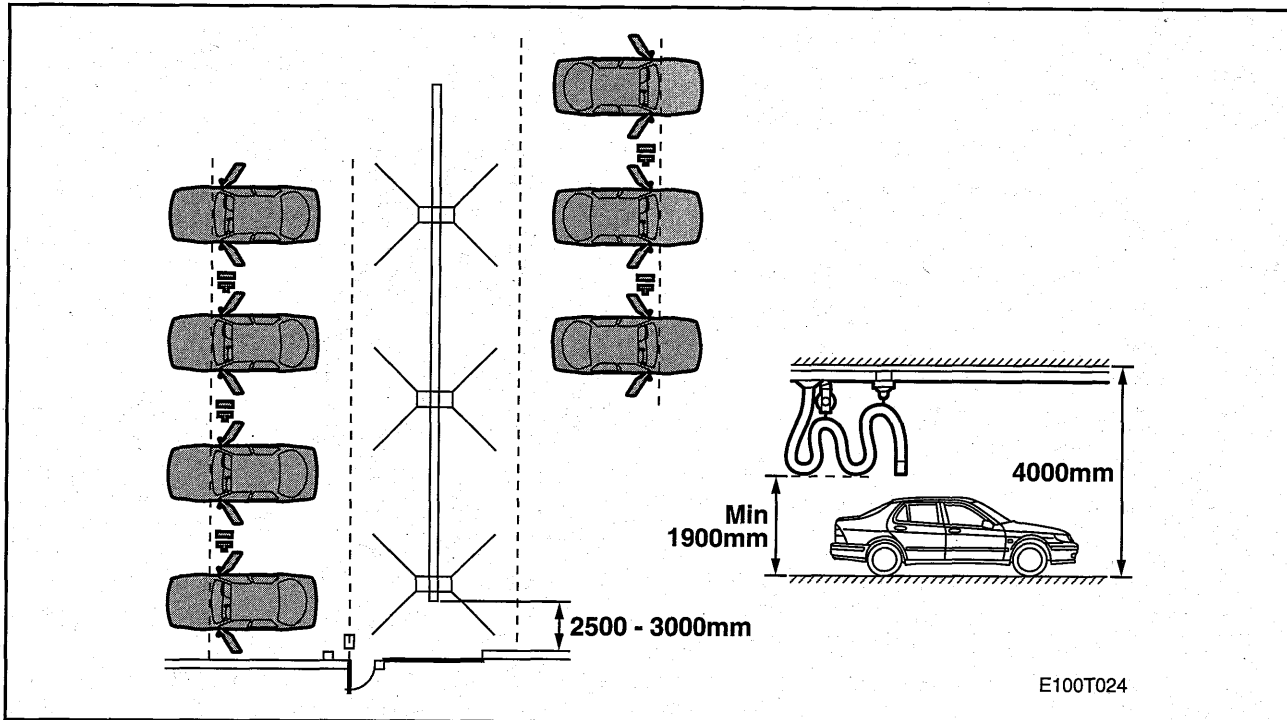
The following equipment is compatible:

- Nederman
- Alentec Orion

### Technical data

Maximum working power for hose reel.	75 bar
Hose inside diameter	1/2 inch
Hose length	8–10 m
Flow rate	0.5–10 l/min.

## Pollution rail



Pollution rails are used for driving indoors.

Using a pollution rail when moving the car will reduce the general ventilation by up to 60%. Efficient ventilation is combined with economic heating in the workshop while providing a safe and rational working environment.

The pollution rail is available in standard modules that can be assembled to suit the requirements of the workshop and subsequently coupled to the existing ventilation or a separate extractor fan.

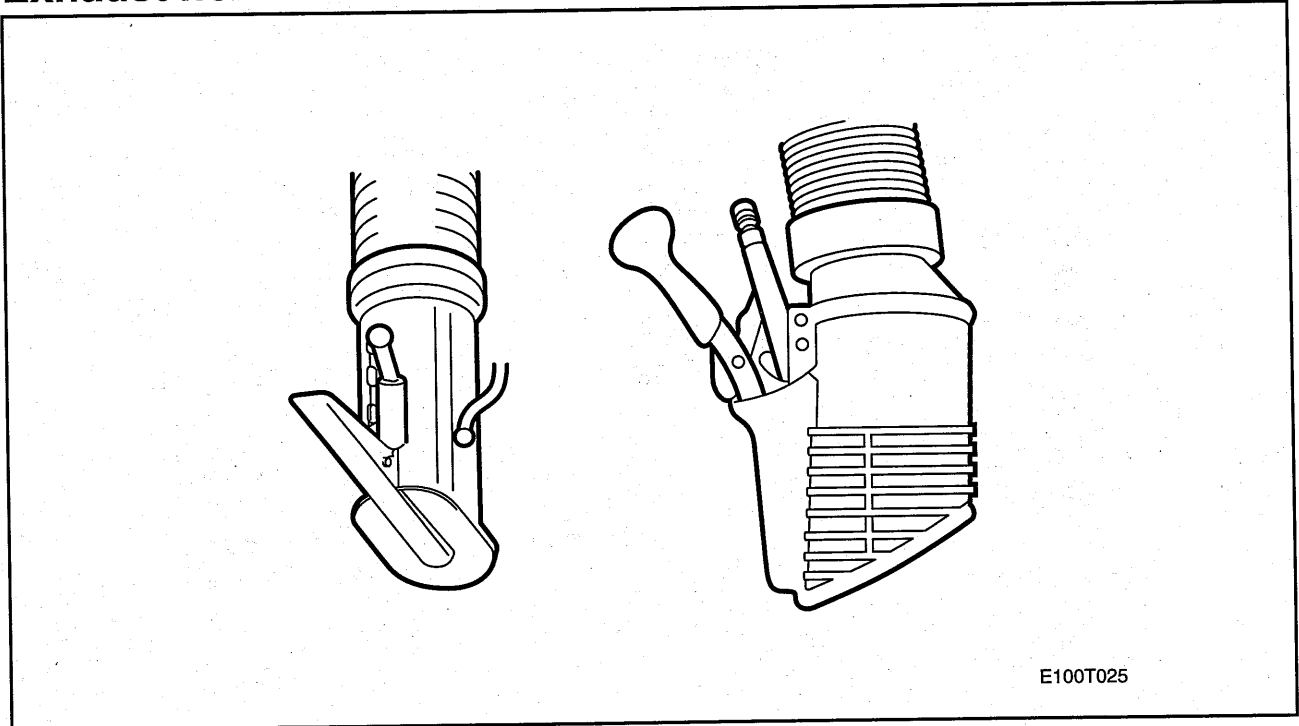
One pollution rail can also be equipped with one or more suction cart and can serve 3-5 work stations with exhaust extraction.

Contact your supplier for further information and ventilation calculations, etc.

The following equipment is compatible:

- Nederman series 915
- Nederman Techno Rail
- Alentec Orion
- Plymo Vent

## Exhaust nozzle



E100T025

Exhaust nozzles are available in metal or rubber in several designs (round, oval, rectangular) to suit various exhaust pipes. All nozzles have connections for CO sensors and are equipped with holding device.

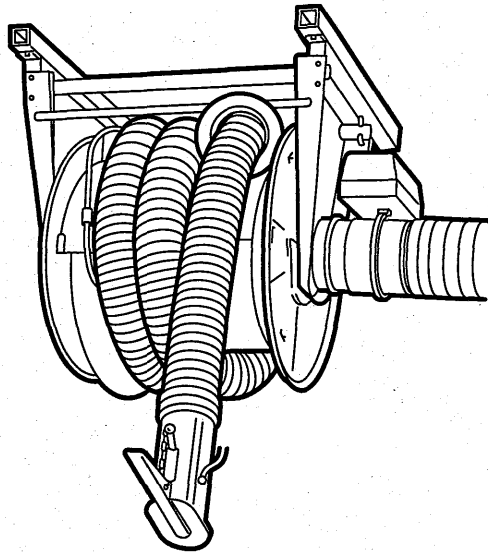
The design of the exhaust nozzle is important, especially on turbo models. On occasions, the design of the nozzle in combination with the fan capacity has drawn oil through the engine into the exhaust system. This will cause blue smoke that can be mistaken for turbo failure.

Automatic release of the holding device is available as an accessory.

The following equipment is compatible:

- Nederman
- Alentec Orion
- Plymo Vent

## Exhaust hose reels



E100T026

Manually operated exhaust hose reel with spring drive for exhaust extraction from all types of vehicle.

The hose is locked to the desired length after being pulled out. The catch mechanism is released with another pull and the hose is automatically reeled back to its initial position.

The reel is for ceiling or wall mounting and connects to an extractor fan or the existing ventilation. Several hose grades are available in lengths of 5-10 metres.

For optimum energy housekeeping, a mechanical or automatic damper to start/stop the fan motor is available as an accessory.

Contact your supplier for further information and ventilation calculations.

### Dimensions

The reel is available with hose lengths 7.5–10 metres and diameters from 3 to 6 inches. 4 inch hoses are recommended for passenger car workshops.

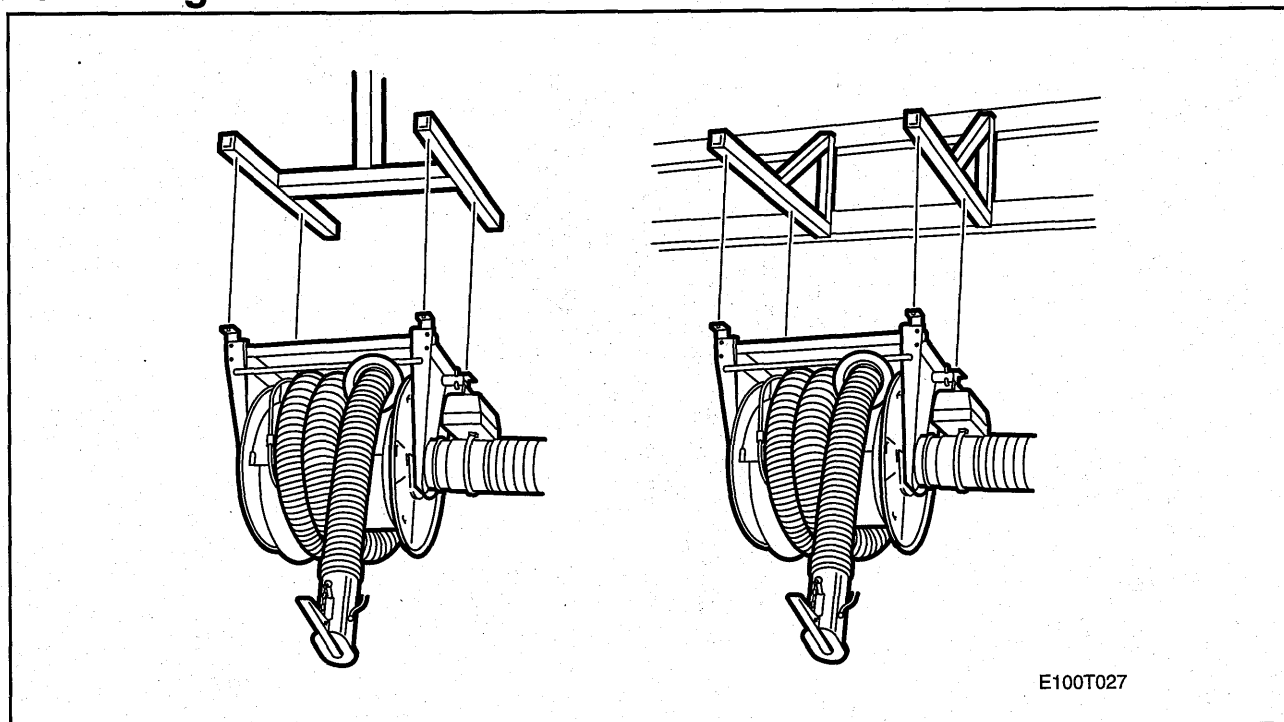
Stand

Length	740 mm
Width	600–700 mm
Height	730–780 mm
Weight without hose	34 kg

The following equipment is compatible:

- Nederman
- Alentec Orion
- Plymo Vent

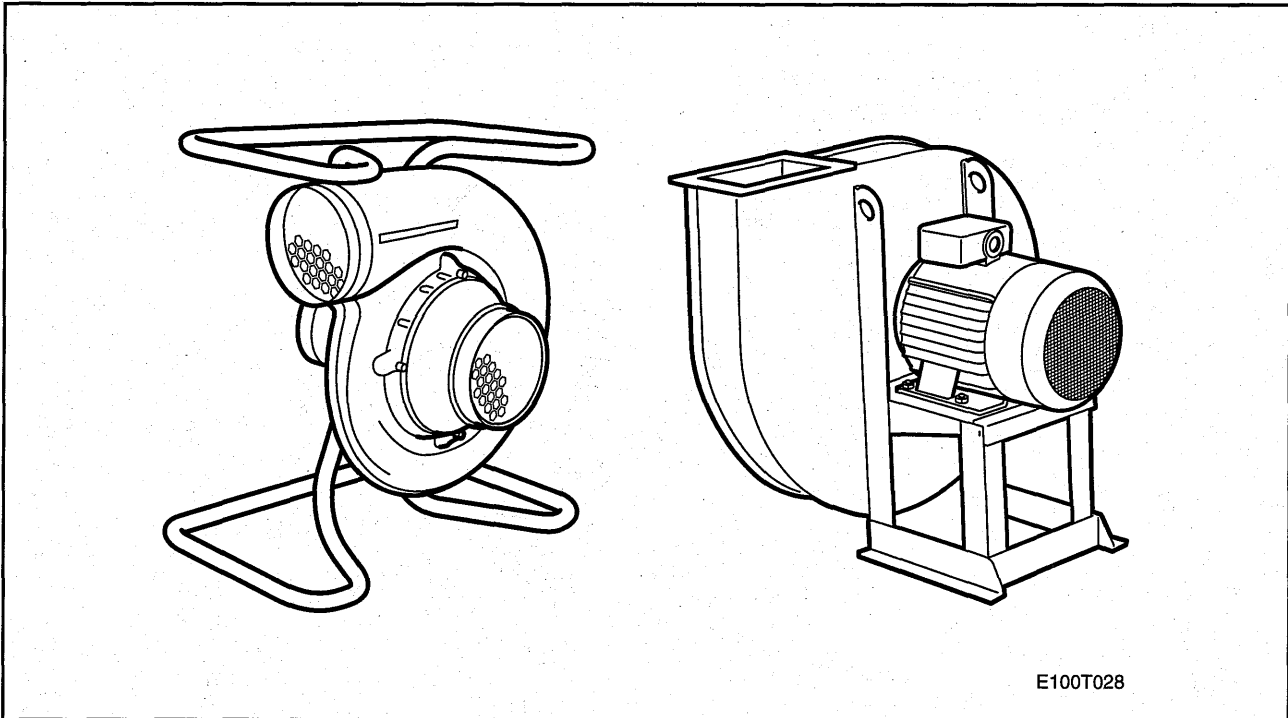
## Fastening bracket for exhaust hose reel



Example of a suspension mounting above the floor so that the exhaust hose reel attains the right height. The mounting can be manufactured in square iron pipe 30x30 mm with attachments for the reel.

The mounting is welded or bolted to the ceiling depending on the construction of the building. Be exact with the design to ensure a good level of safety.

## Exhaust extraction fan



Examples of fans for connecting to exhaust extractors. The fan should be placed outside the premises in order to attain negative pressure in the entire passageway. This will minimize the risk of leakage.

The size of the fan depends on the number of extraction points (exhaust extractors, welding extractors, etc.) and the diameter and grade of hose. Each hose causes its own drop in pressure which means that the size of the fan must be calculated accurately in order to attain the correct extraction rate so that particles of soot do not fasten in the ventilation system, reducing suction efficiency.

Capacity: 1000–12000 m<sup>3</sup>/h.

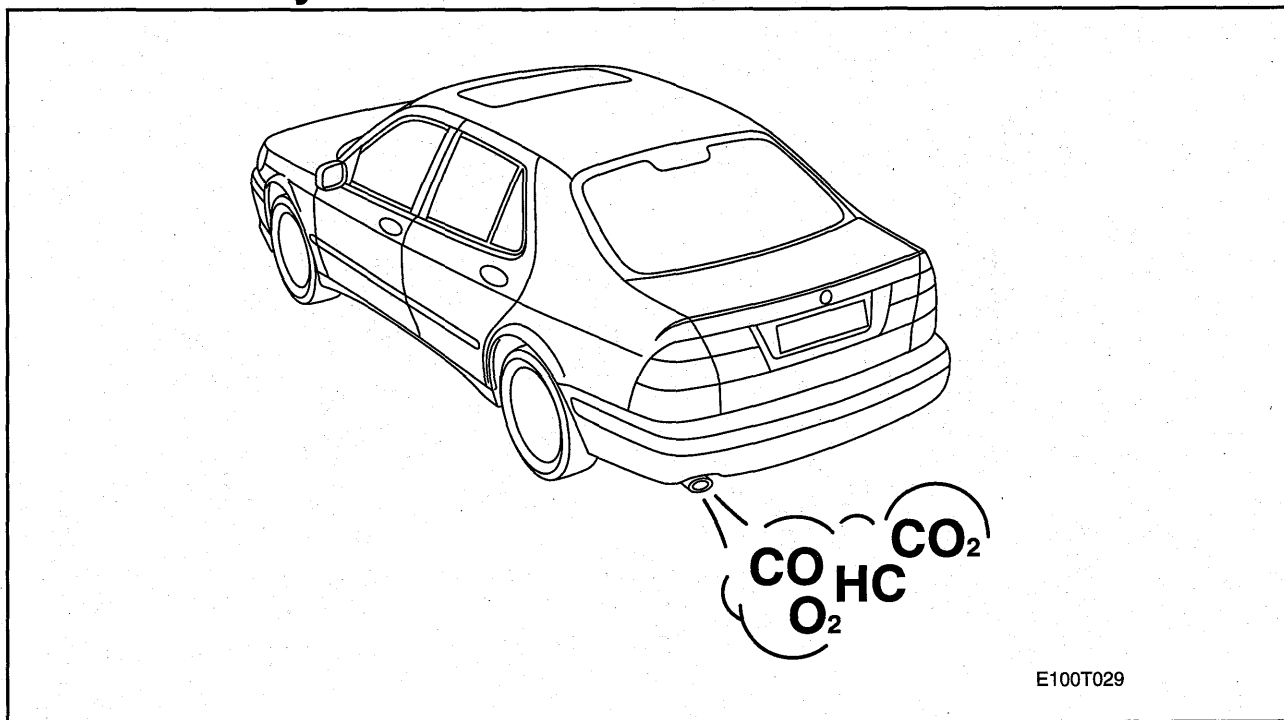
The fan connects to 1-phase or 3-phase.

Contact your supplier for further information and ventilation calculations.

The following equipment is compatible:

- Nederman
- Alentec Orion
- Plymo Vent

## Emission analyser

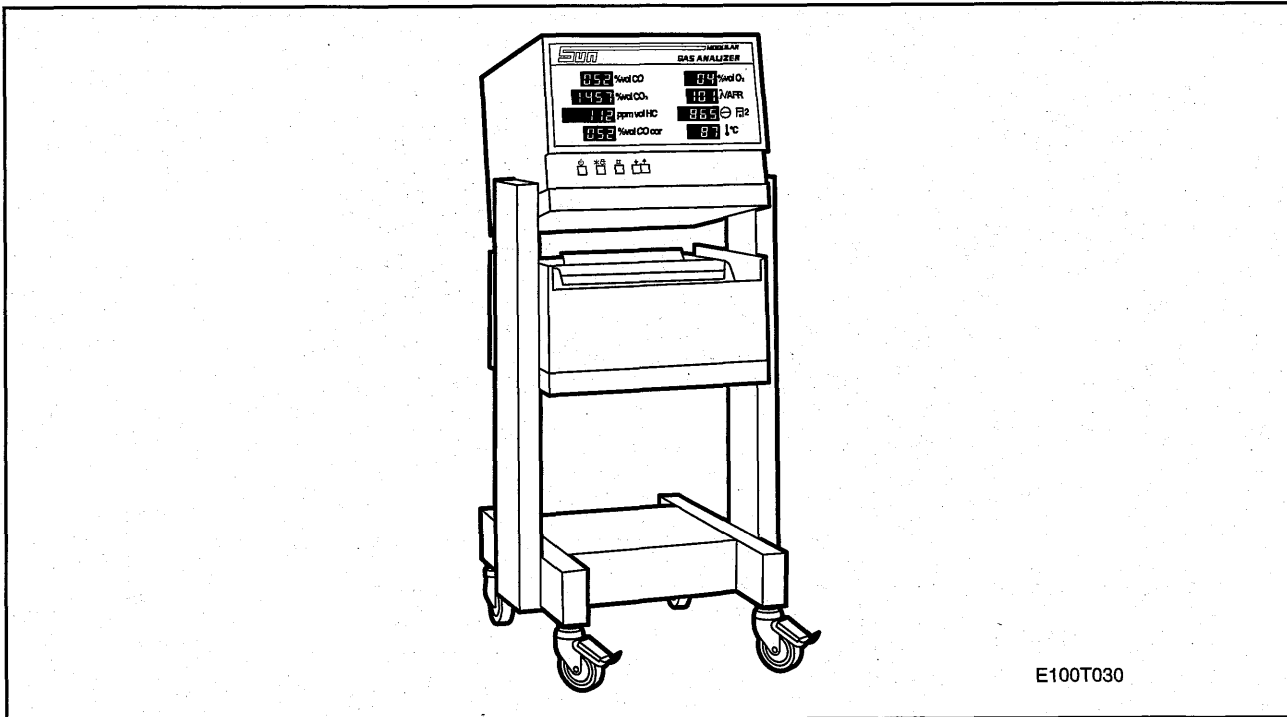


E100T029

Emissions from modern cars are becoming increasingly smaller. Saab is well ahead in this field and intend to continue to be so. This increases demands on exhaust analysers with respect to accuracy as well as which gases that are measured. This section covers various pieces of equipment that meet with Saab's demands. Use these for reference purposes when purchasing analysis equipment.

Exhaust emission analysers should be able to measure the gases CO, CO<sub>2</sub>, HC and O<sub>2</sub> in a fast and precise way.





E100T030

### Location in workshop

Depending on the usual activities performed and the size of the shop consideration must be taken about the equipment location. In a large workshop with several mechanics a ceiling rail is suitable for the many instruments in use. In a small workshop with fewer mechanics a trolley mounted extractor is sufficient, although a ceiling rail is preferable as it leaves more floor space. Ensure that the hoses are no longer than 5 metres.

### Technical performance

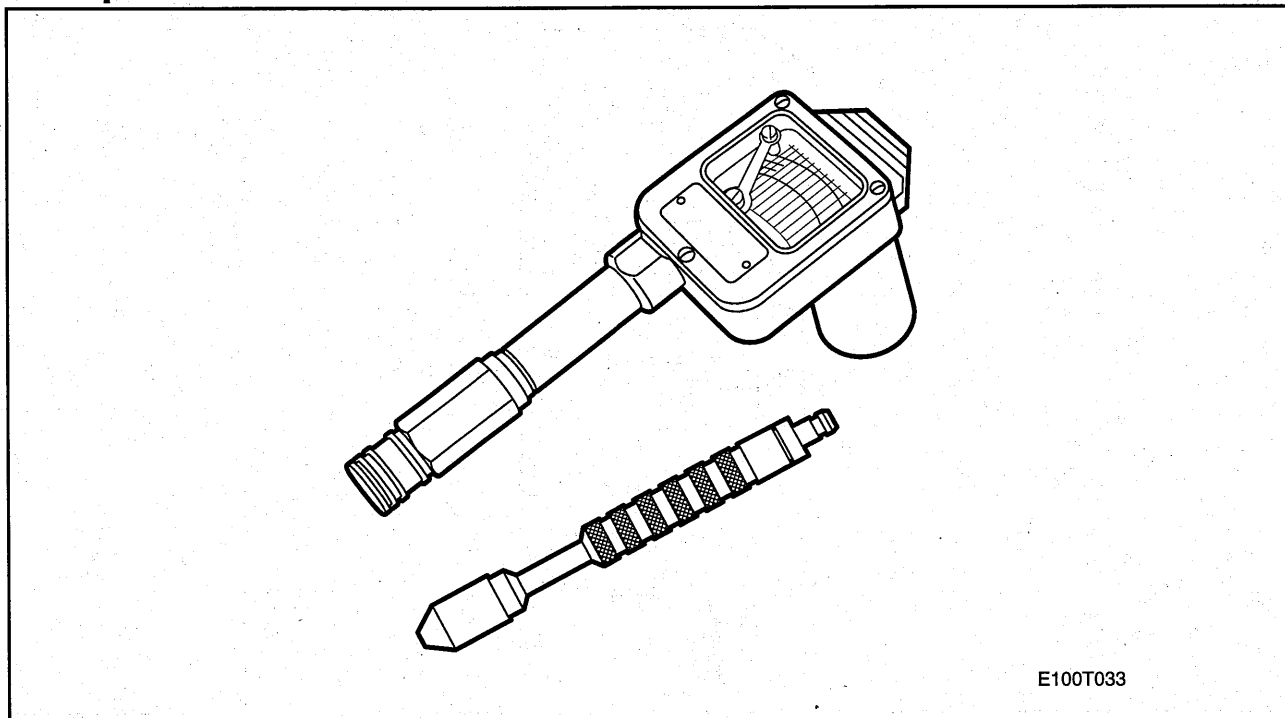
- The analyser should comply with demands in accordance with OIML-1, which corresponds to a resolution of at least 0.02% when measuring CO and at least 1 ppm when measuring HC. Take into account also national requirements.
- The analyser should have clearly marked controls and a display or screen with large and clear numbers/text that is also legible in sunlight.
- Automatic condensation separator with fine filter.

- Try to obtain instruments with short warm-up times. Instruments with stand-by, which reduces start-up times, are an advantage. Response time should not exceed 10 sec.
- There should be a flow indicator.
- Automatic calibration to reference gas.
- Instruments are to have established service intervals with instructions for maintenance and handling. Good access to service on the home market is also a requirement.

The following equipment is compatible:

- Sun MGA 1200
- Electra Control MGA
- Bosch
- TecnoTest 488
- Opus 40

## Compression tester



Compression tester for petrol and diesel engines, showing cylinder compression ratios on a diagram sheet.

An extension piece with rubber cone for petrol engines and pressure hose for Saab's diesel engines are available as accessories. The pressure hose fits compression tester adapter, part no. (16) 83 95 345.

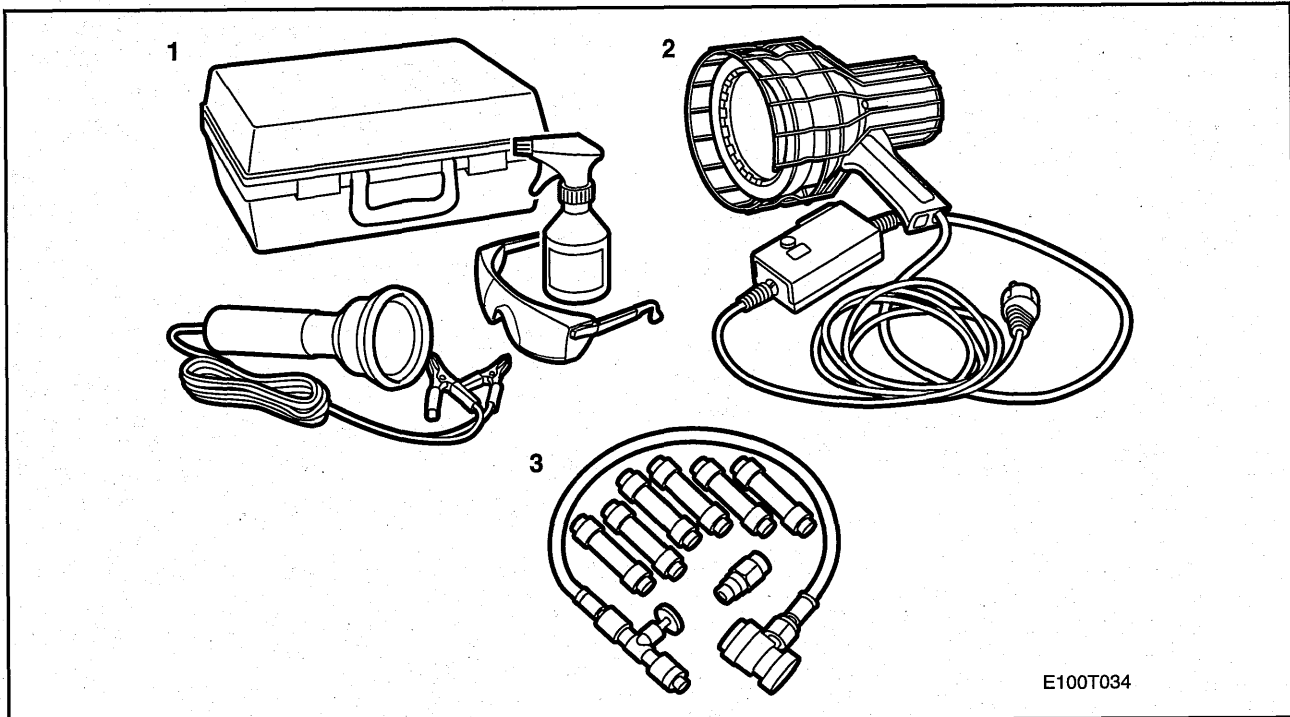
Testing range:

- Petrol engines 3.5–17.5 bar
- Diesel engines 10–40 bar

The following equipment is compatible:

- Motometer

## Leak detector



E100T034

A leak detector is used during fault diagnosis to locate leaks in the engine, gearbox, cooling system and A/C. The leak detector can pinpoint the exact location of a leak.

The principle is based on the addition of a fluorescent tracer fluid to the oil or fluid which can be detected with ultraviolet (UV) light at the leak.

A suitable kit to begin with is the Tracerline TP-8020 or TP-1620F. Kit (1) TP-8020 consists of the following:

- UV-lamp TP-8200, a small design that is most suitable in confined spaces or when mains power is not available. The lamp connects to 12 V with battery terminals and has an output of 100 W.
- Cleaning fluid
- Protective glasses

The lamp included in the kit can be ordered separately.

A larger UV-lamp (2) TP-1600 with greater illumination and 150 W output is also available. The lamp connects to the mains power. (The lamp is included in kit TP-1620F, which otherwise is the same as TP-8020.)

When leak detecting the A/C system, a special adapter (3) TP-3863 or TP-9840 is required to add the tracer fluid to the system. These kits also include tracer fluid for A/C.

Containers with various types of tracer fluid are available in different kits that can be ordered separately:

- TP-2110 for detecting leaks in engines, coolant systems and steering servos.
- TP-3000 as above but also for gearbox fluid.

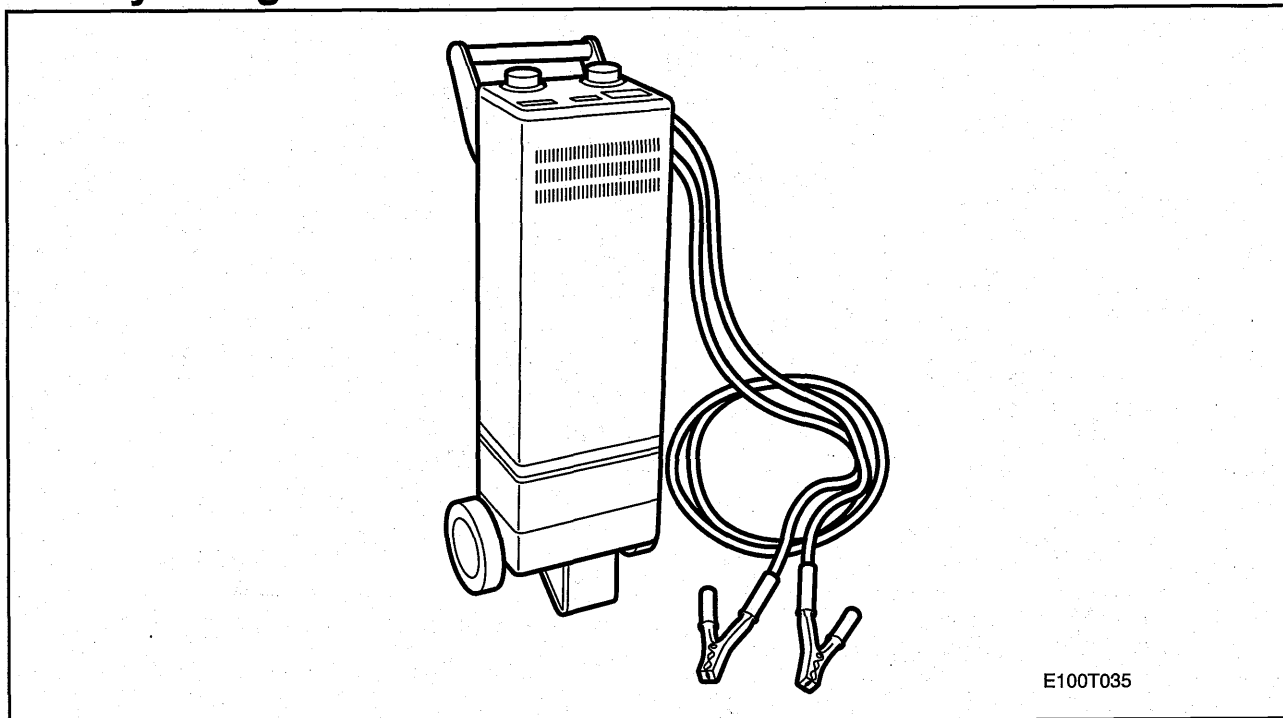
The following equipment is compatible:

- Tracerline



# Electrical system

## Battery charger



Mobile battery charger with rapid charge and start assistance capabilities. Indicators signal if the battery is incorrectly connected. Both rapid and slow charging operations.

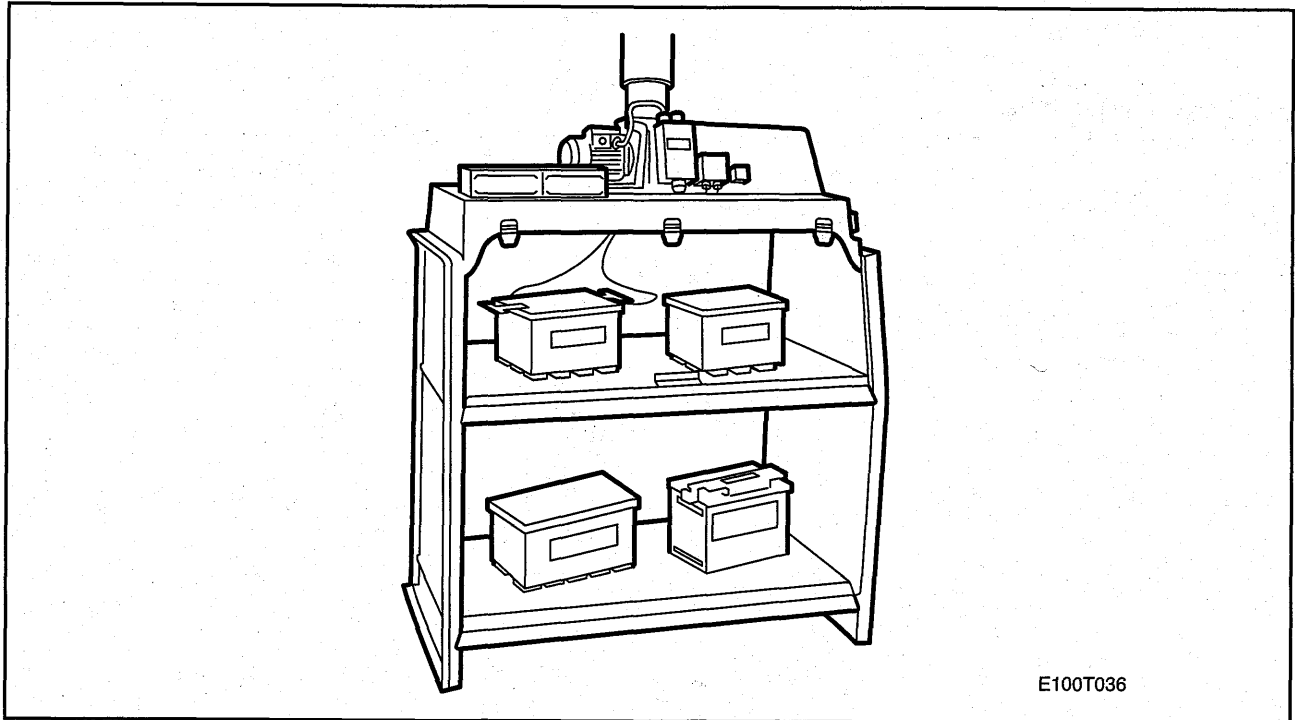
### Technical data

Rapid charge time max.	1 hour
Start assistance min.	250 A
Electrical connection	230 V, 1-phase

The following equipment is compatible:

- Telwin
- Bosch
- Dania 25-400

## Battery charging cubicle



Charging cabinet with shelves for 10–16 regular sized 12 V batteries. The cabinet is fitted with a transparent hatch to protect the shop from charging gas. The charging is interrupted if the cabinet is opened so there is no danger of arching when the charging leads are removed. An extraction fan ensures the cabinet is ventilated.

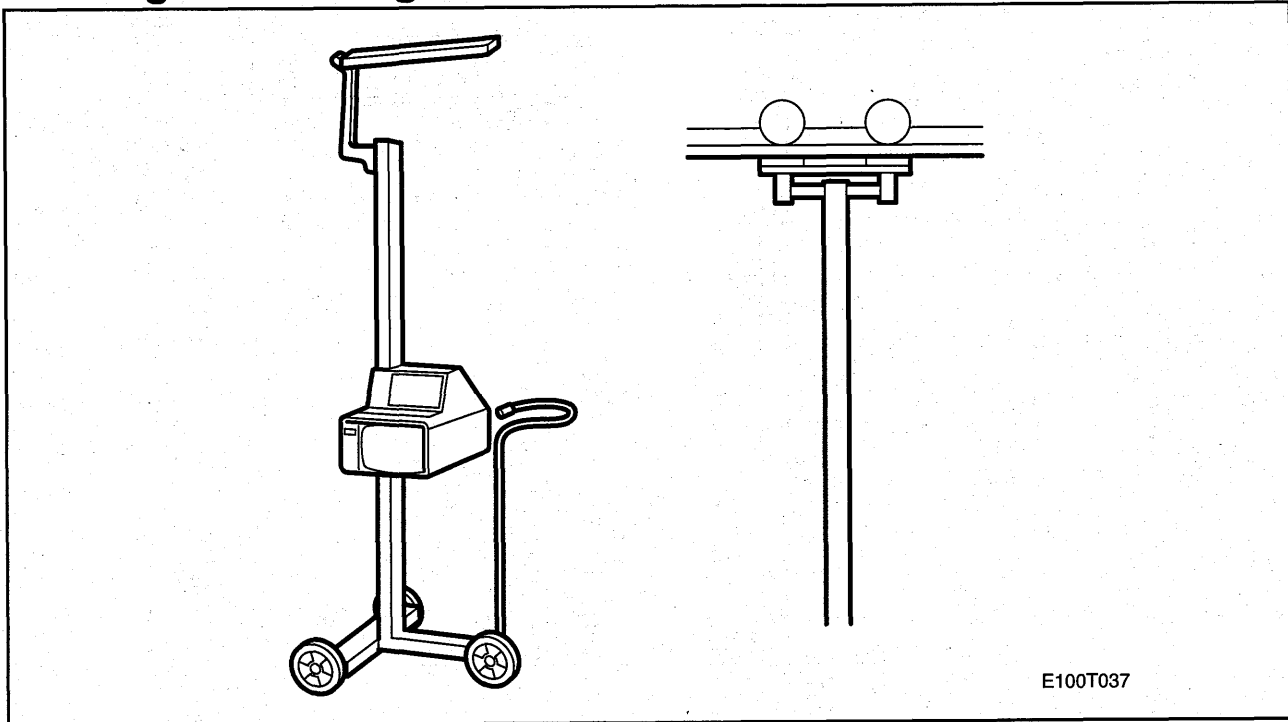
The following equipment is compatible:

- Varta BS 1000
- Dania 923

### Technical data

Fan motor rating	200 W
Air capacity	150 m <sup>3</sup> /h
Electrical connection	400 V, 3-phase

## Head light beam alignment



The equipment for headlight beam alignment can be floor mounted or suspended from the ceiling. The suspended type is especially useful when the equipment serves several work stations.

### Technical performance

- The headlamp adjustment equipment should be easy to use and install.
- Apart from the headlight beam alignment it should be able to test over and under-mounted spotlights.
- There can be no play in the suspension assemblage that might effect the alignment.
- The optics must always be horizontal and regularly checked with a level.
- Greatest permitted unevenness at the measuring point is max. 1.2 mm.

The equipment takes into account the variation between front and rear wheels with an adjustable scale. The working area must therefore always be measured with a suitable instrument to assess the unevenness of the floor where the front and rear wheels are positioned.

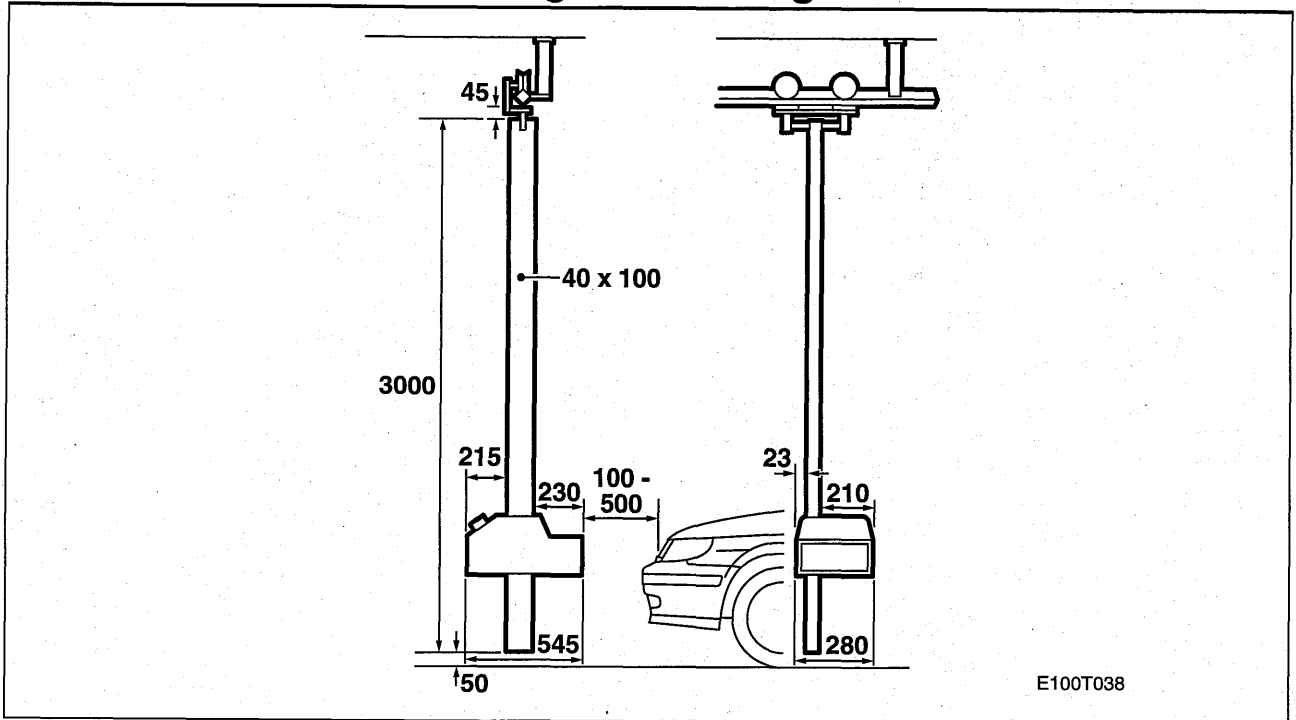
Greatest permitted deviation from centre line is  $\pm 5$  cm from front to rear wheels. The best thing to do is to mark the position of the car at the work station.

Documentation concerning the installation and handling should be included in the delivery unit.

The following equipment is compatible:

- Bosch EFLE 61

## Suspension rail for head light beam alignment



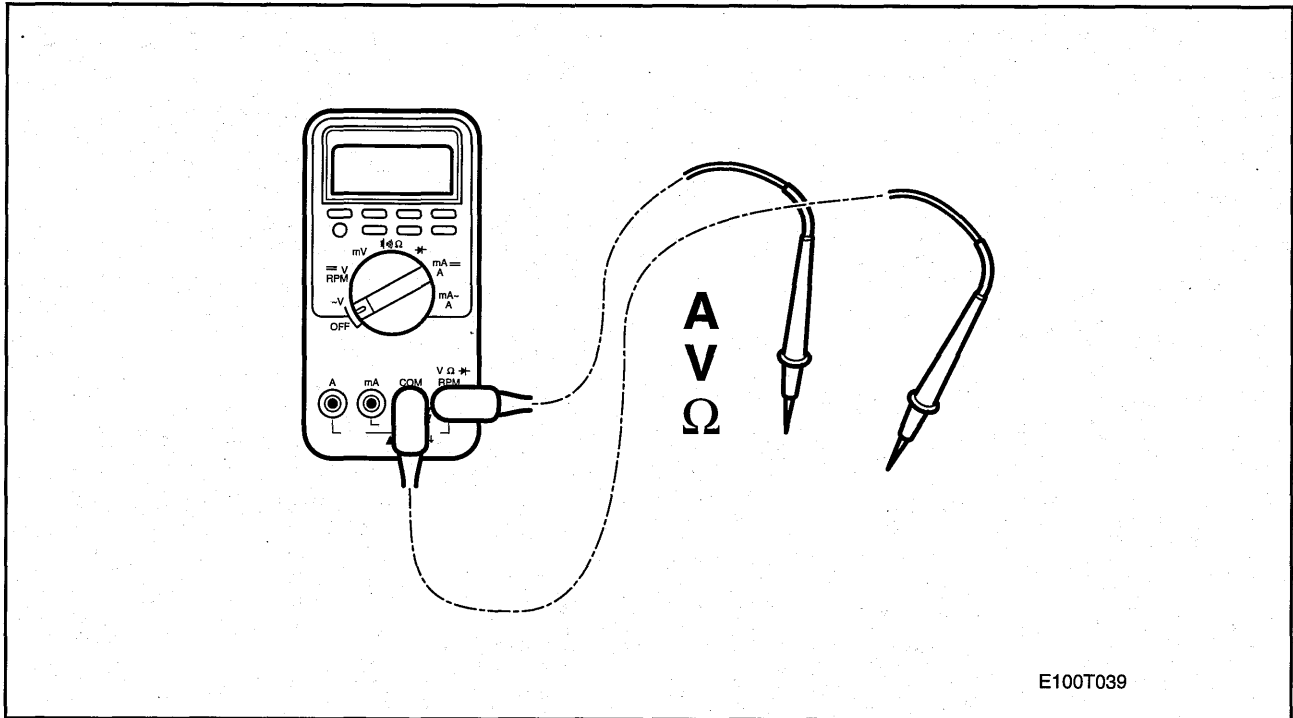
Example of work station with 3.5 metre ceiling height and 3 m pendulum. Carrier rail 40x40x3.2 welded to ceiling brackets manufactured according to local conditions. Maximum distance between ceiling brackets 2.5 m. Refer to illustration for mounting guide rail. Guide rail 40x40x3.2 mm bolts or welds to bracket. Guide rail must be mounted horizontally. It is also essential that the top and bottom points of the guide rail are adjusted in a vertical position.

The following equipment is compatible:

- Bosch EFLE 61 H



## Multimeter



E100T039

A standard multimeter that measures voltage, current and resistance is a useful tool when working on car electrics. There are great variations between different multimeters. Certain ones can also measure pulses and frequency as well as check diodes.

The following equipment is compatible:

- Fluke 88

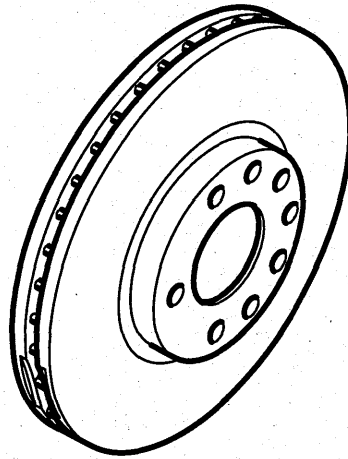
### Technical data

Voltage measurement	0–1000 V
Current measurement	0–10 A (DC/AC)
Current measurement with ampere probe	0–1000 A (DC)
Resistance measurement	0–∞ ohms
Engine speed	Yes



# Brakes

## General information on brake disc lathes



E510S001

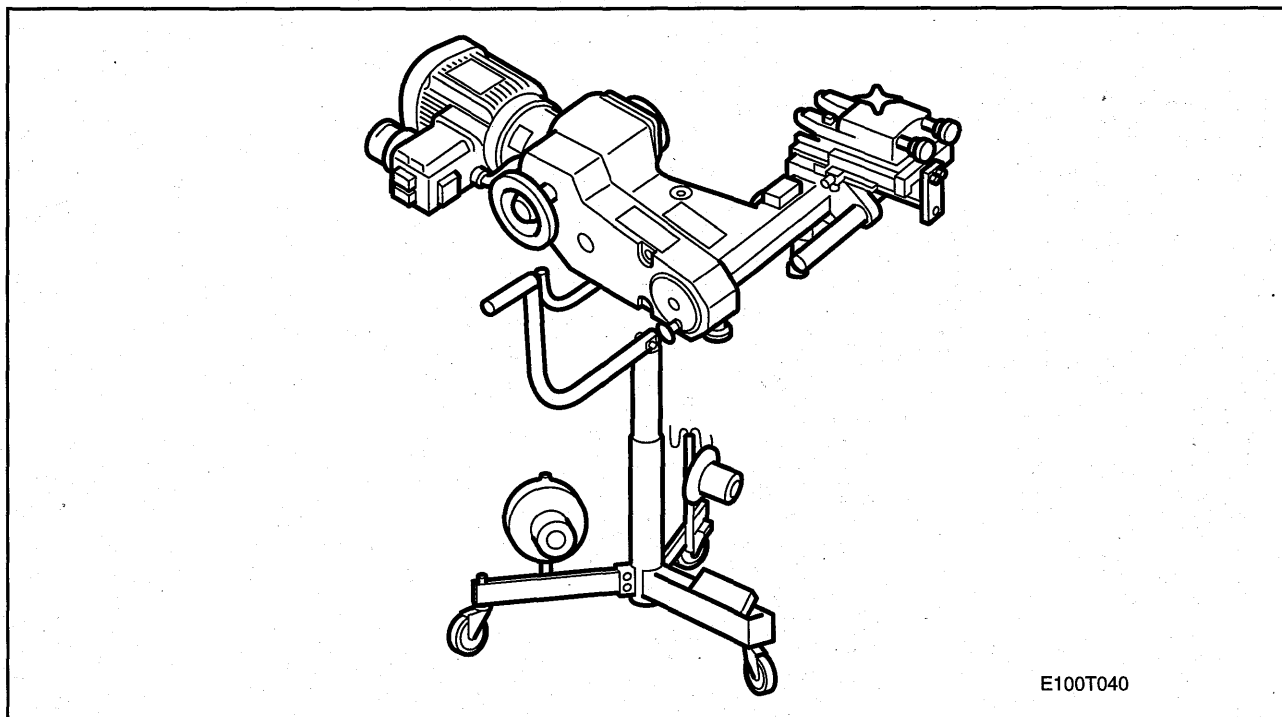
The number of brake disc replacements can be reduced by using a brake disc lathe. Brake discs can be turned directly on the car or, if necessary, stationary with the disc dismantled. Wheel hub runout can also be compensated when turning directly on the car.

The two following brake disc lathes have been tested and approved by Saab Automobile AB. Both lathes are equipped with double cutters to eliminate variations in disc thickness.

The following equipment is compatible:

- VBG 600
- CANVIK

## Brake disc lathe VBG 600

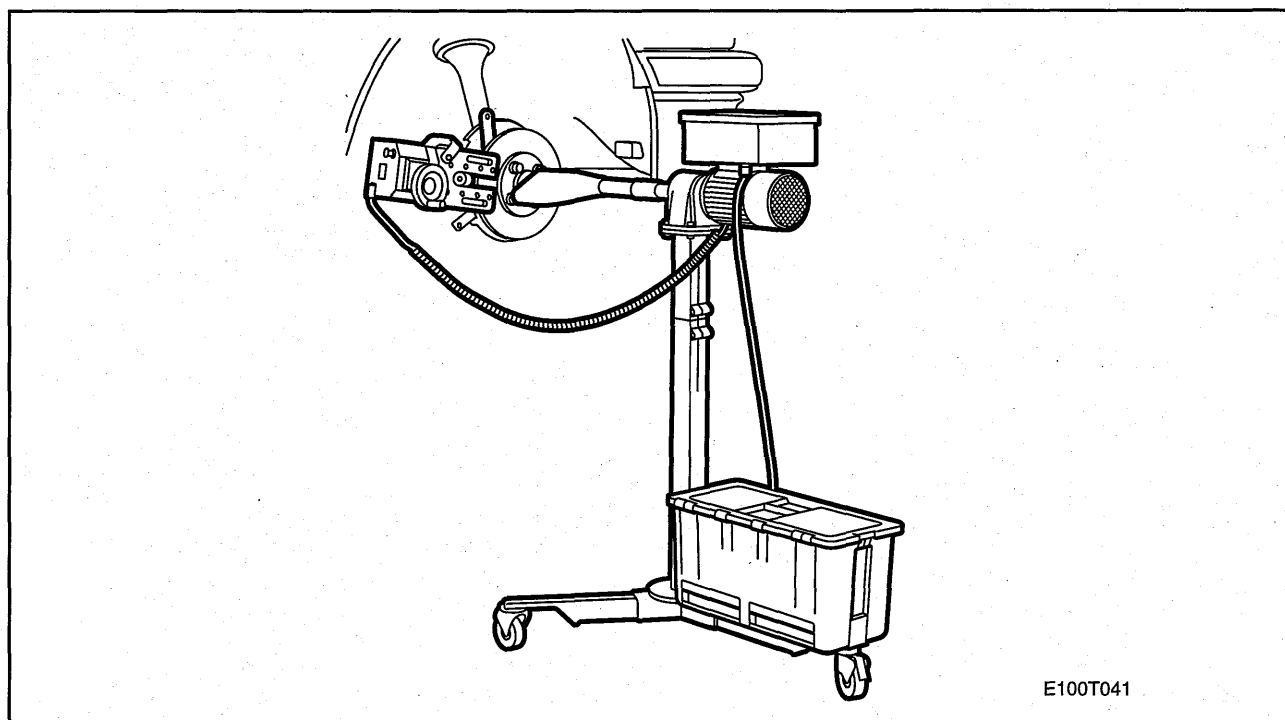


VBG 600 is recommended for turning dismantled discs.

### Technical data

Maximum disc diameter	315 mm
Disc thickness	7.5–36 mm
Spindle speed	100 rpm
Measuring speed	0.12 mm/turn
Max. cutting depth	0.5 mm/side
Electrical connection	110 V, 1-phase 230 V, 1-phase 400 V, 3-phase 550 W
Weight	25 kg

## Brake disc lathe CANVIK



E100T041

CANVIK CMB 40 T is intended for turning discs directly on the car only.

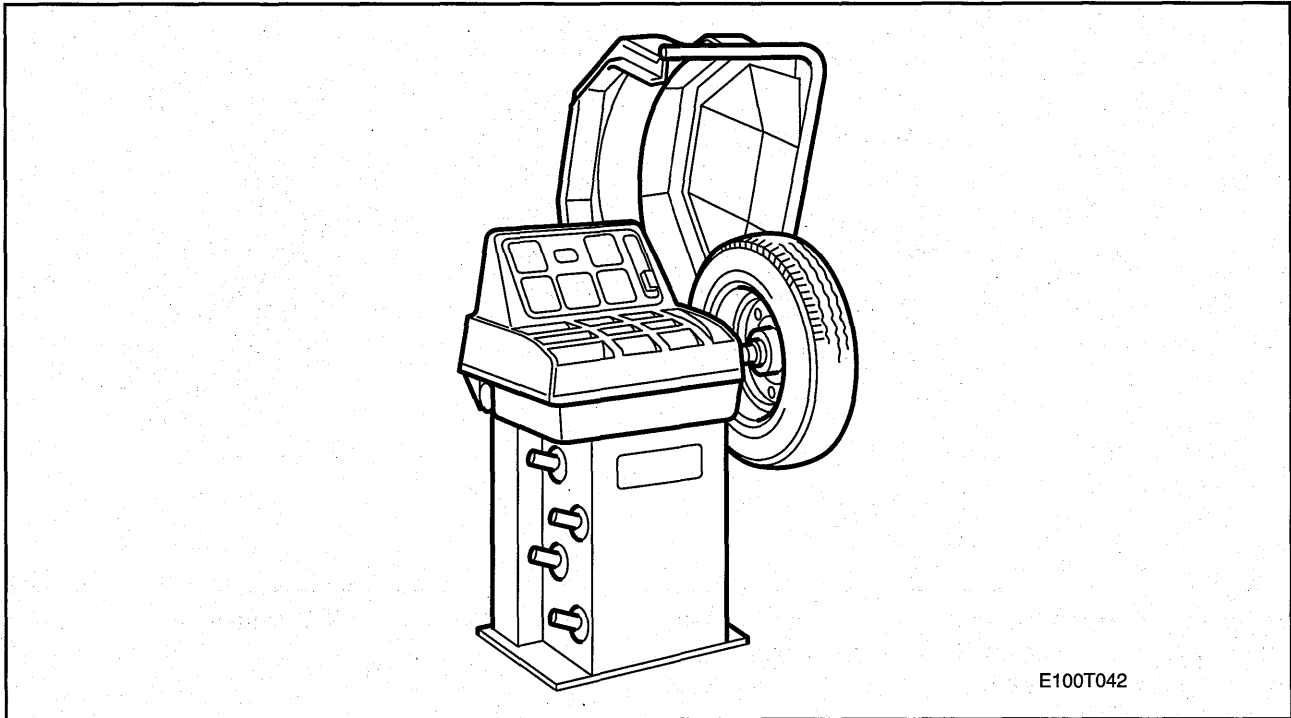
### Technical data

Feed length, max.	80 mm
Disc thickness, max.	40 mm
Spindle speed	66/129 rpm
Measuring speed	0,08–0,22 mm/ rev.
Max. cutting depth	0,2 mm/side
Electrical connection	230 V, 1-phase 50 Hz 115 V, 1-phase 60 Hz approx. 300 W
Weight (lathe and stand)	38 kg



# Suspension, wheels

## Wheel balancing machine



The machine should be fastened to the floor to avoid vibration that can effect the balancing.

The shield must be lowered over the rotating wheel. A self-centring hub enables easier fitting and should be used, see Suspension, wheels, "*Self centring hub*, (50)". Balancing is facilitated by a well arranged panel with digital display of imbalance and position in both planes simultaneously.

Automatic programming of rim width, etc. is not necessary but simpler.

There should be a storage place for rim weights/tools and accessories should be located with the machine.

The machine should be supplemented with rim and wheel distortion test capabilities with a fixed indicator.

There should be an overload cut-out to avoid incorrectly balanced wheels and damage to the machine.

If being used often, a completely automatic machine should be selected.

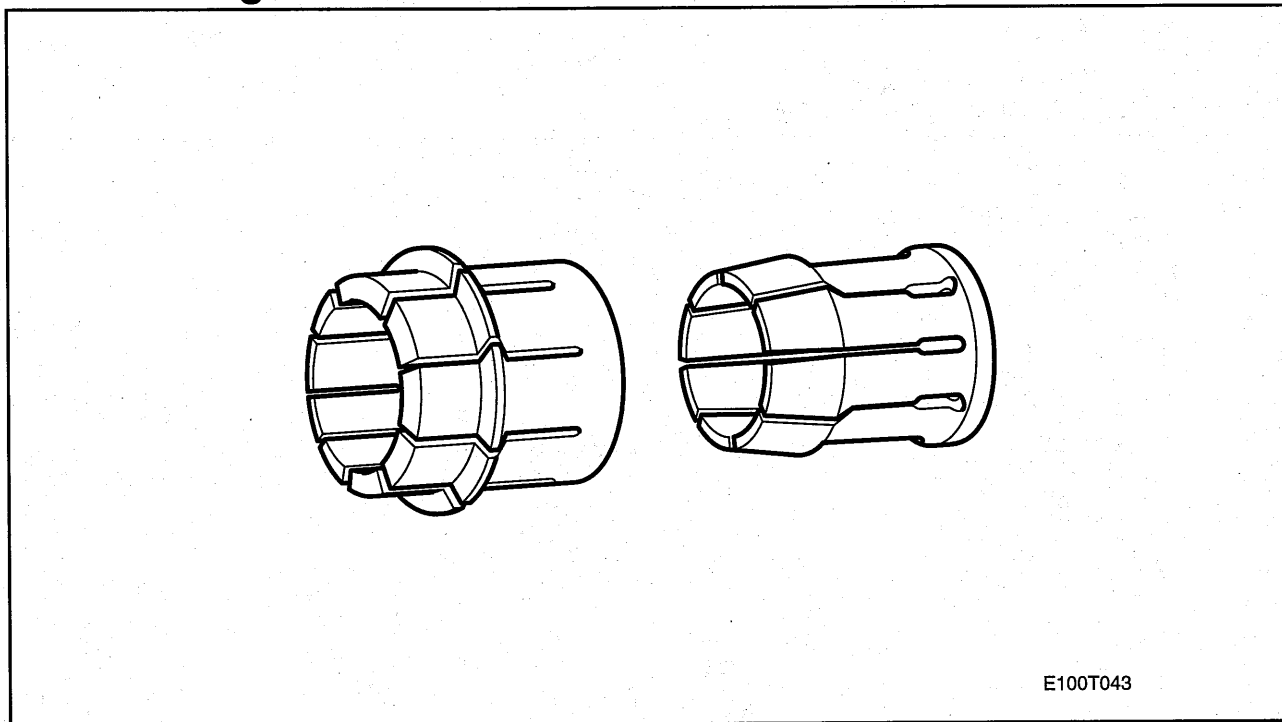
### Technical data

Minimum rim diameter	14 inch
Rim size up to	8 inch
Wheel diameter up to	1100 mm
Wheel weights up to	30 kg
Balancing precision	2 g
Shaft diameter	For fast hub
Spin speed	150–1000 rpm

The following equipment is compatible:

- Hoffman Geodyna
- Mondolfo
- Balco
- Corchi
- Facom
- Faip

## Self centring hub



Self-centring, expanding quick-release coupling for more reliable wheel balancing. The hub consists of two expanding sleeves that fit all rims with machined centre holes. The rim is centred tolerance-free on the wheel balancing machine which facilitates reliable balancing.

### Technical data

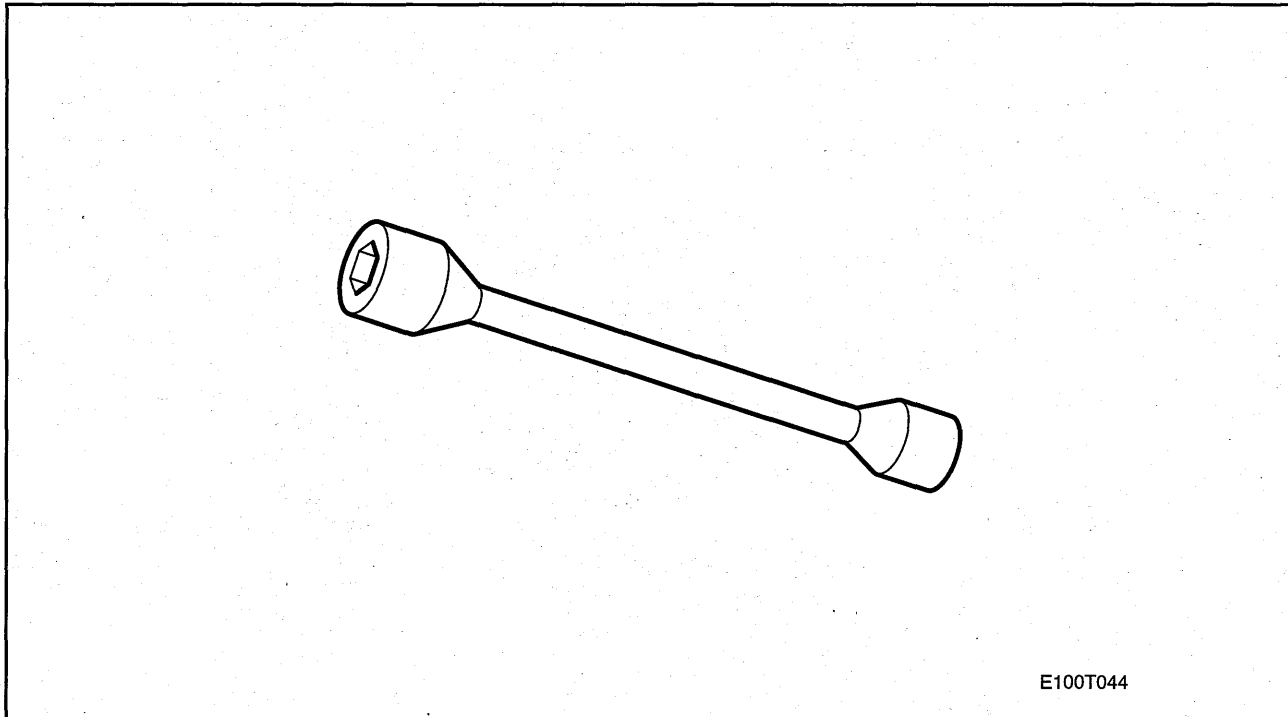
Min. free depth: 45 mm

The following equipment is compatible:

- Haweka Duo SDT



## Torsion sleeve for nut runner



When delivered from the factory, the wheels are well-balanced and mounted with correct tightening torque.

If the tightening torque is too high the rims are deformed and the centring is lost.

With a striking nut runner, it is not possible to obtain the right tightening torque. One way of achieving sufficient precision with a striking nut runner is to use a torsion sleeve. The long narrow shank of the torsion sleeve means that the nut runner is limited by torsion spring effect. In this way, the correct tightening torque is obtained without wheel-stud hole deformation.

The following equipment is compatible:

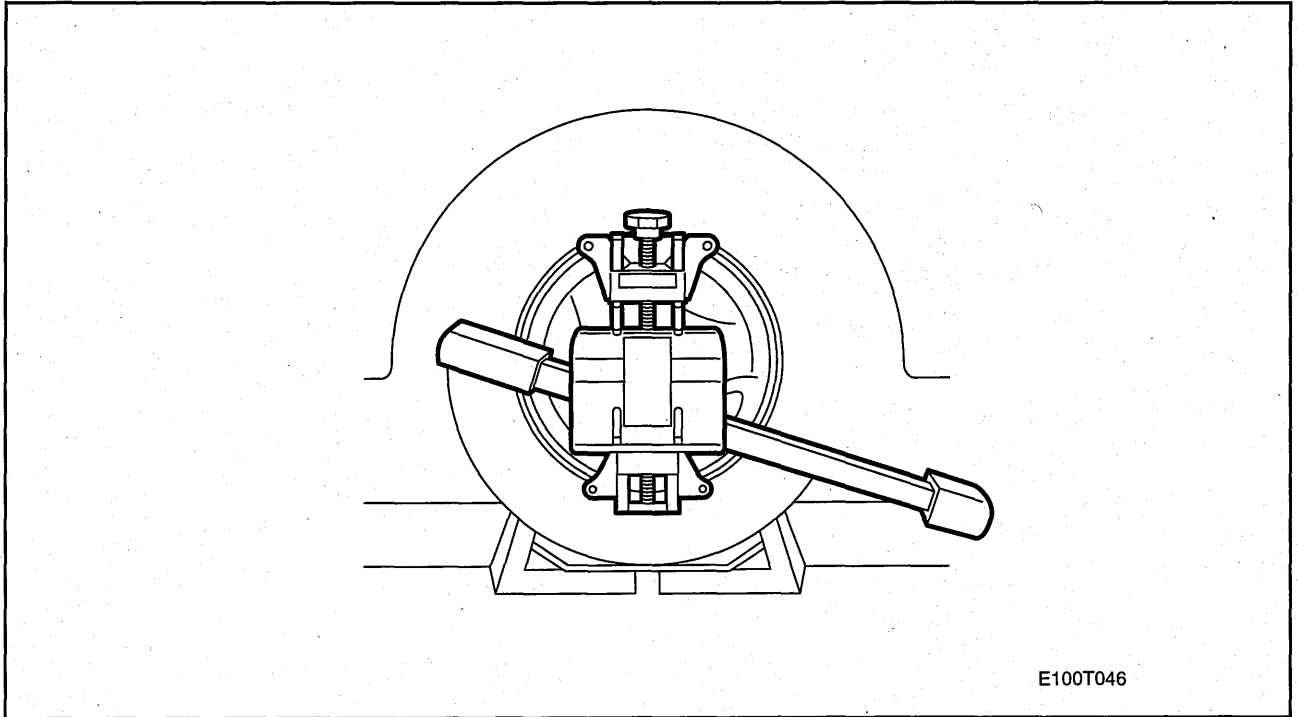
- Momento

Part number:

17 mm 110 Nm: (16) 30 13 794

19 mm 110 Nm: (16) 30 11 913

## Wheel alignment equipment

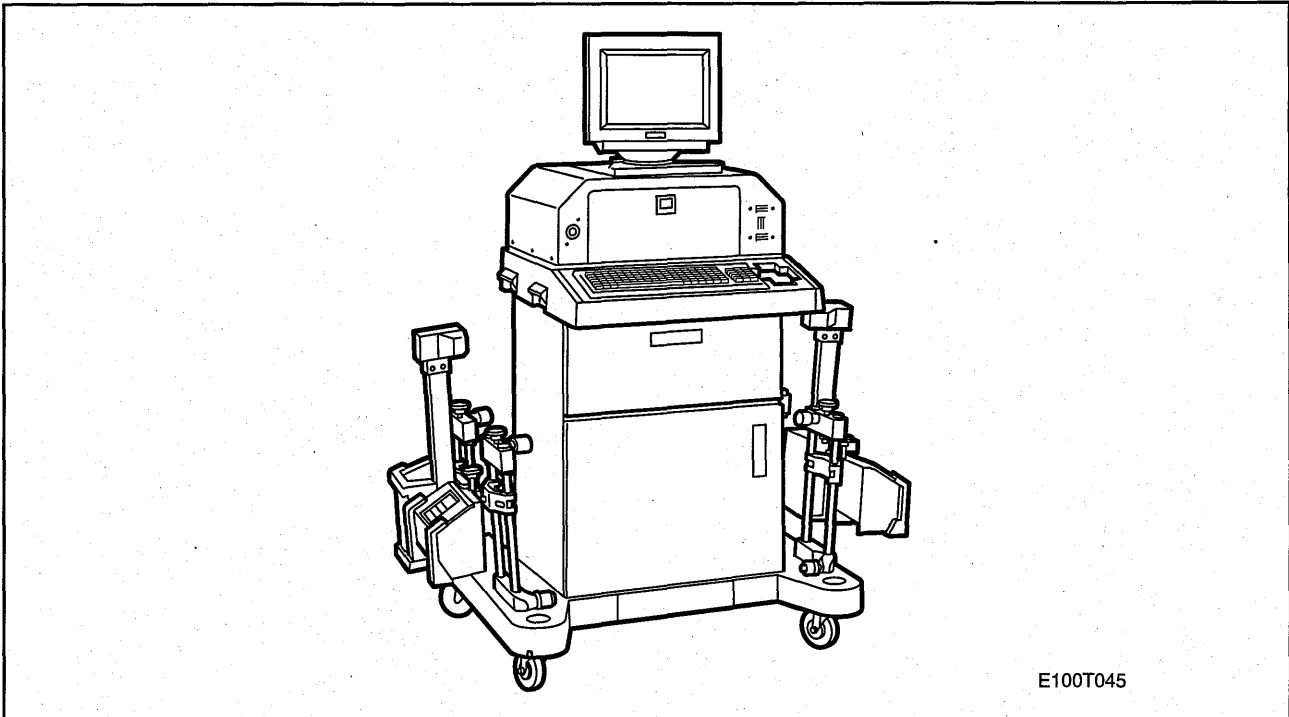


During wheel alignment, the equipment displays the alignment of all the wheels. If there is room for adjustment, align the rear wheels first and then the front wheels so that they are in alignment with the rear wheels.

Always change worn parts before aligning to eliminate any misalignment they may cause.

The car must be unladen, without driver or passenger and with full fuel tank when aligning. The surface must be level and horizontal. Tyres must have the correct pressure.

There are two ways to perform 4 wheel alignment. Caster measured with a 20° steering angle and Caster measured with 7-14° steering angle. Both are acceptable but 20° steering angle is the most reliable alternative when the front assembly components have started to be worn.



E100T045

Correct wheel alignment is necessary for the suspension, dampers, brakes and tyres to operate to their optimum. The car is safe, comfortable and economic on fuel when these components function correctly. Depending on the size of workshop and customer demand an optional investment is:

- 1 A separate station for wheel alignment
- 2 Small mechanical instruments

The most economical alternative is the decision of the workshop. The most important point is not to neglect the technical properties of the equipment.

Saab has tested various equipment for 4-wheel alignment that comply to demands on precision and accuracy.

### Technical performance

- Easy to fit on all rim types, including low profile rims.
- Simple distortion compensation
- Capacity to measure all four wheels at the same time
- Self centring mounting
- Suitable for inner and outer mounting on alloy and pressed steel rims
- Should have 8 sensors

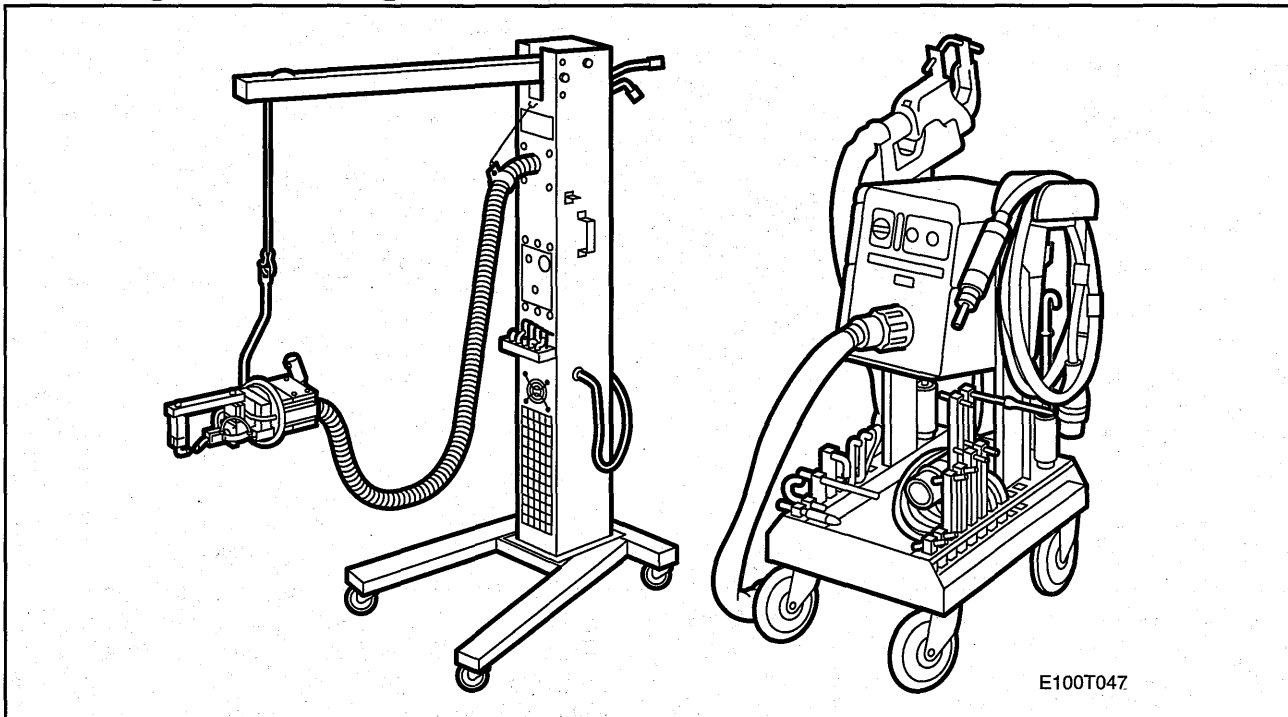
The following equipment is compatible:

- John Bean V5
- OPTO-PLUS 618 DSP
- Hunter
- Facom GTR 614
- Beissbarth ML 4000



# Body

## Welding assemblage



E100T047

Correct fastening of resistance welded components requires equipment capable of controlling welding energy and welding time. Accurate equipment for this task is expensive but is, in most cases, essential to attaining the desired quality of repair.

The technique of using welded fasteners possesses very good qualities with regard to corrosion. The welder should also be capable of welding fasteners such as T-rivets and screw rivets as well as nails or washers used during body alignment.

Positioning fasteners on the car demands equipment that is easy to handle and has a flexible welding gun.

The welding machine should be capable of resistance welding and welding nails/washers used during body alignment.

Generally speaking, a good weld result must be tried out before welding commences on the car. Test pieces of sheet metal can be welded using varying currents and welding times until a satisfactory result is achieved. The welding electrode should have a diameter of max. 6 mm for spot welding. The core of the spot weld should have a diameter of 5 mm to ensure full strength.

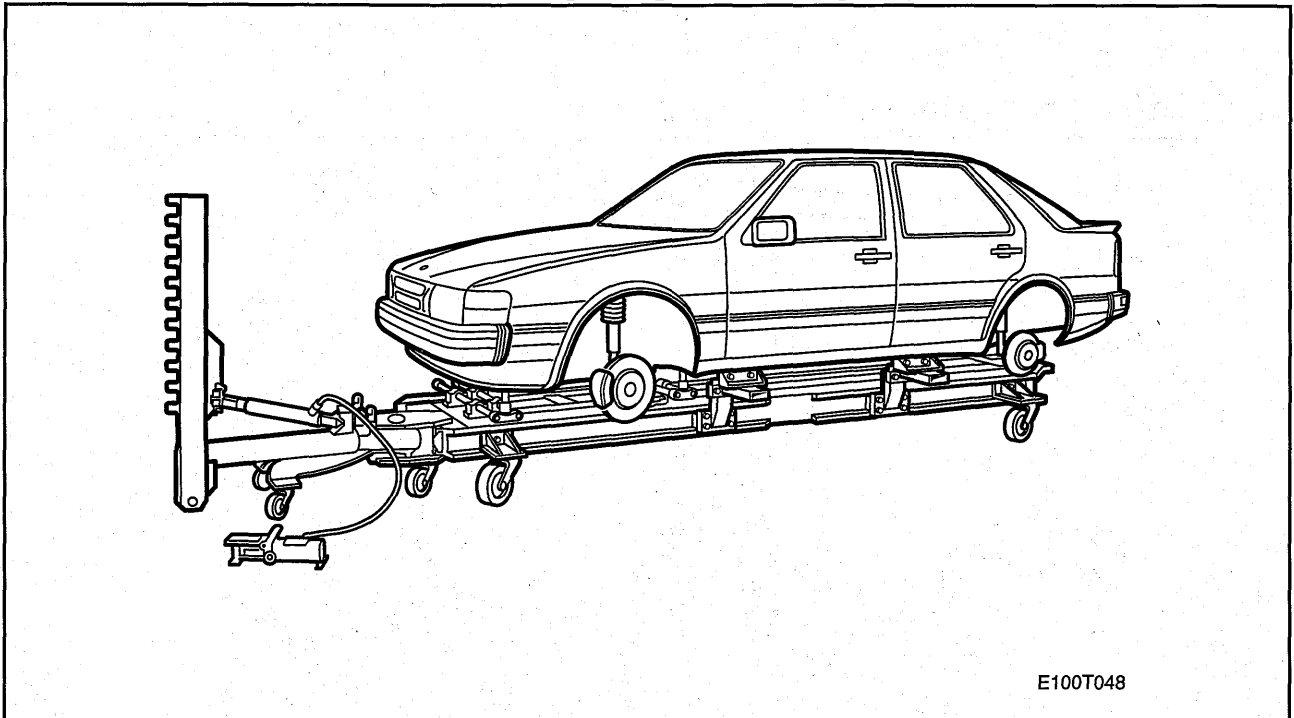
### Technical performance

- Welder time setting.
- Welding energy setting.
- Capable of spot welding min. 0.5–2.5 sheet.
- Welding T-rivets, screw rivets and washers
- Crimping

The following equipment is compatible:

- Tecna 3450
- Prospot PR8, PR10
- Electron Multispot M80.

## General information on body alignment systems



Two basic requirements must be met when performing body alignment:

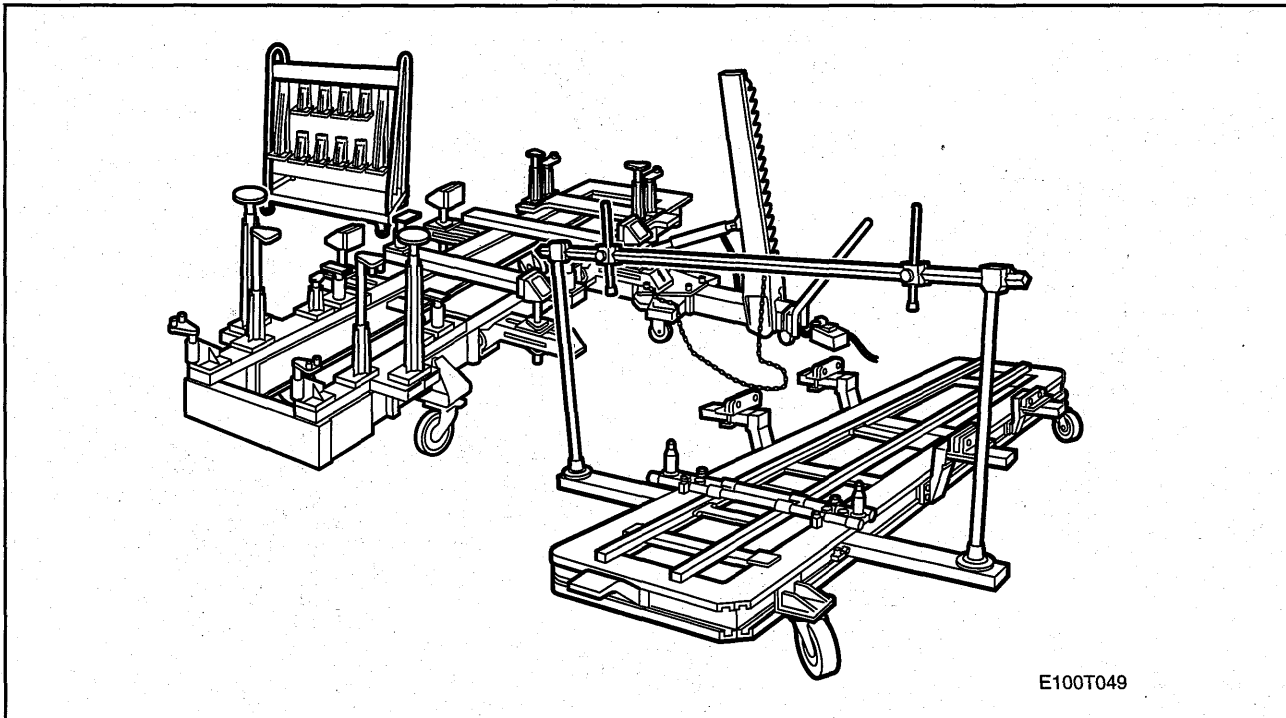
- The equipment is suitable for the work.
- Personnel that is familiar with the equipment and trained at body repair.

If these requirements are not met, the chances of achieving a successful repair and meeting the customer's demands will be small.

It is therefore of the utmost importance that the selection of body alignment system meets with the expectations of the personnel and the type of damage that frequently comes to the workshop. For frequently re-occurring tasks the choice is guided by the most appropriate solution and most easily operated bench.

Dataliner and Car-O-Liner are manufactured in Sweden and Cellette in France. Saab has a good relationship with these manufacturers, which is reflected in the service these companies offer on the Swedish market as well as on export markets.

## Fixed supports or measuring system?



E100T049

Our research shows that fixed support as well as universal measuring systems meet the requirements Saab sets as a standard for correct body alignment. It is therefore important from the outset to weigh the pros and cons of each system to find the right solution.

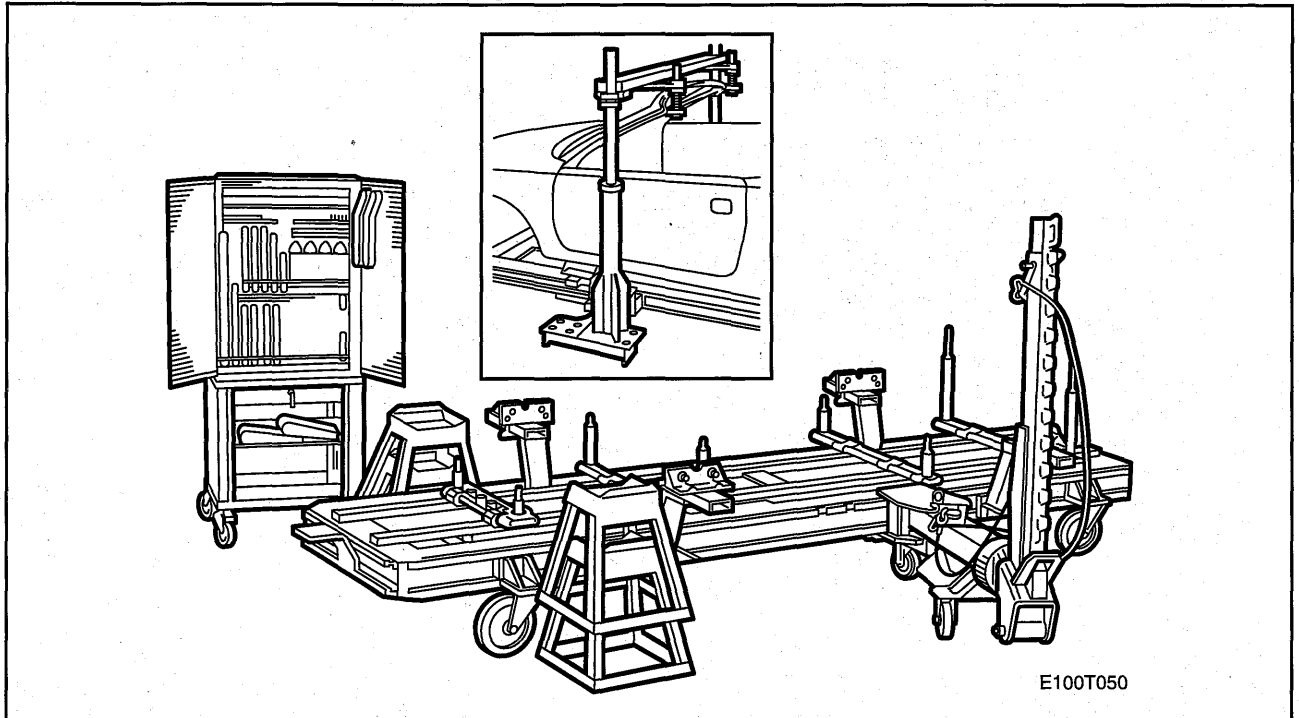
The suppliers' basic kits cost about the same. To convert the system to a rational working area it is necessary in many cases to complement it with specialised frames and draw clamps, incurring extra cost. The parts supplied by the dealer should be checked and a suitable system discussed, from the outset, relating to your particular needs and requirements.

Systems with multi-pullers like Dataliner, offer, in certain cases, greater possibilities for rational alignment. On systems with draw aligners an extra draw aligner must be obtained. The same applies to the facility to align at ceiling height and especially to be able to draw upwards.

One great advantage of a universal alignment system is the possibility of measuring and aligning several car models without large investments in e.g. fixed supports. They also offer considerably faster alignment of minor and medium damage for which it is not necessary to dismantle the damaged component. Fixed supports allow one point to be drawn to its correct position and secured while work continues on the next point. It is also essential that spares are secured in place during welding.

The following pages describe equipment intended to be used as a reference when purchasing alignment equipment.

## Car-O-Liner alignment system



**Car-O-Liner Mark 5 Saab** is an alignment bench manufactured in Sweden. It is a further development on the previously recommended MK-IV, which was well-tested in the Saab organisation.

The bench is so flexible that it is suitable for aligning all types of damage.

A support is required when aligning major damage so that the car is kept in place and to relieve stress on damaged sections. This applies especially to chassis clamps fitted on cars with weak mounting points, e.g. Saab 9000.

It is possible to complement the kit with an extra draw aligner in case it is necessary to draw in several directions at the same time.

The measuring system is mechanical and meets with Saab's tolerance requirements. An electronic measuring system is also available. The measuring system can remain in place during alignment.

The documentation is thoroughly tested and contains necessary measurements for alignment work.

There is a general fastening system for securing new parts while welding. It is also capable of managing high-level parts such as soft-top mountings.

The short diagnosis time makes the equipment suitable for use when assessing damage claims, etc.

Mounting in bench, calibration of the measuring system and measuring the car takes around one hour.

One days operational training is provided through the representatives in each market.

The bench is supplied with lift and ramps for fast mounting.

Car-O-Liner is represented on most of Saab's markets.

### Dimensions

Length	4060 mm
Width	900 mm
Weight	740 kg



**Saab-specific version of Car-O-Liner  
Mark 5 (131050000)**

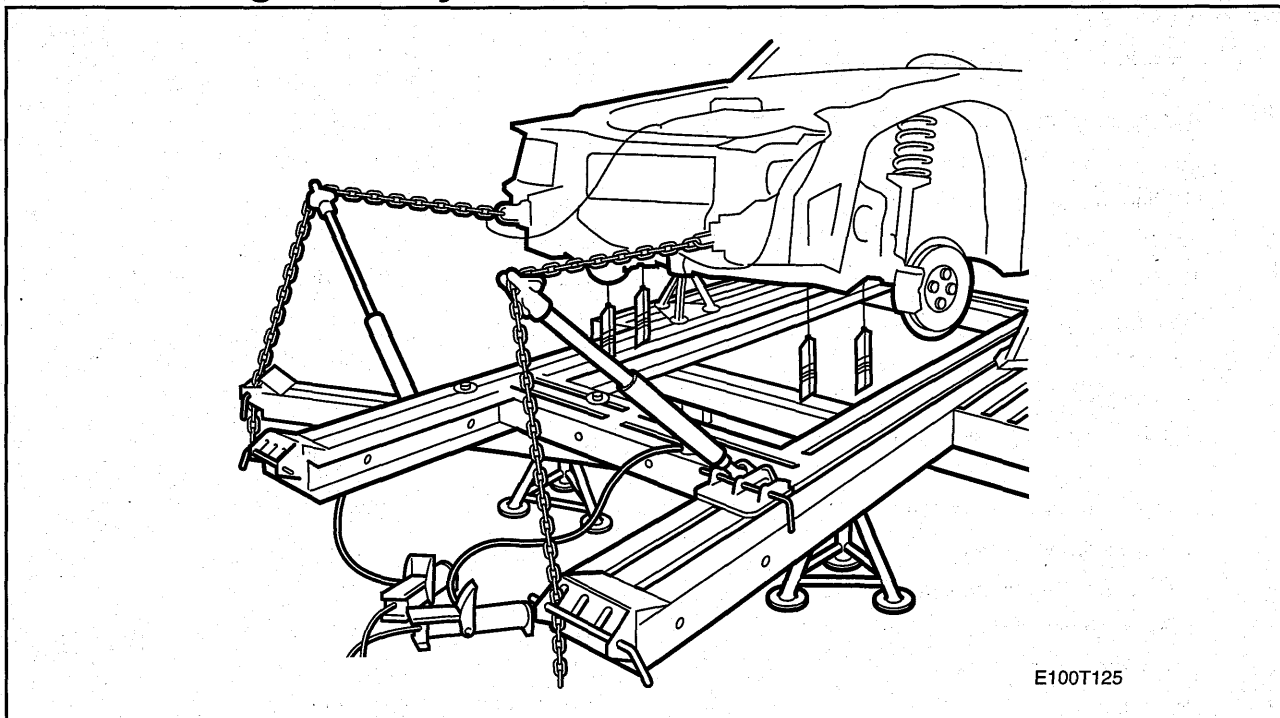
The part numbers in the tables are Car-O-Liner's own numbers.

1	Frame	B 11	1310110400
1	Bench components for mounting car on bench		1310130350
1	Wheel kit with 4 wheels for moving bench		1310105500
1	Holding frame set	B 64	1310119330
1	Holding frame set	B 66M5	1310119370
2	Tool trolley	B 90	1310840000
1	2.5 metric ton hydraulic scissors lift for Mark 5	T5	1311400000
1	Ramps	T55	1311500000
2	Draw aligners	D16	1310385000
2	Nike pressure cylinder/pneum. hydraulic pump	D35/D45	1310383000/ 1310383200
1	Complete measuring system		1310201000
1	Universal draw clamp set	T10	1310108018
1	Accessories to universal draw clamps	T11	1311008000
2	Draw chain with hooks - 2.4 m	T33	1311007103
2	Chain-shortener for T33	T12	1311007003
1	Draw clamps	T71, T72	1311130001/ 1311130002
1	Draw clamps	T73, T74	1311130003/ 1311130004
1	Draw clamp	T47	1311131000
1	Measuring equipment for high-level points	M900	1330000200
1	Down draw	D91	1310385230
1		B141	1311120000
1		B147	1311132000

**Extra accessories**

1	Car-O-Flex holding device for body components	F50 +F51	1310118002
1	Accessories for holding high-level body components, e.g. convertible parts	F70M5	1310118350
1	Car-O-Tronic, electronic measuring system		1410000012

## Dataliner alignment system



E100T125

**Dataliner 3000** is an alignment system of Swedish manufacture that handles all types of damaged vehicle, from passenger cars to light trucks. It is a universal system that can be used for a multitude of varying jobs for which the alignment bench constitutes a good working platform. This also applies to work on brakes and wheel alignment.

A system with many different functions. Its design, with longitudinal grooves, allows unlimited fastening points.

The working height is adjustable and there is an easy-to-move working platform for reaching the upper parts of the vehicle.

The Dataliner 3000 is a so-called Drive-On bench that complements the rest of the Dataliner system, which has been on the market since 1973. Most components for all systems are interchangeable. An old Dataliner bench is therefore always simple to update with the new components that a modern car demands.

The laser measuring system is easily moved between different benches in the workshop, which reduces the total cost of investment.

Dataliner is represented on most of Saab's markets. One day's operational training is provided through the representatives in each market.

The standard alignment bench is supplied with a laser measuring system and a complete universal alignment system.

The short diagnosis time of around one hour makes this equipment suitable for assessing damage claims, etc.

### Dimensions

Length	5000 mm
Width	1850 mm
Height over floor	490–710 mm
Weight	585 kg

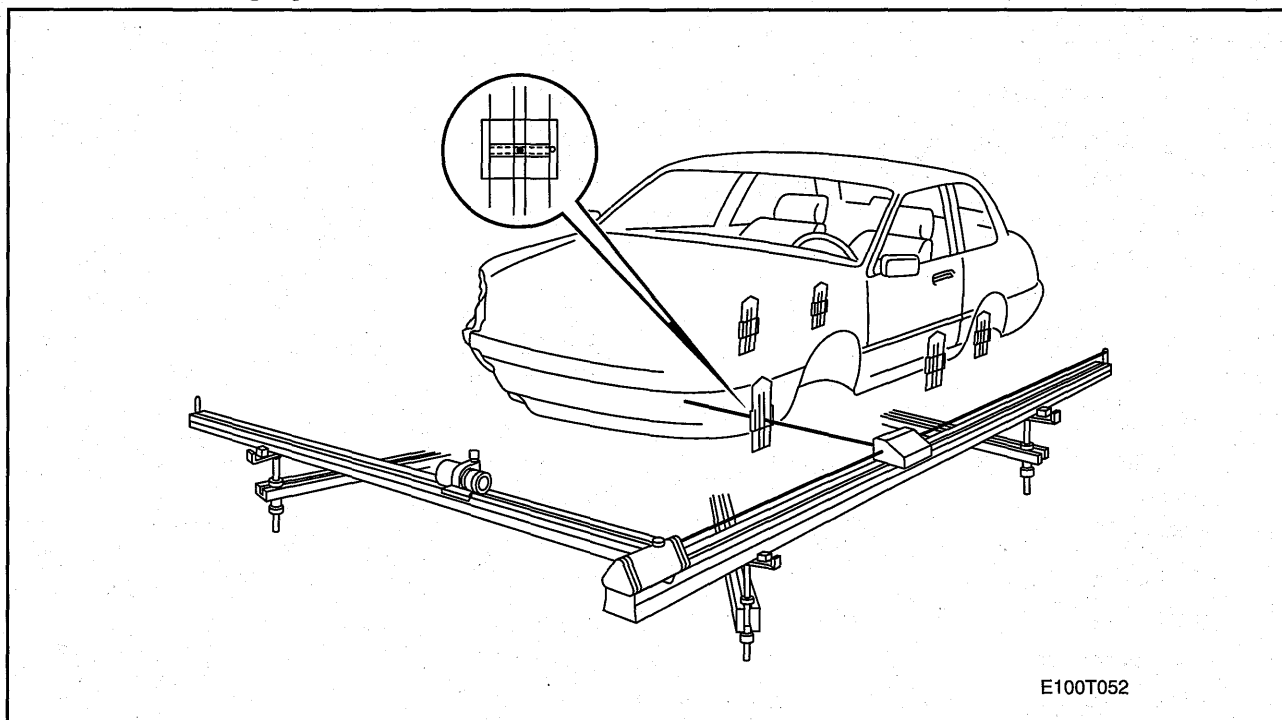
**Dataliner 300 basic kit**

Part numbers are Dataliner's own numbers.

1	Bench lift	370 H-019
4	Chassis mounting	570 H-197
1	Dataliner 3000 bench	370 H-001 E
2	Draw beam with chain mounting	370 H-127
1	Free wheel lift assembly	570 H-017 E
4	Joint unit 240 mm	470 H-030
1	Joint unit 120 mm	470 H-038
1	Adjustable support	470 H-088
2	Carriageway plate	370 H-020 B
2	Axle stands, Dataliner	460 H-057
2	Axle stands, Dataliner	460 H-059
2	Ramp	570 H-092 D
4	Long pin	470 H-010
1	Pressure pin	410 H-135
2	Turtle	570 H-196
1	Cart for draw beam	470 H-025 B
1	Winch mounting	570 H-088 B

**3-draw, complete set 570 H-3000**

1	Breaker roller	470 H-020 B
1	Cylinder holder, double	470 H-112
1	Cylinder holder, single	470 H-113
2	Cylinder holder, single, transverse	470 H-114
2	Draw brace with lock pin	410 H-051
1	Draw clamp, wide	410 H-029
1	Draw clamp, narrow	410 H-030
1	Fastener kit with M20 bolt	470 H-089 B
2	Extension tube, 1000 mm	410 H-074
3	Extension tube, 125 mm	410 H-071
3	Extension tube, 250 mm	410 H-072
3	Extension tube, 590 mm	410 H-073
3	Chain length 3000 mm	470 H-015
3	Chain mounting	410 H-121
3	Air hydraulic pump	PH 414 Z
1	Safety cable	470 H-083
3	Pressure cylinder 10 t, stroke 200 mm	460 H-002 B
3	Pressure head	410 H-120
1	Tool trolley	570 H-069
1	Angular draw clamp	410 H-124

**Laser measuring system CM 600 DLA**

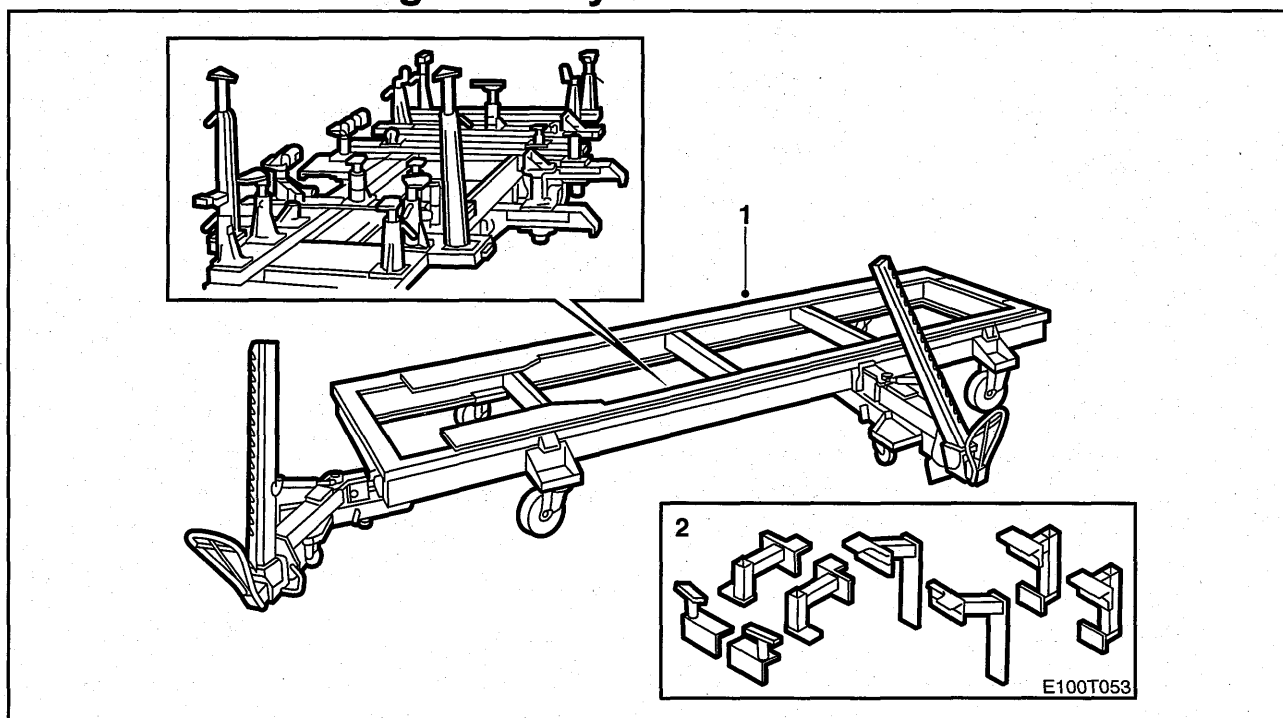
Part numbers are Dataliner's own numbers.

1	Frame for measuring beam	470 H-037
1	Measuring beam 2550 mm	670 H-047
1	Beam splitter	670 H-059
1	Measuring scale (set)	470 H-060 U
1	Hole and bolt holder (set)	470 H-061 C
3	Measuring scale extension (set)	470 H-062
1	Data card box	470 H-063
1	MacPherson adapter	670 H-066
1	Magnetic holder	470 H-075 B
1	Control jig	470 H-077
1	Combination-box	470 H-099
1	Measuring beam 5100 mm	670 H-146
1	Laser	670 H-455 E
1	Automaster 220 V	670 H-456 E
1	McPherson tool	470 H-066 C

**CM 9000, accessories for laser measuring system**

1	Frame for measuring beam, adjustable	670 H-048
1	Frame for measuring beam	670 H-049
1	Frame for measuring beam, adjustable	670 H-052

## Celette Sevenne alignment system



Celette Sevenne is an alignment bench manufactured in France and comprises:

- 1 Alignment bench with set of jigs
- 2 Jig kit for cabriolet

The alignment bench is available in several designs but their function is the same. It has a sturdy construction with easy fastening of chassis and wheels. The pullers can be mounted around the entire bench. The jigs take very little space as the same ground support is used for all models.

The floor supports are manufactured in cast material that will fracture if overloaded. This prevents lasting measurement deviations in the jigs that otherwise occurs after deformation.

There is a set of special jigs available to the bench for the Saab 900 M95-M98 Convertible and Saab 9-3 Convertible that must be used when working on the Convertible. Saab part no: 82 93 060.

The documentation is thoroughly tested and contains necessary measurements for alignment work.

The bench can be fitted with measuring system M2000 or the electronic measuring system NAJA.

Celette is represented on most Saab markets.

One day's training with continuous follow-up is included through the representatives of respective markets.

Length	4370 mm
Width	1115 mm
Height over floor	515 mm
Weight w. accessories	700 kg

**Celette references**

Part numbers in the following tables are the suppliers' own.

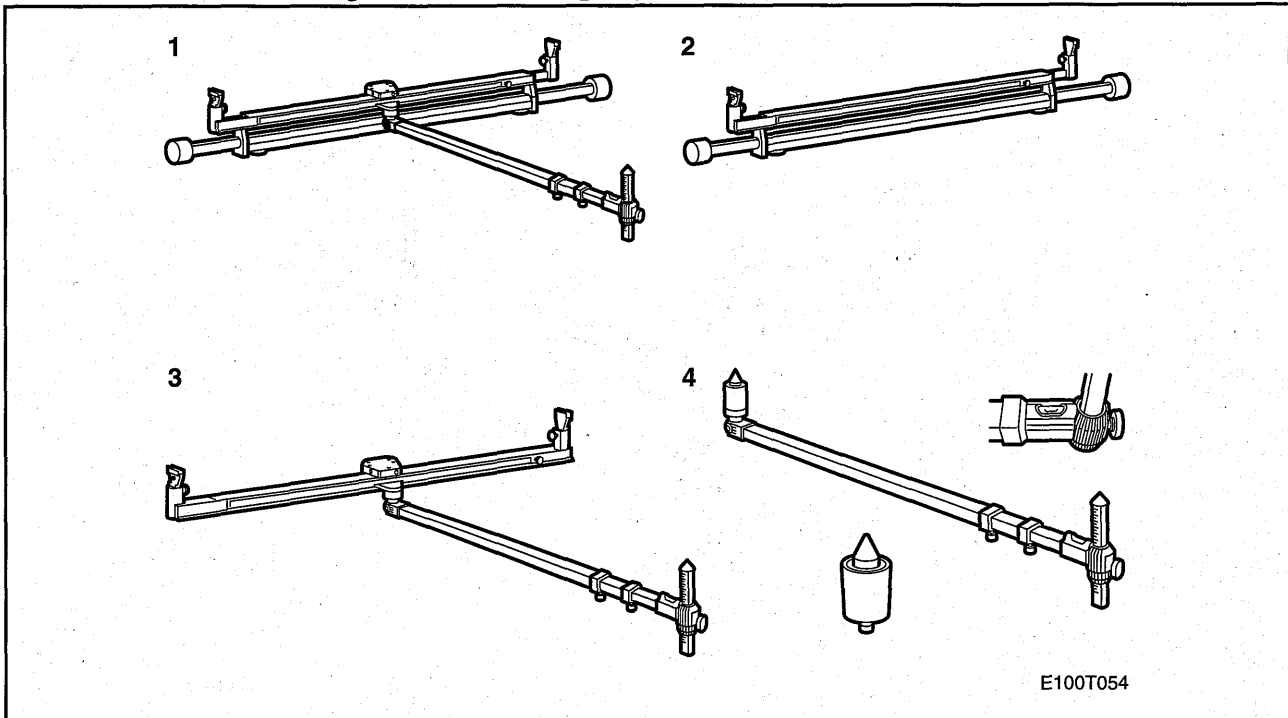
1	Alignment bench Sevenne including 2 pairs of chassis mountings	SVN93.1002
1	Draw aligners	SVN93.201F
1	Module beams	955.9002
1	MZ Basic set (22 pcs. + Tv.400)	MZ450.000
1	Trolley for ground support	MZ450.905
1	Top fixture Saab 9000	473.310
1	Top fixture Saab 900 -M93	502.300
1	Top fixture Saab 900 M94-M98 and Saab 9-3 (LHD)	673.310 (including 673.309)
1	Top fixture Saab 900 M94-M98 and Saab 9-3 (RHD)	673.410
1	Top fixture Saab 900 M94-M98 and Saab 9-3 for those with supports 543.310 (LHD) or 543.410 (RHD) for Opel Vectra	543.305
1	Top fixture Saab 9-5	753.300
1	McPherson measure gauge	MZ2452
1	Power accessories, door opening	ATS.1802
1	Puller kit	CAT500
1	Extra plates (included in MZ basic set)	TV.400

**Extra accessories**

1	Lifting table for bench	XVN93.01.1
1	Extra pullers	CSK.15111
1	Multi Support (frame for extra pullers)	9121.523
1	Foot pump	HYP.2501
1	Extra extension 500 mm draw aligner	9128.503

A special set of jigs is available to the alignment bench for the Saab 900 M95-M98 Convertible and Saab 9-3 Convertible.

## Chassis and body measuring system, Autoliner Lasermate



The Autoliner body measuring system is a laser-based piece of equipment used for fast and accurate measurement of symmetry, length and height.

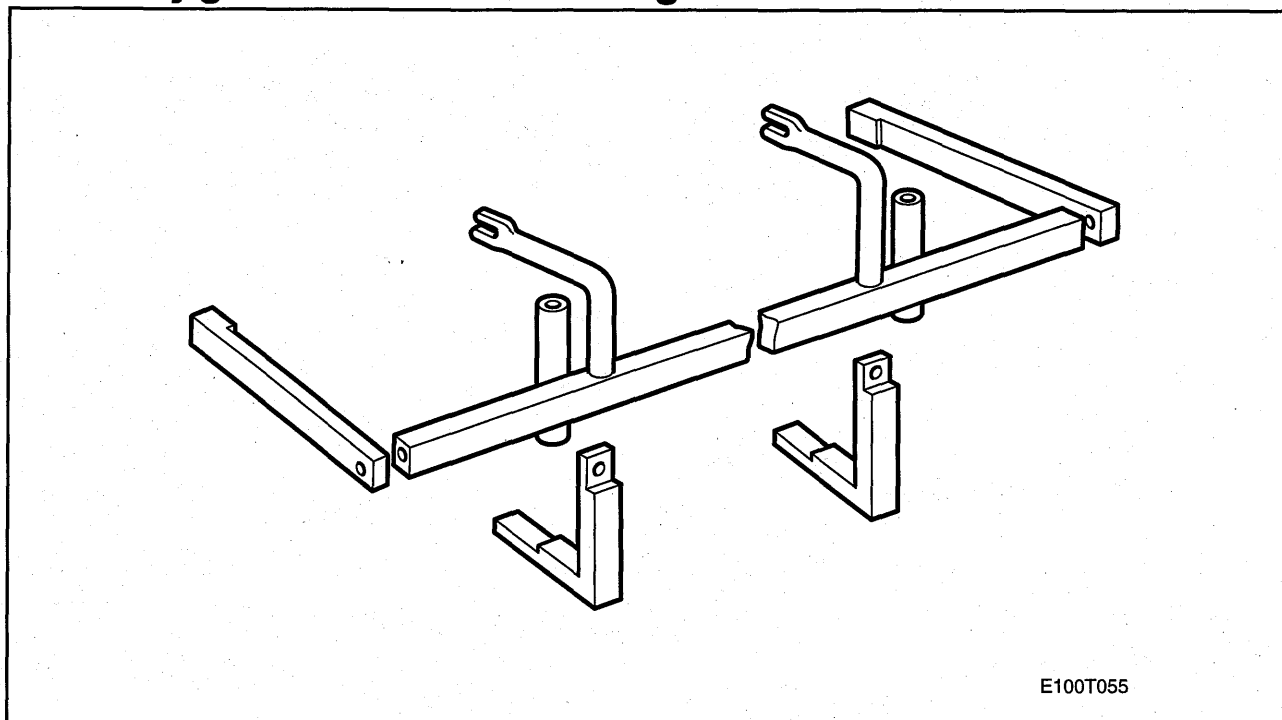
- 1 Autoliner Complete System AL 3000  
Complete measuring system for vehicle chassis and upper body.
- 2 Autoliner Upperbody  
Symmetry measuring system for vehicle upper body.
- 3 Autoliner 3D Independent  
Measuring system for vehicle chassis.
- 4 Autoliner Monocross  
Telescopic mechanical gauge rod with self-centring (magnetic) fastening. The gauge rod can also be used to measure height deviations.

One day's training with continuous follow-up is included through the representatives of respective markets.

Autoliner part nos:

- 1 Autoliner Complete System: AL 3000/AL 3013, depending on alignment bench.
- 2 Autoliner Upperbody: AL 1000/AL 1013
- 3 Autoliner 3D Independent: IN 2000
- 4 Autoliner Monocross: MC 4000

## Control jig for minor front damage



For minor front damage, the control jig can be used on:

- Saab 900 M94-M98
- Saab 9-3

This saves time and makes work easier, as the car need not be mounted in an alignment bench.

The measurements of the following components can be checked: Front and rear bumper mountings, upper and lower radiator crossmembers.

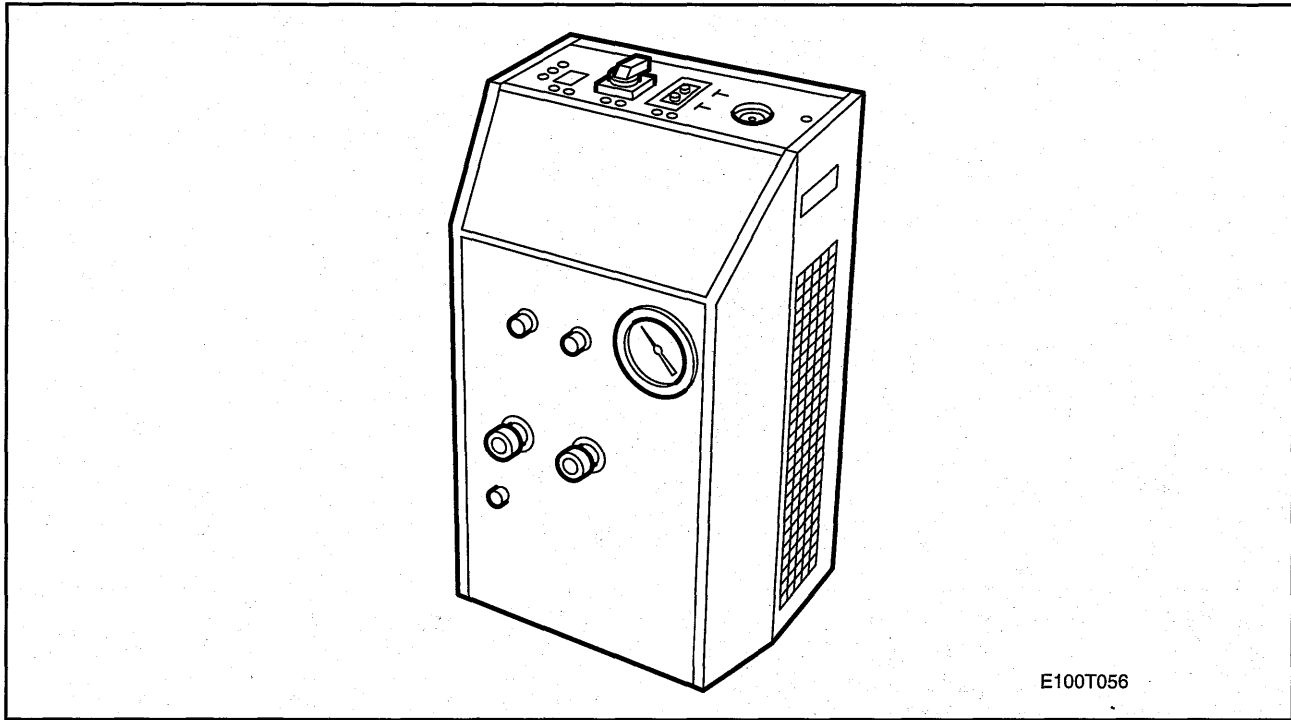
The jig can also be used as a mounting jig for bumper mountings (front and side).

Part no: 82 93 052



# Diverse

## Refrigerant, conversion



E100T056

The A/C system must be flushed clean of mineral oil when replacing the old R12 refrigerant with the new R134a. If this is not done, its performance will deteriorate while some components may be damaged. With suitable equipment, flushing the A/C system can be accomplished quickly and thoroughly.

Saab recommends AKA Force Mini, which has a large capacity compared with normal servicing equipment and is especially adapted to conversions. The equipment is fitted with a separate purifying cycle. See Climate Systems in the service information.

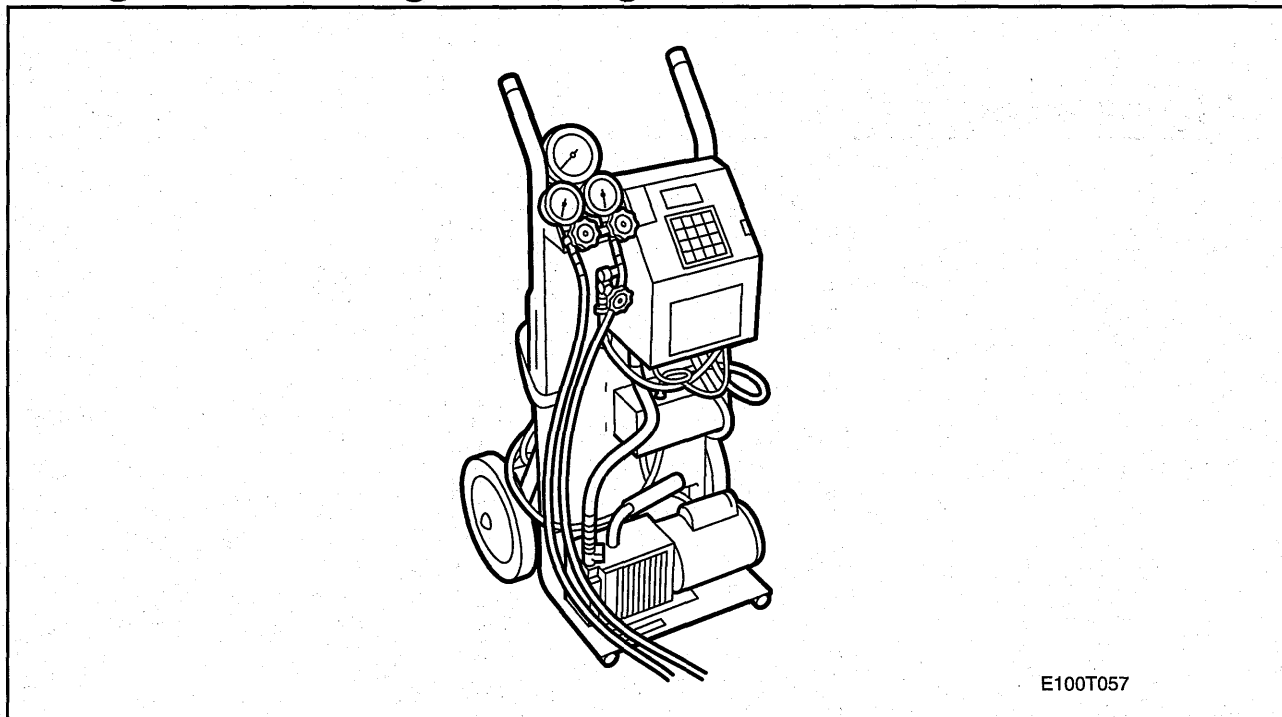
### Technical data

Compressor	0.37 kW
Swept volume	13 m <sup>3</sup>
Capacity when draining	8 m <sup>3</sup>

The following equipment is compatible:

- AKA Force Mini

## Refrigerant, draining and filling



E100T057

Equipment for draining and filling refrigerant must be flexible and easy to handle. Some scales keep a check on the amount of refrigerant that has been drained or filled. It must also be rather fast in operation.

It is essential to observe the following when selecting equipment:

- Powerful vacuum pump and vacuum gauge for efficient vacuuming and drying of the system.
- Good removal of moisture and pollutants. The filter must be a good size with warning when full.
- Simple handling. Automatic operation will make working more efficient.

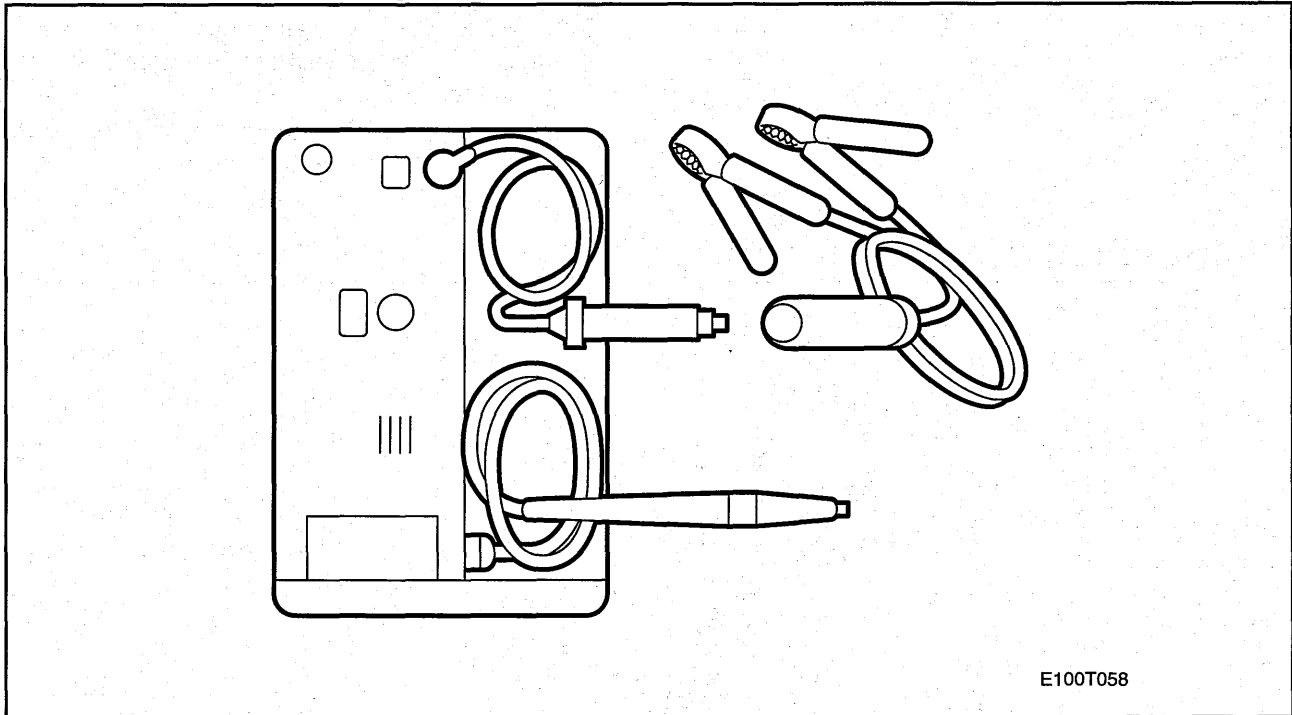
### Technical data

Compressor	0,25–0,375 kW
suction pumping	1 mbar
Capacity when draining	approx. 0,83 kg/ min (5 °C)

The following equipment is compatible:

- AKA Force
- SUN 334
- Robinair
- Lokab

## Leak detector, refrigerant



It is essential that the system can be checked for leaks when working with refrigerant.

The best way of achieving this today is with a heated diode, when the gas is heated to approx. 500 °C and the refrigerant is detected electronically.

The following equipment is compatible:

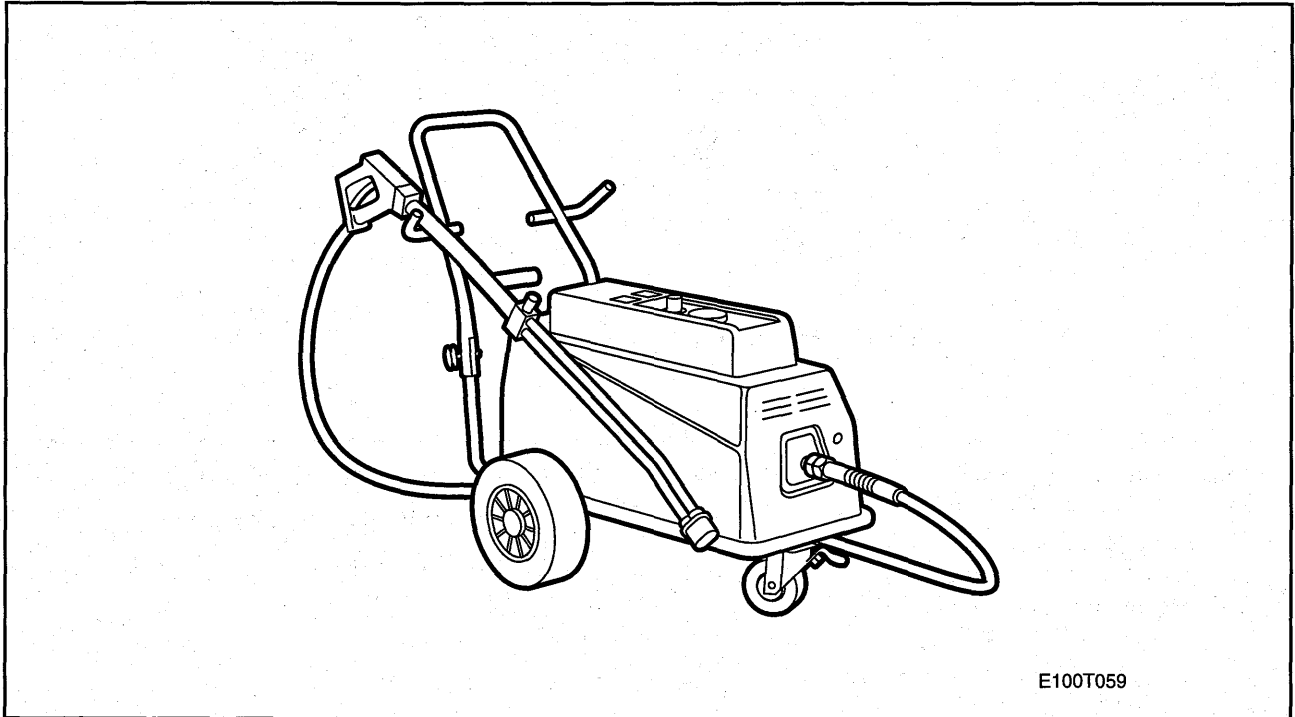
- Yokogawa H10, part no. 82 92 930
- Inficon D-Tek

## General information on high-pressure washers

High-pressure washer can be divided into three groups:

- 1 Small portable units that are normally connected to cold water.
- 2 Mobile washers with electrically or fuel-heated water. This kind of washer has a greater capacity than group 1.
- 3 Stationary washers situated in washing bays. The water is electric or fuel-heated.

### High-pressure washers, group 1



E100T059

Small portable power washer that connects to warm or cold water. Possible to connect a reservoir for degreasing, detergent or shampoo. Connects to 1-phase voltage and is equipped with a washer handle and a washer hose.

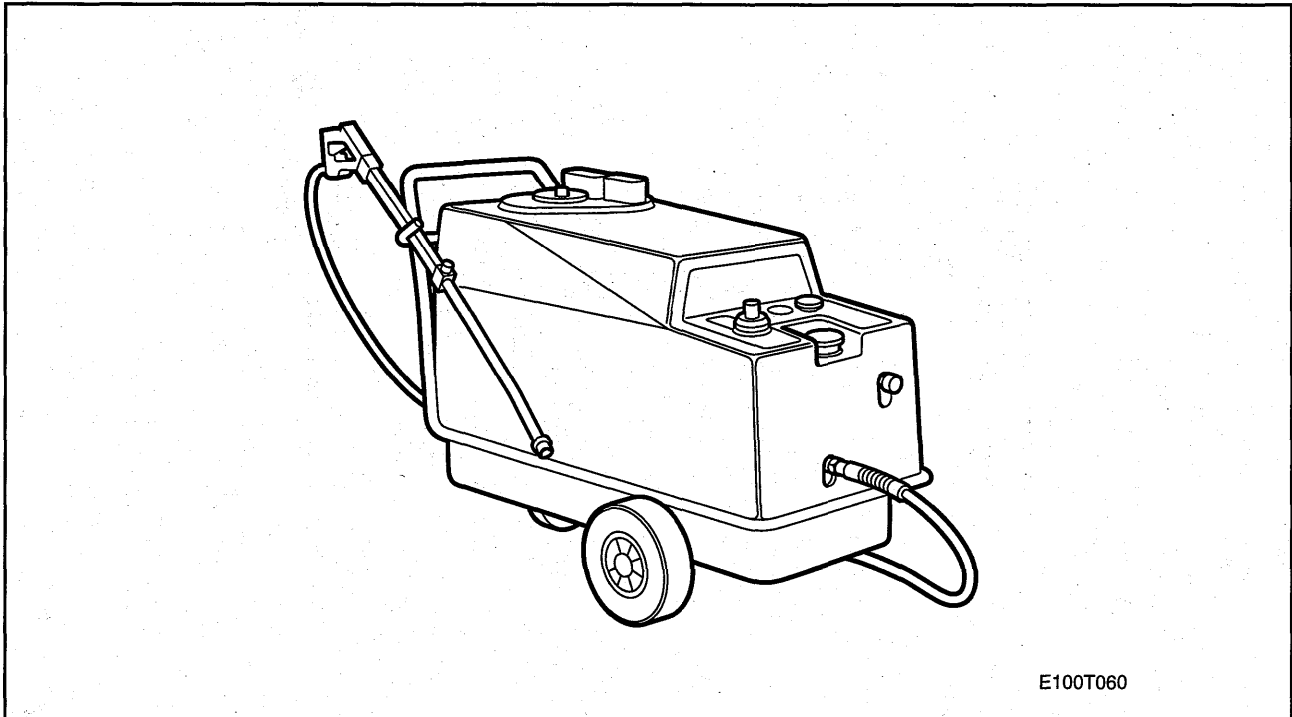
#### Technical data

Operating pressure min.	100 bar
Temperature, water in	0–70 °C
Electrical connection	230 V, 1-phase

The following equipment is compatible:

- KEW

## High-pressure washers, group 2



E100T060

Mobile washer with high-pressure and high capacity. Automatic start/stop, motor monitoring, flash monitoring (fuel-fired heating) and decalcification. The water is heated with electricity, fuel or through a hot water connection.

In the standard model a 10 metre hose, a washer handle, and a washer pipe are included.

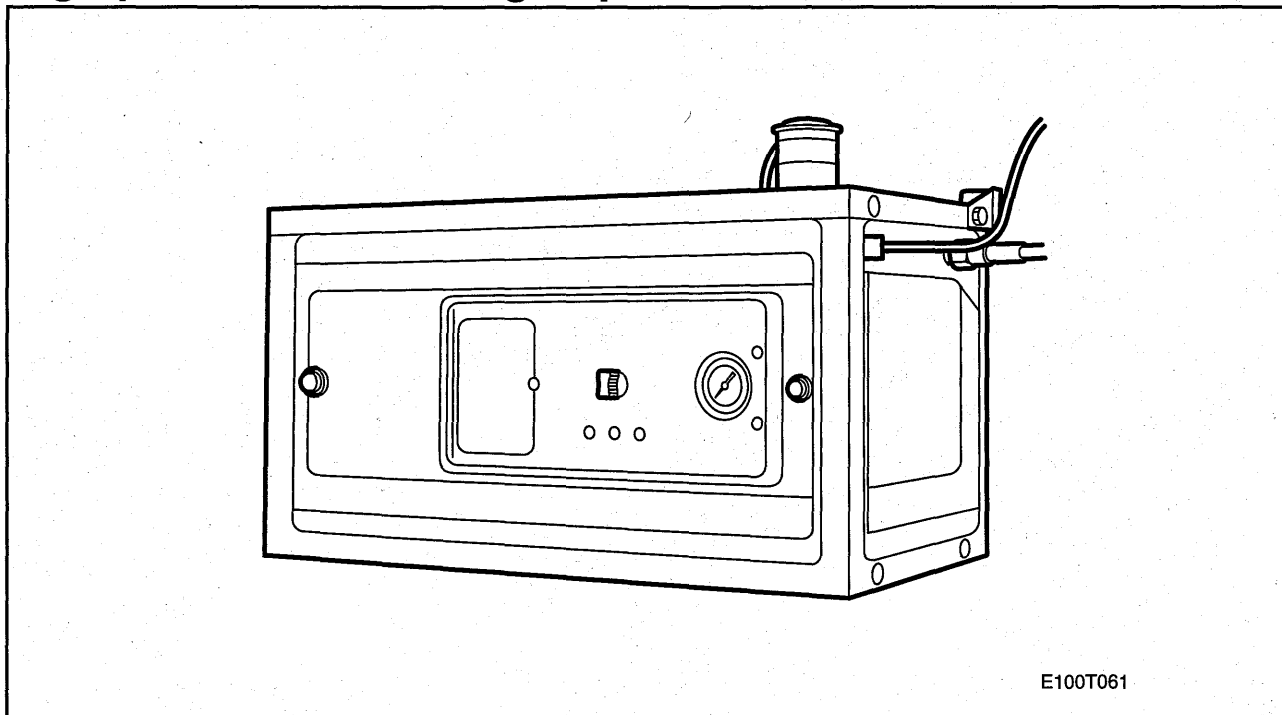
The following equipment is compatible:

- KEW

### Technical data

Working pressure	3–170 bar
Water consumption	950 litres/h
Water temperature, adjustable	0–140 °C
Fuel	approx. 5.3 kg/h
Electrical connection	400 V 50 Hz, 3-phase

## High-pressure washers, group 3



E100T061

Stationary washer with high power and integral electronic control and safety functions. It is also fitted with adjustable steam flow rate, steam hose and decalcifier. Water is heated with electricity, fuel or through a hot water connection.

The standard model includes chemical and shampoo ejector as well as 10 metre hose, washer handle and a washer pipe.

The following equipment is compatible:

- KEW
- Kärcher

### Technical data

Working pressure	175 bar
Water consumption	1260 litres/h
Water temperature, adjustable	0–150 °C
Fuel	approx. 7.5 litres/h
Electrical connection	400 V 50 Hz 3-phase

## General information on workshop washers

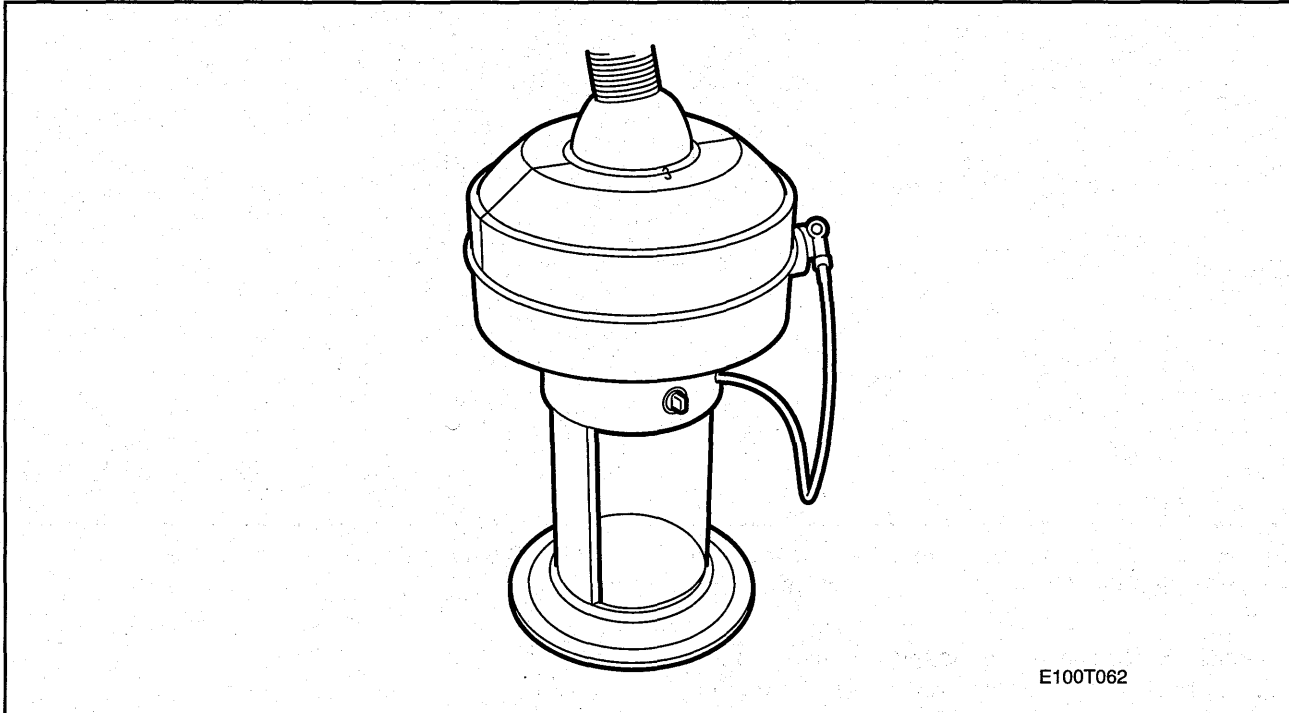
Workshop washer can be divided into three groups:

1 Washers for small details.

2 Washers for small goods.

3 Washers for large goods.

### Workshop washers, group 1



An automatic washer is recommended for small details where it is also possible to wash with a brush.

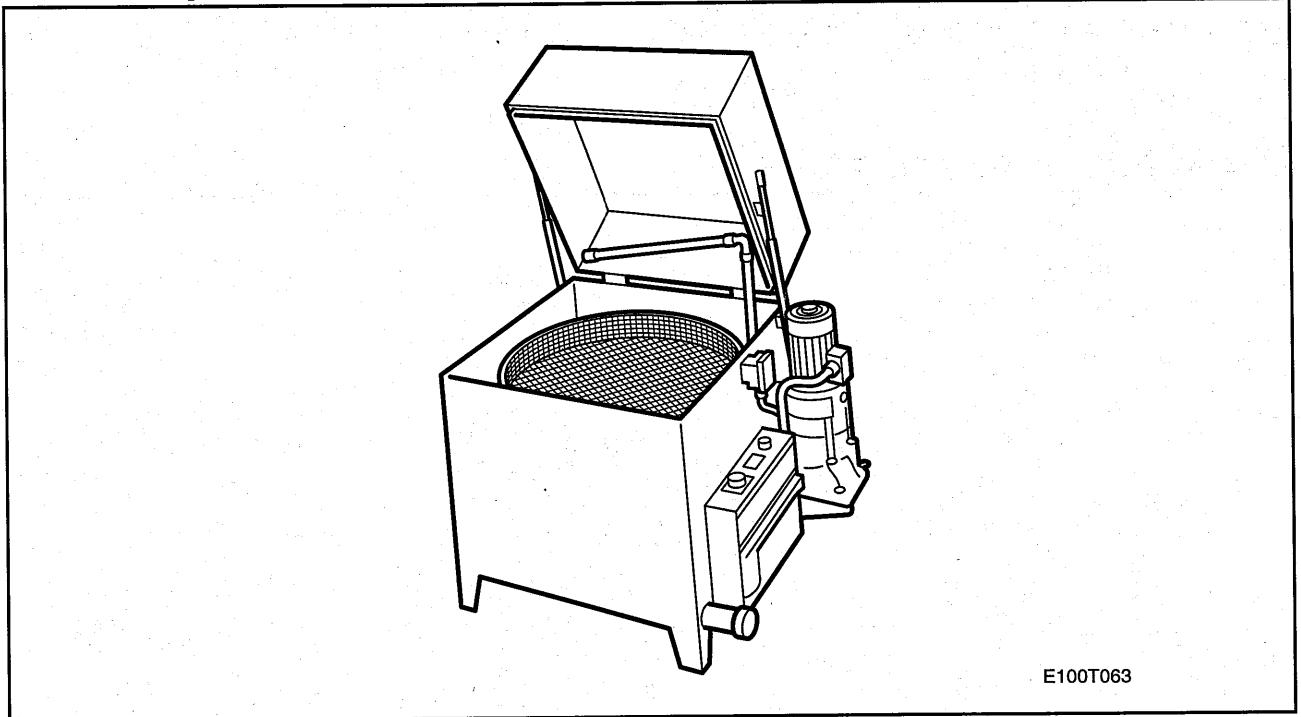
If water-based detergent is being used, best results will be obtained if it is heated. Only alkaline detergents may be used in these washers.

The machine should be fitted with a filter for the fluid and its ventilation should be connected and turned on if petroleum-based fluids are being used.

The following equipment is compatible:

- Drester
- Microclean
- SMC
- KEW

## Workshop washers, group 2



A washer for goods that cannot be washed in a washer intended for small details, e.g. a cylinder head.

If possible, choose a top-loaded carousel washer with a basket of diameter around 700 mm and height around 400 mm. The washer pressure should be approx. 1.5 bar and heater output approx. 5000 W, which will provide a washing temperature of 65-85 °C. A timer may well be connected to the washer to save energy.

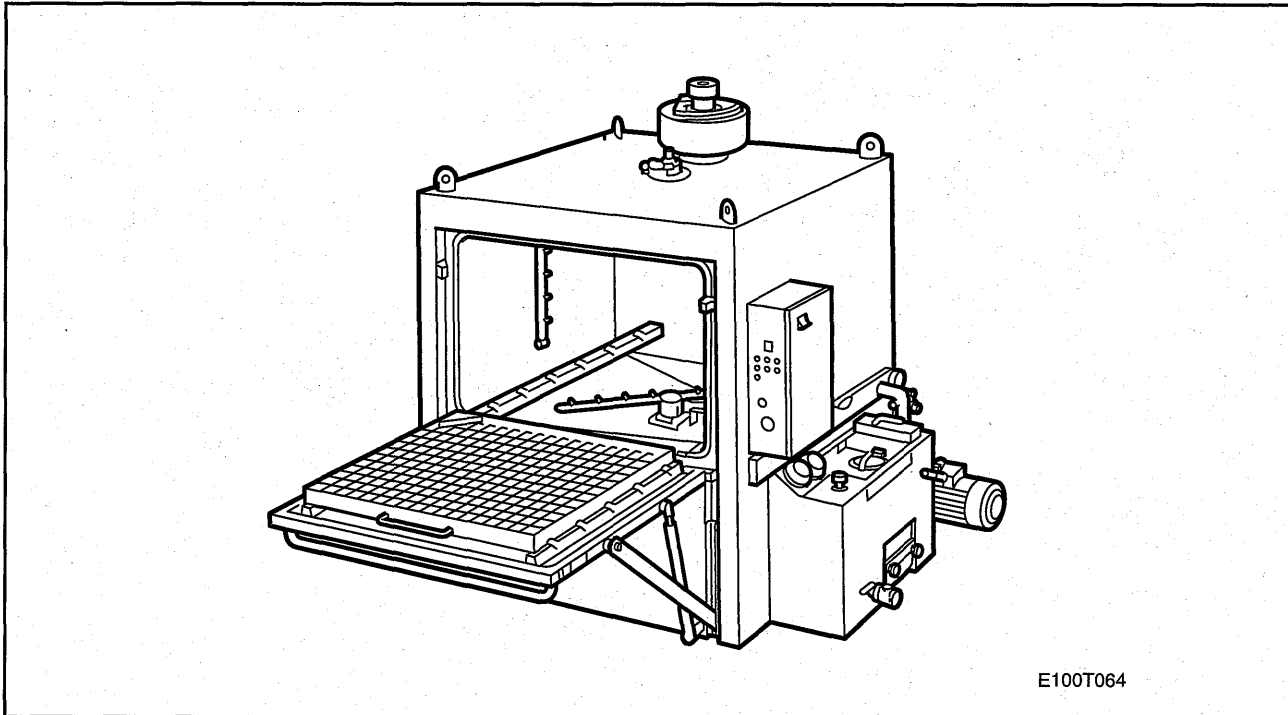
The washer should be situated close to the assembly area where major reconditioning of engines, for example, takes place.

The following equipment is compatible:

- Aqua Clean
- Teijo
- Hesö



## Workshop washers, group 3



Power washer for larger items, for example gearboxes and engine blocks.

Choose a front-loaded washer with extendable basket that can handle good up to 200 kg. The basket should be approx. 800x800x700 mm (WxDxH).

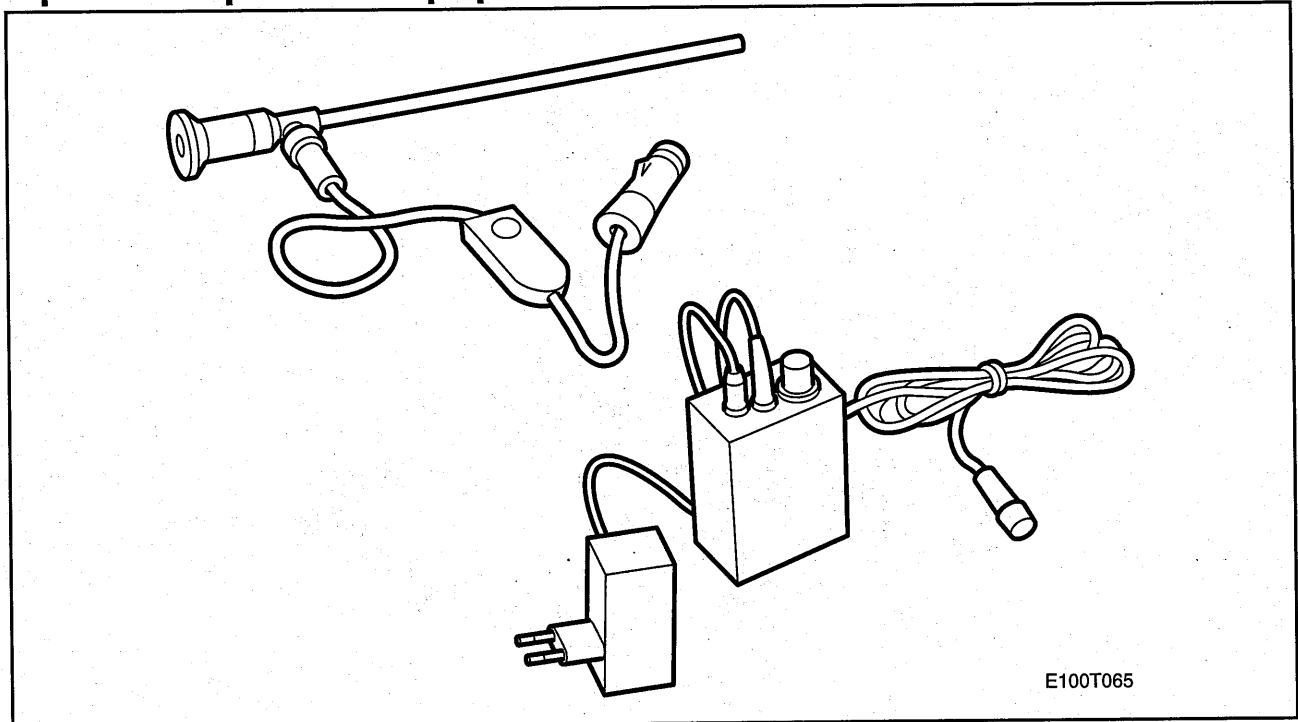
Washer pressure should be approx. 4 bar and heater output approx. 10 kW, which will provide 70-90 °C washing temperature. A machine with acoustic insulation is preferable.

The washer should be situated close to the assemblage area where major reconditioning of engines, for example, takes place.

The following equipment is compatible:

- Aqua Clean
- Teijo 1200

## Optical inspection equipment



Optical inspection equipment such as an endoscope adapted for the vehicle industry allows fast and reliable control in confined areas. Cylinder walls and valve seat, for example, as well as body corrosion can be checked without costly dismantling.

There are two types of system, warm light and cold light. On a warm light system, the lamp is at the front of the endoscope, while on a cold light system there is a separate lamp, i.e. fibre lighting, at the front of the endoscope. An endoscope with fibre lighting is preferable, especially if inspecting places where there are fluids or if strong lighting is especially required.

It is possible to connect a standard or digital camera to most of these so that inspections can be documented.

### Technical data

Lighting source	Yes
Max. weight	1 kg
Electrical connection	12 V DC or mains connection

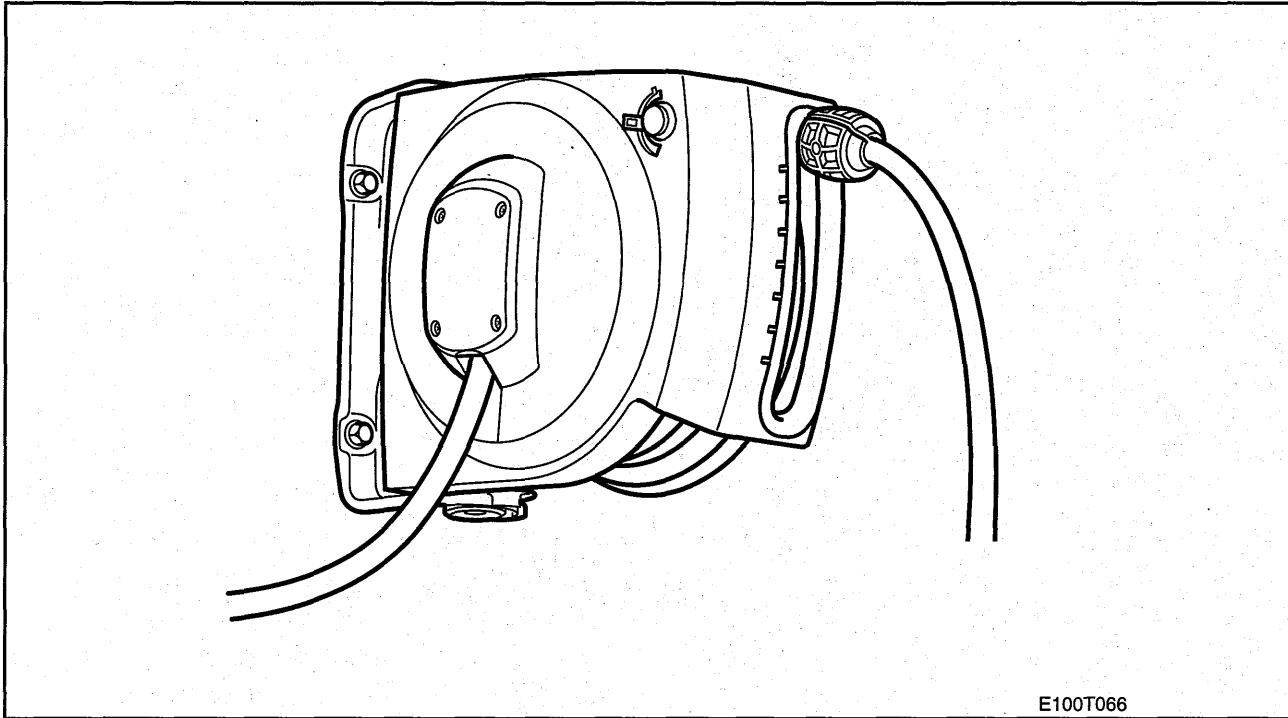
### Dimensions

Inspection arm min.	300 mm
Probe diameter, max.	10 mm
Eye-piece diameter	approx. 30 mm

The following equipment is compatible:

- OLYMPUS Automotive Kit
- Karl Deutsch Techno-Endoskope
- Karl Deutsch Monoskope

## Electric lead reel, 1-phase



Electric lead reel that takes care of the lead when not in use. Mounts above the work station, which remove leads from the floor. Automatic reeling from all positions.

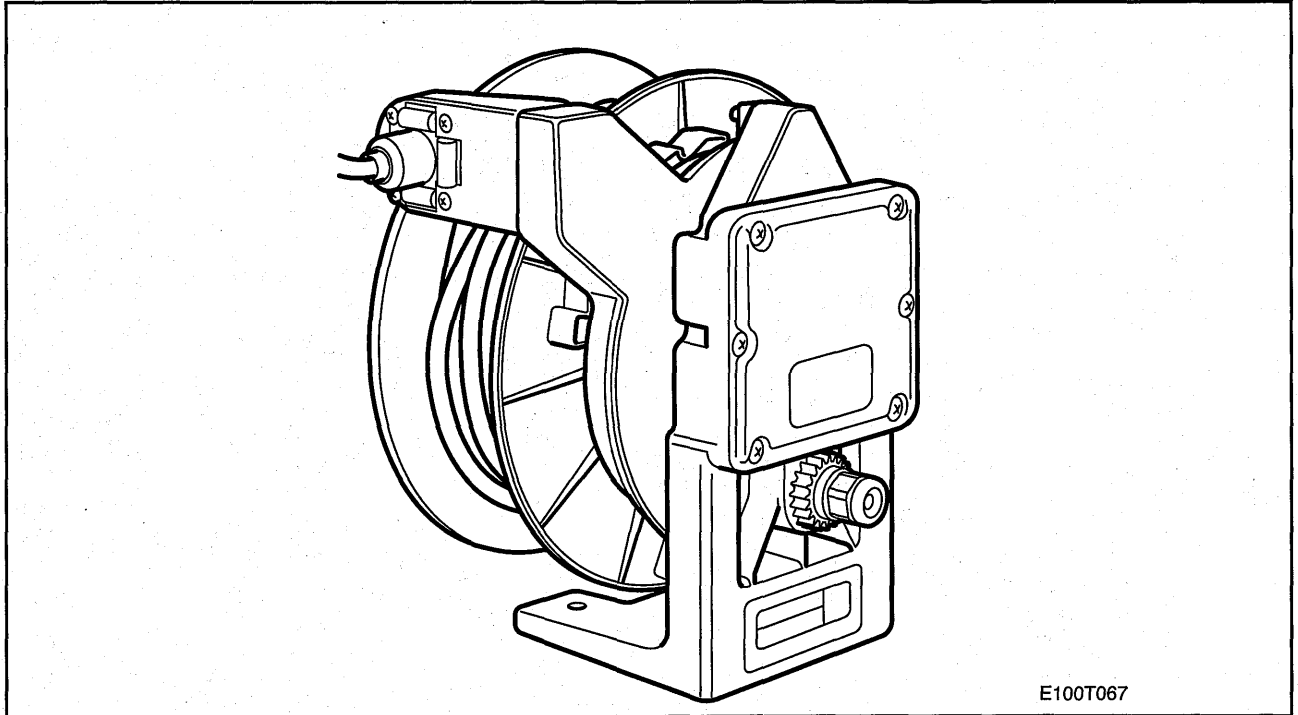
The following equipment is compatible:

- Nederman
- Alentec Orion

### Technical data

Min. lead length	12 m
Electrical connection	250 V, 1-phase, 10 A
Weight	6 kg

## Electric lead reel, 3-phase



Electric lead reel that takes care of the lead when not in use. Mounts above the work station, which remove leads from the floor. Automatic reeling from all positions.

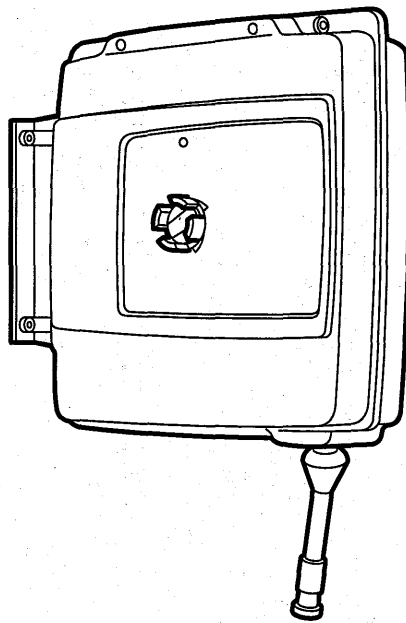
The following equipment is compatible:

- Nederman
- Alentec Orion

### Technical data

Min. lead length	15 m
Electrical connection	max. 500 V, 3-phase, 16 A
Weight	24 kg

## Hose reel for high pressure water



E100T068

For easy storage of hose and pistol pipe when not in use. The hose is reeled onto a spring-loaded drum with catch mechanism for optional position. Hose outlet with 6 guide rollers for low wear. Adjustable spring force.

For ceiling, wall or floor mounting.

The hose reel is supplied with 0.5 m connecting hose. Swivel wall bracket available as accessory.

Stainless model is recommended for washing bays. Contact your supplier for further information.

### Technical data

Working pressure	180 bar
Hose inside diameter	3/8 inch
Hose length	13-25 m

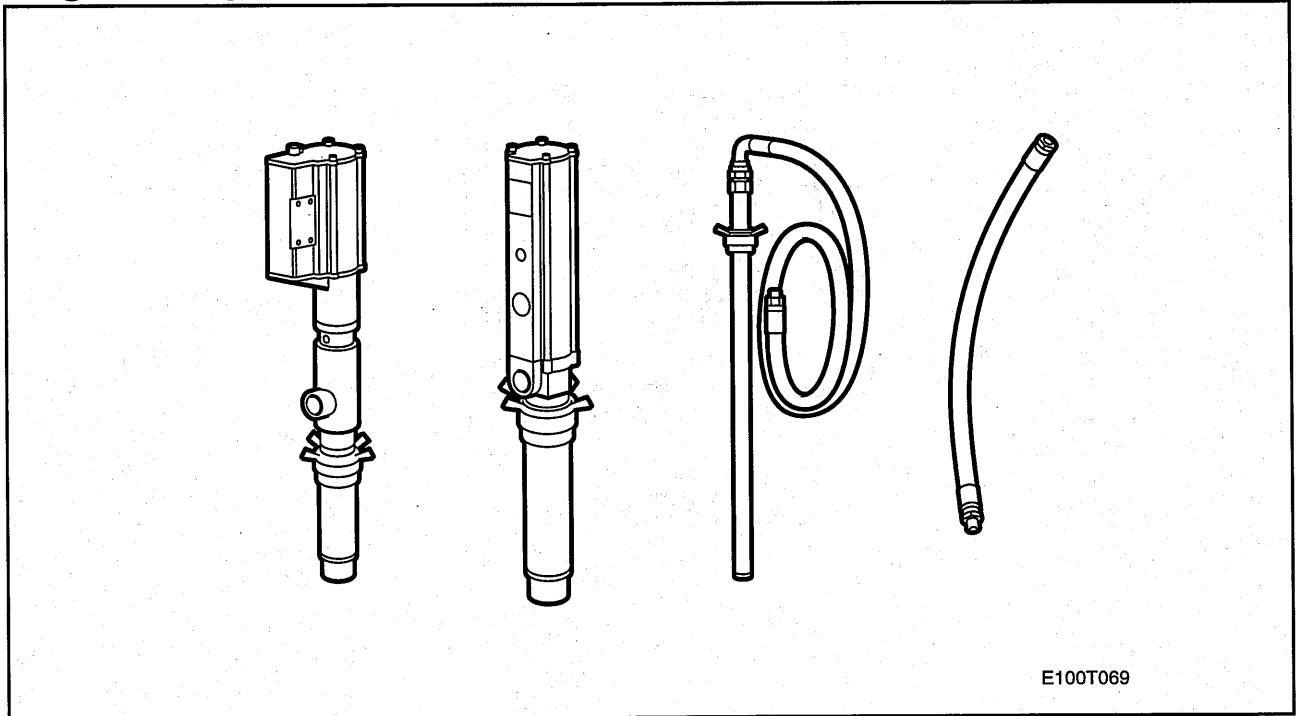
### Dimensions

Length	470 mm
Width	215 mm
Height	490 mm
Weight	20 kg

The following equipment is compatible:

- Nederman
- Alentec Orion

## Degreaser pump



Twin-action, pneumatic reciprocating pump for connecting to tank with connecting hose or to whole barrel with suction hose. Tank fitting G2.

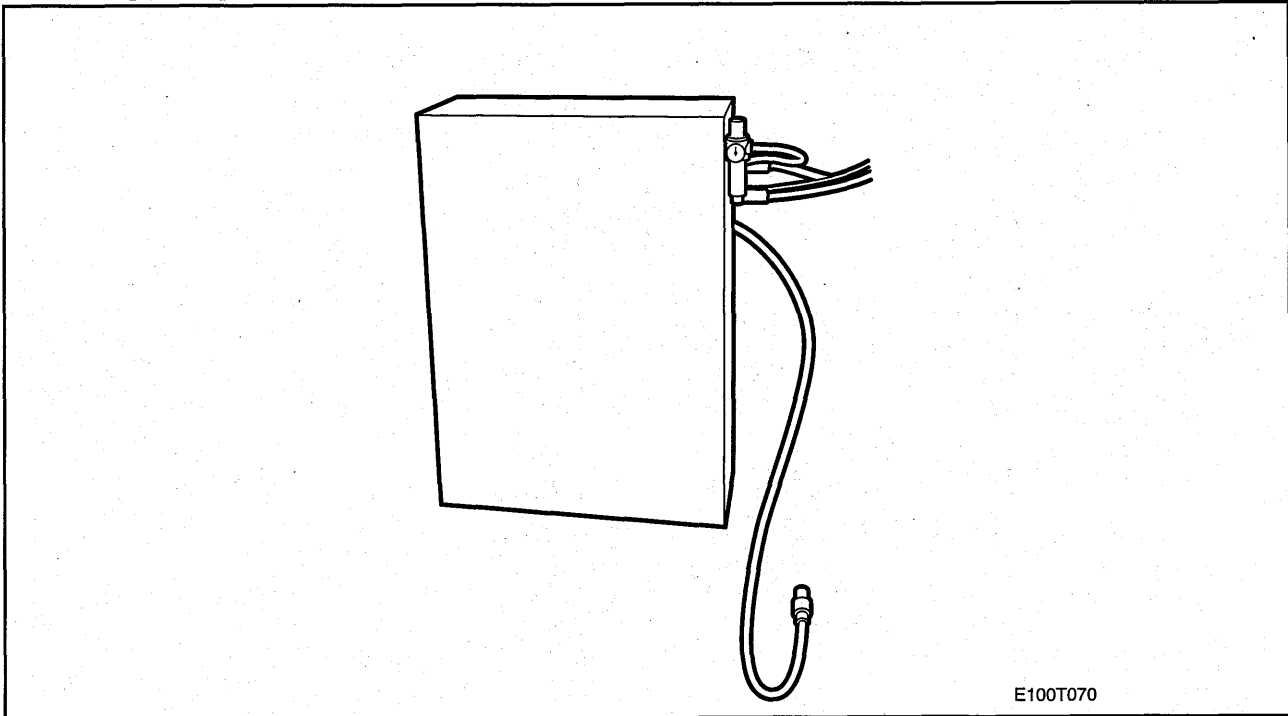
The pump is available in various models: Stainless with pressure ratio 4:1 and a more basic rust-free model with pressure ratio 1:1.

The pumps are also suitable for corrosive fluids such as washer fluid.

The following equipment is compatible:

- Alentec Orion

## Mixer pump



E100T070

It is environmentally and economically preferable to use bulk packaged concentrate instead of ready-mixed fluid.

The OriMix 690 mixer pump will mix washer fluid and anti-freeze, for instance, automatically to the desired proportions. Mixing takes place in a stainless ejector valve, where the proportions are set with a nozzle. All control and regulation functions are controlled by compressed air so that even flammable fluids can be handled safely. The equipment has safety functions that prevent concentrate or mixed fluid being drawn back in to the water mains and a level sensor. The suction line is equipped with strainer and non-return valve.

### Dimensions

Depth	250 mm
Width	690 mm
Height	900 mm

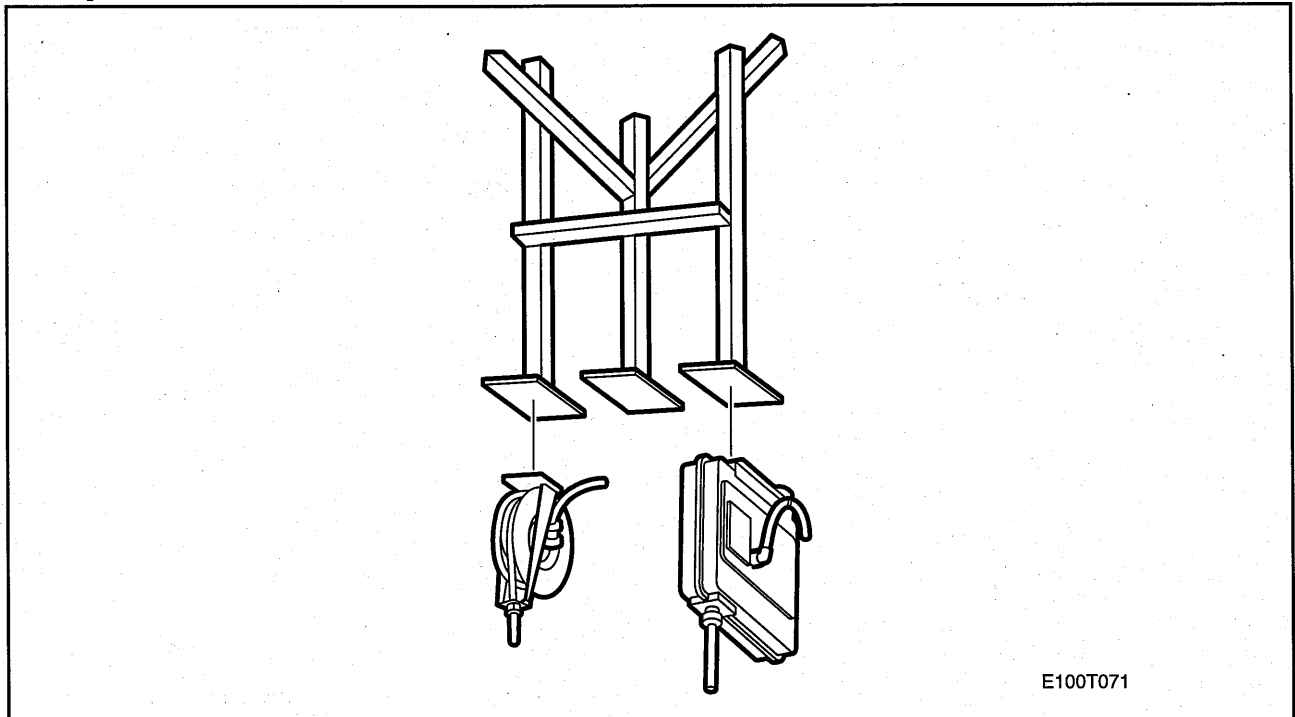
The following equipment is compatible:

- Alentec Orion

### Technical data

Water in	2–5 bar
Compressed air in	5–10 bar
Mixed solution	2–10 bar, adjustable
Proportions for fluids with density similar to water, e.g. washer fluid	0–60 %
Proportions for anti-freeze	0–50 %
Suction line, length	1.6 m

## Suspension bracket for the hose reel



E100T071

Examples of suspension brackets placed so that the reels attain correct height.

The bracket can be manufactured from square steel pipe with mounting plate for the reels. Weld or bolt the device to the ceiling depending on the nature of the building. Be exact with the design to ensure a good level of safety.

Ready-made mounting plates are also available for mounting several reels adjacent to each other. Contact your supplier for more information.

The following equipment is compatible:

- Alentec Orion
- Nederman



## General information on oil filter presses

A correctly designed oil filter press can effectively separate the filter from its metal canister and press out the remaining oil into a separate container. The metal parts of the filter can be compressed to take up a minimum of space.

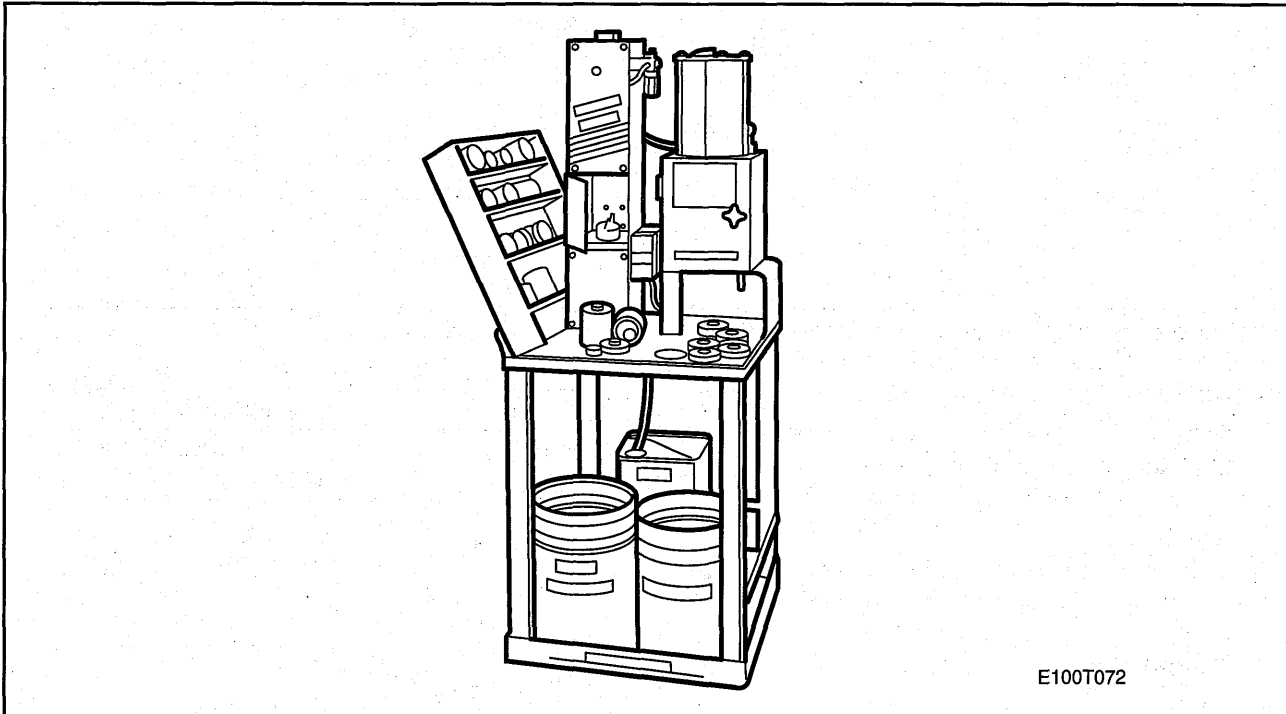
The various rest products can then be left to recycling plants for further processing, which is an important part of their handling, not least for the environment.

There are a number of models and makes on the market that are suitable for oil filter handling. Two examples of suitable equipment for pressing oil filters are shown here.

### Important

Compressing filters is forbidden on some markets.

## Oil filter press Herkules-Lift Oilfilter Cutter



E100T072

Stationary oil filter press with capability of separating oil from the filter element and metal canister. The equipment is complete with filter cutter, press and drainage. Protective covers are to be found for each process.

Cutter and press are driven with compressed air that can be taken from the normal workshop system.

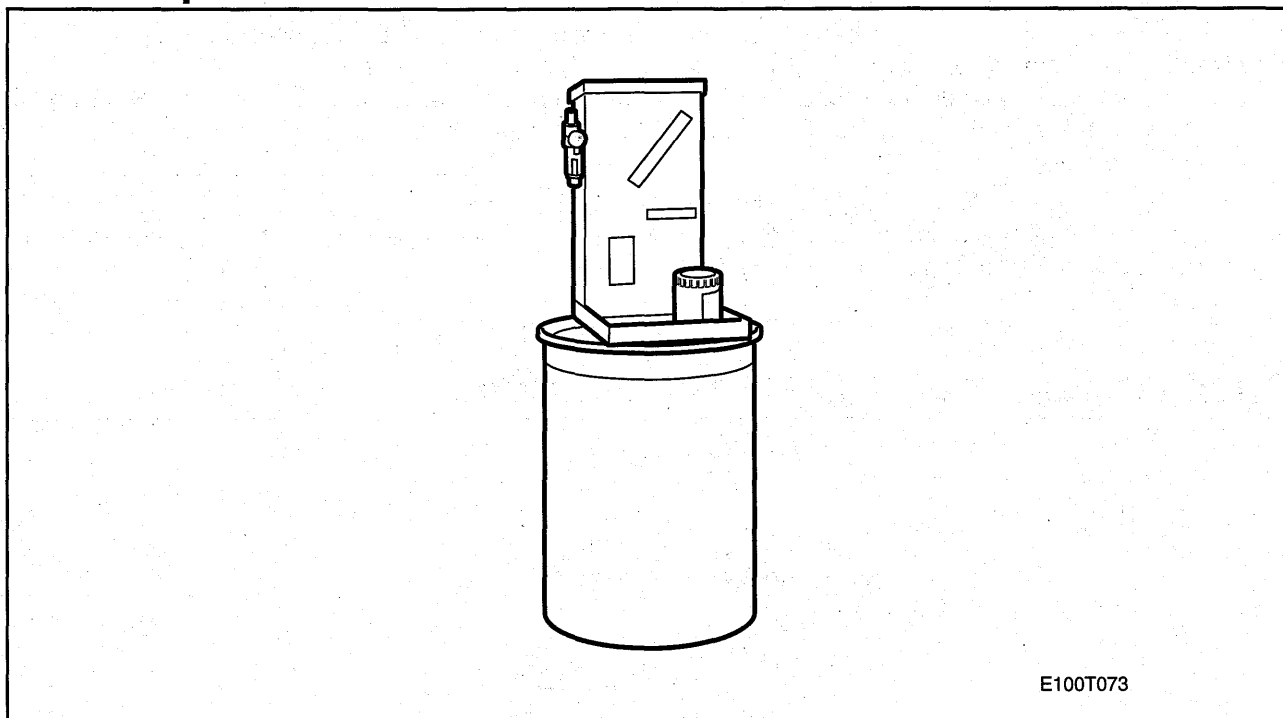
### Dimensions

Width	710 mm
Depth	710 mm
Height	1800 mm
Weight	110 kg

### Technical data

Filter diameter, max.	110 mm
Filter height, max.	200 mm
Max. air connection	8 bar
Electrical connection	400 V 3-phase, 50 Hz, 220 W

## Oil filter press BV-E-722



An oil filter press that is easy to locate, being mounted directly on the waste oil barrel. This equipment is suitable if not all parts must be separated.

The filter is compressed in one step during which almost all the oil is extracted. Safe handling due to cover that must be closed to carry out the compressing.

The press is driven with compressed air that can be taken from the ordinary workshop system.

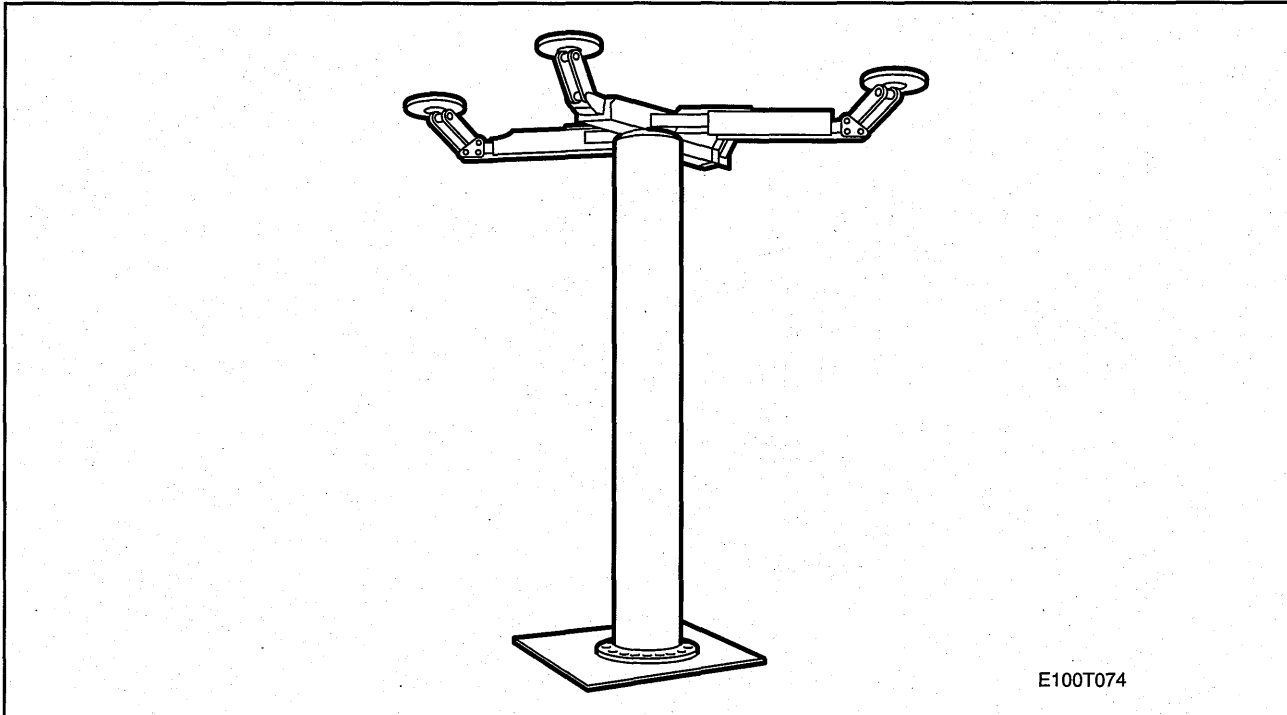
### Dimensions

Width and depth	approx. 600 mm
Height	approx. 500 mm excl. oil barrel

### Technical data

Filter diameter, max.	110 mm
Filter height, max.	180 mm

## Car lift, single pillar



Car lift with one floor-mounted piston pillar.

Car lifts of this type can be used for most jobs underneath and around the car in a workshop.

The lift is powered by an electrical hydraulic system that give good operational safety.

Note that a certain installation depth is required in order to install this type of lift.

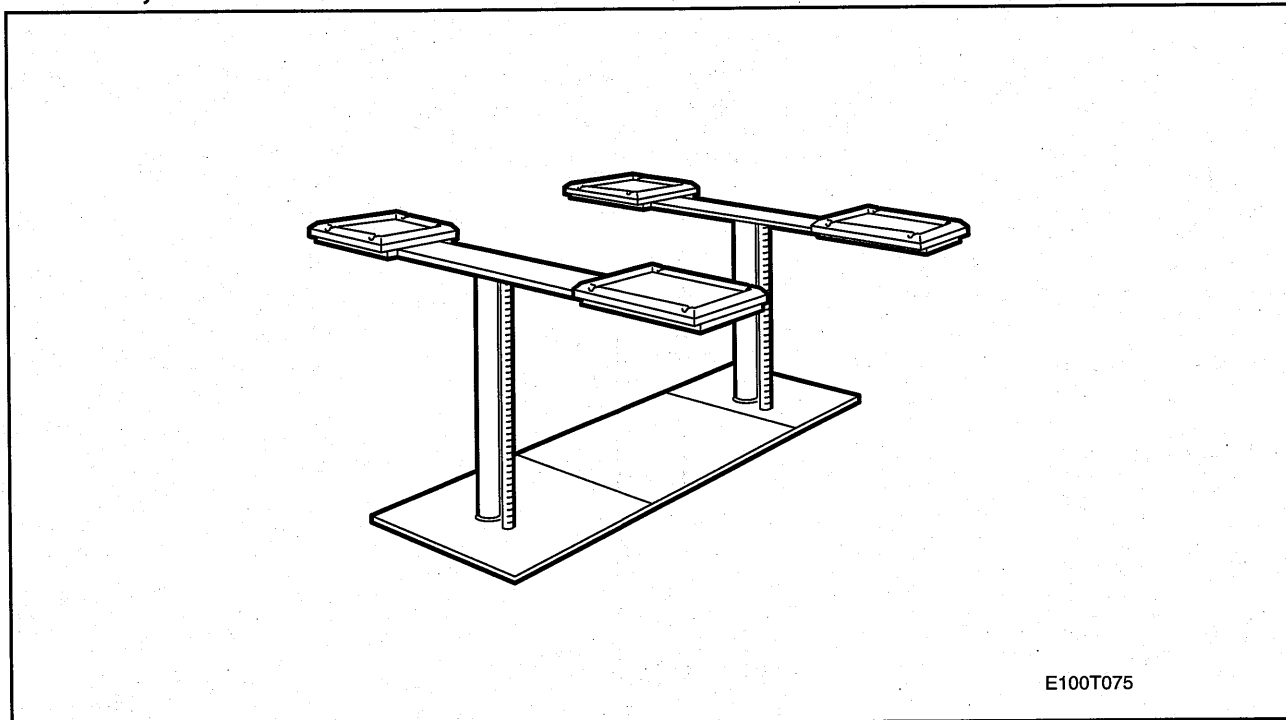
The following equipment is compatible:

- Stenhøj

### Technical data

Lift capacity	3000 kg
Height of lift	approx. 1750 mm
Lift time	35 seconds
Motor rating	2.2 kW
Foundation depth	approx. 2100 mm
Oil volume	10–40 litres

## Car lift, chassis



E100T075

Chassis lift with two floor-mounted piston pillars.

Car lifts of this type can be used for all work underneath and around the car in a workshop.

Load carrying is supplied by fixed or adjustable console.

The lift is powered by an electrical hydraulic system that give good operational safety.

The load carriers at the diagnosis hall should be recessed approx. 50 mm into the floor so that the customer can easily drive the car on and off.

Note that a certain installation depth is required in order to install this type of lift.

A rubber lifting block can be purchased for the lifts to protect the underbody of the car. Saab part no: 30 19 130.

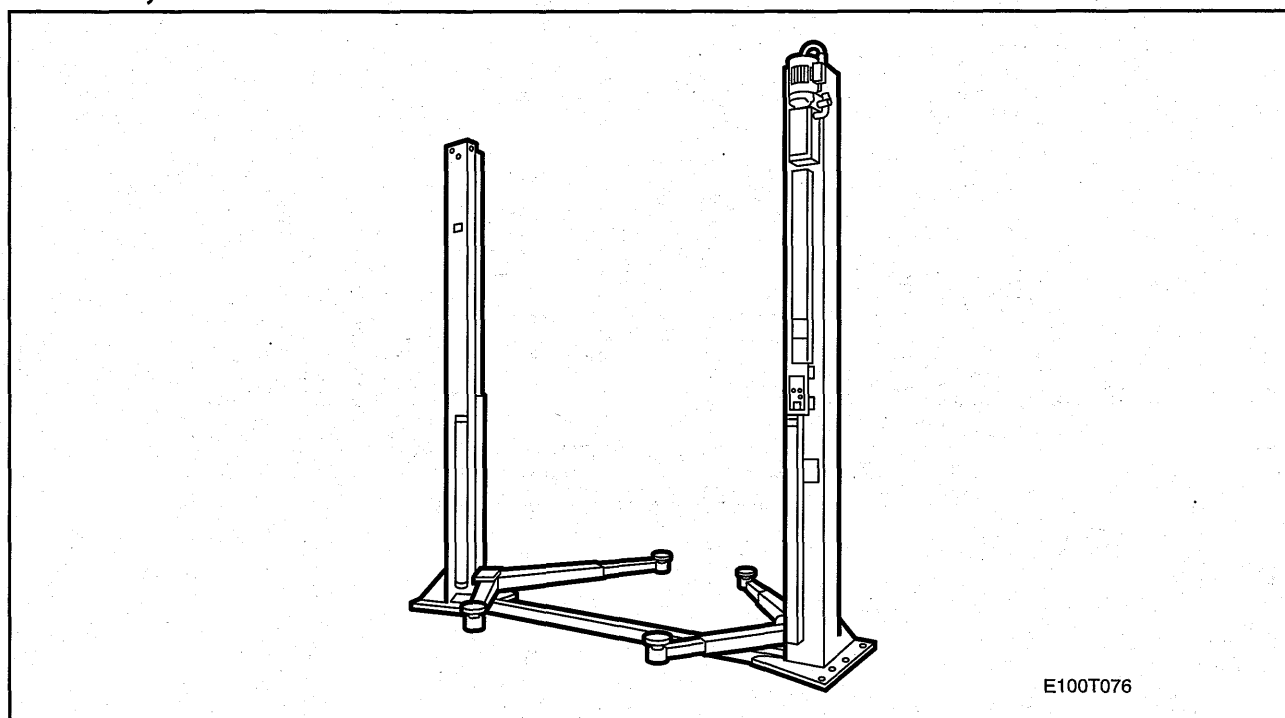
The following equipment is compatible:

- Stertil-Koni ST 0035F
- Becker Twin Ram
- Nussbaum

### Technical data

Lift capacity	3000-3500 kg
Height of lift	approx. 1960 mm
Lift time	25-40 seconds
Motor rating	2.2 kW
Foundation depth	approx. 2000 mm
Oil volume	10-40 litres

## Car lift, two-column



E100T076

Two column lift suitable for service and repair of all types of passenger car.

The lift has a stable construction with large lifting height and is electromechanically or electrohydraulically driven with good reliability.

It takes little space and is therefore easily placed. It is also available with carriageways similar to those on a four-column lift. This type of lift is easy to install and has asymmetrically located lifting arms so that the car doors can be opened fully.

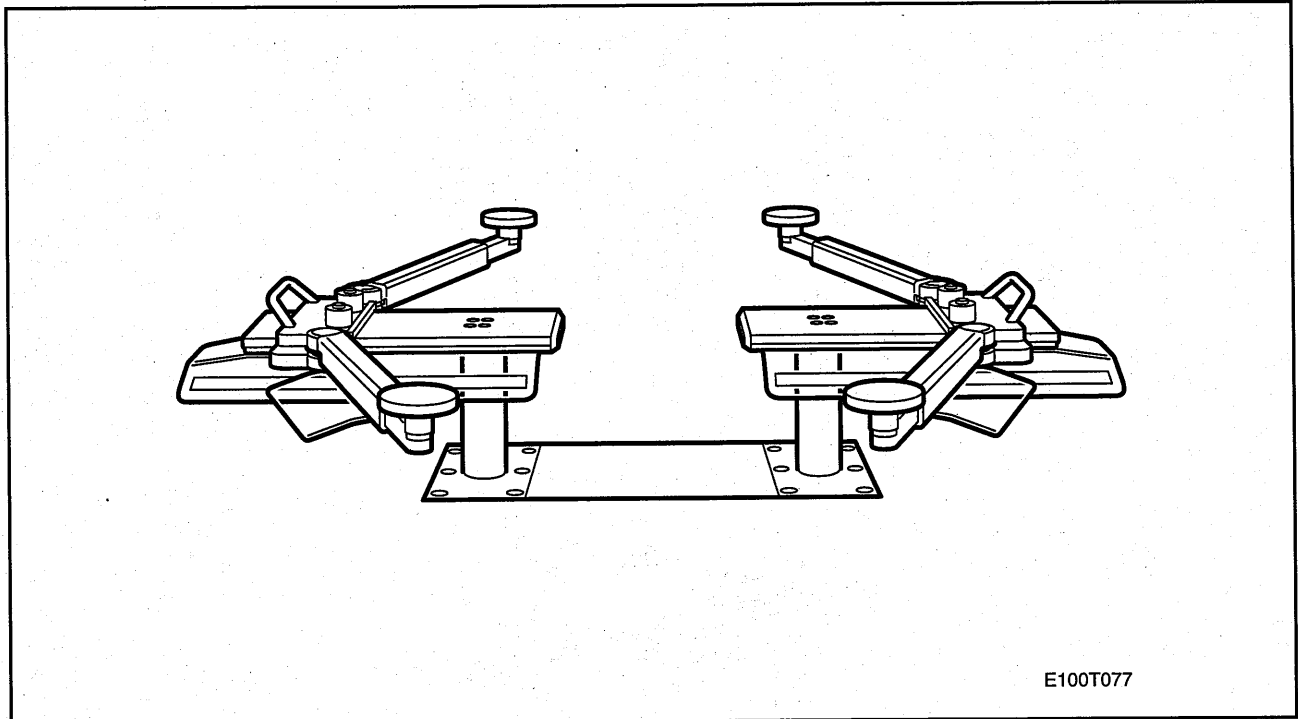
The following equipment is compatible:

- Steril-Koni KS 2028
- Stenhøj Maestro 2.32
- Nussbaum 2.30 SL

### Technical data

Lift capacity	2800–3200 kg
Height of lift	approx. 2000 mm
Lift time	22–50 seconds
Motor rating	3.6–2x2 kW
Installation height	3765–3965 mm
Construction width	3000–3320 mm

## Car lift, two-column, recessed



Two column lift suitable for service and repair of all types of passenger car.

A lift of stable construction with large lifting height and driven by an electrohydraulic system with good reliability.

It takes little space and is therefore easily placed while allowing the car doors to be opened fully. The lift is available with varying lifting capacities and in a version with extra distance between the columns, which is an advantage if an alignment bench is to be fitted to the lift.

Note that a certain installation depth is required in order to install this type of lift.

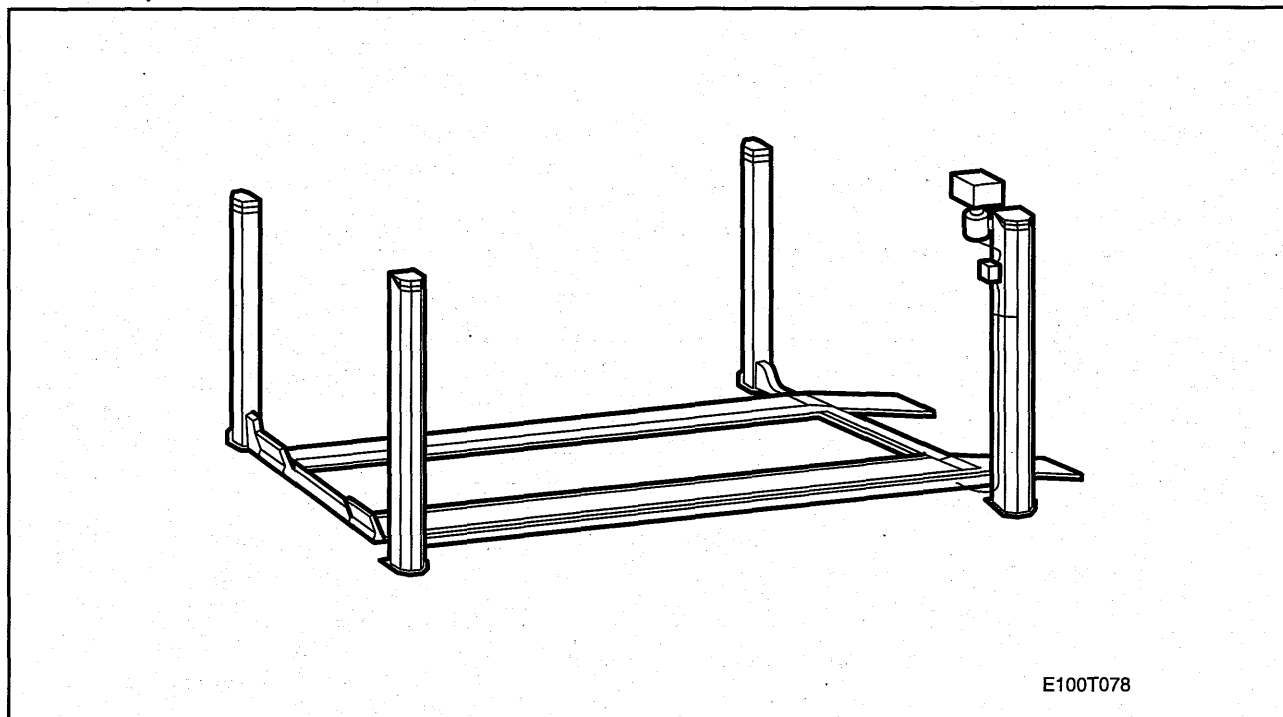
The following equipment is compatible:

- Stenhøj Servicemaster S3000/S5000

### Technical data

Lift capacity	3000/5000 kg
Height of lift	1850/1800 mm
Lift time	30/45 seconds
Motor rating	2.2/3.0 kW
Construction width	2570/2735 mm
Foundation depth	2500/2400 mm

## Car lift, four-column



E100T078

Four column lift suitable for service and repair of all types of passenger car.

The lift is powered by an electrical hydraulic system that give good operational safety.

The lift has a stable construction with large lifting height. The long ramps allow it to be combined with wheel alignment. The carriageways have recesses for torsion plates with covers. Freewheel lift recommended as an accessory.

This type of lift is easy to install.

If the lift is to be used for four-wheel alignment, make sure there is room for the sensors and that the carriageways can be adjusted vertically.

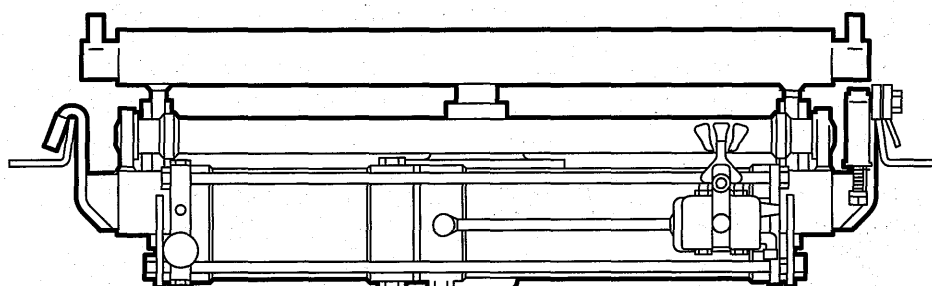
The following equipment is compatible:

- Stertil-Koni KS 4028, KO 4040
- Stenhøj Major 423, 430
- Nussbaum 430, 435

### Technical data

Lift capacity	2800–4000 kg
Height of lift	1750–1800 mm
Lift time	22 seconds
Motor rating	3.0–3.6 kW
Carriageway length	4160–5100 mm
Inside width between columns	2260–3000 mm
Construction width	2670–2750 mm
Length with short ramps	5045–6110 mm

## Free wheel lift



E100T079

A complete air-driven freewheel lift, suitable for a four-column lift or other lift with carriageway. The freewheel lift makes it possible to lift the front or rear of the car so that the wheels go free, even when the whole car is raised.

Horizontal lifting beam for well-balanced lifting and safety.

The lift has one hydraulic lifting ram and is driven with compressed air that can be taken from the ordinary workshop system.

The following equipment is compatible:

- Nenab freewheel lift FLH-7/2
- Stenhøj Scissors Jack
- AC 5020 PH

### Technical data

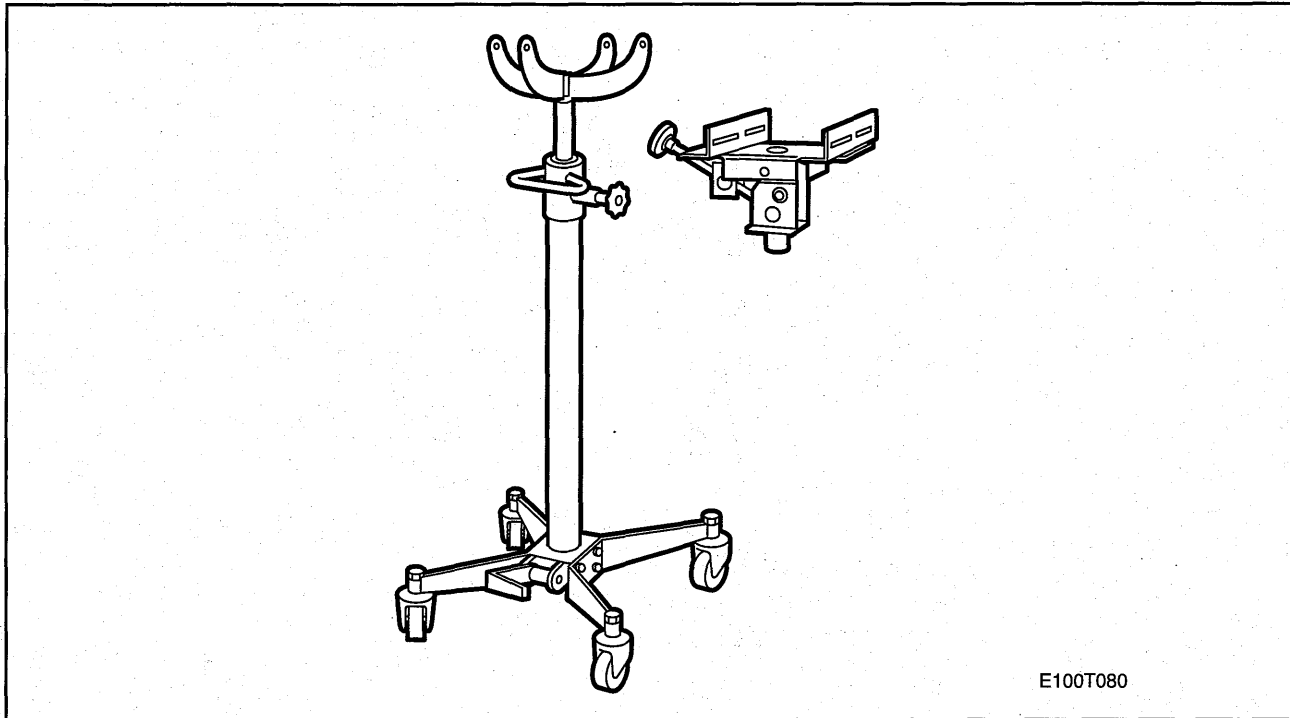
Lift capacity	2000 kg
Height of lift	200–210 mm
Air pressure	7–8 bar

### Dimensions

Width, arms	840–1340 mm
Width, lift	860–1350 mm
Height above carriageway	90–300 mm



## Single column hydraulic lift



A moveable support for working under the car. Adjustable height. Can be used for gearbox changes when the box is held in position until it is completely loose and can be lowered.

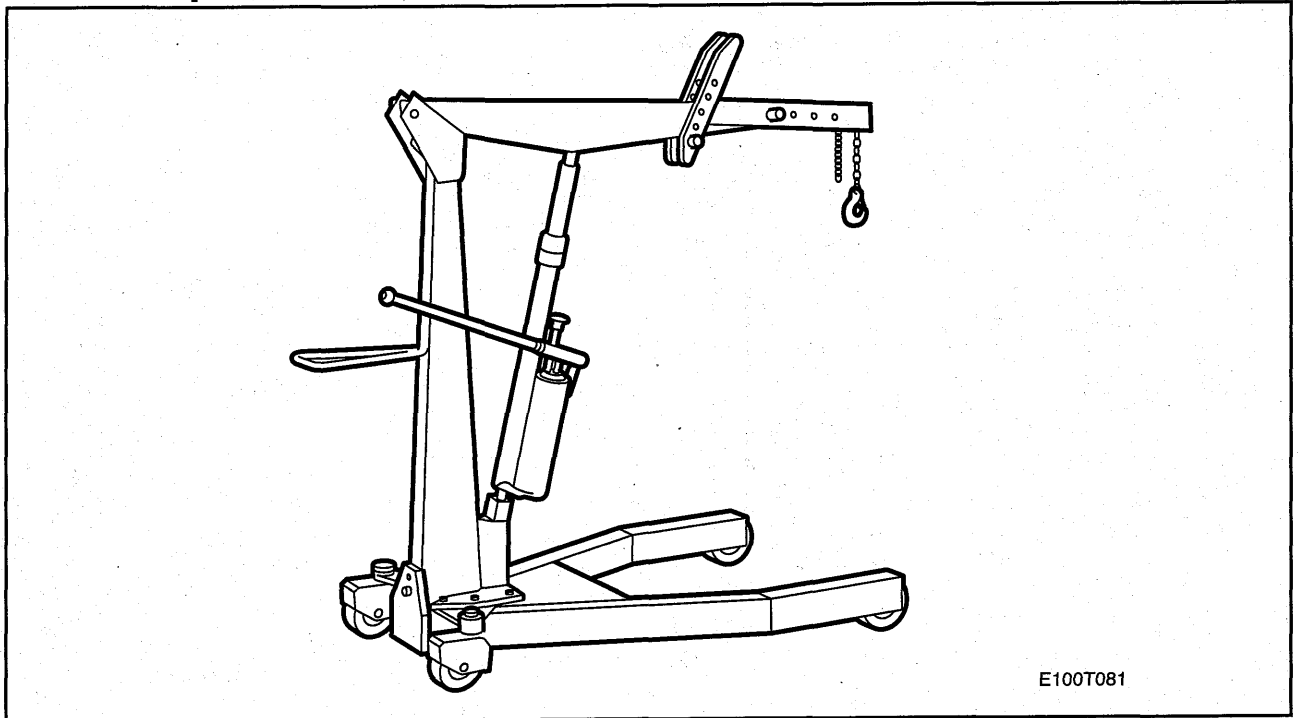
The following equipment is compatible:

- AC Hydraulics
- Barbo
- Nike

### Technical data

Min lift height	2000 mm
Lift power variant 1	300–600 kg
Lift power variant 2	1000 kg

## Workshop crane



E100T081

Workshop crane of robust construction with hydraulic pump and ram that can be swivelled to desired position. A valve allows lowering to millimetre precision. Integral relief valve secures the crane in case of overloading.

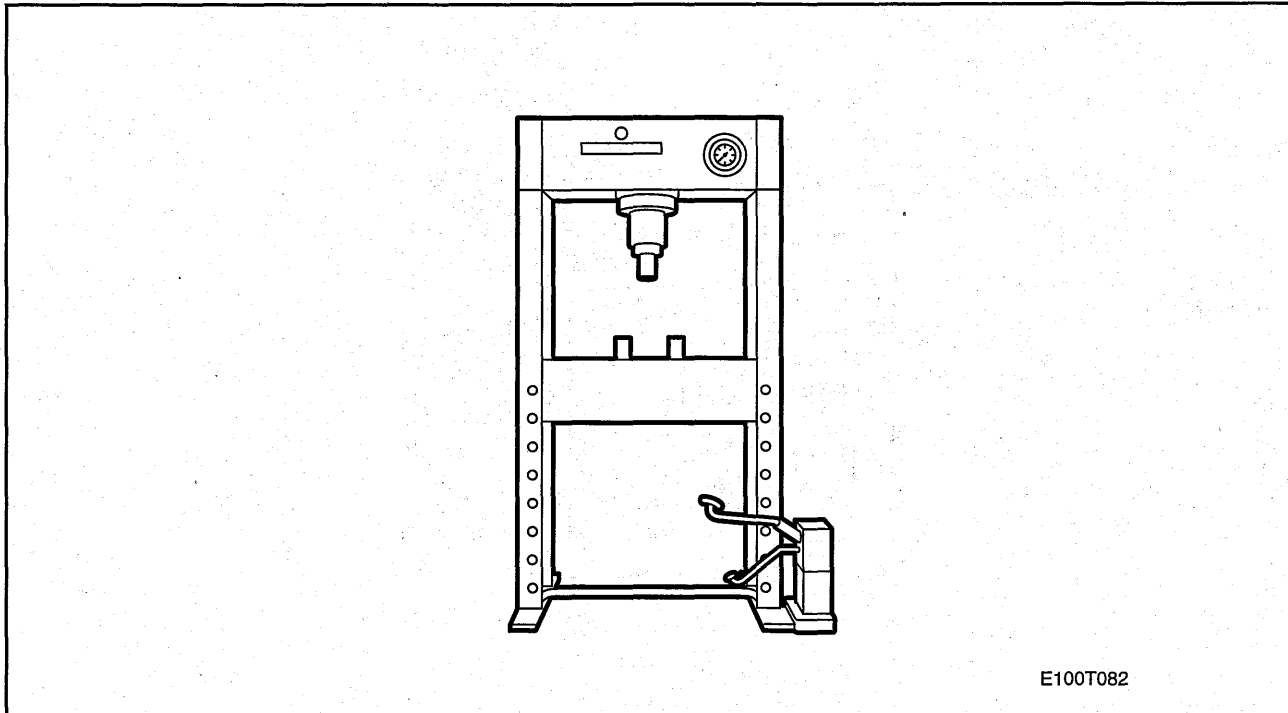
The following equipment is compatible:

- AC Hydraulics

### Technical data

Lifting capacity at max. arm length	200 kg
Min. arm length	1800 mm
Min lift height	2700 mm

## Workshop press



E100T082

Foot-operated workshop press with height-adjustable table. Two-stage pump that automatically switches from fast feed to press. Peel operated return valve.

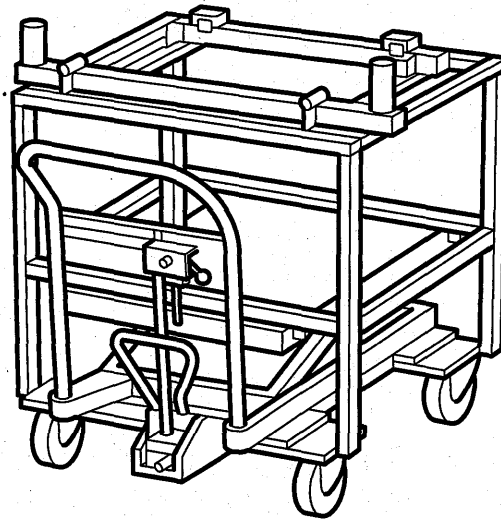
The following equipment is compatible:

- AC Hydraulics
- Stenhøj

### Technical data

Pressing force	25 tons
Hose length	180 mm
Insert height	800 mm

## Trolley lift



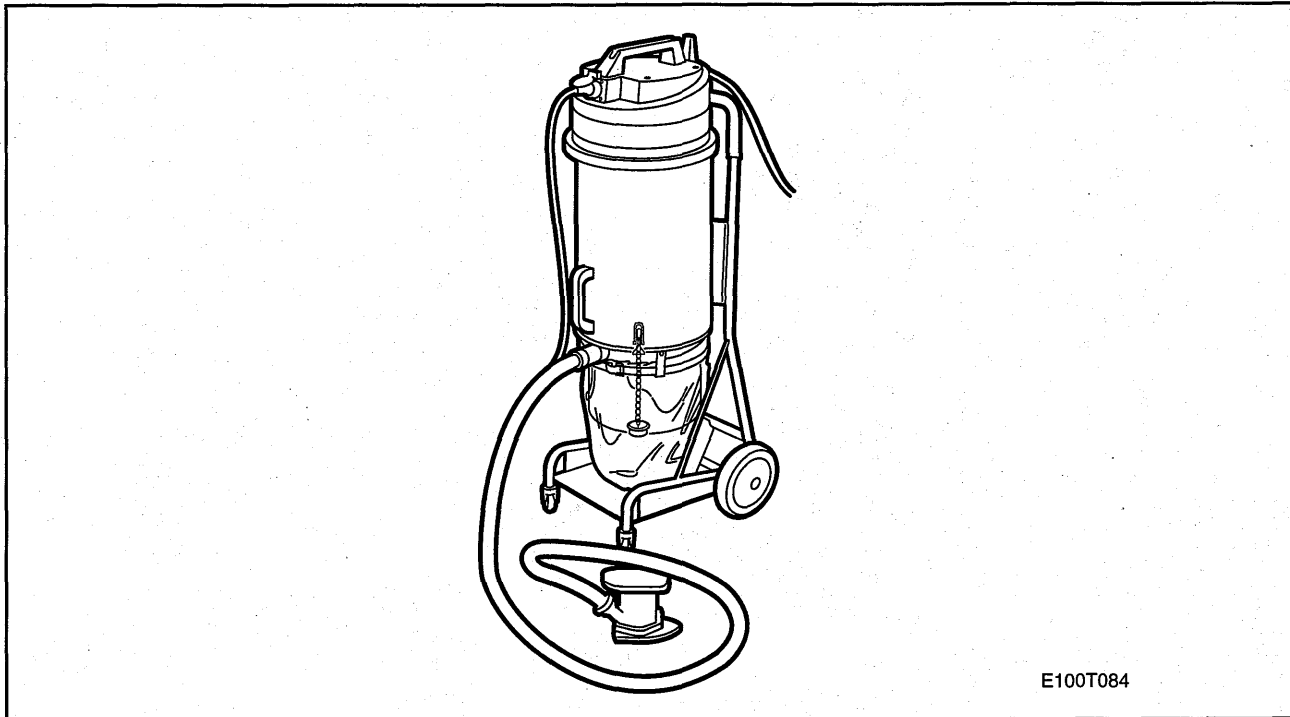
E100T083

Sturdily constructed lifting trolley that together with accessories can be used for dismantling and assembling components such as subframes, powertrains, rear axles and fuel tanks. The trolley is height-adjustable for ease of working.

Part number:

Trolley lift	83 95 311
Fixtures	83 94 801
Holder, front Holder for subframe and powertrain, Saab 900, Saab 9-3 and Saab 9000	83 94 819
Holder, rear Holder for subframe and powertrain, Saab 900, Saab 9-3 and Saab 9000	83 94 827
Basic fixture Saab 9-5	83 95 188
Holder, front Saab 9-5	83 95 196
Holder, Diesel Saab 9-3 Diesel	83 95 493
Intermediate piece Used together with 83 94 801, Saab 9-5	83 95 170

## Local extractor, mobile



E100T084

Mobile unit for extraction of grinding dust, welding smoke and for cleaning. Suitable for small workshops.

Manages large amounts of fine grinding dust without clogging. The filter (PTFE coated polyester) has a long service-life and is easy to clean by just shaking the unit.

It is equipped with automatic control of start and stop from electric machinery.

Floor cleaner included.

### Technical data

Airflow rate	approx. 160 m <sup>3</sup> /h
Noise level, 1 metre	approx. 75 dB (A)
Electrical connection	230 V, 1-phase

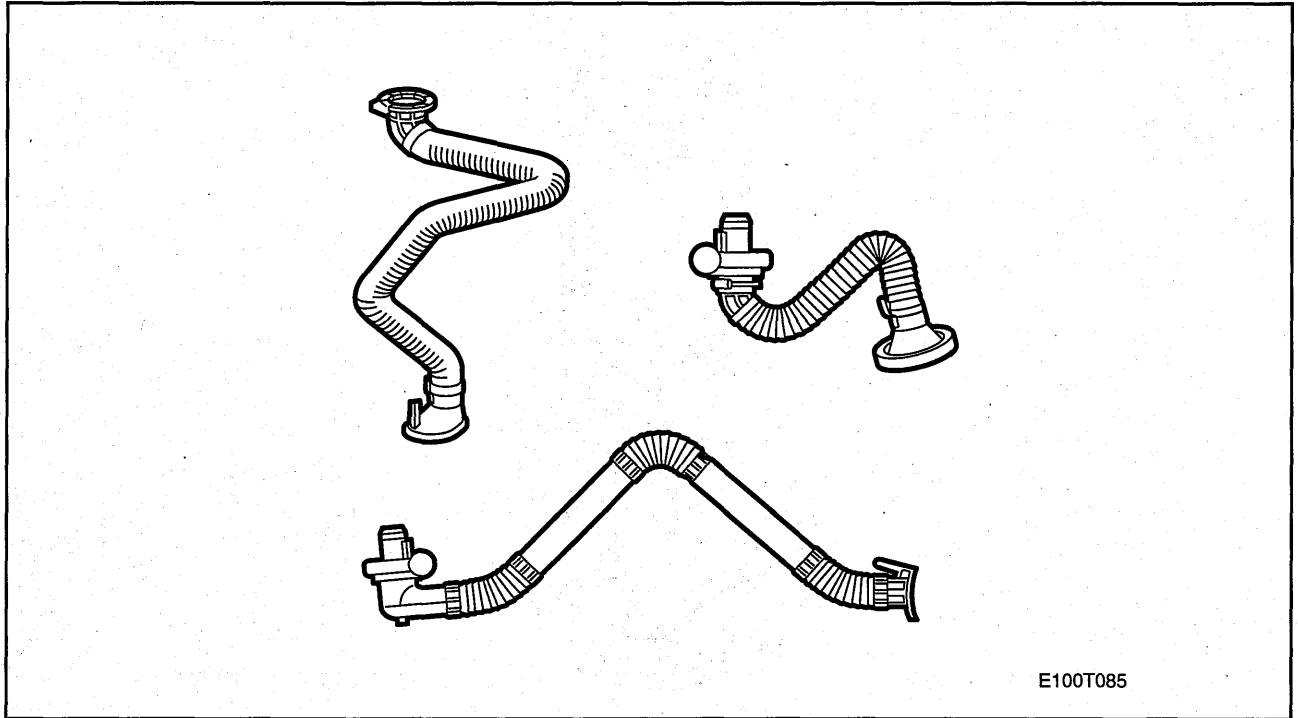
### Dimensions

Width	400 mm
Depth	480 mm
Height	1160 mm
Weight	19 kg

The following equipment is compatible:

- Nederman

## Extractor point, work place



Local extractor for work with materials emitting hazardous fumes and for welding. The local extractor takes care of pollutants directly at the source, where it is most concentrated.

The extractor is available in lengths from 2 to 5 metres and if necessary can be placed on a swivel arm to increase the reach even further. The extractor should also be adjustable in all directions and fitted with lighting.

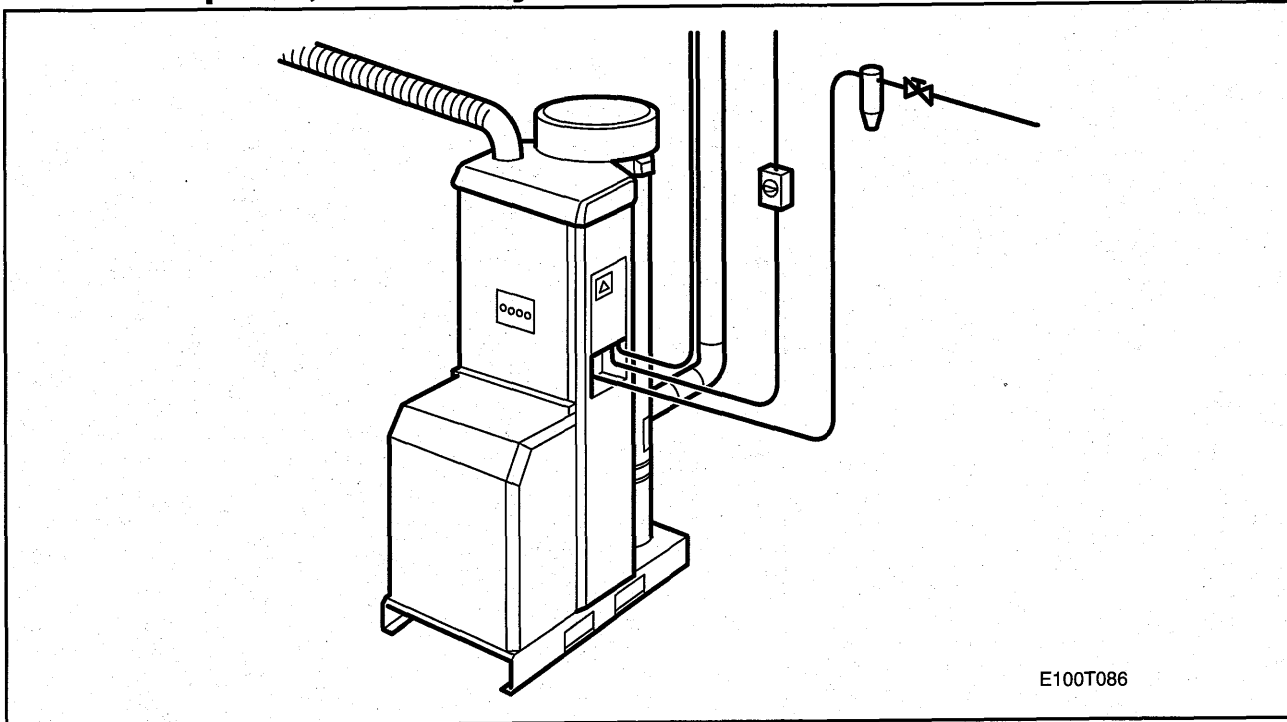
The extractor should be placed so that it reaches the whole car.

Connects to a separate fan for best capacity. A central fan may be used to connect several local extractors.

The following equipment is compatible:

- Nederman
- Alentec Orion

## Extractor point, stationary



Stationary local extractor for removing grinding dust, welding smoke and also for cleaning purposes. The size determines the number of work stations that can be used simultaneously and the length of the hoses from the suction hood for optimum effect.

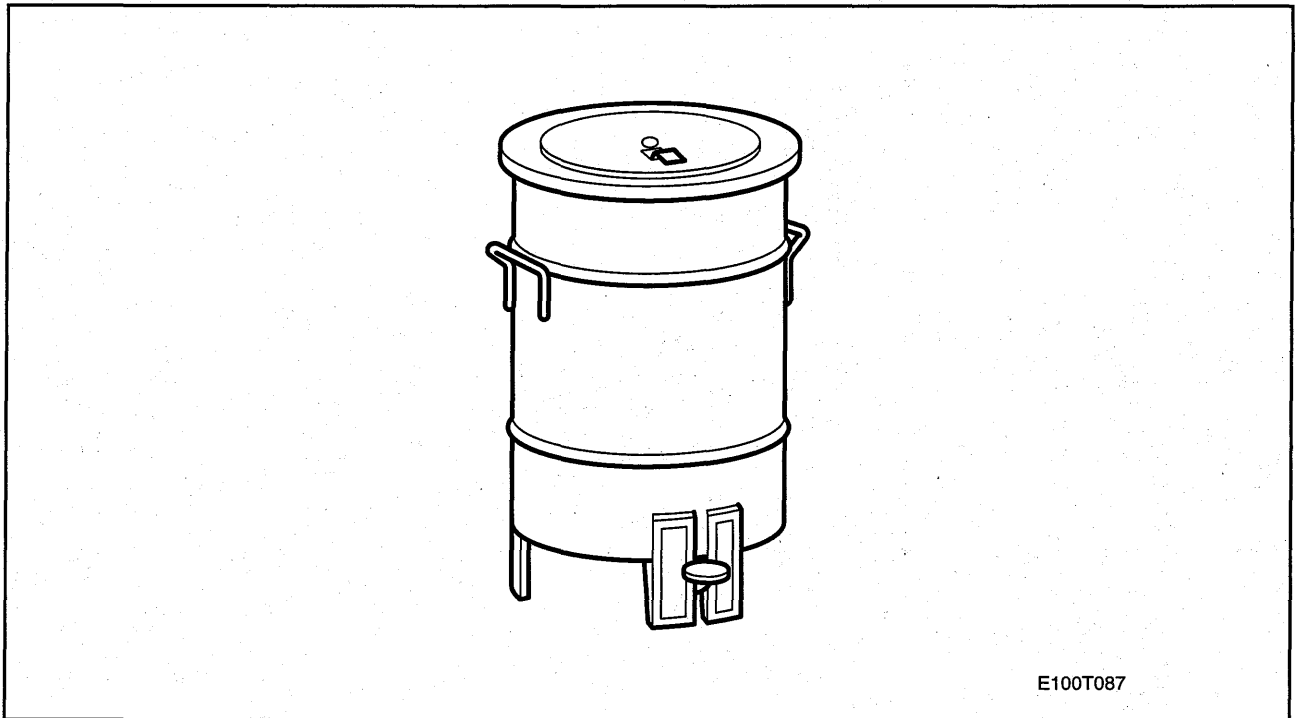
A complete system consists of vacuum unit, dust collector, start and control system plus hose couplings for machines at the work stations. The vacuum valves can be manual or automatic. An automatic valve opens when the hand-held tool starts and closes when the tool stops. All valves can be equipped with automatic mechanisms to start and stop the vacuum unit.

Suitable for workshops with eight extraction points used simultaneously.

The following equipment is compatible:

- Nederman

## Waste container



Receptacle of galvanized sheet steel with pedal to open lid.

This type of container should be used to maintain a good fire prevention level.

The following equipment is compatible:

- Local suppliers

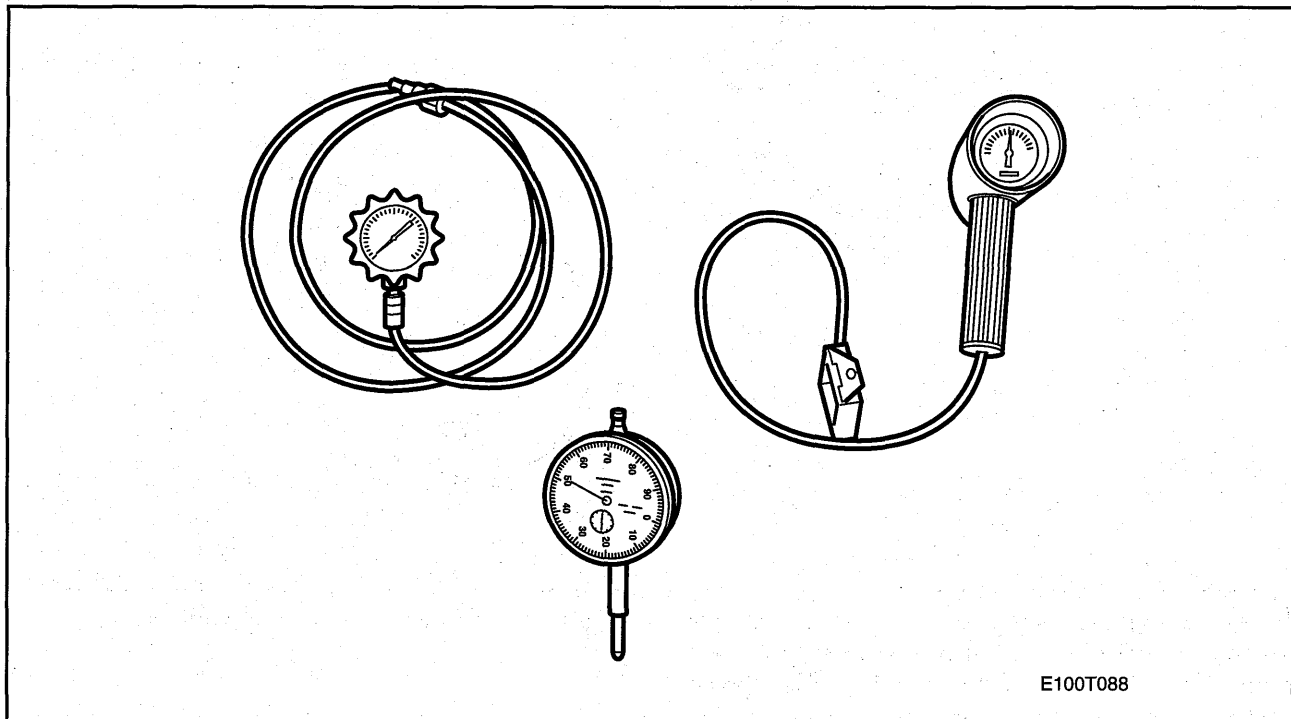
### Dimensions

Height	615 mm
Diameter	370 mm
Space	70 litre
Weight	12 kg



# Calibration methods

## General calibration



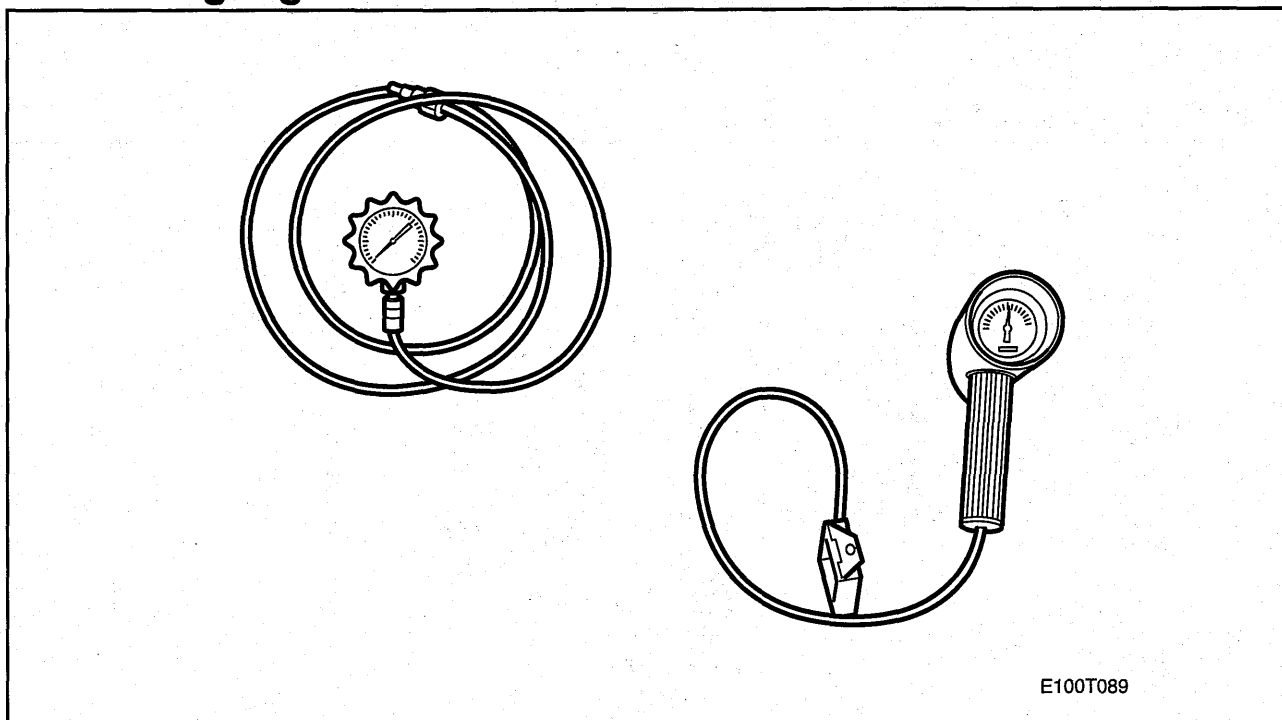
E100T088

Many machines in workshop have integral measuring systems that are required for the machines to operate. Several different measuring instruments are also used for car repairs. Therefore, it is essential that machines and measuring instruments are calibrated in accordance with established schedules so that the work is conducted correctly and safely.

Make sure the manufacturer's calibration directions are followed and observe local legislation. Calibration must be conducted at a certified supplier or calibration institute.

Generally speaking, if equipment does not meet with demands on precision, it must be repaired or new equipment must be purchased. Bad equipment and tools gives bad results.

## Pressure gauges



E100T089

Pressure gauges are manufactured to various standards and must be calibrated to comply with them. A certificate can be obtained from the supplier that states to which standard the respective pressure gauge was manufactured.

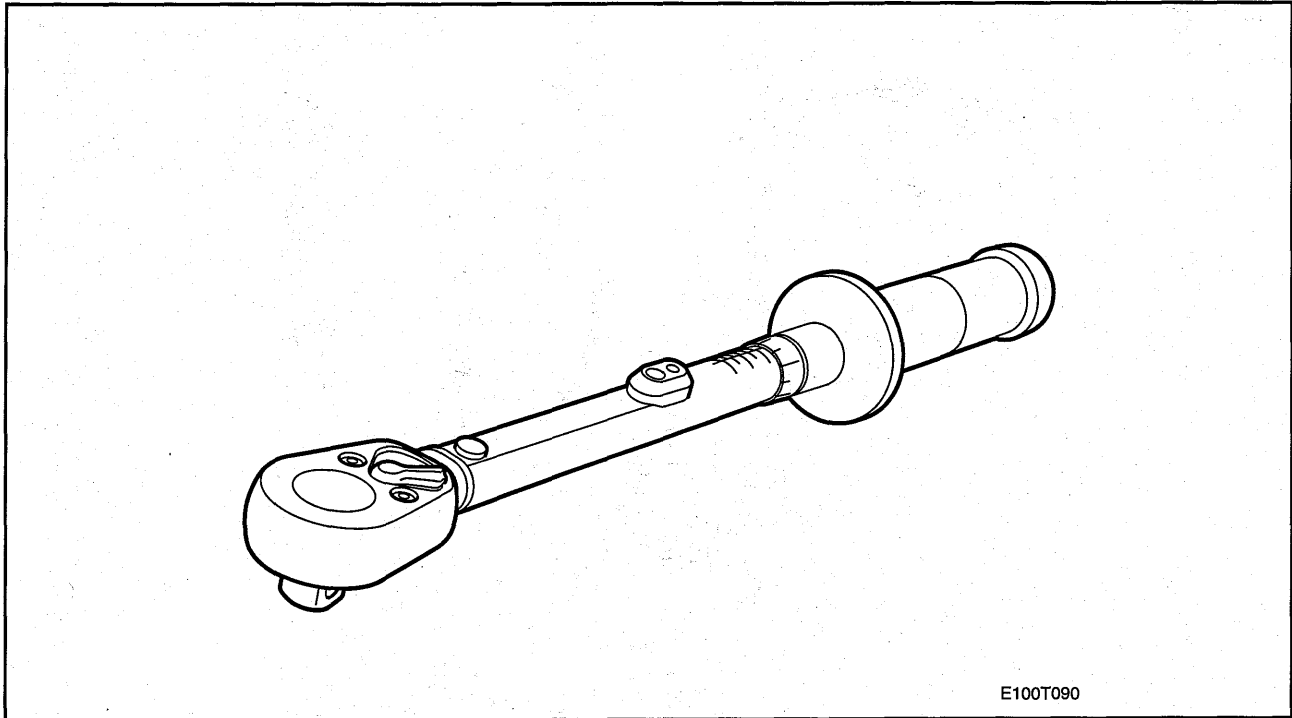
Calibration must be carried out at a certified supplier or calibration institute.

The following pressure gauges comply with Swedish Standard SMS 554-1557.

**Calibration interval:** Once every other year.

Pressure gauge	Part no.	Precision class
Fuel pressure gauge	83 93 852 83 92 516	CL 1.6 of scale reading
Oil pressure gauge	87 91 600	CL 0.6 of scale reading
Charging level gauge	83 93 514	CL 0.6 of scale reading

## Torque wrenches



The following torque wrenches have a tolerance of 2 % across the entire measuring range. Adjustment is possible with a torque gauge. Many manufacturers can supply equipment for checking torque wrenches.

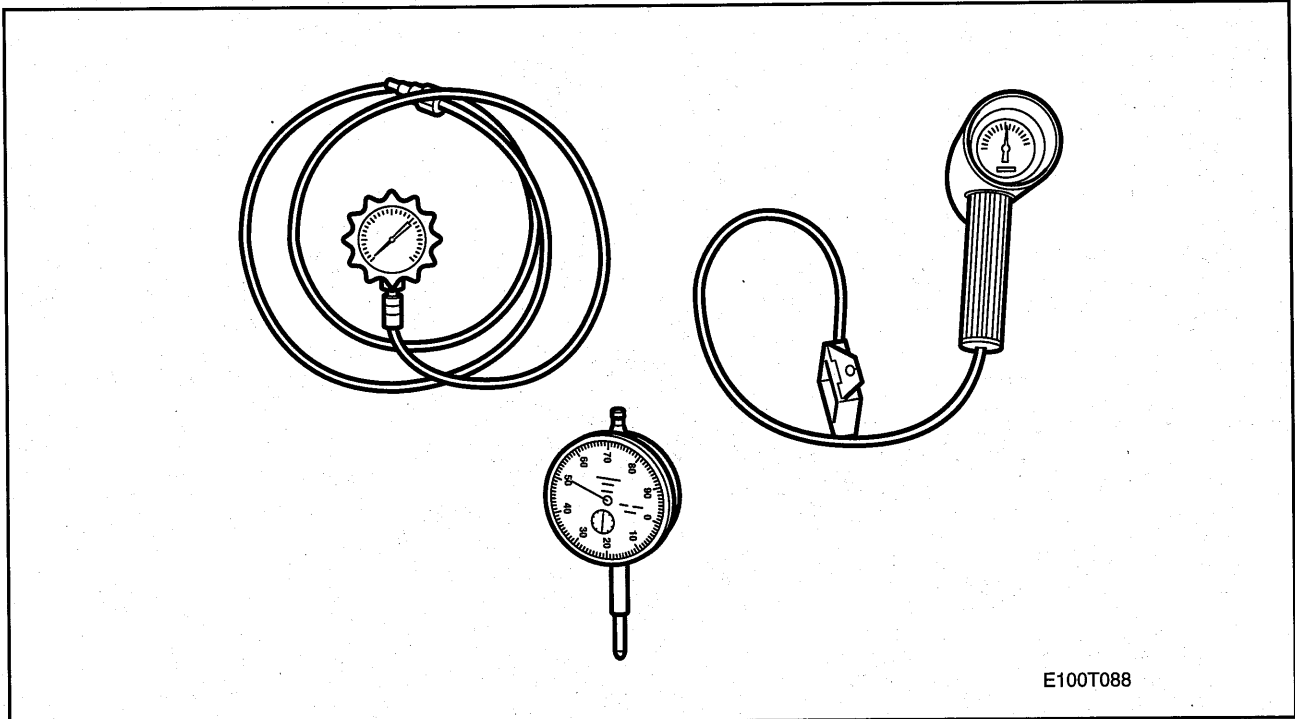
Denomination	Part no.	Calibration standard
Torque wrench 5–60 Nm	30 11 301	Hz 6290-1CT +6402
Torque wrench 20–200 Nm	30 11 905	Hz 6122-1CT

The following equipment is compatible:

- StahlWille
- Hazet
- Facom

**Calibration interval:** Once every other year.

### Diverse instruments



E100T088

There are a number of instruments and gauges that require some form of calibration. Certain equipment has integral calibration functions.

The following table shows calibration intervals for different gauges/instruments.

Denomination	Part no.	Calibration standard
Belt tension meter	83 93 985	CL 2.5. See separate table below.
Dial gauge	78 40 622	JIS B 7503 .
Cooling pressure tester, not adjustable	(16) 30 05 477	ET 09 STD 12 01 43
VIP indicator	87 92 194	DIN 878-2270 .
Dial indicator for toe-in	88 19 062	Internal standard. Can be calibrated only by supplier

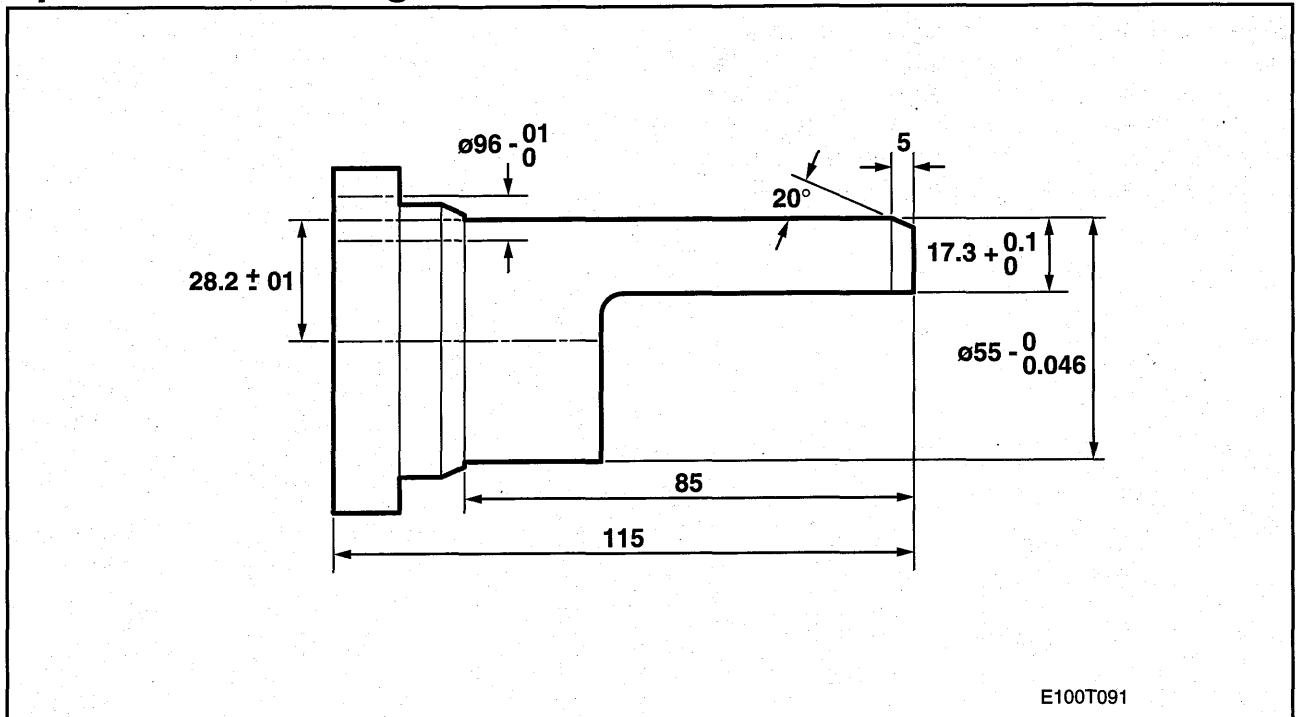
### Conversion table for belt gauge calibration

Torque Nm	Pressure bar
100	0.65
200	0.95
300	1.25
400	1.54
500	1.85
600	2.15
700	2.45
800	2.75
900	3.04

**Calibration interval:** Once every other year.

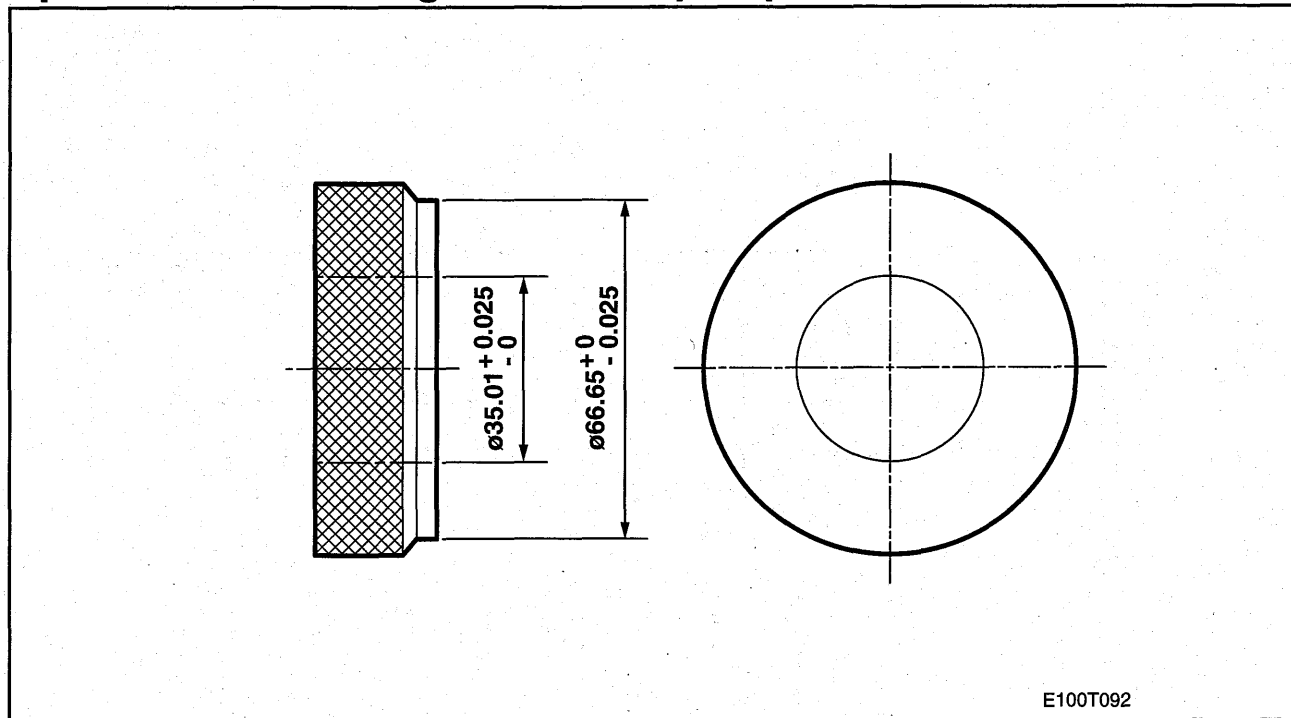
## **General information on special tools**

Several special tools are designed in such a way that measurements are an important factor in their use. These tools must be gauged in accordance with established plans but at least once every other year. If they do not meet requirements, they must either be remedied or replaced with new ones.

**Special tool, setting tool for kickdown cable**

Gauge the tool as illustrated. If gauged measurements are outside specified tolerances, the tool must be replaced.

Part no: 87 91 980

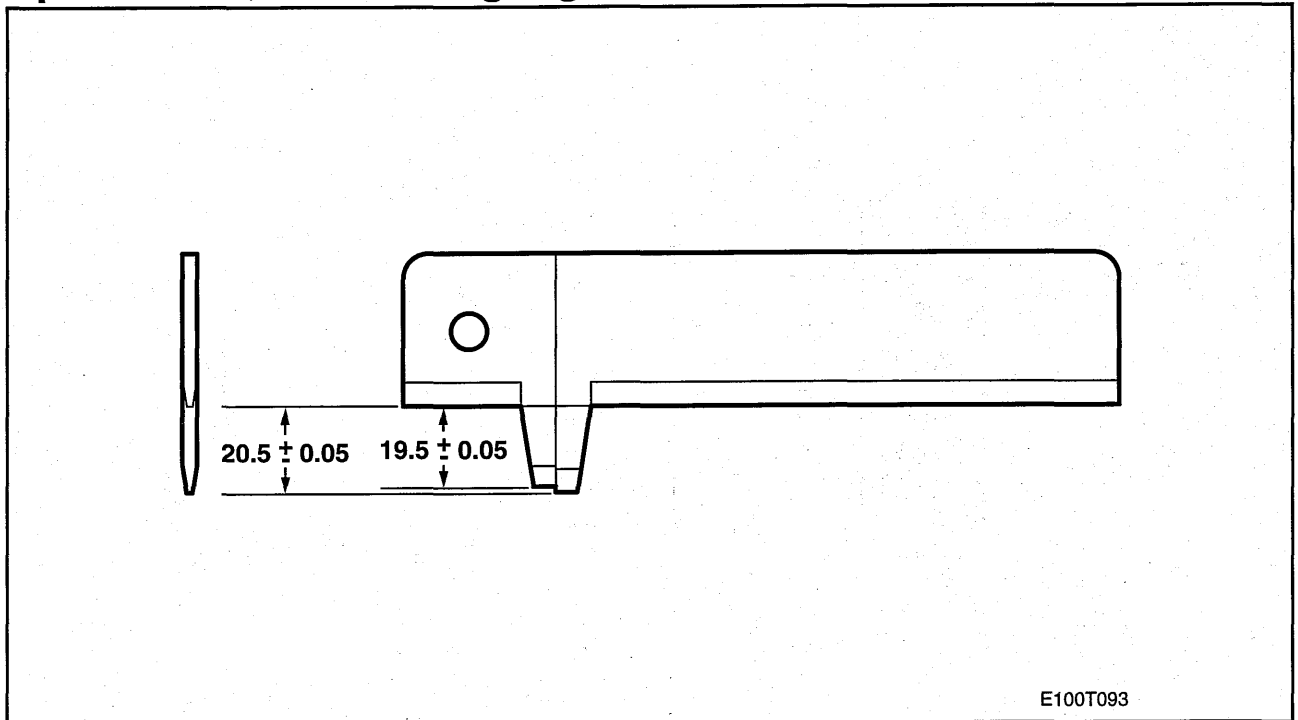
**Special tool, centring tool for oil pump**

E100T092

Gauge the tool as illustrated. If gauged measurements are outside specified tolerances, the tool must be replaced.

Part no: 83 93 589

## Special tool, clearance gauge for valve seat



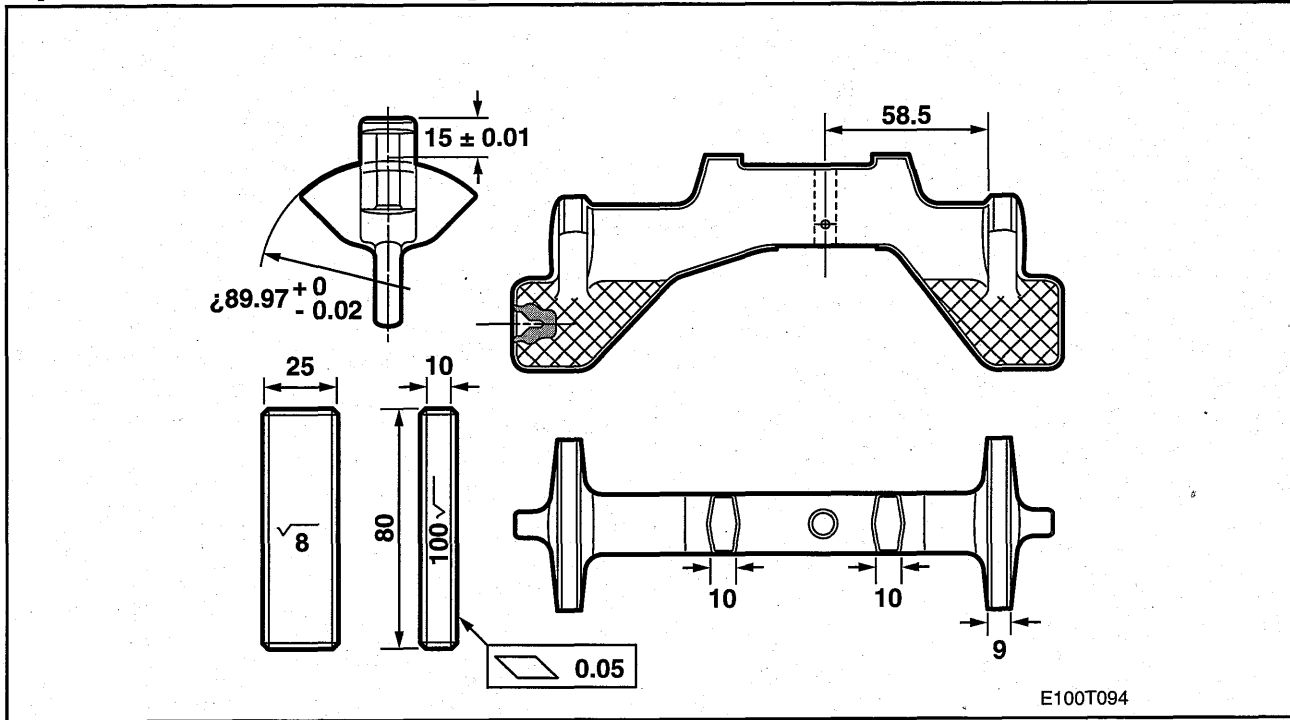
Gauge the tool as illustrated. If gauged measurements are outside specified tolerances, the tool must be replaced.

Part no: 83 93 753

E100T093

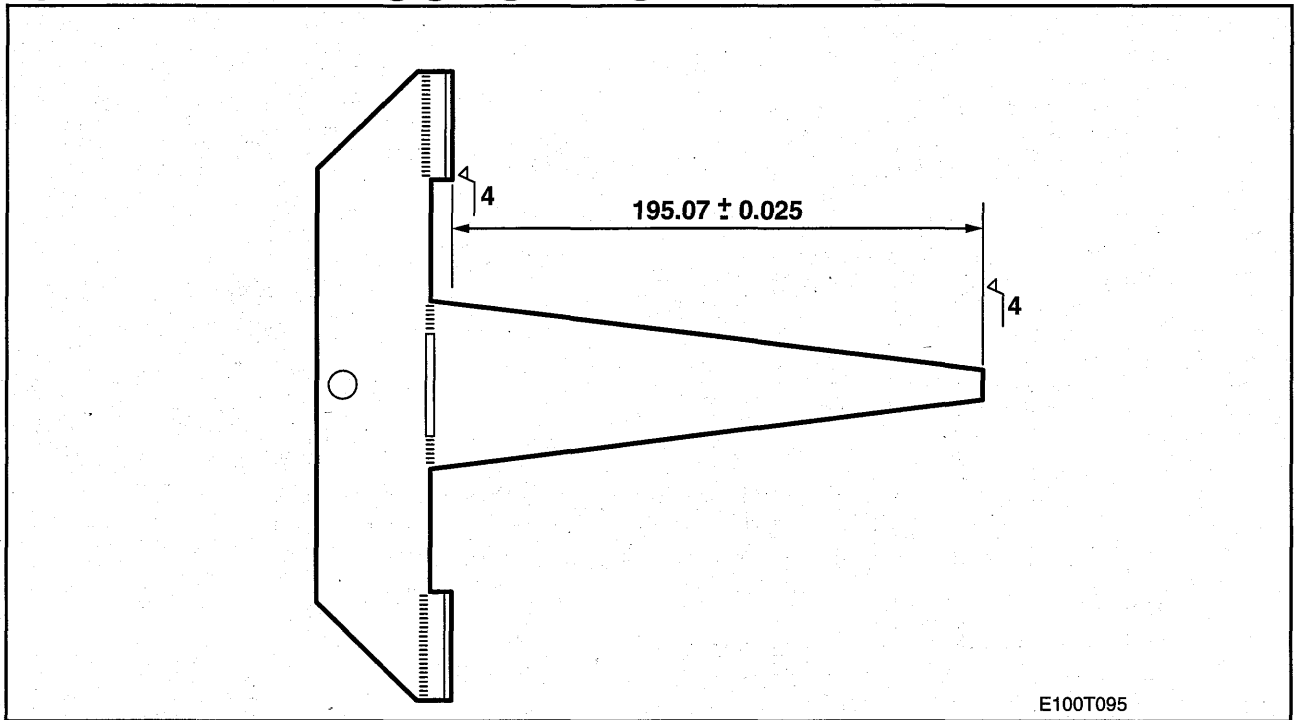


### Special tool, measuring tool for pinion



Gauge the tool as illustrated. If gauged measurements are outside specified tolerances, the tool must be replaced.

Part no: 83 90 155

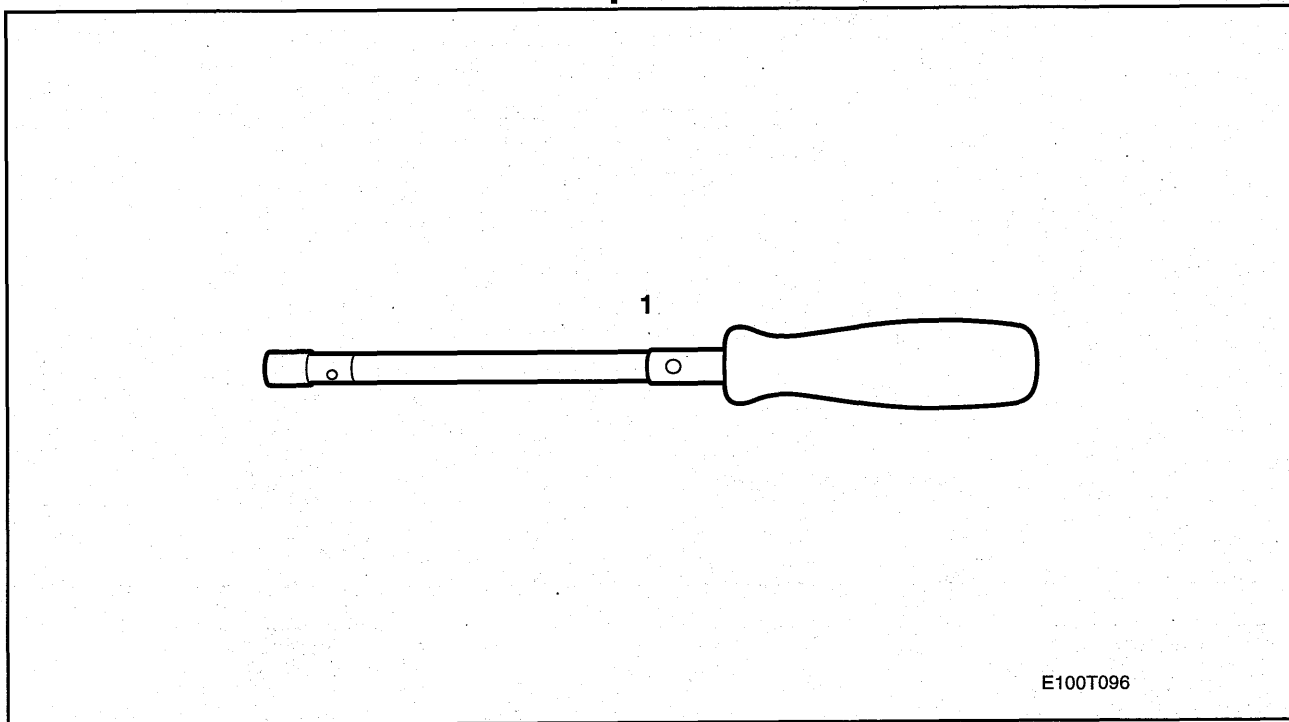
**Special tool, setting gauge for gear wheel, pinion**

Gauge the tool as illustrated. If gauged measurements are outside specified tolerances, the tool must be replaced.

Part no: 87 90 552

# Hand tools

## Basic kit for Saab mechanics/panel beaters

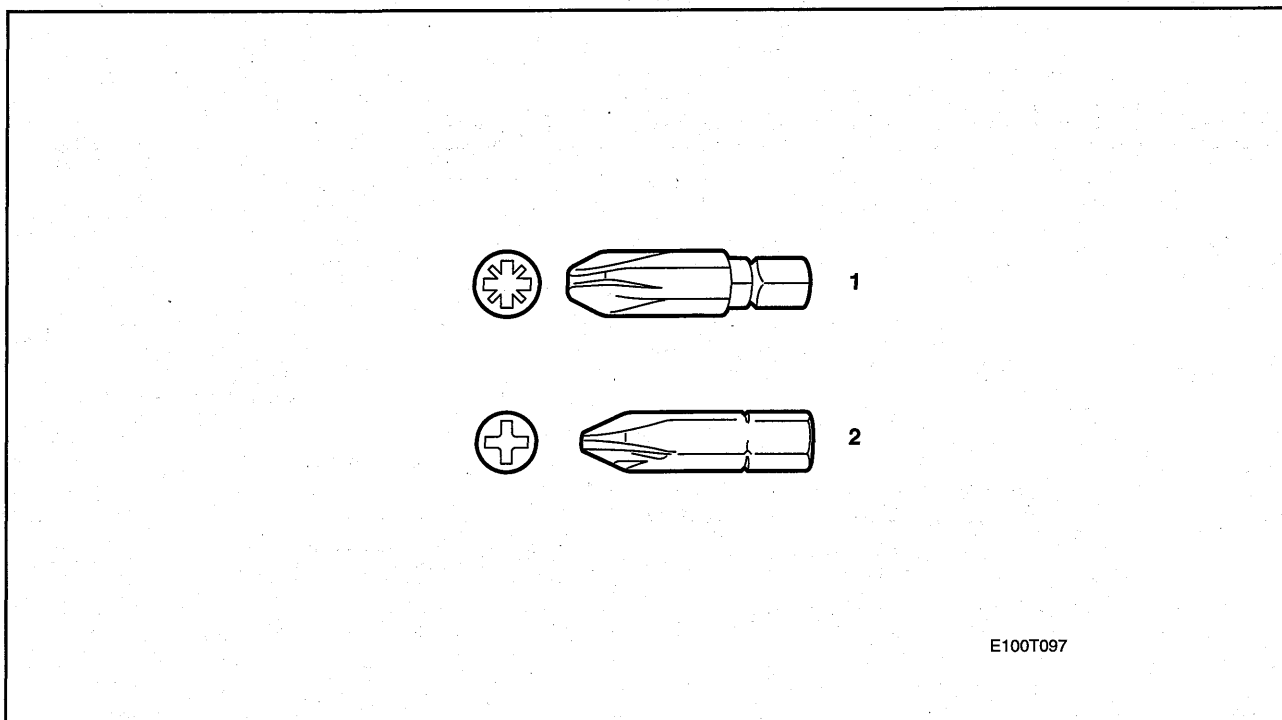


E100T096

Specify type signal **16** when ordering hand tools.

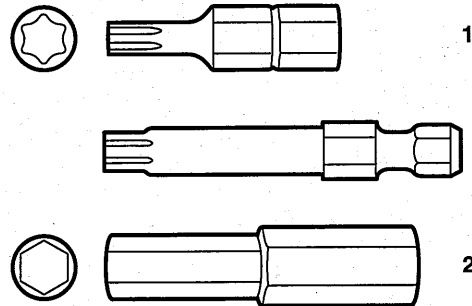
Part no. complete kit 30 05 071.

Pos.	Denomination	Size	Attachment	Part no.
	Flat tip screwdriver	75 x 2.5 mm		30 10 014
	Flat tip screwdriver	100 x 4.0 mm		30 10 022
	Flat tip screwdriver	120 x 5.5 mm		30 12 606
	Flat tip screwdriver	150 x 6.5 mm		30 10 048
	Flat tip screwdriver	175 x 10.0 mm		30 10 055
	Flat tip screwdriver	25 x 8.0 mm		30 10 063
	Bit handle	60 mm	1/4"	30 14 503
	Bit handle	200 mm	1/4"	30 10 162
1	Flexible bit handle	250 mm	1/4"	30 15 336



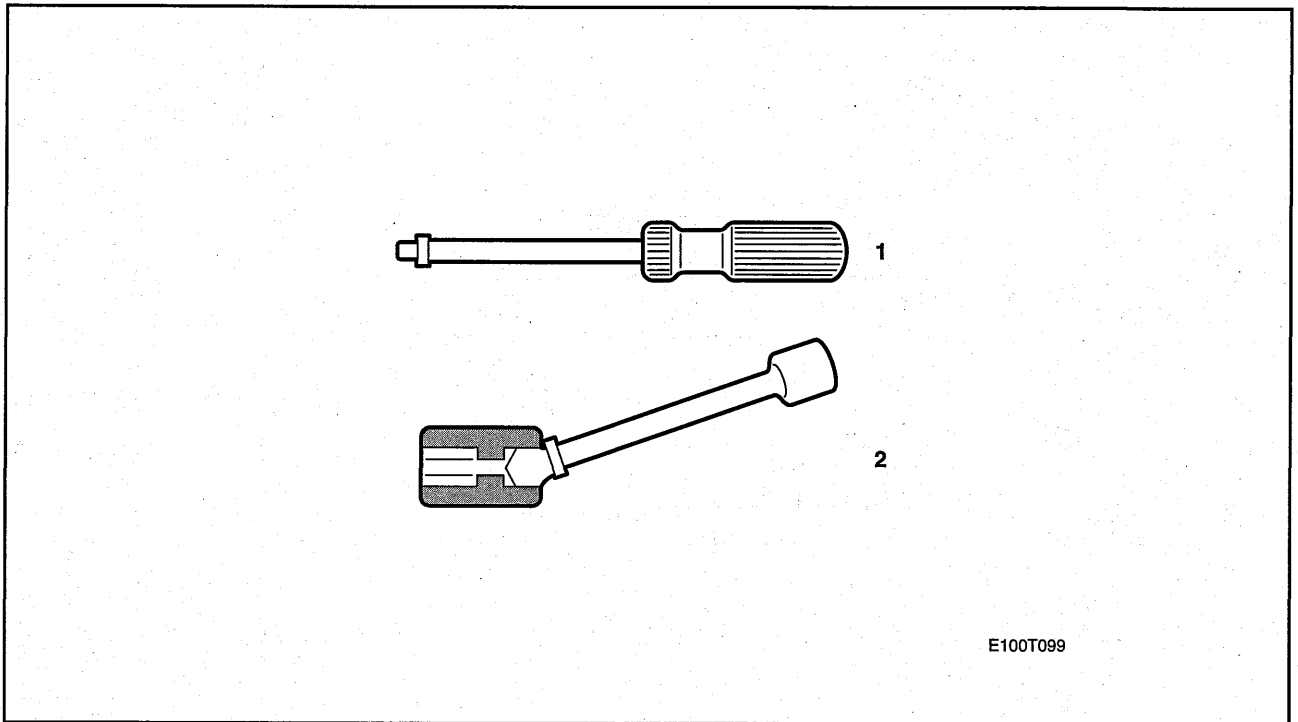
E100T097

Pos.	Denomination	Size	Attachment	Part no.
	Ratchet handle bit	95 mm	1/4"	30 17 753
	Magnetic bit holder	73 mm	1/4"	30 20 336
	Magnetic sleeve	7 mm	1/4"	30 14 750
	Magnetic sleeve	8 mm	1/4"	30 20 328
	Magnetic sleeve	10 mm	1/4"	30 15 369
	Bit box	2	1/4"	30 14 644
1	Bits, Pozidrive	PZD-1	1/4"	30 10 204
1	Bits, Pozidrive	PZD-2	1/4"	30 10 212
1	Bits, Pozidrive	PZD-3	1/4"	30 10 220
1	Bits, Pozidrive	PZD-4	1/4"	30 14 339
2	Bits, Phillips	Ph-1	1/4"	30 14 347
2	Bits, Phillips	Ph-2	1/4"	30 14 354
2	Bits, Phillips	Ph-3	1/4"	30 14 362
2	Bits, Phillips	Ph-4	1/4"	30 14 370



E100T098

Pos.	Denomination	Size	Attachment	Part no.
1	Bits, Torx	T-8	1/4"	30 15 138
1	Bits, Torx	T-10	1/4"	30 13 166
1	Bits, Torx	T-15	1/4"	30 14 388
1	Bits, Torx	T-20	1/4"	30 21 284
1	Bits, Torx	T-25 L 40 mm	1/4"	30 13 588
1	Bits, Torx	T-27	1/4"	30 14 396
1	Bits, Torx	T-30	1/4"	30 18 108
1	Bits, Torx	T-40	5/16"	30 21 177
1	Bits, Torx	T-45	5/16"	30 19 668
1	Bits, Torx	T-50	5/16"	30 14 412
1	Bits, Torx	T-50 L 70 mm	5/16"	30 31 846
1	Bits, Torx	T-55 L 100 mm	5/16"	30 16 508
2	Bits, Allen	Allen-4	1/4"	30 19 593
2	Bits, Allen	Allen-5	1/4"	30 14 420
2	Bits, Allen	Allen-6	1/4"	30 14 438
2	Bits, Allen	Allen-7	1/4"	30 14 446
2	Bits, Allen	Allen-8	1/4"	30 14 453
	Allen key with ball	2.5 mm		30 34 030
	Allen key	7 mm, 185 long		30 34 451



Pos.	Denomination	Size	Attachment	Part no.
1	Ratchet handle	150 mm	1/4"	30 14 305
	Twist grip		1/4"	30 14 495
	Extension with ball joint	100 mm	1/4"	30 16 581
	Bit socket	1/4" GK	1/4"	30 16 268
	Socket fastener	1/4" 25 mm	1/4" 6K	30 14 768
	Socket fastener	1/4" 76 mm	1/4" 6K	30 14 586
	Socket fastener	3/8" 76 mm	1/4" 6K	30 14 594
2	Ratchet handle	200 mm	3/8"	30 10 451
	Extension with ball joint	75 mm	3/8"	30 17 613
	Extension with ball joint	150 mm	3/8"	30 17 621
	Extension with ball joint	250 mm	3/8"	30 17 639
	Universal joint		3/8"	30 17 829
	Reducing socket	1/4"	3/8"	30 17 662
	Reducing socket	1/2"	3/8"	30 10 519
	Bit socket	1/4"	3/8"	30 21 235
	Bit socket	5/16"	3/8"	30 11 673
	Socket holder		1/4"	30 25 046

Denomination	Size	Attachment	Part no.
Socket (6)	6 mm	1/4"	30 13 737
Socket (6)	7 mm	1/4"	30 13 745
Socket (6)	8 mm	1/4"	30 13 752
Socket (6)	9 mm	1/4"	30 13 760
Socket (6)	10 mm	1/4"	30 13 778
Socket (6)	13 mm	1/4"	30 18 116
Socket (6)	8 mm	3/8"	30 13 703
Socket (6)	9 mm	3/8"	30 34 436
Socket (6)	10 mm	3/8"	30 10 527
Socket (6)	10 mm L 54 mm	3/8"	30 16 284
Socket (6)	11 mm	3/8"	30 10 535
Socket (6)	12 mm	3/8"	30 12 713
Socket (6)	13 mm	3/8"	30 10 543
Socket (6)	13 mm L 54 mm	3/8"	30 14 180
Socket (6)	14 mm	3/8"	30 10 550
Socket (6)	15 mm	3/8"	30 10 568
Socket (6)	15 mm L 45 mm	3/8"	30 34 444
Socket (6)	16 mm	3/8"	30 10 576
Socket (6)	16 mm L 54 mm	3/8"	30 16 326
Socket (6)	17 mm	3/8"	30 10 584
Socket (6)	18 mm	3/8"	30 15 047
Socket (6)	1/2"	3/8"	30 10 600
Socket, Diesel	10 mm L 60 mm	3/8"	30 34 485
Soft socket flexible	6 mm		30 17 860
Soft socket flexible	7 mm		30 10 253
Guiding handle	450 mm	1/2"	30 10 691
Ratchet handle	250 mm	1/2"	30 10 717
Extension pieces	125 mm	1/2"	30 11 921
Extension pieces	250 mm	1/2"	30 10 709
Universal joint		1/2"	30 13 018
Reducing socket	3/8"	1/2"	30 10 725
Socket 6K	17 mm	1/2"	30 11 244
Socket 6K	18 mm	1/2"	30 12 556
Socket 6K	19 mm	1/2"	30 12 564
Socket 6K	21 mm	1/2"	30 12 580
Socket 6K	22 mm	1/2"	30 11 186
Socket 6K	24 mm	1/2"	30 11 194
Socket 6K	30 mm	1/2"	30 11 202
Power socket	17 mm	1/2"	30 11 970
Power socket	19 mm	1/2"	30 11 988
Power socket	11/16"	1/2"	30 11 954

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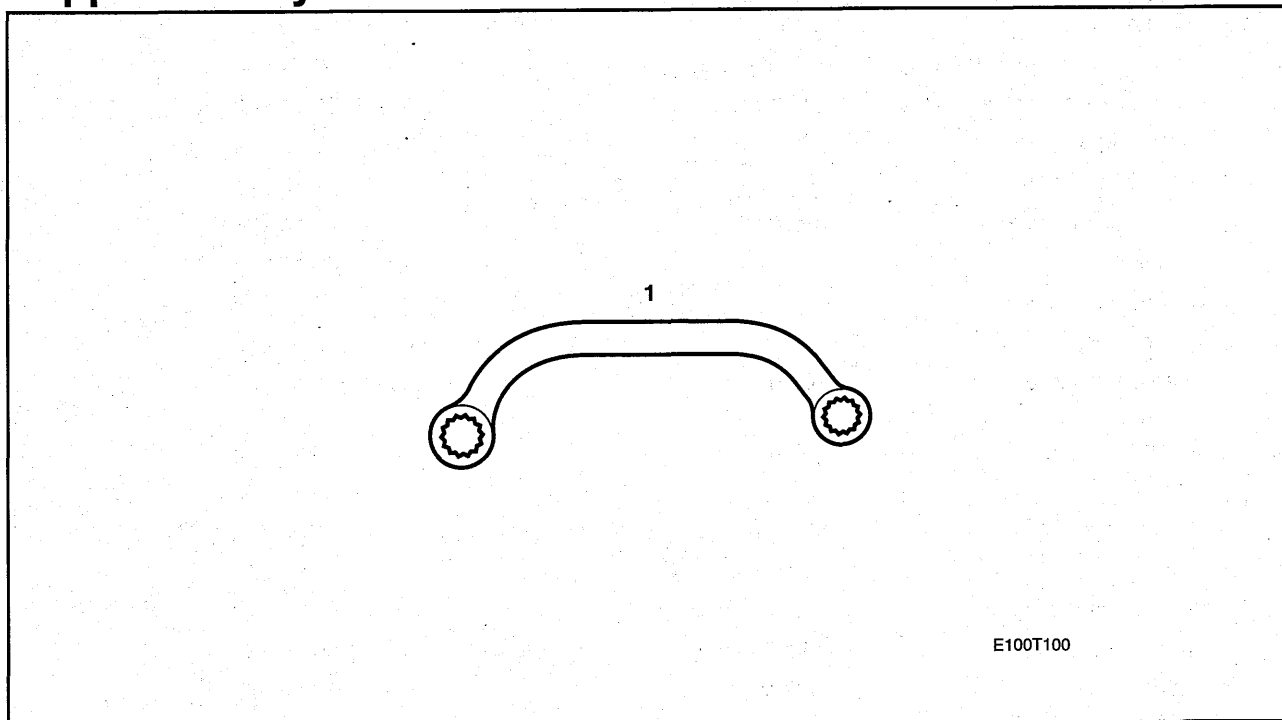
<b>Denomination</b>	<b>Size</b>	<b>Attachment</b>	<b>Part no.</b>
Power socket Torx	E18	1/2"	30 25 384
Torsion sleeve	17 mm 110 Nm	1/2"	30 13 794
Torsion sleeve	19 mm 110 Nm	1/2"	30 11 913
Allen socket	7 mm L 70 mm	3/8"	30 12 762
Allen socket	10 mm L 60 mm	1/2"	30 12 903
Torx socket	E7	3/8"	30 16 524
Torx socket	E8	3/8"	30 17 670
Torx socket	E10	3/8"	30 17 688
Torx socket	E12	3/8"	30 14 206
Torx socket	E14	3/8"	30 17 696
Combination wrench	6 mm		30 25 004
Combination wrench	7 mm		30 25 012
Combination wrench	8 mm		30 25 020
Combination wrench	9 mm		30 25 038
Combination wrench	9 mm		30 13 034
Combination wrench	10 mm		30 10 857
Combination wrench	11 mm		30 10 865
Combination wrench	12 mm		30 10 873
Combination wrench	13 mm		30 34 469
Combination wrench	14 mm		30 10 899
Combination wrench	15 mm		30 10 907
Combination wrench	16 mm		30 12 309
Combination wrench	17 mm		30 10 915
Combination wrench	18 mm		30 12 325
Combination wrench	19 mm		30 10 931
Combination wrench	22 mm		30 11 160
Combination wrench	24 mm		30 11 525
Torx ring spanner	E10-E12		30 14 198
Brake pipe wrench	10–11 mm		30 34 477
Guiding socket wrench	6–7 mm		30 13 109
Guiding socket wrench	8–9 mm		30 11 178
Guiding socket wrench	10–11 mm		30 10 980
Guiding socket wrench	12–13 mm		30 10 998
Guiding socket wrench	14–15 mm		30 11 004
Guiding socket wrench	16–17 mm		30 11 012
Guiding socket wrench	18–19 mm		30 13 117

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Denomination	Size	Attachment	Part no.
Adjustable spanner (wrench)	100 mm		30 11 020
Adjustable spanner (wrench)	150 mm		30 11 038
Gland pliers (grips)	240 mm		30 16 243
Side cutters (snips)	200 mm		30 10 279
Pointed nose pliers	200 mm		30 10 287
Nut pliers	180 mm		30 10 303
Circlip pliers	140 mm	Ext. straight	30 11 582
Circlip pliers	140 mm	Int. straight	30 11 616
Hose clip pliers	205 mm	For CTC hose clips	30 19 395
Hammer	360 g		30 11 723
Hammer	670 g		30 12 150
Plastic hammer	600 mm		31 10 410
Cold chisel	150x18 mm		30 10 311
Impact mandrel	115x2 mm		30 10 329
Impact mandrel	150x3 mm		30 10 337
Impact mandrel	150x4 mm		30 10 345
Impact mandrel	150x5 mm		30 10 352
Impact mandrel	180x6 mm		30 10 360
Centre punch	120 mm		30 10 378
Crowbar	510 mm		30 12 119
Case knife	205 mm		30 11 061
Steel scraper	40 mm		30 11 053
Steel brush 2 row	290x25 mm		30 11 046
Flash lamp			30 11 103
Tape measure	2 m		30 13 547
Sliding caliper rule			30 10 428
Voltage tester	3-48 V		30 05 410
Drill kit	1-10 mm		30 06 194
Jet nozzle			30 14 909
Oil can	0.3 litre		30 11 129
Protective glasses			30 11 814
Ear protection			30 19 809
Padlock			30 12 655

## Supplementary kit for Saab service mechanics



Specify type signal **16** when ordering hand tools.

Part no. complete kit: 30 05 097.

Pos.	Denomination	Size	Attachment	Part no.
	Torque wrench	20–200 Nm	1/2"	30 11 905
	Spark plug socket	13/16"	3/8"	30 12 689
	Spark plug socket	NV 16"	3/8"	83 94 785
	Ignition lead pliers			30 14 289
	Spark plug gauge	0,5–2.4 mm		30 14 776
	Feeler gauges	0.05–1.00 mm		30 23 280
	Cross slotted screw driver	L 250	PZD2	30 15 039
	Torx socket	T55 L 140 mm	1/2"	30 16 516
	Power socket Torx	E16	3/8"	30 16 540
	Power socket Torx	E20	1/2"	30 16 532
	Allen key	5 mm 160/28mm		30 12 788
1	Starter motor wrench	15x17 mm		30 17 803
	Brake disc scraper tool			30 14 800
	Brass mandrel	200x20 mm		30 10 386
	Spray bottle			30 13 620

## Supplementary kit Saab power socket

Specify type signal **16** when ordering hand tools.

Part no. complete kit: 30 05 089.

Denomination	Size	Attachment	Part no.
Power socket	12 mm	3/8"	30 18 942
Power socket	13 mm	3/8"	30 18 959
Power socket	14 mm	3/8"	30 18 967
Power socket	15 mm	3/8"	30 18 975
Power socket	14 mm	1/2"	30 11 343
Power socket	15 mm	1/2"	30 11 350
Power socket	16 mm	1/2"	30 11 376
Power socket	17 mm L 82 mm	1/2"	30 14 859
Power socket	18 mm	1/2"	30 12 051
Power socket	18 mm L 82 mm	1/2"	30 15 054
Power socket	19 mm L 82 mm	1/2"	30 14 867
Power socket	32 mm L 82 mm	1/2"	30 17 852

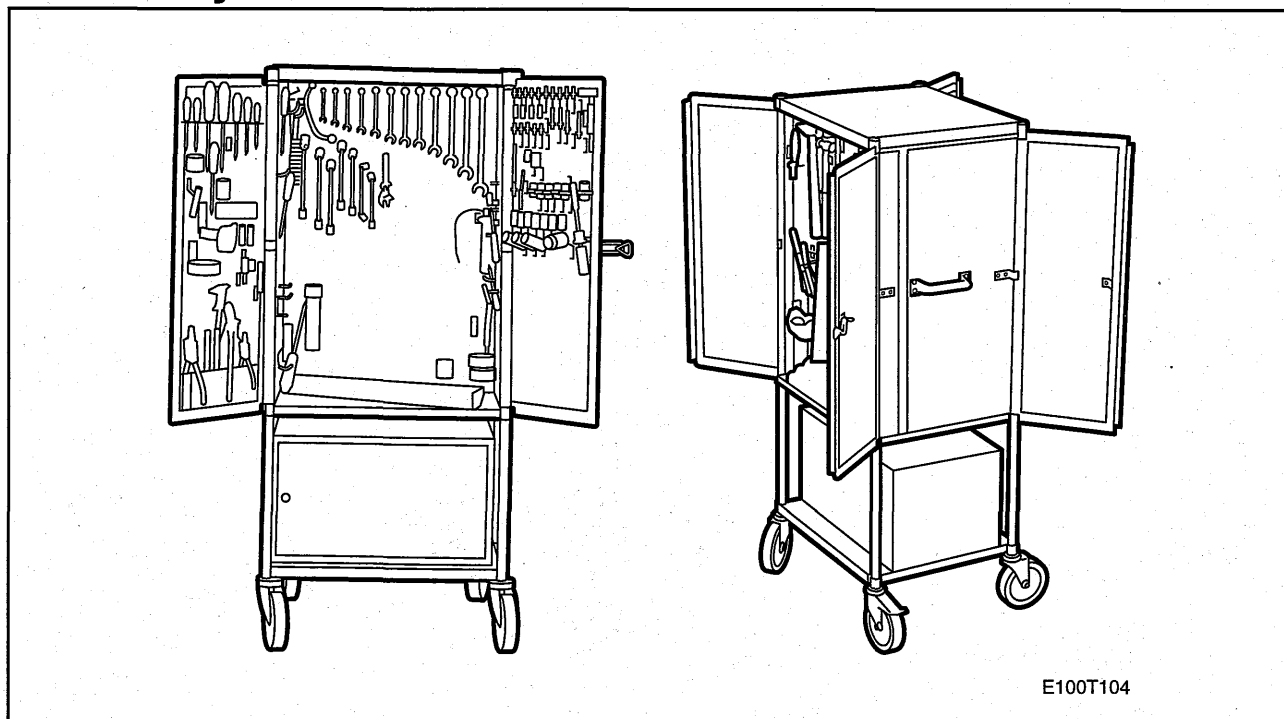
## Supplementary kit Saab panel beaters

Specify type signal **16** when ordering hand tools.

Part no. complete kit: 30 05 113.

Denomination	Size	Quantity	Part no.
Adjustable spanner (wrench)	200 mm	1	30 11 863
Impact mandrel	200x8 mm	1	30 11 418
Scribe		1	30 11 798
Spot welding drill	8 mm	1	30 21 276
Flange pliers 45°	280x55 mm	1	30 11 780
Plate cutters left-hand cut	240 mm	1	30 11 772
Plate cutters right-hand cut	240 mm	1	30 11 764
Dressing hammer, round	370 g	1	30 11 707
Dressing hammer, square/round	270 g	1	30 11 699
Dolly, axe shape	860 g	1	30 11 558
Holding frame sole	900 g	1	30 11 566
Holding frame rail	1250 g	1	30 11 574
Forging hammer	1050 g	1	30 11 749
Scutch chisel 7x26 mm	L 240 mm	1	30 18 124
Spoon knife		1	30 19 551
Hand file 10"		1	30 12 721
Round file 10"		1	30 12 747
Grinding board 450x70		1	30 14 487
Grinding spindle	∅ 6 mm	1	30 20 658
Quick holder	∅ 6/30 mm	1	30 20 021
Quick holder	∅ 6/50 mm	1	30 20 054
Split leather welding gloves		1	30 20 732
Head brace		1	30 31 333
Visor		1	30 31 358

## Tool trolley



E100T104

Sturdy tool trolley with large wheels and locked door supplied with hooks for tools and basic toolkit.

The trolley is available in two versions:

- Single-sided with two doors for Saab service mechanics.
- Double-sided with four doors for Saab panel beaters.

### Trolley for service mechanics

The trolley contains a basic kit, supplementary kit and power sockets.

Dimensions of cupboard section: 600x400x900 mm (WxDxH).

Part no. for trolley including tools: (16) 88 18 908.

### Trolley for panel beaters

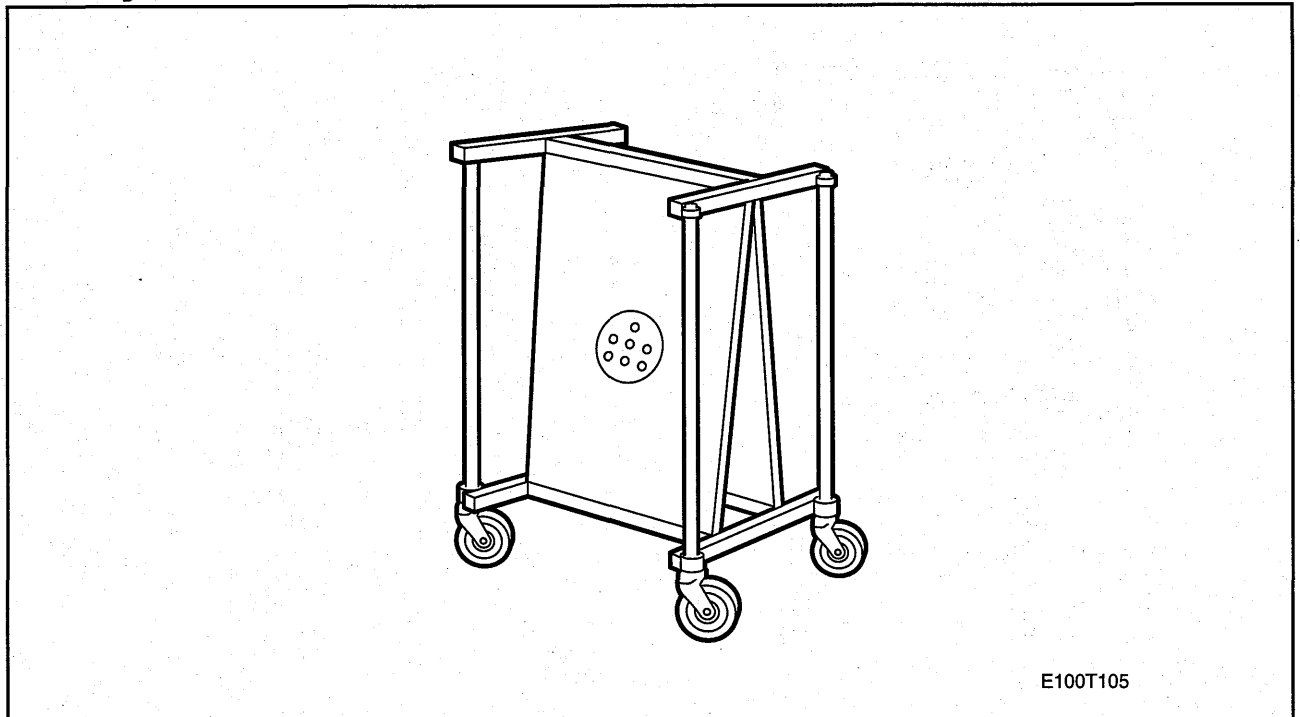
The trolley is intended for basic kit, power sockets and supplementary kit for panel beaters, which are ordered separately.

Dimensions of cupboard section: 600x500x900 mm (WxDxH).

Part no:

- Trolley (excluding tools) 30 05 147
- Basic kit for Saab mechanics/panel beaters 30 05 071
- Supplementary kit Saab power sockets 30 05 089
- Supplementary kit Saab panel beaters 30 05 113

## Trolley for tool boards

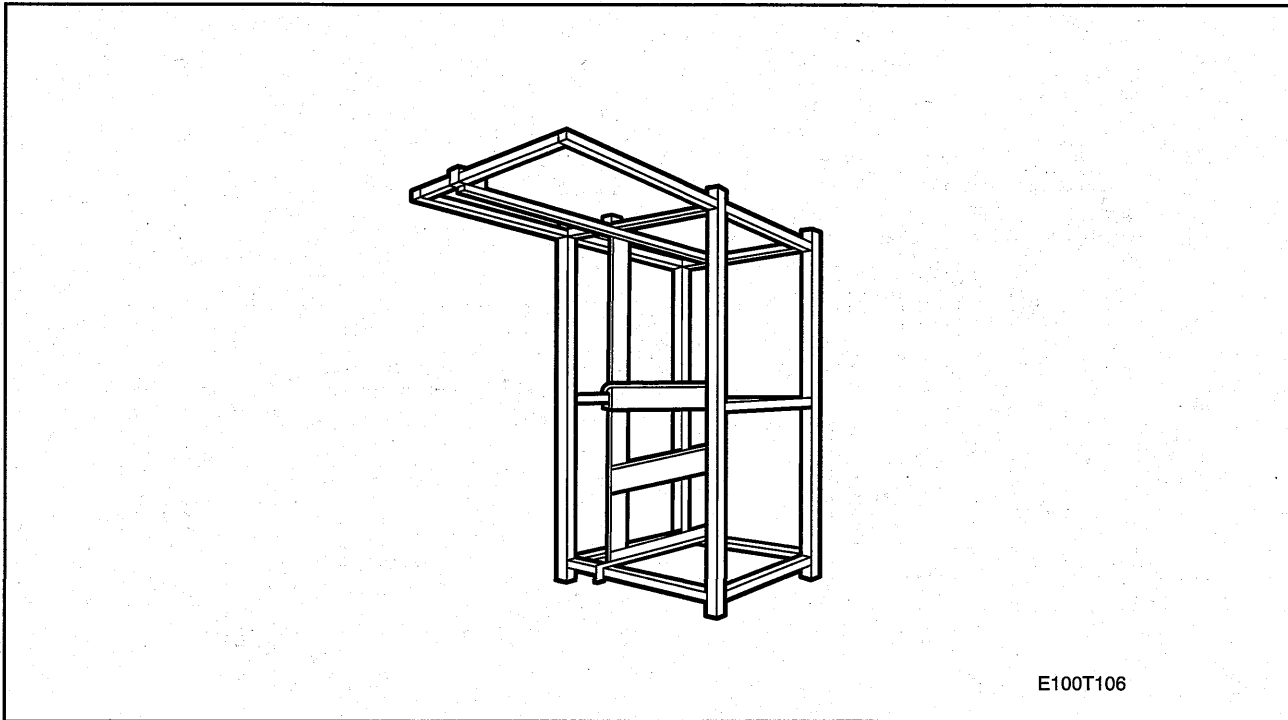


Practical and flexible trolley on wheels for storing special tools. Tool boards included.

### Dimensions

Width	960 mm
Depth	270 mm
Height	1200 mm
Weight	33 kg

## Board cabinet

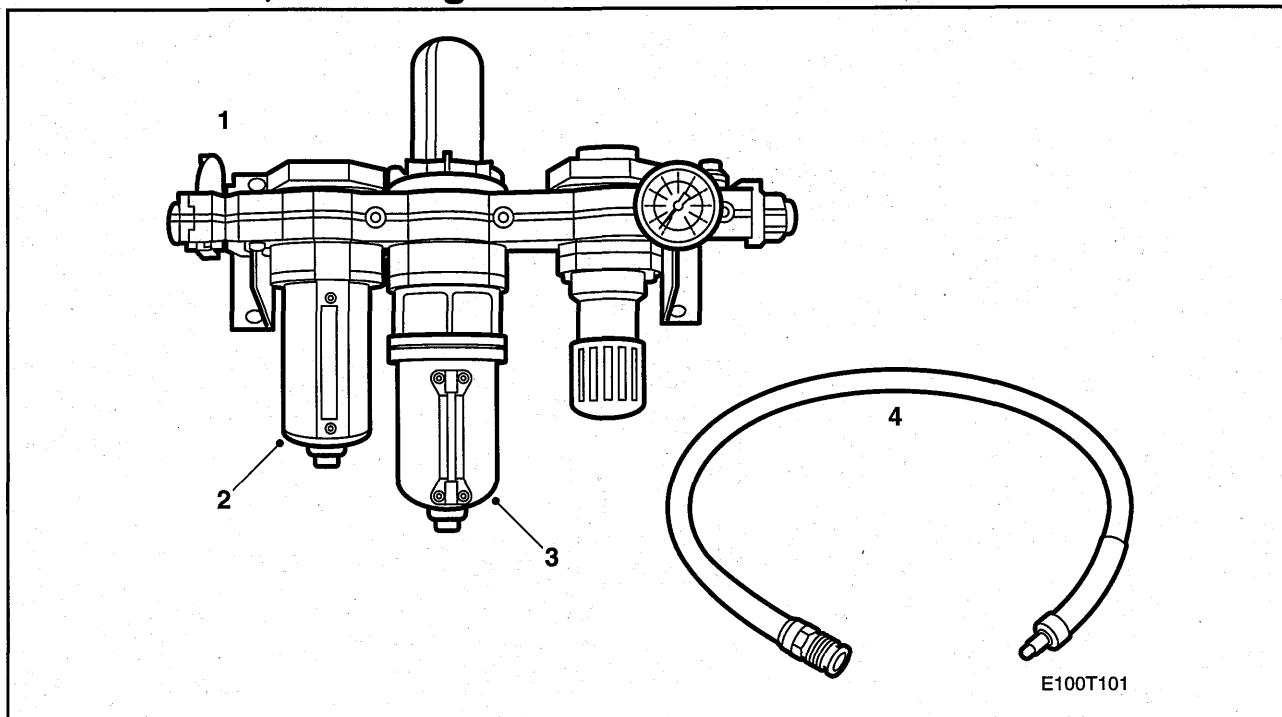


The board cabinet offers efficient storage of special tool boards. A total storage area of 12 m<sup>2</sup> is possible on a floor area of only 1.45 m<sup>2</sup> with three frames.

### Dimensions

Width	1380 mm
Depth, cabinet	1050 mm
Overhang	950 mm
Height	2200 mm
Weight	86 kg

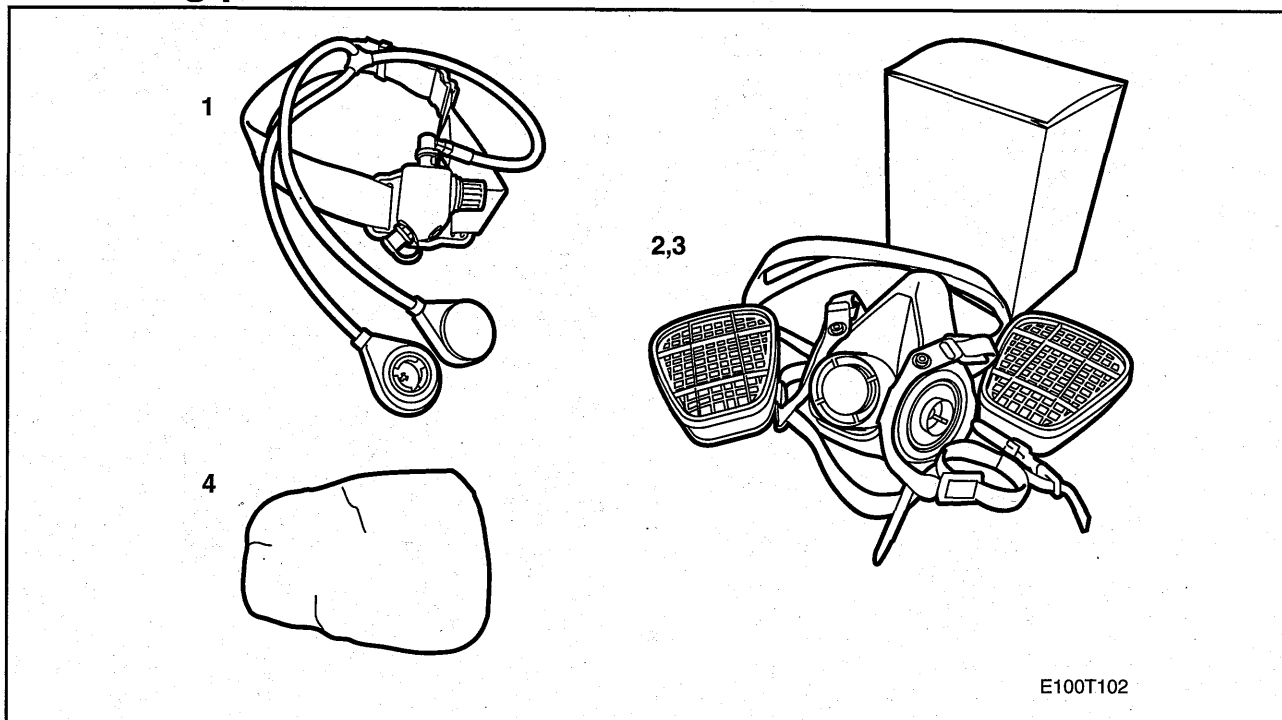
## Filter station, reducing



Pos.	Denomination	Package	Part no.
1	Filter station for 1–3 users. 1 connecting nipple included.	1	30 30 178
	Quick-release coupling for filter station 30 30 178. Fits feed hose 30 30 228.	1	30 30 186
2	Service kit for filter station 30 30 178	1	30 30 202
3	Service kit for filter station 30 30 178	1	30 30 210
4	Feed hose for fresh-air belt including couplings. Length 10 m. The hose is antistatic with special nipples ready-fitted to prevent inadvertent disconnection and incorrect coupling. Use connecting nipple 30 30 152 when fitting the filter station feed hose to a 3M fresh-air belt.	1	30 30 228



## Breathing protection mask



E100T102

Breathing protection mask can be fitted to fresh-air system or separate filter.

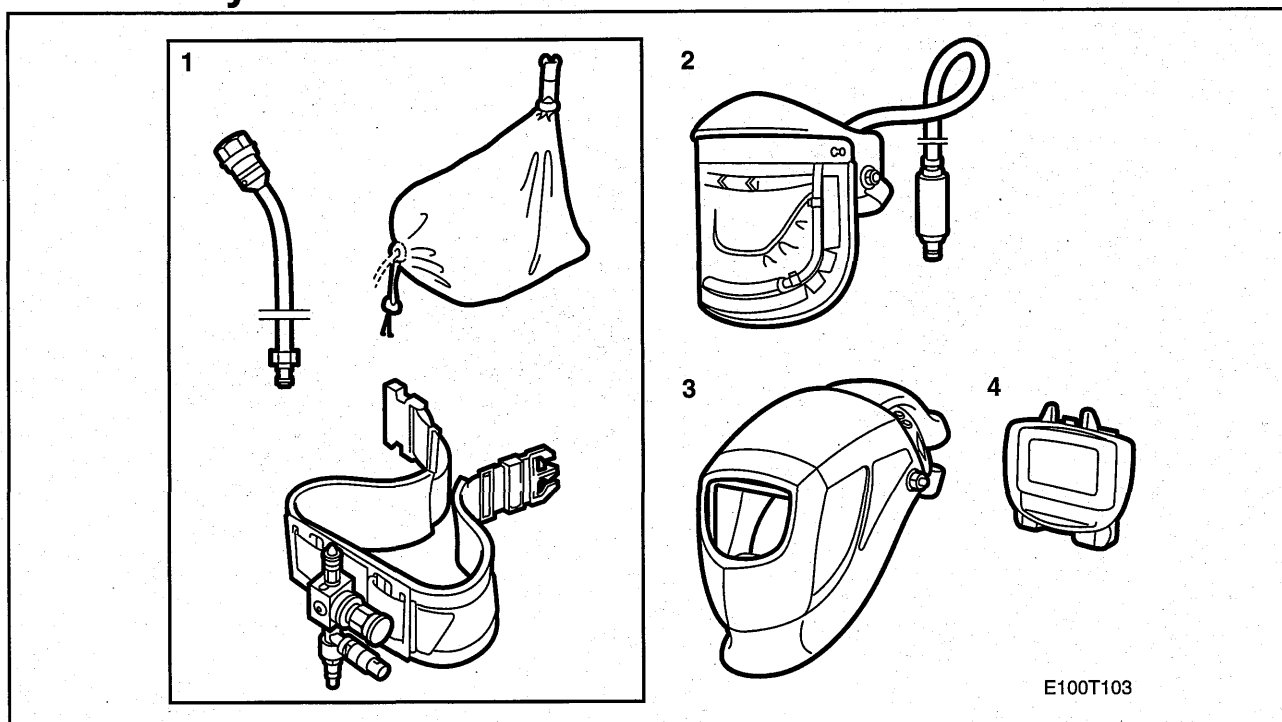
Feed hose 30 30 228 and connection nipple 30 30 152 are required to connect the protection mask to filter station, reducing 30 30 178.

Pos.	Denomination	Package	Part no.
1	3M 6000 belt with hose set 3M 06971. Excluding breathing protection mask.	1	30 31 143
2	Breathing protection mask 3M 6000 M. Medium size. Includes 1 x mask body, 8 x A1 filters (carbon) and 10 x P2 particle filters (for coarse particles).	1	30 31 127
3	Breathing protection mask 3M 6000 L. Large size. Including 1 x mask body, 8 x A1 filters (carbon) and 10 x P2 particle filters (for coarse particles).	1	30 31 135
4	3M 7135 particle filter <b>P3</b> (for fine particles). Suitable for breathing protection masks 30 31 127 and 30 31 135. Includes 10 filters.	1	30 34 428
	Connecting nipple to belt 30 31 143 for connecting hose 30 30 228.	1	30 30 152

 **WARNING**

Use minimum P3 particle filter and A1 carbon filter when grinding isocyanate/polyurethane products.

## Fresh-air system

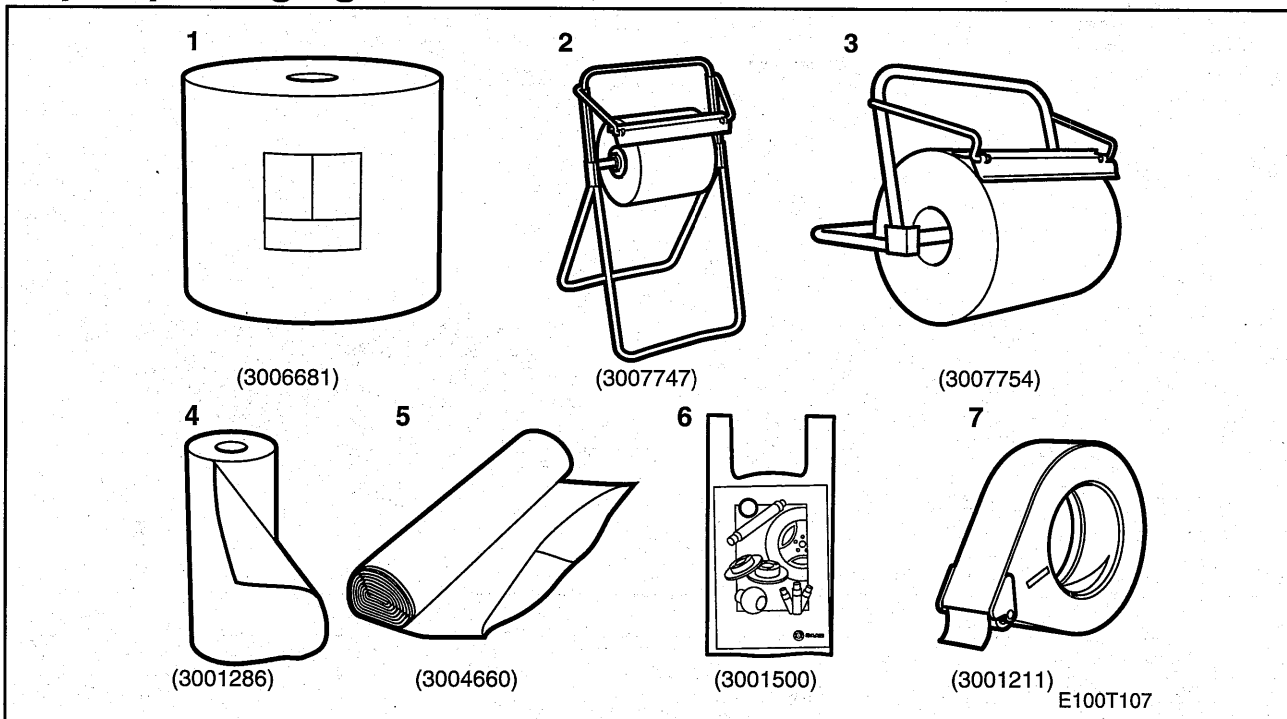


Speedglas fresh-air system for connecting to Filter station, reducing 30 30 178.

Pos.	Denomination	Package	Part no.
1	Speedglas belt with airflow regulator, warning whistle, air hose and storage bag with flowmeter.	1	30 30 236
2	Speedglas face mask (visor), Fresh-air C. Protection factor 200. For Belt 30 30 236.	1	30 30 285
3	Speedglas 9000 Fresh-air head shield. Protection factor 200. For Belt 30 30 236. Excluding welding glass.	1	30 30 244
4	Speedglas 9000F welding glass to Speedglas head shield 30 30 244. Fixed degree of density 10.	1	30 30 251
4	Speedglas 9000V welding glass to Speedglas head shield 30 30 244. Variable degree of density 9–13, does not darken when grinding.	1	30 30 269
	Outer protective glass for Speedglas head shield 30 30 244. Pack of 10.	1	30 30 277
	Protective foil for 30 30 285.	1	30 30 145
	Face seal for 30 30 285.	1	30 30 374
	Face seal for 30 30 244.	1	30 31 166

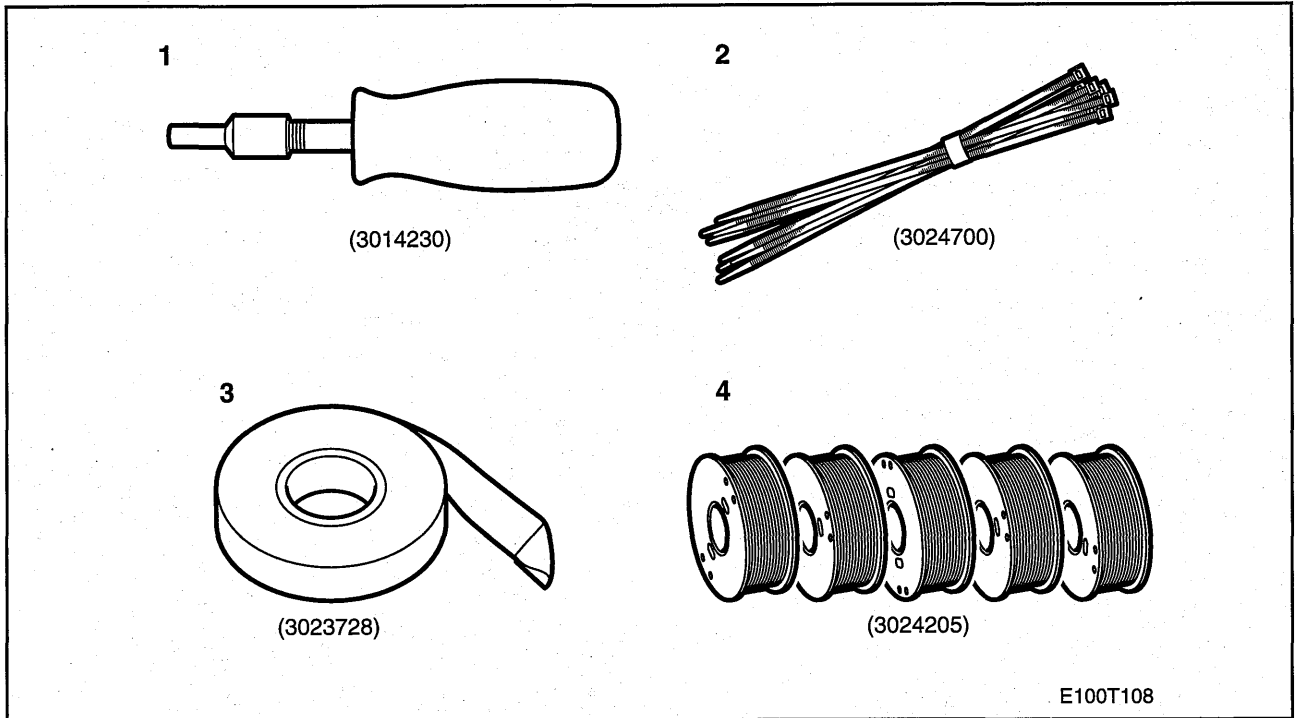
# Diverse equipment, consumables

## Paper, packaging



Pos.	Denomination	Package	Part no.
1	A-Tork Standard. Paper with high wet-strength and absorption. Lint-free. Single ply. New fibre. Pure cellulose. White. Combination roll. Perforated. Split core. 29 cm x 530 m. 4.0 kg.	2	3006673
	A-Tork Basic. Industrial wipe for heavy cleaning. Single ply. Unbleached. Based on recycled fibre for easy wiping. Yellow. 27 cm x 900 m. 6.5 kg.	2	3006681
	A-Tork Basic. Industrial wipe for heavy cleaning. Single ply. Unbleached. Based on recycled fibre for easy wiping. Yellow. Solid core 32 cm x 1150 m. 9.5 kg.	1	3001435
2	Floor stand for paper wipe, 27–43 cm rolls.	1	3007747
3	Wall holder for paper wipe, 27–38 cm rolls.	1	3007754
4	Masking paper, brown 375 m. Width 0.4 m. 40 g. 6 kg/roll.	1	3001286
	Masking paper, brown 50 m. Width 1.5 m. 40 g. 3 kg/roll.	1	3001294
5	Plastic sack, blue/white. For industrial use. 125 litre. Extra strong. 0.06 mm. Carton with 25 x 6 rolls.	1	3004660
6	Carrier bag with Saab print. 300/170 x 600 mm. Carton with 500 bags.	1	3001500
	Packing tape, brown 38 mm x 66 mm.	6	3001278
7	Tape dispenser for 38 mm packing tape.	1	3001211

## Electrical materials

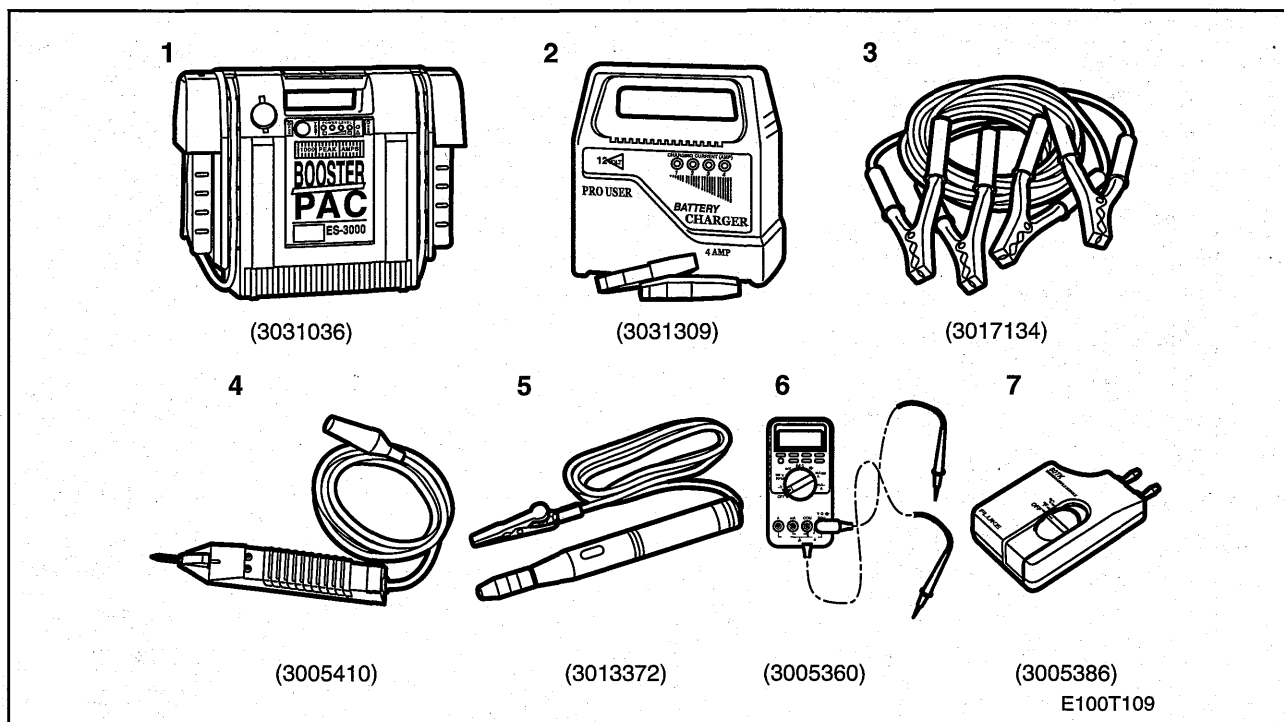


E100T108

Pos.	Denomination	Package	Part no.
1	Removal tool for uninsulated round pins and sleeves. $\varnothing$ 3.3 mm.	1	3014230
	Removal tool for uninsulated round pins and sleeves. $\varnothing$ 5 mm.	1	3014248
	Spare sleeves to part no. 3014230. $\varnothing$ 3.3 mm.	1	3014255
	Spare sleeves to part no. 3014248. $\varnothing$ 5 mm.	1	3014263
2	Cable ties, black 2.6 x 115 mm, bag of 100 ties.	1	3024700
	Cable ties, black 3.6 x 281 mm, bag of 100 ties.	1	3024734
	Cable ties, black, 4.6 x 215 mm with snap fastening for $\varnothing$ 8 mm hole, bag of 100 ties.	1	3025467
	Cable ties, black 4.8 x 185 mm, bag of 100 ties.	1	3024726
	Cable ties, black, 4.8 x 185 mm with snap fastening for $\varnothing$ 6 mm hole, bag of 100 ties.	1	3024759
	Cable ties, black 4.8 x 360 mm, bag of 100 ties.	1	3024742
3	Vulcanising tape, 19 mm x 10 m. Self-vulcanising tape for moisture-proofing and repairing cables, hoses, etc. Resistant to most chemicals. Temperature range: $-40^{\circ}\text{C}$ to $+90^{\circ}\text{C}$ .	1	3023728

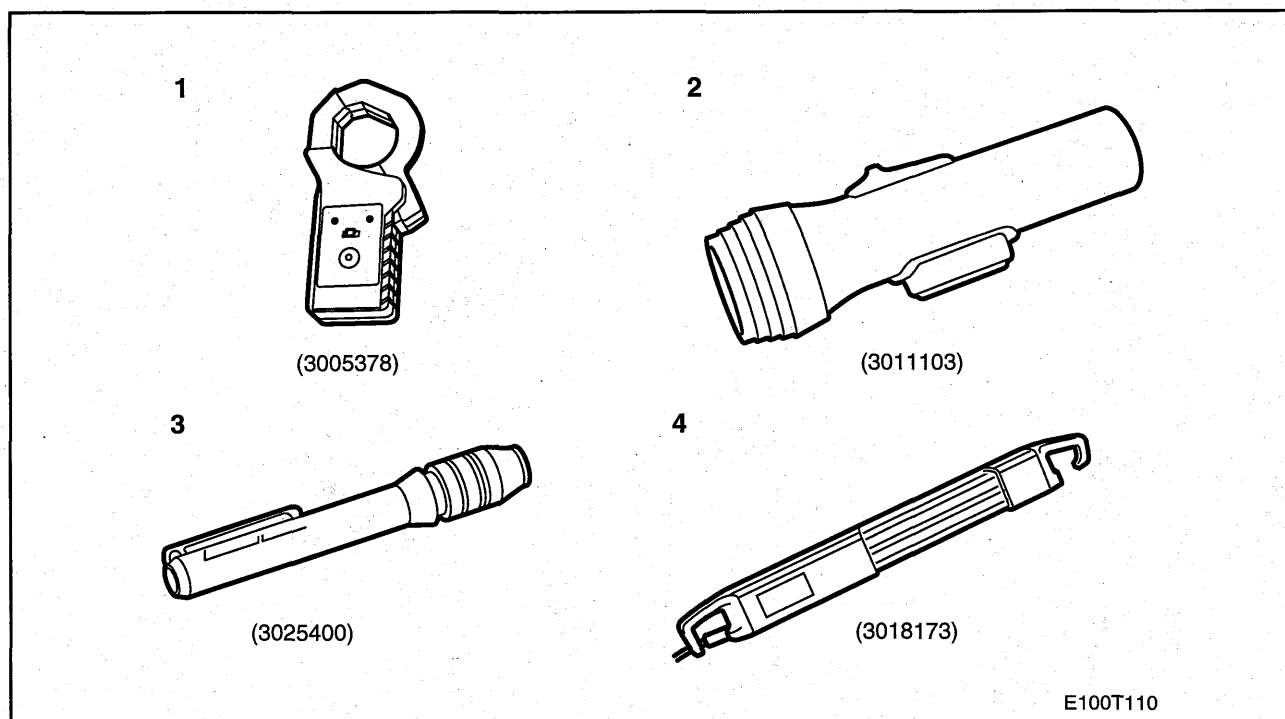
**Car electric leads, extra large capacity, bright copper, PVC insulated, rated voltage 100 V.**

Pos.	Denomination	Package	Part no.
4	Dim. 0.75 mm <sup>2</sup> , 100 m/roll, Black	1	3024205
	Dim. 0.75 mm <sup>2</sup> , 100 m/roll, Blue	1	3024213
	Dim. 0.75 mm <sup>2</sup> , 100 m/roll, Yellow	1	3024221
	Dim. 0.75 mm <sup>2</sup> , 100 m/roll, Red	1	3024239
	Dim. 0.75 mm <sup>2</sup> , 100 m/roll, Grey	1	3024833
	Dim. 0.75 mm <sup>2</sup> , 100 m/roll, Green	1	3025772
	Dim. 0.75 mm <sup>2</sup> , 100 m/roll, Brown	1	3025780
	Dim. 0.75 mm <sup>2</sup> , 100 m/roll, White	1	3025798
	Dim. 0.75 mm <sup>2</sup> , 100 m/roll, Purple	1	3025814
	Dim. 1.0 mm <sup>2</sup> , 100 m/roll, Red	1	3002680
	Dim. 1.0 mm <sup>2</sup> , 100 m/roll, Black	1	3002698
	Dim. 1.0 mm <sup>2</sup> , 100 m/roll, Grey	1	3002706
	Dim. 1.5 mm <sup>2</sup> , 50 m/roll, Black	1	3024247
	Dim. 1.5 mm <sup>2</sup> , 50 m/roll, Blue	1	3024254
	Dim. 1.5 mm <sup>2</sup> , 50 m/roll, Yellow	1	3024262
	Dim. 1.5 mm <sup>2</sup> , 50 m/roll, Red	1	3024270
	Dim. 1.5 mm <sup>2</sup> , 50 m/roll, Green	1	3024288
	Dim. 1.5 mm <sup>2</sup> , 50 m/roll, Grey	1	3024296
	Dim. 1.5 mm <sup>2</sup> , 50 m/roll, Brown	1	3024825
	Dim. 1.5 mm <sup>2</sup> , 50 m/roll, White	1	3025822
	Dim. 1.5 mm <sup>2</sup> , 50 m/roll, Purple	1	3025830
	Dim. 2.5 mm <sup>2</sup> , 50 m/roll, Black	1	3024304
	Dim. 2.5 mm <sup>2</sup> , 50 m/roll, Blue	1	3024312
	Dim. 2.5 mm <sup>2</sup> , 50 m/roll, Yellow	1	3024320
	Dim. 2.5 mm <sup>2</sup> , 50 m/roll, Red	1	3024338
	Dim. 2.5 mm <sup>2</sup> , 50 m/roll, Green	1	3024346
	Dim. 2.5 mm <sup>2</sup> , 50 m/roll, Grey	1	3024353
	Dim. 2.5 mm <sup>2</sup> , 50 m/roll, Brown	1	3025848
	Dim. 2.5 mm <sup>2</sup> , 50 m/roll, White	1	3025855
	Dim. 2.5 mm <sup>2</sup> , 50 m/roll, Purple	1	3025863
	Dim. 4.0 mm <sup>2</sup> , 25 m/roll, Black	1	3024361
	Dim. 4.0 mm <sup>2</sup> , 25 m/roll, Red	1	3024379
	Dim. 4.0 mm <sup>2</sup> , 25 m/roll, Grey	1	3025871
	Dim. 6.0 mm <sup>2</sup> , 25 m/roll, Black	1	3024387
	Dim. 6.0 mm <sup>2</sup> , 25 m/roll, Red	1	3024395
	Dim. 10.0 mm <sup>2</sup> , 25 m/roll, Black	1	3025889
	Dim. 10.0 mm <sup>2</sup> , 25 m/roll, Red	1	3025897
	Dim. 2 x 0.75 mm <sup>2</sup> , 50 m/roll, Red/black	1	3024809
	Dim. 2 x 2.5 mm <sup>2</sup> , 50 m/roll, Red/black	1	3024817



Pos.	Denomination	Package	Part no.
1	Booster Pac. Portable start help. Integral battery connecting leads. Integral charge indicator. Does not damage vehicle electrics (transient protection). Manages 10–30 occurrences of start help on one charge. ES 3000. (Charger in Booster Pac is for 230 V –50 Hz)	1	3031036
2	Battery charger, 4 amp 12 volt. CE marked.	1	3031309
3	Start cables, fine spun copper cable 16 mm <sup>2</sup> . 120 A. Length 2.4 m.	1	3017134
4	Voltage tester with test probe and two LEDs. 3–48 V. Cable length 125 cm. Car-Check.	1	3005410
5	Test lamp for lighting test on vehicles. 6–24 V. Entirely in metal. Length 120 mm.	1	3013372
	Spare bulb for test lamp.	1	3030616
6	Multimeter, dimensions 28.4 x 74.9 x 166.4 mm. 0.28 kg. 2.3 measurements/sec. Fluke 75. Functions and measuring ranges DC voltage: 0 mV–1000 V AC voltage: 0–750 V Resistance: 0 ohm–32 Mohm Coupling test: Acoustic signal Diode test: 0–2 V AC-DC: 10 A	1	3005360
	Fuse 630 mA. Fluke.	1	3025996
	Fuse 15 A. Fluke.	1	3025988
	Cable set including probes. For Fluke.	1	3025970
7	Temperature gauge for Multimeter Fluke 75. Measuring range –40 °C to +260 °C. Fluke 80 TK.	1	3005386

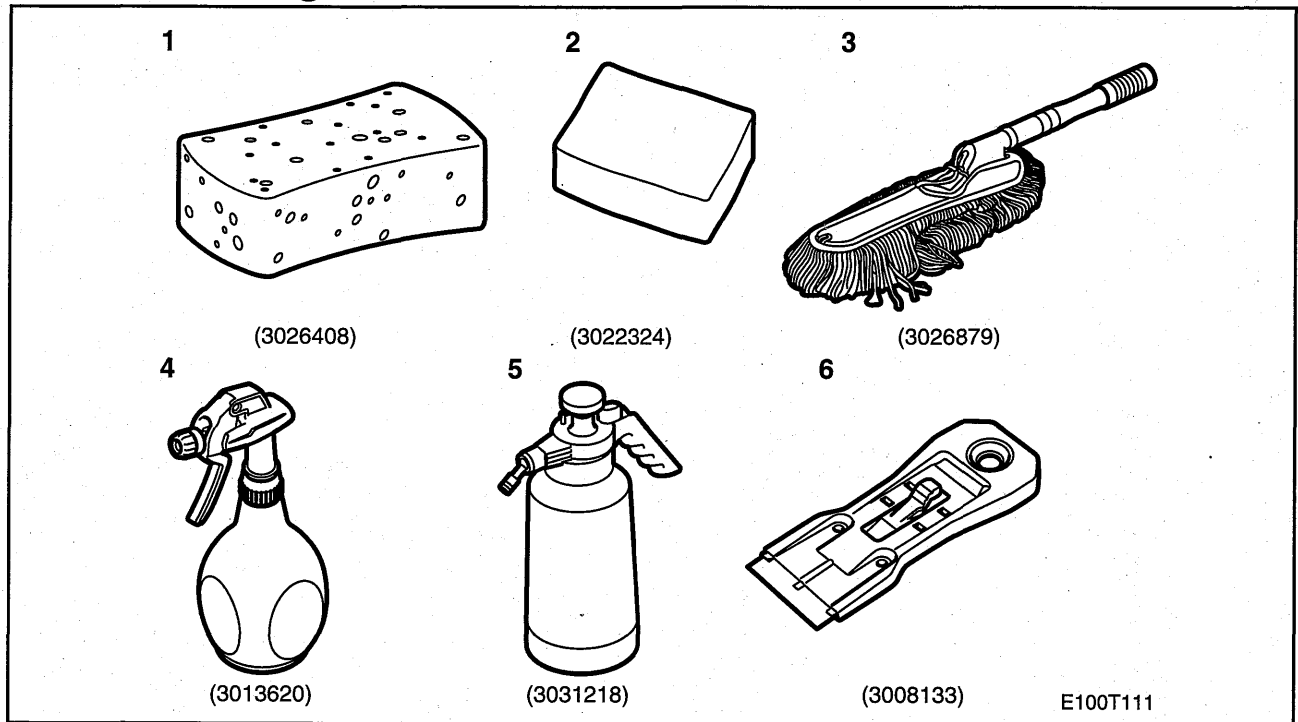
E100T109



E100T110

Pos.	Denomination	Package	Part no.
1	DC/AC tongs. Measure DC and AC currents up to 2000 A. Dual measuring range (200 and 2000 A AC/DC). Precision 2 %. 0.2 mV up to 1200 A: Dimensions 196 x 65 x 35 mm. Weight 500 g. Jaw 55 mm. Rail 20 x 60 mm. Battery 1 pc. 9 V 6F22. EA 2810.	1	3005378
2	Flash lamp, aluminium. Magnetic holder. Colour: White/Red. Flash lamp bulb, 2.4 V – 0.5 A.	1 1	3011103 3020161
3	Mitylite penlight. Powerful Xenon bulb. Pocket clip and magnet. With optical fibre rod to angle light 90°. Length 120 mm. Ø 14 mm. Includes battery.  Bulb for Mitylite.	1 1	3025400 3025418
4	Hand lamp 220–230 V. Economic compact fluorescent tube 11 W (corresponding to 75 W standard bulb). Fibreglass reinforced plastic. Double insulated. Rubber lead. 5.5 m. Oil resistant. Fluorescent tube 11 W for hand lamp.	1 1	3018173 3018181

## Reconditioning accessories

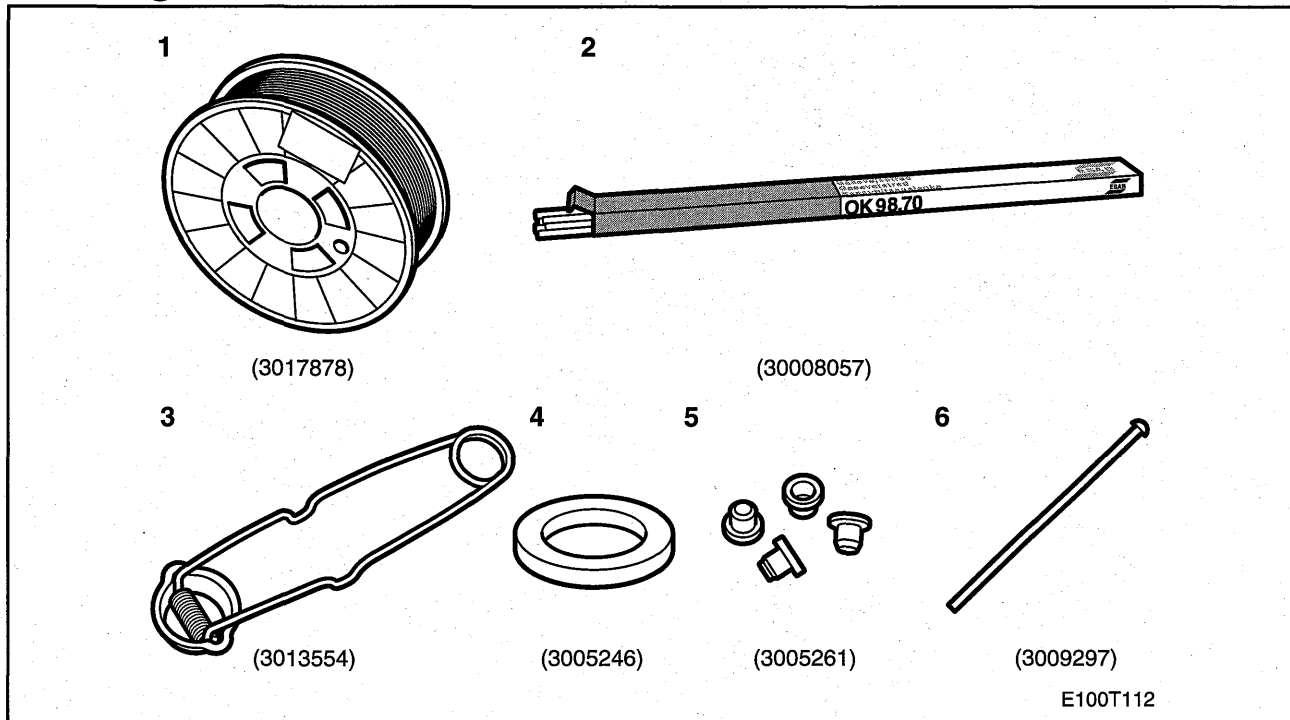


Pos.	Denomination	Package	Part no.
1	Turtle wash sponge, synthetic, without shampoo, wrapped	50	3026408
2	Insect sponge, "Flugsvamp". 100 x 70 x 35 mm	24	3022324
3	Car duster. Clean without water, removes dust from windows, paintwork and chrome without scratching. Impregnated fibre.	1	3026879
	Replacement fabric for car duster.	1	3030947
4	Spray bottle, plastic container. Powerful pump. Capacity: 1 litre.	1	3013620
5	Chemical sprayer for petroleum based and alkaline degreasing agent. Adjustable nozzle. Capacity 1.5 litres.	1	3031218
6	Window scraper, metal.	1	3008133
	Replacement blades for window scraper. Box of 10.	1	3008141

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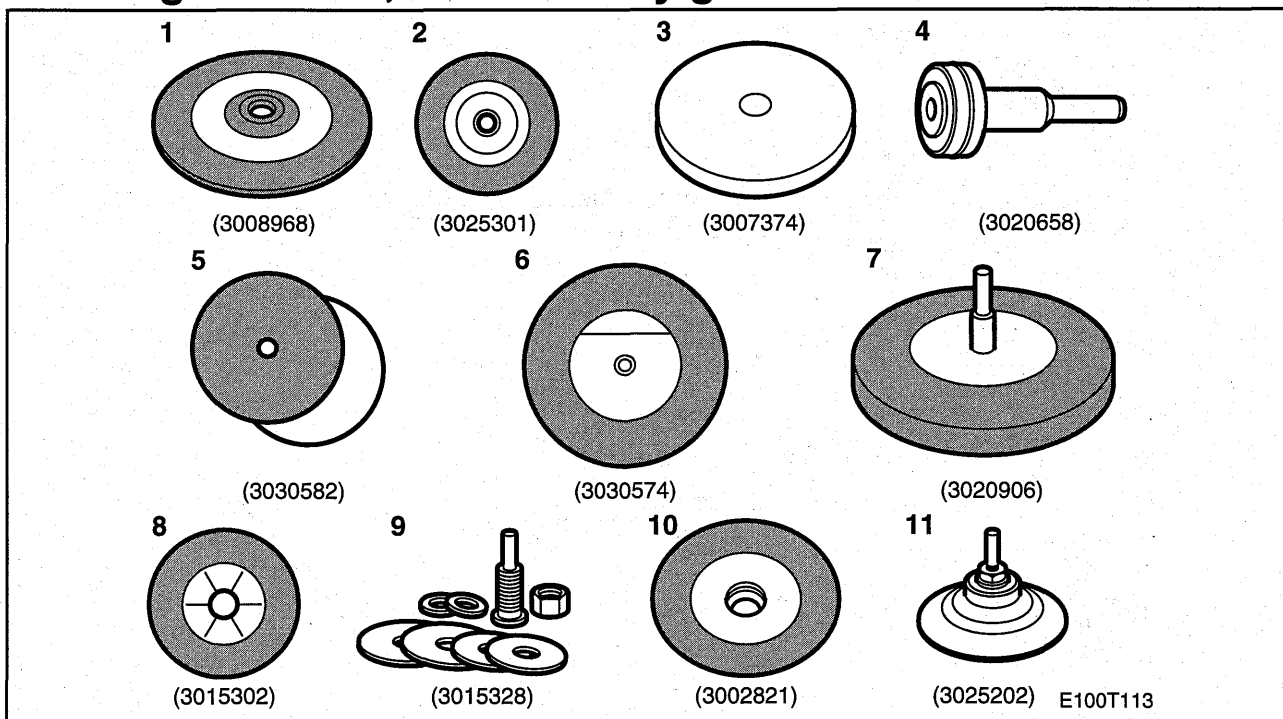


## Welding materials



Pos.	Denomination	Package	Part no.
1	Welding wire, Magsi-54. For welding zinc-coated car panels, $\varnothing$ 0.6 mm, roll of 5 kg.	1	3017878
	Welding wire, Magsi-54. For welding zinc-coated car panels, $\varnothing$ 0.8 mm, roll of 5 kg.	1	3017886
2	Welding rod, ESAB OK 98.70, gas $\varnothing$ 1.6 mm, box of 5 kg.	1	3009057
	Welding rod, ESAB OK 98.70, gas $\varnothing$ 2.0 mm, box of 5 kg.	1	3009271
3	Gas lighter, brace type with striking bowl.	1	3013554
	Flint for gas lighter. Box of 6 pcs.	1	3013562
4	Washer for pulling car panels. For Tecna, Multispot, etc. Bag of 100 pcs.	1	3005246
5	T-rivet, for fastening moulding clips. 3 x 3.2 mm. For Tecna, Multispot, etc. Bag of 100 pcs.	1	3005261
6	Nail electrode for pulling car panels. No. 2 $\varnothing$ 2.0 mm. Bag of 500 pcs.	1	3009297

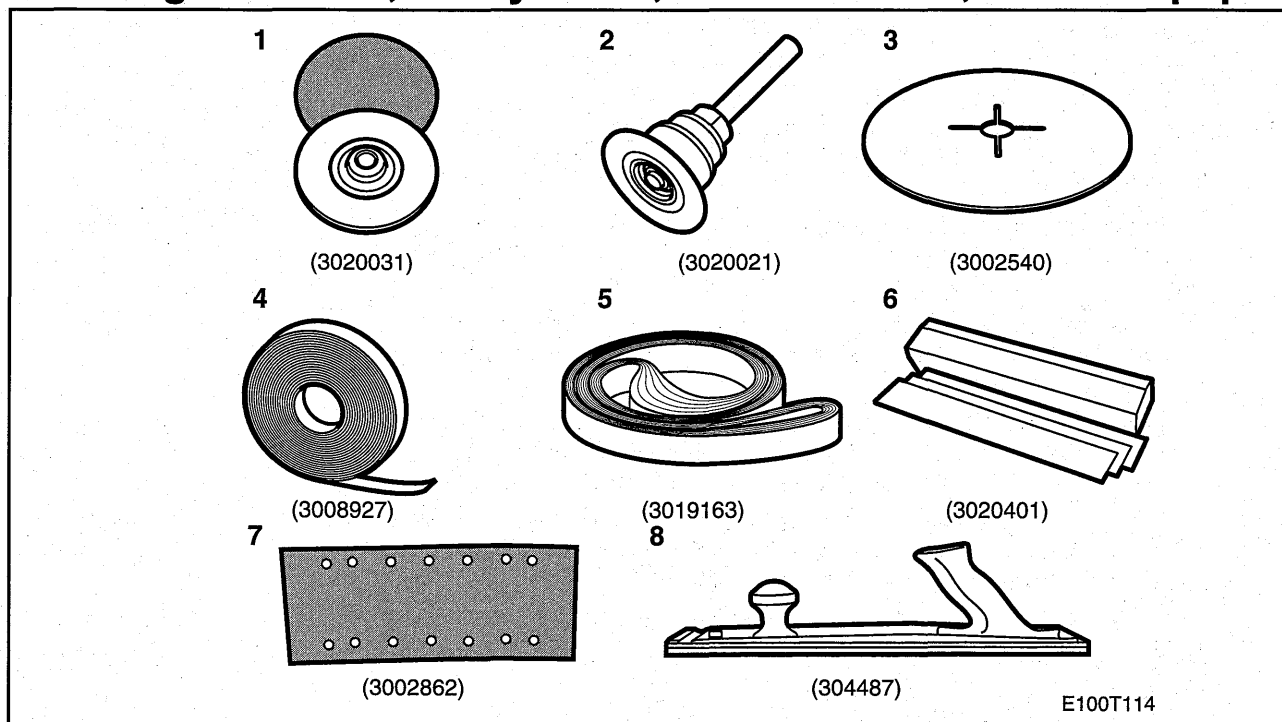
## Grinding materials, coarse rotary grinders



Item	Denomination	Package	Part no.
1	Hub rotary grinder for iron, steel and other metals. Fabric reinforced. Phenolic plastic binder. Dimensions 127 x 6 x 22 mm. Max. speed 12000 rpm.	1	3008968
	Hub rotary grinder for iron, steel and other metals. Fabric reinforced. Phenolic plastic binder. Dimensions 178 x 6 x 22 mm. Max. speed 8600 rpm.	1	3008976
2	Cutting disc, fabric reinforced. Phenolic plastic binder. Dimensions 75 x 1 x 8 mm. Max. speed 20400 rpm.	1	3025301
	Cutting disc, fabric reinforced. Phenolic plastic binder. Dimensions 75 x 2 x 8 mm. Max. speed 20000 rpm.	1	3006871
	Cutting disc, fabric reinforced. Phenolic plastic binder. Dimensions 75 x 2 x 10 mm. Max. speed 20000 rpm.	1	3004744
	Cutting disc, fabric reinforced. Phenolic plastic binder. Dimensions 127 x 2.5 x 22 mm. Max. speed 12000 rpm.	1	3014826
	Cutting disc, fabric reinforced. Phenolic plastic binder. Dimensions 180 x 2.5 x 22 mm. Max. speed 8600 rpm.	1	3008984
3	Grinding disc for freehand grinding, dimensions 45 x 6 x 8 mm, grade A36, max. speed 21000 rpm.	1	3007374
4	Grinder spindle, Ø 6 mm pin. For discs with Ø 8 mm hole.	1	3020658
5	Deburring disc for cleaning spot welds, door folds and removing paint and rust, dimensions 75 x 6 mm, for Roloc+, 3M7911. Box of 5 pcs.	1	3030582
6	Coarse rotary grinder disc for removing paint, rust, plastic, etc. from body panels. 3M Scotch-Brite, foam embedded, extra strong, for Roloc+, 3M9734, dimensions 100 x 13 mm, max. speed 8000 rpm.	1	3030574
	Coarse rotary grinder disc for removing paint, rust, plastic, etc. from body panels. 3M Scotch-Brite, for Roloc+, 3M9730, dimensions 100 x 13 mm, max. speed 8000 rpm.	1	3030558
	Coarse rotary grinder disc for removing paint, rust, plastic, etc. from body panels. 3M Scotch-Brite, for Roloc+, 3M5086, dimensions 150 x 13 mm, max. speed 6000 rpm.	1	3030566
	Coarse rotary grinder disc for removing paint, rust, plastic, etc. from body panels. 3M Scotch-Brite, for Roloc+, 3M18364, dimensions 50 x 13 mm, max. speed 18000 rpm.	1	3030525

Item	Denomination	Package	Part no.
	Coarse rotary grinder disc for removing paint, rust, plastic, etc. from body panels. 3M Scotch-Brite, foam embedded, extra strong, with spindle, 3M3717, dimensions 100 x 12 x 6 mm, max. speed 8000 rpm.	1	3030517
7	Coarse rotary grinder disc for removing paint, rust, plastic, etc. from body panels. 3M Scotch-Brite, with spindle, 3M7205, dimensions 150 x 12 x 8 mm, max. speed 6000 rpm.	1	3020906
	Coarse rotary grinder disc for removing paint, rust, plastic, etc. from body panels. 3M Scotch-Brite, without spindle, 6 mm hole, 3M7772, dimensions 150 x 13 mm, max. speed 4000 rpm. 2 pcs./pack	1	3015310
	Coarse rotary grinder disc for removing paint, rust, plastic, etc. from body panels. 3M Scotch-Brite, double with spindle, 3M7204, dimensions 100 x 25 x 6 mm, max. speed 6000 rpm.	1	3005816
	Coarse rotary grinder disc for removing paint, rust, plastic, etc. from body panels. 3M Scotch-Brite, double with spindle, 3M7206, dimensions 150 x 25 x 8 mm, max. speed 4000 rpm.	1	3005824
8	Coarse rotary grinder disc for angle grinder. For removing underbody sealant, stone-chip protector, sealant and covering, rust, paint. Fibre backing. Ø 115 mm. 22 mm hole. Max. 10 000 rpm. 3M 9800.	1	3015302
9	Spindle, 3M7772, Ø 8 mm. For rotary grinder disc 3015310.	1	3015328
10	RolocrondeLL 3M, Ø 25 mm, grain size US50/Green	1	3025244
	RolocrondeLL 3M, Ø 38 mm, grain size US50/Green	1	3025251
	RolocrondeLL 3M, Ø 50 mm, grain size US50/Green	1	3002821
	RolocrondeLL 3M, Ø 50 mm, grain size US80/Yellow	1	3002839
	RolocrondeLL 3M, Ø 75 mm, grain size US36/Brown	1	3002847
	RolocrondeLL 3M, Ø 75 mm, grain size US50/Green	1	3002854
11	Disc holder, 3M, with spindle, Ø 25 mm, Roloc holder	1	3025202
	Disc holder, 3M, with spindle, Ø 38 mm, Roloc holder	1	3025210
	Disc holder, 3M, with spindle, Ø 50 mm, Roloc holder	1	3025228
	Disc holder, 3M, with spindle, Ø 75 mm, Roloc holder	1	3025236
	Disc holder, 3M, with spindle, Ø 25 mm, Roloc+ holder	1	3030541

## Grinding materials, rotary discs, abrasive belts, abrasive paper

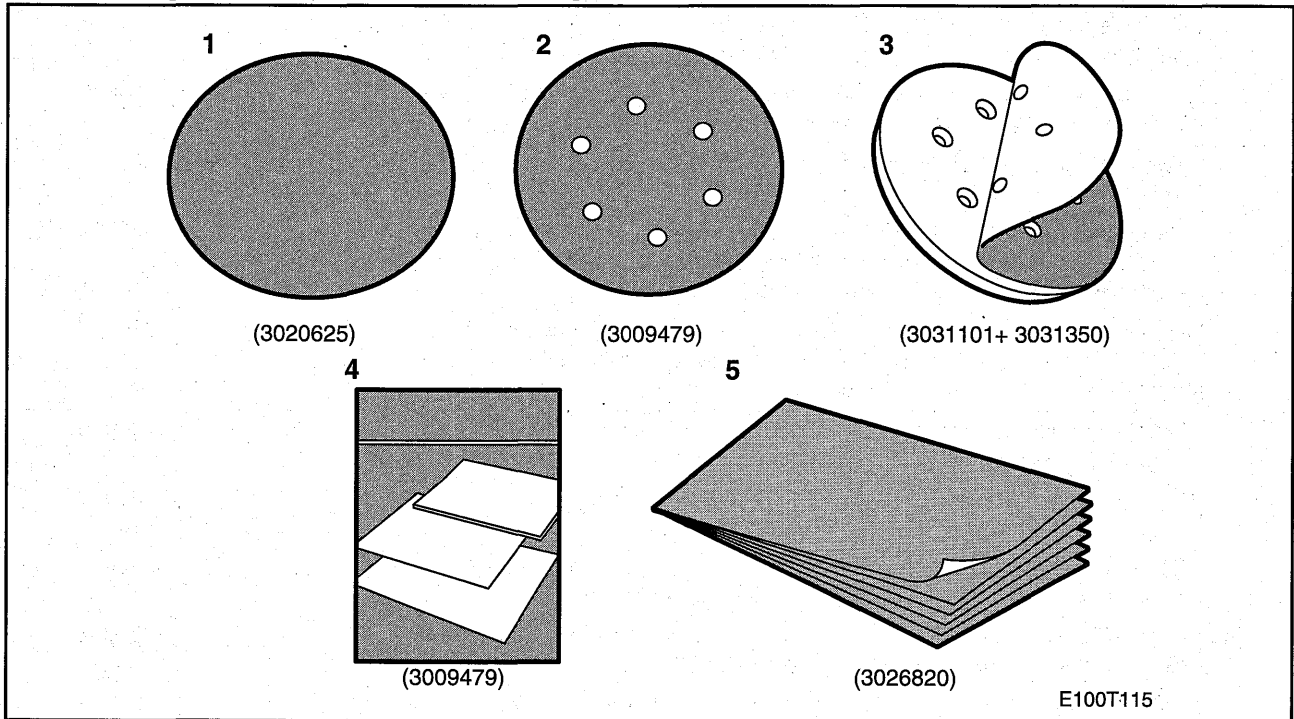


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Item	Denomination	Package	Part no.
1	Quick disc for grinding body panels in hard-to-get places. Quick fitting in seconds. Carborundum, Ø 38 mm, grain size 50.	1	3020039
	Quick disc for grinding body panels in hard-to-get places. Quick fitting in seconds. Carborundum, Ø 38 mm, grain size 80.	1	3020047
	Quick disc for grinding body panels in hard-to-get places. Quick fitting in seconds. Carborundum, Ø 50 mm, grain size 50.	1	3020062
	Quick disc for grinding body panels in hard-to-get places. Quick fitting in seconds. Carborundum, Ø 50 mm, grain size 80.	1	3020070
2	Quick holder for Carborundum quick discs, dimensions 38 x 6 mm.	1	3020021
	Quick holder for Carborundum quick discs, dimensions 50 x 6 mm.		3020054
3	Fibre rotary disc for cleaning panels and welded joints. 4-slit. 3M 880. Cubitron, Ø 127 mm, grain size 80, max. speed 4800 rpm. Box of 25 pcs.	1	3002540
	Fibre rotary disc for cleaning panels and welded joints. 4-slit. 3M 880. Cubitron, Ø 178 mm, grain size 50, max. speed 4800 rpm. Box of 25 pcs.	1	3002813
	Fibre rotary disc for cleaning panels and welded joints. 4-slit. 3M 880. Cubitron, Ø 178 mm, grain size 80, max. speed 4800 rpm. Box of 25 pcs.	1	3002557
4	Abrasive cloth for steel and metal, 25 m/roll, width 35 mm, grain size 40	1	3008927
	Abrasive cloth for steel and metal, 25 m/roll, width 35 mm, grain size 60	1	3006855
	Abrasive cloth for steel and metal, 25 m/roll, width 35 mm, grain size 150	1	3006863
	Abrasive cloth for polishing brake discs, etc., 10 m/roll, width 50 mm, grain size 50.	1	3009917
5	Abrasive belt for belt grinder, dimensions 12 x 330 mm, grain size 60. Bag of 10 pcs.	1	3019163
	Abrasive belt for belt grinder, dimensions 12 x 330 mm, grain size 80. Bag of 10 pcs.	1	3019171
	Abrasive belt for belt grinder, dimensions 20 x 520 mm, grain size 60. Bag of 10 pcs.	1	3019189
	Abrasive belt for belt grinder, dimensions 20 x 520 mm, grain size 80. Bag of 10 pcs.	1	3019197
6	Abrasive paper for body plastic. Aluminium oxide coated. 3M 255 P Stikit (self-adhesive). Width 70 mm, length 445 mm, grain size 40. Box of 50 pcs.	1	3020401

Item	Denomination	Package	Part no.
	Abrasive paper for body plastic. Aluminium oxide coated. 3M 255 P Stikit (self-adhesive). Width 70 mm, length 445 mm, grain size 80. Box of 50 pcs.	1	3020443
	Abrasive paper for body plastic. Aluminium oxide coated. 3M 255 P Stikit (self-adhesive). Width 70 mm, length 445 mm, grain size 120. Box of 50 pcs.	1	3020666
	Abrasive paper for body plastic. Aluminium oxide coated. 3M 255 P Stikit (self-adhesive). Width 70 mm, length 445 mm, grain size 40. Box of 50 pcs.	1	3020393
	Abrasive paper for sanding and dulling paintwork. Silicon carbide. Zinc stearate. 3M 618 (not self-adhesive), half sheet. Hand sanding. Width 115 mm, length 280 mm, grain size 150. Box of 50 pcs.	1	3020690
	Abrasive paper for sanding and dulling paintwork. Silicon carbide. Zinc stearate. 3M 618 (not self-adhesive), half sheet. Hand sanding. Width 115 mm, length 280 mm, grain size 150. Box of 50 pcs.	1	3020757
7	Abrasive paper for dust extractor. 3M 255 P Hookit (Velcro). Width 70 mm, length 127 mm, grain size 80, 8-hole. Box of 50 pcs.	1	3030509
	Abrasive paper for dust extractor. 3M 255 P Hookit (Velcro). Width 70 mm, length 127 mm, grain size 120, 8-hole. Box of 50 pcs.	1	3030590
	Abrasive paper for dust extractor. 3M 255 P Hookit (Velcro). Width 70 mm, length 198 mm, grain size 80, 8-hole. Box of 50 pcs.	1	3030475
	Abrasive paper for dust extractor. 3M 255 P Hookit (Velcro). Width 70 mm, length 198 mm, grain size 120, 8-hole. Box of 50 pcs.	1	3030608
	Abrasive paper for dust extractor. 3M 255 P Hookit (Velcro). Width 115 mm, length 225 mm, grain size 80, 10-hole. Box of 50 pcs.	1	3030491
	Abrasive paper for dust extractor. 3M 255 P Hookit (Velcro). Width 115 mm, length 225 mm, grain size 120, 10-hole. Box of 50 pcs.	1	3030483
	Abrasive paper for dust extractor. 3M 255 P Hookit (Velcro). Width 70 mm, length 419 mm, grain size 80, 14-hole. Box of 50 pcs.	1	3002862
	Abrasive paper for dust extractor. 3M 255 P Hookit (Velcro). Width 70 mm, length 419 mm, grain size 120, 14-hole. Box of 50 pcs.	1	3002870
8	Finishing stick for Stikit (self-adhesive), length 445 mm, width 70 mm.	1	3014487

## Grinding materials for rust, paint and filler

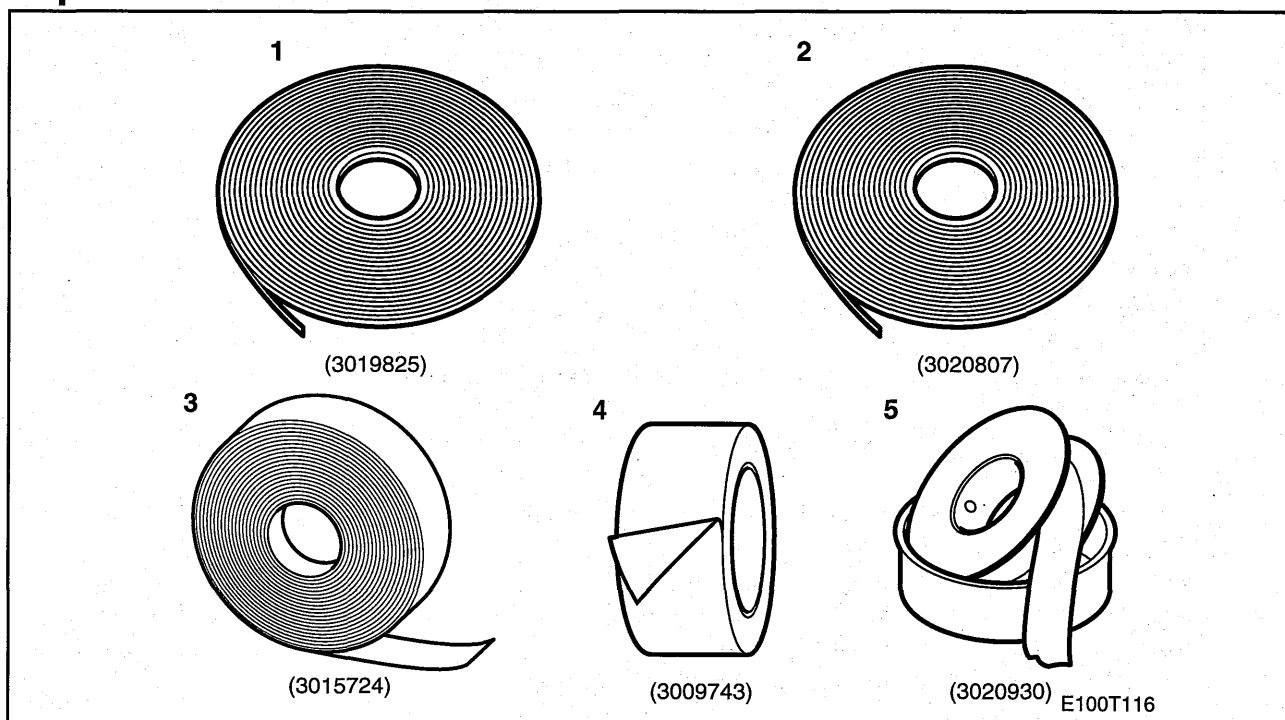


Item	Denomination	Package	Part no.
1	Abrasive disc for sanding rust, paint and filler. Aluminium oxide coated. 3M 245/255 P (self-adhesive). Ø 150 mm, grain size 60. Box of 50 pcs.	1	3020625
	Abrasive disc for sanding rust, paint and filler. Aluminium oxide coated. 3M 245/255 P (self-adhesive). Ø 150 mm, grain size 80. Box of 125 pcs.	1	3020492
	Abrasive disc for sanding rust, paint and filler. Aluminium oxide coated. 3M 245/255 P (self-adhesive). Ø 150 mm, grain size 120. Box of 125 pcs.	1	3020674
	Abrasive disc for sanding rust, paint and filler. Aluminium oxide coated. 3M 245/255 P (self-adhesive). Ø 150 mm, grain size 180. Box of 125 pcs.	1	3020088
	Abrasive disc for sanding rust, paint and filler. Aluminium oxide coated. 3M 245/255 P (self-adhesive). Ø 150 mm, grain size 240. Box of 125 pcs.	1	3009750
	Abrasive disc for sanding rust, paint and filler. Aluminium oxide coated. 3M 245/255 P (self-adhesive). Ø 150 mm, grain size 320. Box of 125 pcs.	1	3009453
2	Abrasive disc for sanding rust, paint and filler. Aluminium oxide coated. 3M 255 P Hookit (Velcro). Ø 150 mm, grain size 80. Box of 100 pcs.	1	3002425
	Abrasive disc for sanding rust, paint and filler. Aluminium oxide coated. 3M 255 P Hookit (Velcro). Ø 150 mm, grain size 120. Box of 100 pcs.	1	3002433
	Abrasive disc for sanding rust, paint and filler. Aluminium oxide coated. 3M 255 P Hookit (Velcro). Ø 150 mm, grain size 180. Box of 100 pcs.	1	3026788
	Abrasive disc for sanding rust, paint and filler. Aluminium oxide coated. 3M 255 P Hookit (Velcro). Ø 150 mm, grain size 240. Box of 100 pcs.	1	3026796
	Abrasive disc for sanding rust, paint and filler. Aluminium oxide coated. 3M 255 P Hookit (Velcro). Ø 150 mm, grain size 320. Box of 100 pcs.	1	3026804
	Abrasive disc for sanding rust, paint and filler. Aluminium oxide coated. 3M 255 P Stikit (self-adhesive) 6-hole. Ø 150 mm, grain size 80. Box of 125 pcs.	1	3002896
	Abrasive disc for sanding rust, paint and filler. Aluminium oxide coated. 3M 255 P Stikit (self-adhesive) 6-hole. Ø 150 mm, grain size 120. Box of 125 pcs.	1	3002888
	Abrasive disc for sanding rust, paint and filler. Aluminium oxide coated. 3M 255 P Stikit (self-adhesive) 6-hole. Ø 150 mm, grain size 180. Box of 125 pcs.	1	3026762
	Abrasive disc for sanding rust, paint and filler. Aluminium oxide coated. 3M 255 P Stikit (self-adhesive) 6-hole. Ø 150 mm, grain size 240. Box of 125 pcs.	1	3026812
	Abrasive disc for sanding rust, paint and filler. Aluminium oxide coated. 3M 255 P Hookit (Velcro) 8-hole. Ø 203 mm, grain size 80. Box of 50 pcs.	1	3002441

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Item	Denomination	Package	Part no.
	Abrasive disc for sanding rust, paint and filler. Aluminium oxide coated. 3M 255 P Hookit (Velcro) 8-hole. Ø 203 mm, grain size 120. Box of 50 pcs.	1	3002458
3	Abrasive film for paint blemishes. 3M 260 L Hookit (Velcro). 6-hole. Ø 150 mm, grain size 1500. Box of 50 pcs.	1	3031150
3	Spacer plate, soft. Hookit-Hookit (Velcro). Used together with abrasive film. Ø 150 mm, 6-hole. 3M 05774	1	3031101
4	Wet abrasive paper, 3M 734, length 230 mm, width 280 mm, grain size 280. Box of 50 pcs.	1	3009497
	Wet abrasive paper, 3M 734, length 230 mm, width 280 mm, grain size 360. Box of 50 pcs.	1	3009487
	Wet abrasive paper, 3M 734, length 230 mm, width 280 mm, grain size 600. Box of 50 pcs.	1	3009495
	Wet abrasive paper, 3M 734, length 230 mm, width 280 mm, grain size 800. Box of 50 pcs.	1	3009503
	Wet abrasive paper, 3M 734, length 230 mm, width 280 mm, grain size 1200. Box of 25 pcs.	1	3006970
5	Wet abrasive paper, 3M Perfect-it. For blemishes in finish paint, length 138 mm, width 230 mm, grain size 1500. Box of 50 pcs.	1	3026820
	Wet abrasive paper, 3M Perfect-it. For blemishes in finish paint, length 138 mm, width 230 mm, grain size 2000. Box of 50 pcs.	1	3026838

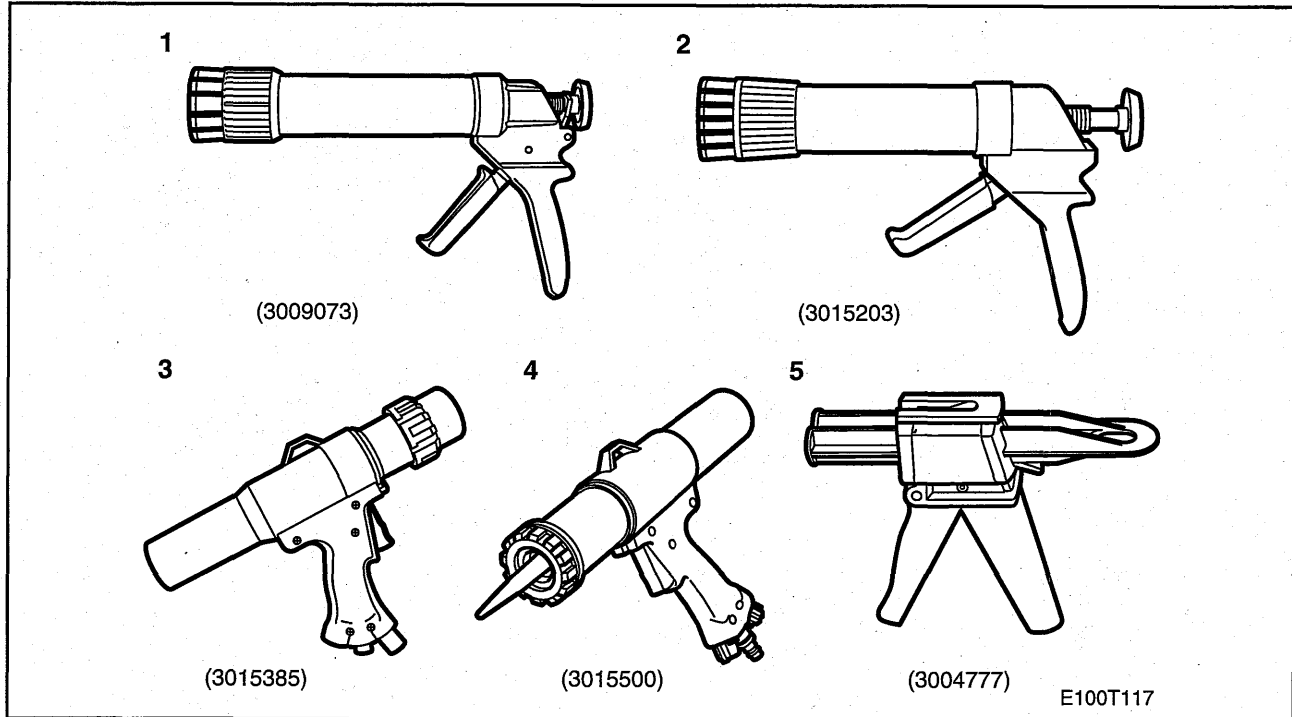
## Tapes



Pos.	Denomination	Package	Part no.
1	Protective and blaster tape. Protects paintwork when grinding. Width 51 mm, length 18 m. 3M 6945.	1	3019825
	Double sided adhesive tape. Extra thin for fitting spoiler, etc. Width 12 mm, length 25 m. Tesa-Fix 4963.	1	3004470
	Edge masking tape. Width 13 mm. 3M 09678.	1	3034550
	Edge masking tape. Width 19 mm. 3M 09973.	1	3034568
	Edge masking tape. Width 27 mm. 3M 09554.	1	3034576
	Moulding masking tape. Width 10 mm. 3M 09529.	1	3034584
	Tool for moulding masking tape. 3M 09530.	1	3034592
	Slot tape. Width 10 mm. 3M 06348	1	3034600
	Slot tape. Width 15 mm. 3M 06349	1	3034618
2	Double sided adhesive tape for fitting decor strip, emblems, etc. Width 12 mm, length 33 m. 3M 4262.	1	3020807
	Double sided adhesive tape. Width 7 mm, length 33 m. 3M 4262.	1	3020815
	Double sided adhesive tape. Width 12 mm, length 10 m. 3M 4210	1	3020823
	Double sided acrylic tape with good adhesion. Width 12 mm, length 10 m. White 3M 4205.	1	3019791
3	Double sided adhesive tape. Width 12 mm, length 10 m. Teroson (T340).	1	3015724
	Double sided adhesive tape. Width 19 mm, length 10 m. Teroson (T341).	1	3015732
	Double sided adhesive tape. Width 25 mm, length 10 m. Teroson (T342).	1	3015740
4	Masking tape, width 15 mm, length 50 m.	1	3009735
	Masking tape, width 19 mm, length 50 m.	1	3009743
	Masking tape, width 50 mm, length 50 m.	1	3008034
	Fabric tape, black, width 50 mm, length 25 m.	1	3004785
	Fabric tape, grey, width 38 mm, length 50 m.	1	3001963
5	Thread sealing tape, water and acid resistant, plastic reel, 12 mm x 12 m.	1	3020930

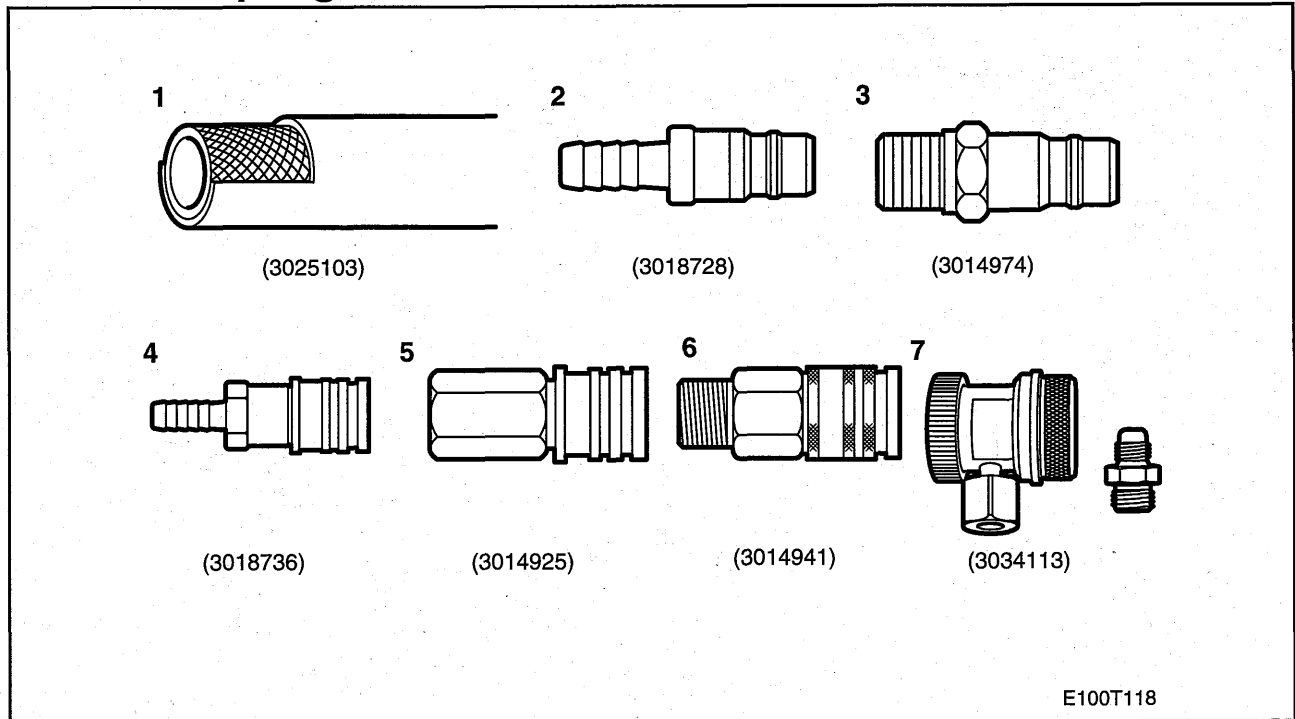


## Glue guns



Pos.	Denomination	Package	Part no.
1	Hand gun Staku. (T954). For 310 ml cartridge.	1	3009073
2	Hand gun Presspack. (T951). For 200 ml cartridge.	1	3015203
3	Pneumatic telescope gun Power Line. (T956). All-round. For 310 ml cartridge.	1	3015385
4	Telescope gun Multi Press. Special gun with dual-circuit air system for optimum use of sprayable sealant Terostat 9320 and other conventional sealing compounds in 310 ml cartridges. Max. operating pressure 6 bar.	1	3015500
5	Hand gun Teromix. (T972). For twin cartridge.	1	3004777

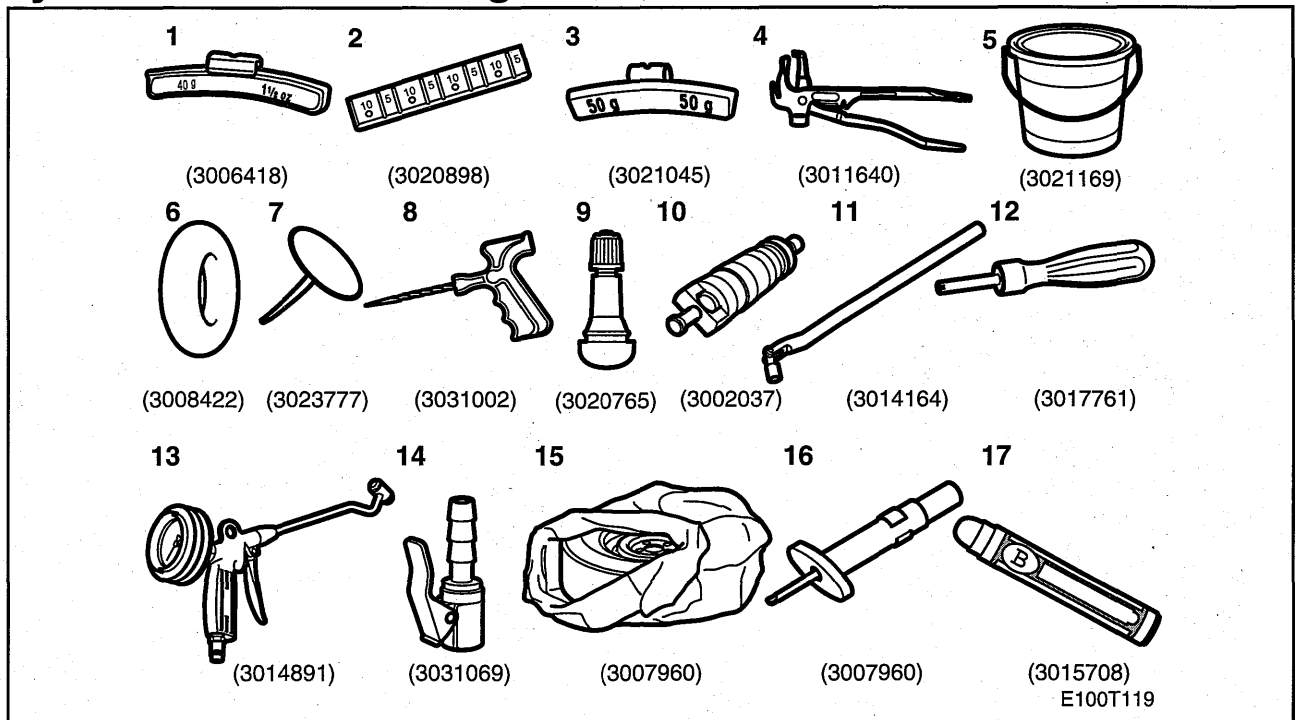
## Hoses, couplings



Item	Denomination	Package	Part no.
1	Compressed air hose, rubber reinforced. Operating pressure max. 15 bar. Black. Ø 8 mm, 12.5 m/roll.	1	3025103
	Compressed air hose, rubber reinforced. Operating pressure max. 15 bar. Black. Ø 10 mm, 12.5 m/roll.	1	3025111
	Compressed air hose, rubber reinforced. Operating pressure max. 15 bar. Black. Ø 13 mm, 12.5 m/roll.	1	3025129
2	Compressed air nipple. CEJN series 320, dimensions 5/16", 8 mm hose nipple. Designation 10-320-5003.	1	3018728
	Compressed air nipple. CEJN series 320, dimensions 3/8", 10 mm hose nipple. Designation 10-320-5004.	1	3014958
	Compressed air nipple. CEJN series 320, dimensions 1/2", 13 mm hose nipple. Designation 10-320-5005.	1	3014966
3	Compressed air nipple. CEJN series 320, dimensions BSPT 1/4", male thread. Designation 10-320-5152.	1	3014974
	Compressed air nipple. CEJN series 320, dimensions BSPT 3/8", male thread. Designation 10-320-5154.	1	3014982
4	Quick-release coupling for compressed air. CEJN series 320, dimensions 5/16", 8 mm hose nipple. Designation 10-320-1003.	1	3018736
	Quick-release coupling for compressed air. CEJN series 320, dimensions 3/8", 10 mm hose nipple. Designation 10-320-1004.	1	3014917
5	Quick-release coupling for compressed air. CEJN series 320, dimensions 1/2", 13 mm hose nipple. Designation 10-320-1005.	1	3014925
	Quick-release coupling for compressed air. CEJN series 320, dimensions BSP 1/2", male thread. Designation 10-320-1205.	1	3014933
6	Quick-release coupling for compressed air. CEJN series 320, dimensions BSPT 1/2", male thread. Designation 10-320-1155.	1	3014941
7	Service nipple -AC. Low pressure R134a. Short model. Blue.	1	3034113
	Service nipple -AC. High pressure R134a. Short model. Red.	1	3034105
	Adapter for service nipple to Robinair servicing equipment, hose connection 1/4" flare.	1	3034121



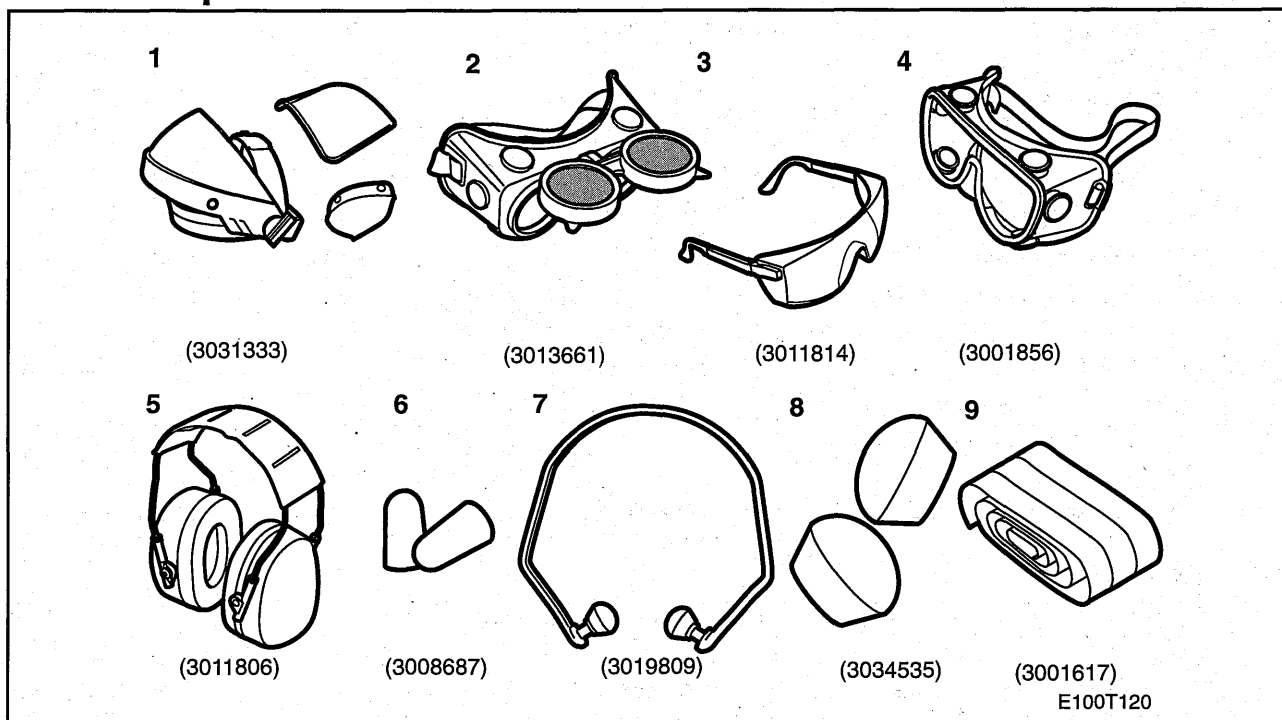
## Tyre and wheel servicing



Item	Denomination	Package	Part no.
1	Wheel weights, standard for passenger car rims 5 g, carton of 100 pcs.	1	3006368
	Wheel weights, standard for passenger car rims 10 g, carton of 100 pcs.	1	3009768
	Wheel weights, standard for passenger car rims 15 g, carton of 100 pcs.	1	3006376
	Wheel weights, standard for passenger car rims 20 g, carton of 100 pcs.	1	3006384
	Wheel weights, standard for passenger car rims 25 g, carton of 100 pcs.	1	3009776
	Wheel weights, standard for passenger car rims 30 g, carton of 100 pcs.	1	3006392
	Wheel weights, standard for passenger car rims 35 g, carton of 100 pcs.	1	3006400
	Wheel weights, standard for passenger car rims 40 g, carton of 100 pcs.	1	3006418
	Wheel weights, standard for passenger car rims 45 g, carton of 100 pcs.	1	3002060
	Wheel weights, standard for passenger car rims 50 g, carton of 50 pcs.	1	3006426
	Wheel weights, standard for passenger car rims 60 g, carton of 50 pcs.	1	3006434
	Wheel weights, standard for passenger car rims 70 g, carton of 50 pcs.	1	3006459
	Wheel weights, standard for passenger car rims 80 g, carton of 50 pcs.	1	3006467
	Wheel weights, standard for passenger car rims 90 g, carton of 50 pcs.	1	3006483
2	Wheel weights, adhesive weights for light alloy wheels. Low profile. Markings for 5 g and 10 g respectively, bright, carton of 3 kg.	1	3020898
3	Wheel weights, clip-on for light alloy wheels 5 g, carton of 50 pcs.	1	3021045
	Wheel weights, clip-on for light alloy wheels 10 g, carton of 50 pcs.	1	3021052
	Wheel weights, clip-on for light alloy wheels 15 g, carton of 50 pcs.	1	3021060
	Wheel weights, clip-on for light alloy wheels 20 g, carton of 50 pcs.	1	3021078
	Wheel weights, clip-on for light alloy wheels 25 g, carton of 50 pcs.	1	3021086
	Wheel weights, clip-on for light alloy wheels 30 g, carton of 50 pcs.	1	3021094
	Wheel weights, clip-on for light alloy wheels 35 g, carton of 50 pcs.	1	3021102
	Wheel weights, clip-on for light alloy wheels 40 g, carton of 50 pcs.	1	3021110
	Wheel weights, clip-on for light alloy wheels 45 g, carton of 50 pcs.	1	3021128
	Wheel weights, clip-on for light alloy wheels 50 g, carton of 50 pcs.	1	3021136
	Wheel weights, clip-on for light alloy wheels 55 g, carton of 50 pcs.	1	3021144
	Wheel weights, clip-on for light alloy wheels 60 g, carton of 50 pcs.	1	3021151

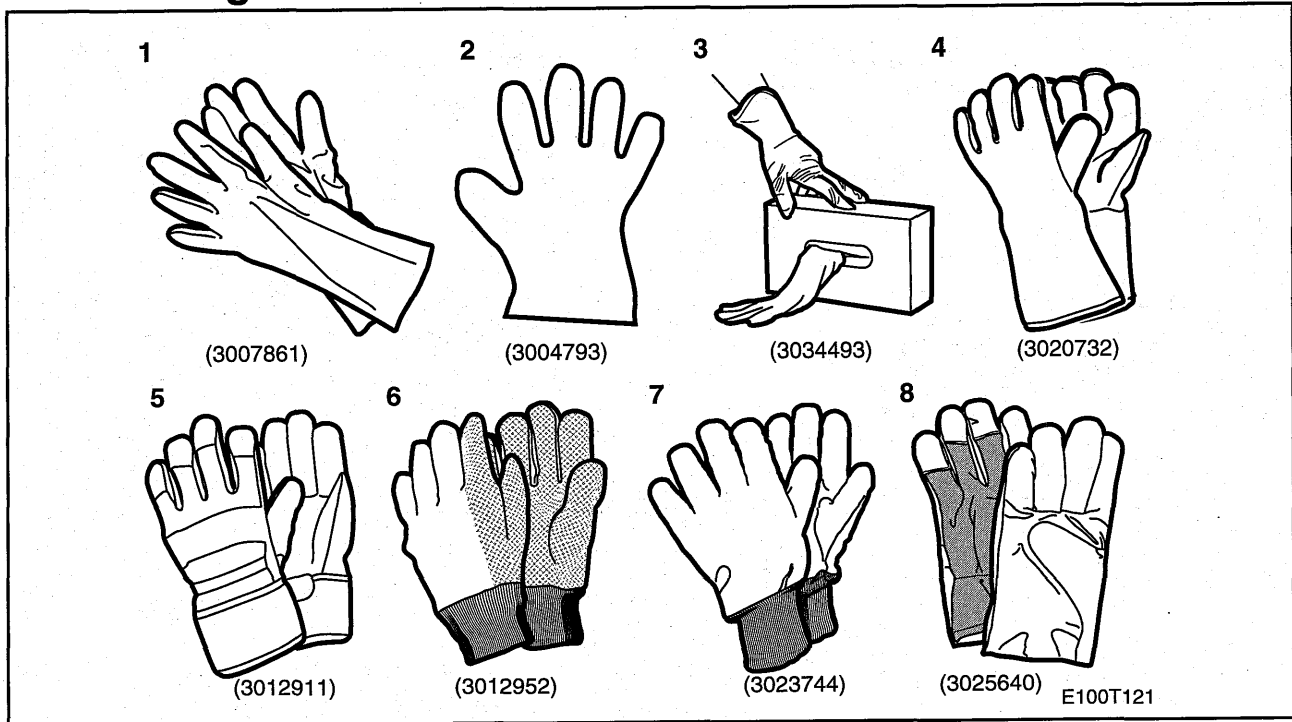
Item	Denomination	Package	Part no.
4	Wheel weight pliers, universal tool for wheel balancing, length 250 mm, HZ 665.	1	3011640
5	Tyre fitting paste, water-based. Can of 3 kg.	1	3021169
6	Tyre tube for passenger cars, dimensions 135, 145 x 13, 155/70 x 13	1	3030681
	Tyre tube for passenger cars, dimensions 155, 165 x 13, 165/70 x 13	1	3008422
	Tyre tube for passenger cars, dimensions 175 x 13, 175, 185/70 x 13	1	3002532
	Tyre tube for passenger cars, dimensions 175 x 14, 185/70 x 14	1	3008430
	Tyre tube for passenger cars, dimensions 155, 165 x 15, 175/70 x 15	1	3008448
	Tyre tube for passenger cars, dimensions 175, 185, 195 x 15, 185, 195, 205/70 x 15	1	3008455
	Tyre tube for passenger cars, dimensions 205 x 16	1	3030673
7	Tyre plug for repairing nail holes in tyres, Ø 7 mm with fitting sleeve. Quill-Seal.	24	3023777
	Tyre plug for repairing nail holes in tyres, Ø 4 mm with fitting sleeve. Quill-Seal.	48	3031119
8	Rasp for tyre plugs.	1	3031002
9	Tyre valve for tubeless tyres. "Snap-in", length 42 mm, Ø 11.5 mm, bag of 20 pcs.	20	3020765
	Tyre valve for tubeless tyres. "Snap-in", length 51 mm, Ø 11.5 mm, bag of 10 pcs.	10	3021037
10	Tyre valve set, length 20 mm	100	3002037
	Tyre valve cap, black plastic.	100	3002029
11	Tyre valve fitting tool	1	3014164
12	Valve needle tool	1	3017761
13	Air filler gun with pressure gauge 0–10 bar. Fixed tube. Ø 63 mm. Hose connection 6 mm.	1	3014891
	Air filler gun with pressure gauge 0.7–6 bar. With hose.	1	3031051
14	Pump nipple, open, standard.	1	3031069
15	Tyre sack for storing tyres, white, carton of 200 pcs.	1	3007960
16	Tread depth gauge.	1	3005741
17	Colour marker for tyres, white.	1	3015708

## Personal protection



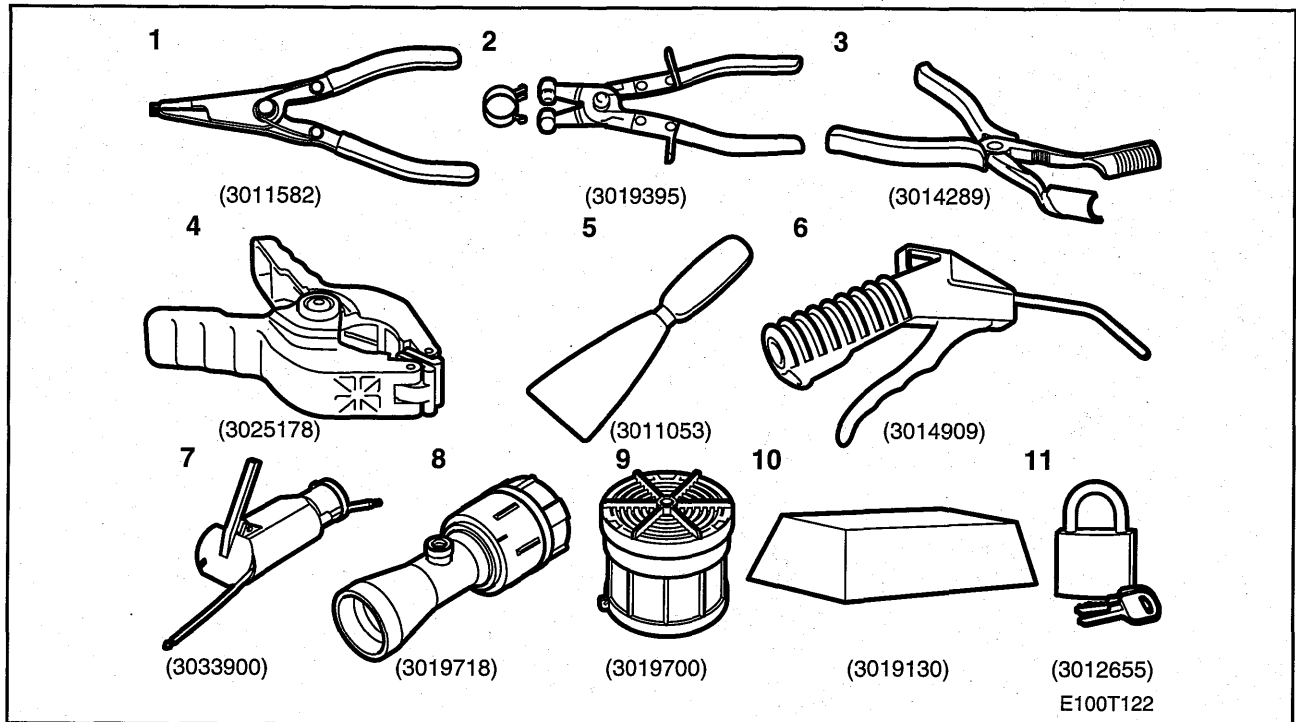
Pos.	Denomination	Package	Part no.
1	Face protector, head brace, excluding visor and throat protector.	1	3031333
1	Visor.	1	3031358
1	Throat protector.	1	3031341
2	Welding goggles, model with tiltable welding guard. Combined with ventilated grinding protector glass. Can be used together with spectacles. 5 Din. CE marked.	1	3013661
3	Protective goggles, plastic. Clear visor with side protection. Adjustable-length sidepieces and adjustable lens angle. CE marked.	1	3011814
4	Protective goggles, mist-free. To fit over spectacles. CE marked.	1	3001856
5	Ear defenders, cups with fluid and foam filled cushions and head brace. For acoustic pressure 115–150 dB. Weight 210 g. Peltor H7. CE marked.	1	3011806
	Hygiene kit for Peltor H7 ear defenders. (sealing cushion + damper cushion), CE marked.	1	3025632
6	Earplugs of special foam material. Formable. Expanding. Box of 2 pcs.	1	3008687
7	Earplug with head brace, light-weight with bow. Can be put on head, behind neck or under chin. 3M 110. CE marked.	1	3019809
8	Exchangeable plugs for 3M 1310. CE marked. Bag of 1 pair.	1	3034535
9	Plaster, elastic fabric. 60 mm x 5 m.	1	3001617

## Protective gloves



Pos.	Denomination	Package	Part no.
1	Protective glove, nitrile rubber. Lined. Approved for contact with petrol. Resistant to acid, alkalis, petrol, grease, oil, white spirit, synthetic detergents. CE marked.	1	3007861
2	Protective glove, polythene. Disposable. For gluing windows, etc. CE marked. Box of 100 pcs.	1	3004793
	Protective glove 4H. Meets with demands on working with isocyanates, epoxies, petrol, solvent. NB! The usefulness of the glove will have expired 4 hours after the first contact with the products above. Extremely thin 0,065 mm. Size 10. CE marked.	1	3031275
3	Vinyl glove, disposable. Box of 100 pcs. CE marked.	1	3034493
4	Welding gauntlet, five-finger model with 10 cm cuff. Lined. Wholly in split leather. CE marked.	1	3020732
	Argon welding gauntlet. Thin and flexible in goatskin. CE marked.	1	3030780
5	Working glove, grained pigskin. With upper and cuff of impregnated material. CE marked.	1	3012911
	Working glove, pile lined. CE marked.	1	3034907
	Working glove, high-quality grained pigskin. Blue upper. Semi-lined. CE marked.	1	3031192
6	Working glove, fabric. With plastic burl inner, thumb, index and little finger. CE marked.	1	3012952
	Working glove, fabric; Jersey. Napped wristlet. Chain stitched. CE marked.	1	3031028
7	Working glove, fabric. Semi-dipped in India rubber. CE marked.	1	3023744
8	Working glove, flexible grained goatskin, reinforced fingertips, ribbed. Size 10. CE marked.	1	3025640
	Working glove, knitted mitt, white, PVC dotted. CE marked.	1	3031200

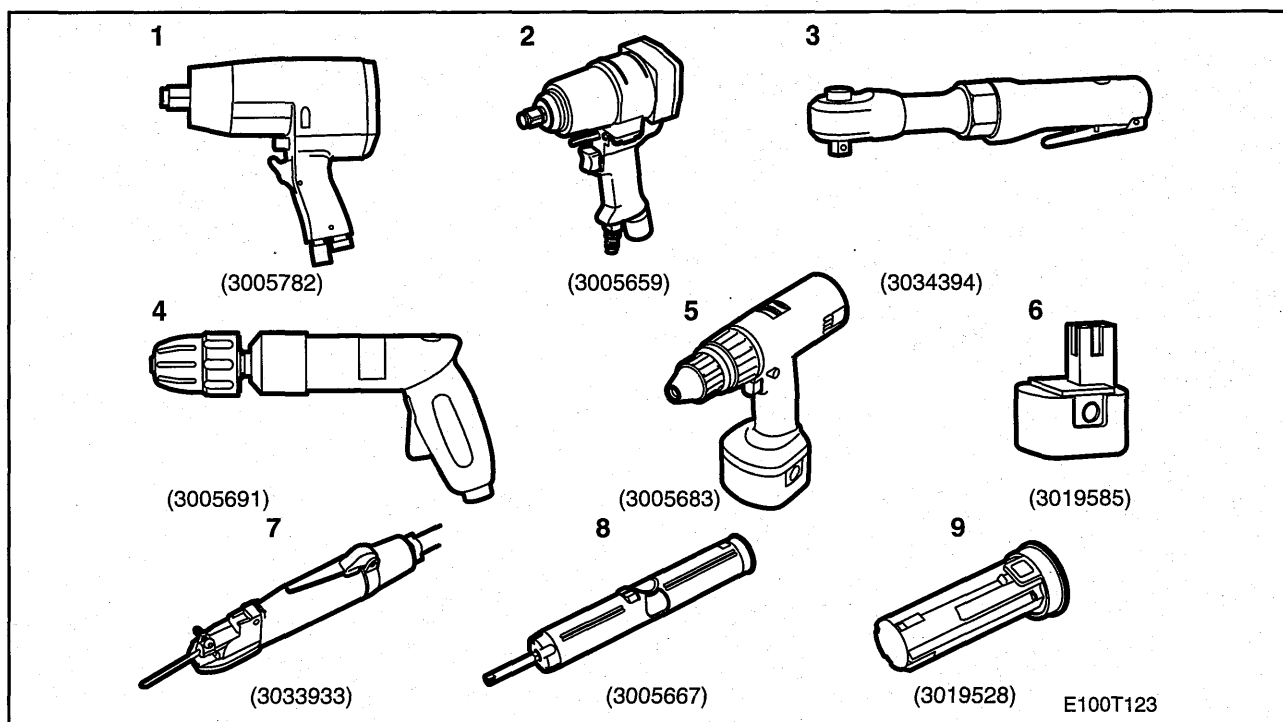
## Diverse tools



Pos.	Denomination	Package	Part no.
1	Circclip pliers, external straight, length 140 mm, Ø 10–25 mm, Milbar A-1.	1	3011582
	Circclip pliers, internal straight, length 140 mm, Ø 10–25 mm, Milbar I-1.	1	3011616
2	Hose clip pliers for CTC hose clips, length 205 mm, HZ798-4.	1	3019395
3	Ignition cable pliers, spark plug cap pliers with long nose, for fitting and dismantling ignition cables, length 230 mm, Midlock K-22.	1	3014289
4	Clamp, length 100 mm, reach 40 mm, carton of 5 pcs.	1	3025178
5	Steel spatula, wooden handle, width 60 mm.	1	3011053
6	Air gun, ergonomic design, stepless flow regulation with "sneak effect", nipple connection R 1/4", Cejn.	1	3014909
7	Exhaust nozzle, AU-75. For connecting to 3"-hose.	1	3033990
8	Exhaust funnel. Used for short transport indoors. Fits exhaust pipes Ø 35–70 mm. Supplied excluding filter.	1	3019718
9	Filter (P11). For exhaust funnel. Reduces emissions of gas and particles in the building. Carton of 4 pcs.	1	3019700
10	Lifting blocks/"pads" for car lift. 200 x 100 x 70 mm	1	3019130
11	Brass padlock. Shackle Ø 8 mm. Width 40 mm. With 2 keys.	1	3012655



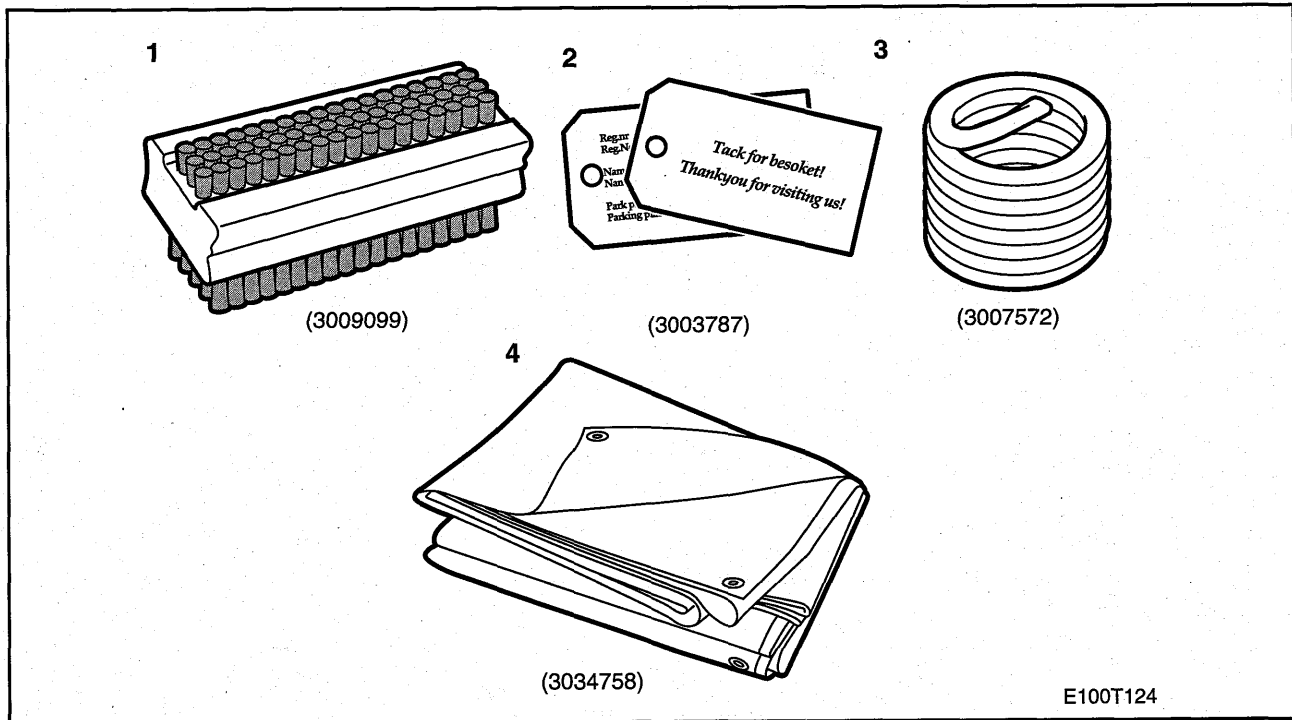
## Hand tools



Item	Denomination	Package	Part no.
1	Nut runner, CP 734. 1/2". Weight 2.2 kg. Vibration level $2.7 \text{ m/s}^2 = 1$ . Return air directed to side. Noise level 80 dB. Max. torque 510 Nm.	1	3005782
	Nut runner, Desoutter 291. 1/2" incl. cover. Return air in hand grip. Strong and light-weight tool with very low vibration. Max. loosening torque 578 Nm. Tightening torque 34–422 Nm. Vibration $3.0 \text{ ms}^2 = 1$ . Weight 2.3 kg. Noise level 91 dB.	1	3034386
	Nut runner, USAG/INGERSOLL RAND Composite 1/2". Powerful low-weight tool. Return air in hand grip. Four torque settings. Dual hammer. Requires filtered air supply. Torque 68–610 Nm. Noise level 87.2 dB. Weight 2.0 kg. Vibration level $4.9 \text{ m/s}^2 = 2$ .	1	3033925
2	Nut runner, Atlas W2210 Pro 2000. 3/8". Torque 100 Nm. Noise level 93 dB. Vibration level max. $2.5 \text{ m/s}^2 = 0$ . Adjustable torque setting. Weight 1.5 kg.	1	3005659
3	Ratchet handle, Desoutter 286. 3/8". Exhaust air directed forward. Noise level 92 dB. Vibration $4.3 \text{ m/s}^2 = 2$ . Weight 1.2 kg. Torque 70 Nm.	1	3034394
	Ratchet handle, Desoutter 446. 3/8". With planetary gear. Exhaust air directed back. Supplied with inner and outer hose. Noise level 82 dB. Vibration $8.2 \text{ m/s}^2 = 4$ . Weight 1.1 kg. Torque 3.7 Nm.	1	3034402
4	Hand drill, Desoutter 186. Quick-grip chuck. Slimline. Adjustable air outlet to front. Weight 0.9 kg. Speed 2500 rpm. Noise level 83 dB. Vibration level max. $2.5 \text{ m/s}^2 = 0$ .	1	3005691
5	Hand drill, Panasonic EY 6181 CQK. Charges in 15 minutes. Torque setting. Quick-grip chuck 10 mm. Chuck brake. Chuck lock. Reversible. Also suitable as a screw driver. Speed 50–350/150–1000 rpm. Voltage 9.6 V.	1	3005683
6	Battery EY 9086. Passance EY 6181 CQK.	1	3019585
7	Jigsaw, ISV-SRV 110. Vibration damping allows 8 hour working day. Return air cools sawblade. Rotatable trigger. 9900 strokes/min. Weight 1.15 kg. Vibration level max. $2.5 \text{ m/s}^2 = 0$ . Noise level 81 dB	1	3033933
8	Power screwdriver, Panasonic EY 503 B. Torque setting. 1/4" bit connection. Reversible. Speed 200/400 rpm.	1	3005667
	Power screwdriver, Panasonic EY 503 B1. Without charger.	1	3005675
9	Battery EY 9021 for EY 503 B.	1	3019528



## Diverse



Pos.	Denomination	Package	Part no.
1	Nailbrush, double-sided, wood 100 x 35 mm.	1	3009099
2	Key tabs for customer keys. Blue. Rubber band. 35 x 60 mm. Text: "Thank you for visiting us". Bunch of 100 pcs.	1	3003787
3	Insert thread, Heli Coil, dimension M6, length 12.0 mm.	1	3007572
	Insert thread, Heli Coil, dimension M8, length 16.0 mm.	1	3007614
	Insert thread, Heli Coil, dimension M10, length 20.0 mm.	1	3007911
	Insert thread, Heli Coil, for spark plugs, dimension M14 x 1.25, length 16.4 mm.	1	3007234
	Insert thread, Heli Coil, for oil drain plug, etc., dimension M14 x 1.5, length 12.0 mm.	1	3007465
4	Tarpaulin, light-weight, with sturdy eyelets. Reinforced in all corners. Double seams all round. Green. Size 2.5 x 3.6 m.	1	3034758
	Tarpaulin, light-weight, with sturdy eyelets. Reinforced in all corners. Double seams all round. Green. Size 3.6 x 5.4 m.	1	3034766
	Tarpaulin, light-weight, with sturdy eyelets. Reinforced in all corners. Double seams all round. Green. Size 5.4 x 7.2 m.	1	3034774
	Tarpaulin, light-weight, with sturdy eyelets. Reinforced in all corners. Double seams all round. Green. Size 6.0 x 10.0 m.	1	3034782
	Tarpaulin, light-weight, with sturdy eyelets. Reinforced in all corners. Double seams all round. Green. Size 7.2 x 12.0 m.	1	3034790









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