



## OPERATING INSTRUCTIONS

Rack & Pinion Jack  
 Typ(e) 1624.1,5 1624.3 1624.5 1624.10  
 1658.1,5 1658.3 1658.5 1658.10

Manufactured by Haacon Hebeteknik GmbH



### Contents

- |                        |                |
|------------------------|----------------|
| 1. Safety Instructions | 5. Operation   |
| 2. Technical Data      | 6. Maintenance |
| 3. General             | 7. Spare parts |
| 4. Construction        |                |

## 1. SAFETY INSTRUCTIONS

### Where to use this winch

This rack & pinion jack may only be used in accordance with the following operating instructions.

- To be used only if in perfect technical condition.
- To be used by trained personnel only.
- To be used only for the recommended application (i.e. pulling or pushing).
- To be fixed with securing pin in the final position when used for winding or lengthening load surfaces.

### Safe working practices

Read these operating instructions carefully before using the rack jack.

Work safely and be aware of dangers at all times.

Inform your supervisor immediately of any damage or faults to the rack & pinion jack. Do not operate the rack & pinion jack again until the damage or fault has been repaired.

### Do not

- Exceed the maximum load (see tech. data and type-/capacity number plate).
- Transport people.
- Work below or on the lifted load.

### Winch Application

- Not to be used continuously.

### Supervision

- Ensure that these operating instructions are always at hand.
- Do not allow this rack & pinion jack to be operated by untrained staff.
- Check regularly that the winch is operated safely and according to these instructions.

### Maintenance and Repair

Maintenance and repair may only be carried out by trained personnel.

Use only original manufacturer's replacement parts.

No changes or modifications may be carried out on parts relevant to safety. Additional equipment must not infringe on safety.

### Additional instructions to be adhered to

- Safety and accident prevention regulations.
- National regulations, safety standards and guidelines.

## 2. TECHNICAL DATA

|                      |    |          |        |        |         |
|----------------------|----|----------|--------|--------|---------|
| Type                 |    | 1624.1,5 | 1624.3 | 1624.5 | 1624.10 |
| Type                 |    | 1685.1,5 | 1685.3 | 1685.5 | 1685.10 |
| Permitted load       | t  | 1,5      | 3      | 5      | 10      |
| Lift per crank turn  | mm | 13,9     | 8      | 3,9    | 4       |
| Crank force          | N  | 220      | 240    | 210    | 360     |
| Weight (lift 800 mm) | kg | 15       | 25     | 35     | 58      |

haacon policy is one of continuous development. We reserve the right to amend specifications without notice or obligation.

## 3. GENERAL

These high quality rack & pinion jacks, produced for decades, are robust and reliable. They are capable of producing lifting, pulling, shifting and pushing forces from 1,5 to 10 tonnes. Suitable for safe adjustment of belt conveyors to any level and widening/lengthening of load bearing surfaces.

## 4. CONSTRUCTION

These rack & pinion jacks are a derivative of haacon's proven rack jack range, type 11.1,5 - 11.10. Spur gear in special steel, hardened or tempered. Gear mechanism of this rack jack range complies with German VBG 8 safety regulations for lifting and pulling equipment.

The rack jacks are available with either "SIKU" safety cranks or "RAKU" ratchet cranks.

**SIKU** = Safety crank with self-acting friction type load brake with two-part spring loaded detent lever secures the load at any height. By rotating the crank clockwise the load is lifted and vice versa.

**RAKU** = Ratchet crank. A ratchet mechanism has been added to the above mentioned SIKU crank which allows either lift or lower positions to be selected. Especially useful in areas with restricted head room.

## 5. OPERATION

### For use as a lifting device

Unfold the crank handle. Turn crank clockwise to lift the load. To lower the load, turn crank anti-clockwise.

If the crank is not turned the load is suspended safely.

### For extending or retracting load surfaces

The load is moved by rotating the crank clockwise or anti-clockwise. The extended or retracted parts must be fixed in the desired position with securing pins.

## 6. MAINTENANCE

The rack & pinion jack should be checked regularly by trained personnel depending on usage and conditions, but at least once a year.

Trained personnel are people who by virtue of training and experience have gained sufficient knowledge in the field of rack and pinion jack, lifting and pulling equipment and who are adequately acquainted with national standards of accident prevention and safety regulations and who are able to judge the condition of lifting and pulling equipment where working safety is concerned.

### Gear wheels and pinions

The gearbox has been filled with high quality long-life grease by the manufacturer.

For normal use, lubricate annually via grease nipple.

If the winch is used frequently then the gearbox should be opened every 2 years, worn parts exchanged and new grease applied.

### Safety crank

If the crank offers resistance when lowering a load, apply a few drops of oil into the recesses on the crank hub.

Grease all moving parts on the crank handle if necessary.

The replacement of worn friction discs (aperture > 30°) and repair of faulty cranks may only be carried out by the manufacturer.



### WARNING!!

Do not uncouple crank or detent lever or pawl when rack & pinion jack is loaded.

Last but not least

If the crank cannot be moved after a long period of non-use or due to bad weather try to turn anti-clockwise. Add a drop of oil into the recesses, turn up and down several times until the corrosion inside the brake has been cleared and the crank turns normally. Follow these instructions and you too will continue to be pleased with your haacon rack & pinion jack.

## 7. SPARE PARTS

The following data should be given with each order:

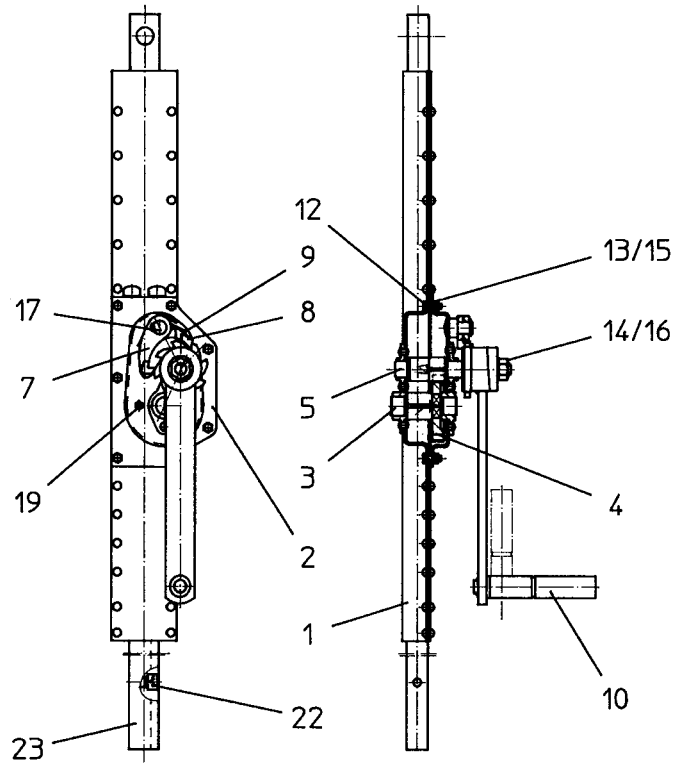
- Type number and serial number of rack jack / Pos. and Part number.

Power Jacks Ltd.  
 South Harbour Road  
 Fraserburgh  
 AB43 9BZ  
 Scotland  
 Tel: +44 (0) 1346 513131  
 Fax: +44 (0) 1346 516827  
 email: sales@powerjacks.com  
 http://www.powerjacks.com

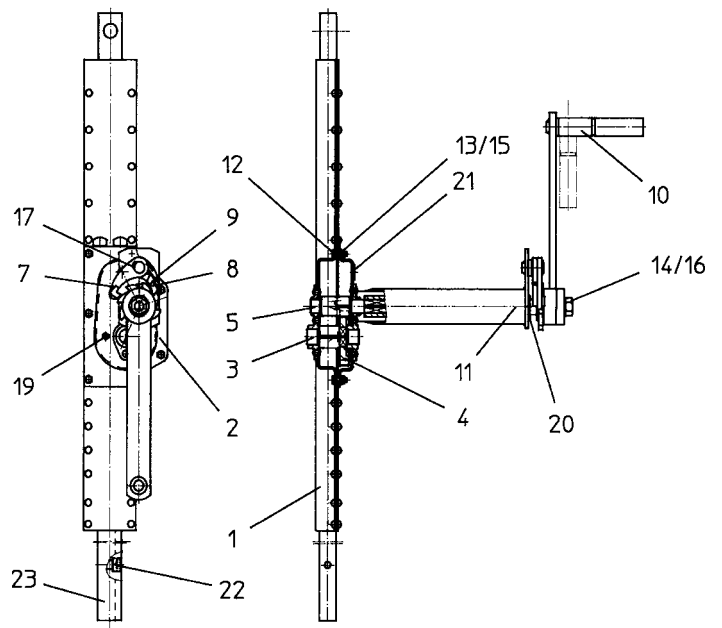
Power Jacks Ltd. Authorised Distributor of Equipment  
 Manufactured by Haacon Hebeteknik GmbH

Typ 1624.1,5

| Typ/<br>Type | 1624.1,5<br>Teile-Nr.<br>Part-No.<br>Référence  | 1685.1,5<br>Teile-Nr.<br>Part-No.<br>Référence | Abmessung/DIN-Nr.<br>Dimensions/DIN-No. |           | Stück<br>Qty.<br>Pièce |
|--------------|---|--|---|-----------|------------------------|
| 1            | 102 082   | 102 082  |   |           | 1                      |
| 2            | 107 822   | 108 109  |   |           | 1                      |
| 3            | 103 759   | 103 759  |   |           | 1                      |
| 4            | 102 086   | 102 086  |   |           | 1                      |
| 5            | 102 087   | 102 087  |   |           | 1                      |
| 7            | 102 152   | 102 152  |   |           | 1                      |
| 8            | 102 131   | 102 131  |   |           | 1                      |
| 9            | 101 137   | 101 137  |   |           | 1                      |
| 10           | 101 396   | 101 396  |   |           | 1                      |
| 11           |   | 102 012  |   |           | 1                      |
| 12           | 100 246   | 100 246  | M 6 x 16                                | DIN 933   | 7                      |
| 13           | 100 351   | 100 351  | M 6                                     | DIN 934   | 7                      |
| 14           | 100 368   | 100 368  | M 14                                    | DIN 934   | 1                      |
| 15           | 100453  | 100 453  | A 6                                     | DIN 127   | 7                      |
| 16           | 100 461   | 100 461  | A 14                                    | DIN 127   | 1                      |
| 17           | 100 721   | 100 721  | A 14 x 1                                | DIN 471   | 1                      |
| 19           | 100 264   | 100 264  | AS 6 x 1                                | DIN 71412 | 1                      |
| 20           |   | 100 507  |   |           | 1                      |
| 21           |   | 101 188  | GPN 300<br>F11                          |           | 1                      |
| 22           | 100 069   | 100 069  | M 12 x<br>20                            | DIN 912   | 1                      |
| 23           | Zahnstange: Gesamtlänge angeben<br>advise total length of rack<br>veuillez indiquer longueur totale de la crémaillère |  |   |           |                        |



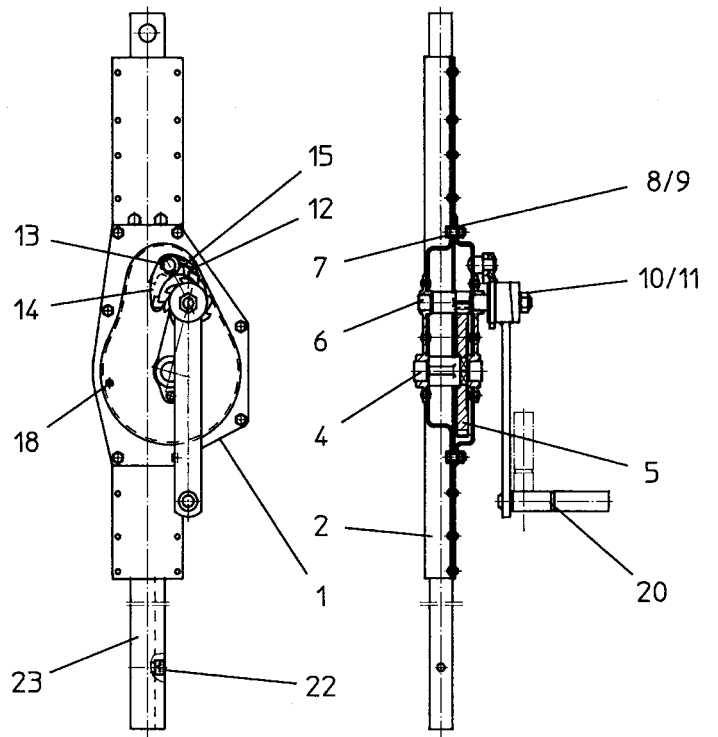
Typ 1685.1,5



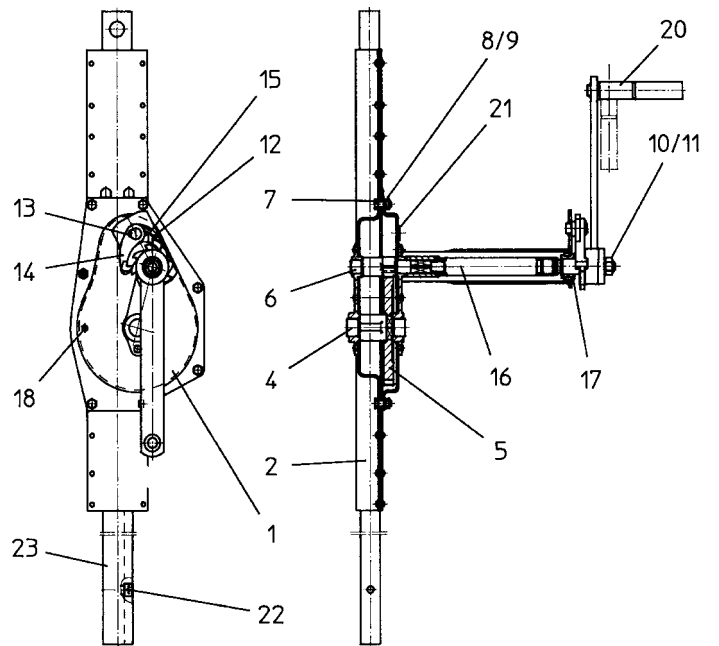
- (D)** Bei Sonderbauformen entnehmen Sie die Teilnummern aus der beigefügten Ersatzteilzeichnung.
- (GB)** For special versions the part numbers are indicated in the spare parts drawing attached.
- (F)** Pour des versions spéciales, veuillez trouver les numéros d'article dans le plan des pièces détachées en annexe.

Typ 1624.3

| Typ/<br>Type | 1624.3<br>Teile-Nr.<br>Part-No.<br>Référence  | 1685.3<br>Teile-Nr.<br>Part-No.<br>Référence | Abmessung/DIN-Nr.<br>Dimensions/DIN-No. |           | Stück<br>Qty.<br>Pièce |
|--------------|---|--|---|-----------|------------------------|
| 1            | 108 122   | 108 128                                      |   |           | 1                      |
| 2            | 102 097   | 102 097                                      |   |           | 1                      |
| 3            | 103 761   | 103 761                                      |   |           | 1                      |
| 4            | 102 101   | 102 101                                      |   |           | 1                      |
| 5            | 102 102   | 102 102                                      |   |           | 1                      |
| 7            | 100 191   | 100 191                                      | M 8 x 20                                | DIN 933   | 7                      |
| 8            | 100 455   | 100 455                                      | A 8                                     | DIN 127   | 7                      |
| 9            | 100 355   | 100 355                                      | M 8                                     | DIN 934   | 7                      |
| 10           | 100 368   | 100 368                                      | M 14                                    | DIN 934   | 1                      |
| 11           | 100 461   | 100 461                                      | A 14                                    | DIN 127   | 1                      |
| 12           | 101 137   | 100 137                                      |   |           | 1                      |
| 13           | 100 721   | 100 721                                      | A 14 x 1                                | DIN 471   | 1                      |
| 14           | 102 152   | 100 152                                      |   |           | 1                      |
| 15           | 102 131   | 102 131                                      |   |           | 1                      |
| 16           |   | 102 112                                      |   |           | 1                      |
| 17           |   | 100 507                                      |   |           | 1                      |
| 18           | 100 264   | 100 264                                      | AS 6 x 1                                | DIN 71412 | 1                      |
| 20           | 101 396   | 100 396                                      |   |           | 1                      |
| 21           |   | 101 188                                      | GPN 300<br>F11                          |           | 1                      |
| 22           | 100 069   | 100 069                                      | M 2 x 20                                | DIN 912   | 1                      |
| 23           | Zahnstange: Gesamtlänge angeben<br>advise total length of rack<br>veuillez indiquer longueur totale de la crémaillère |  |   |           |                        |

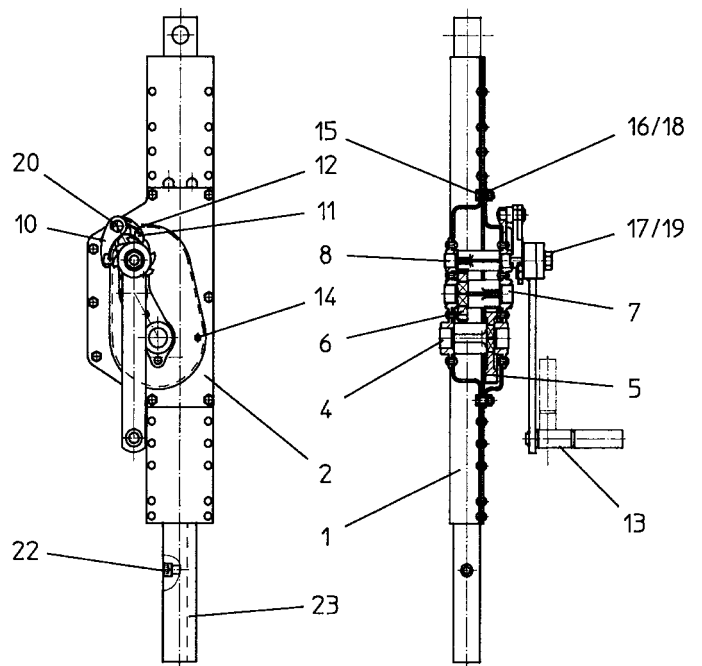


Typ 1685.3

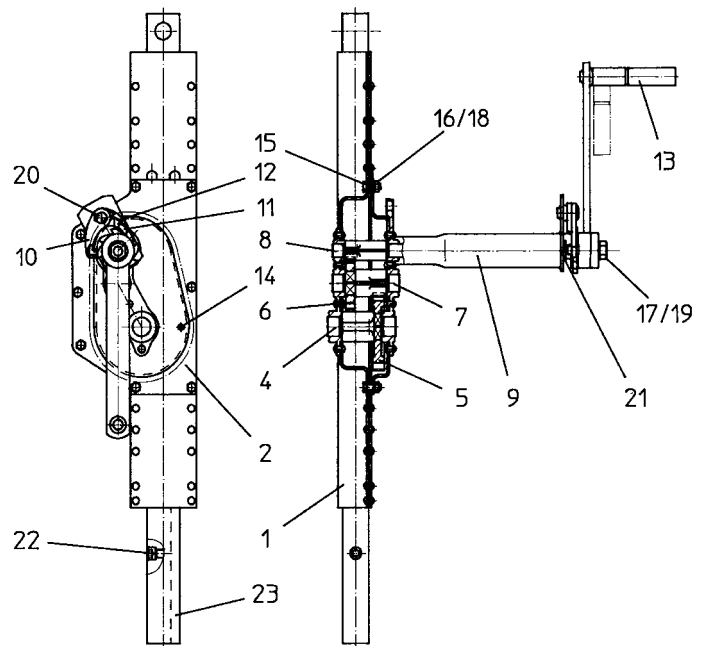


Typ 1624.5

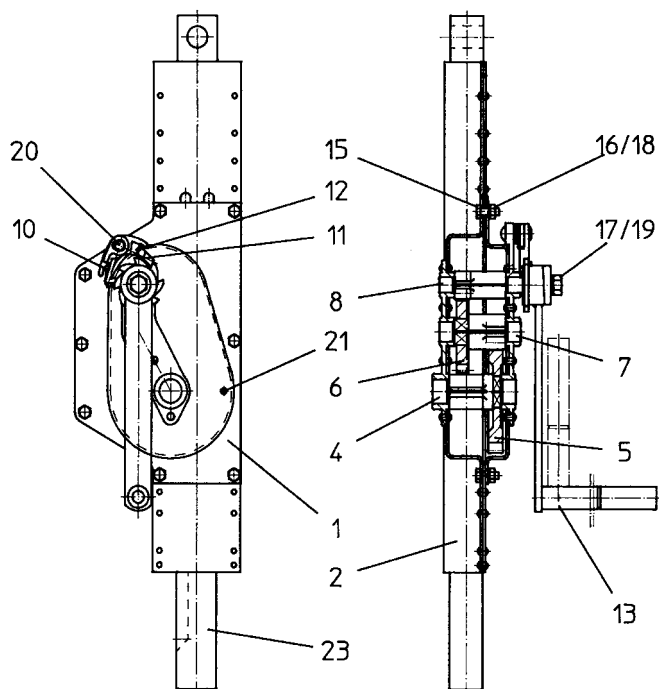
| Typ/<br>Type | 1624.5<br>Teile-Nr.<br>Part-No.<br>Référence  | 1685.5<br>Teile-Nr.<br>Part-No.<br>Référence | Abmessung/DIN-Nr.<br>Dimensions/DIN-No. |           | Stück<br>Qty.<br>Pièce |
|--------------|---|--|---|-----------|------------------------|
| 1            | 113 213   | 112 115                                      |   |           | 1                      |
| 2            | 108 131   | 114 462                                      |   |           | 1                      |
| 4            | 102 481   | 102 481                                      |   |           | 1                      |
| 5            | 102 119   | 102 119                                      |   |           | 1                      |
| 6            | 102 112   | 102 122                                      |   |           | 1                      |
| 7            | 102 123   | 102 123                                      |   |           | 1                      |
| 8            | 102 120   | 102 120                                      |   |           | 1                      |
| 10           | 102 152   | 102 152                                      |   |           | 1                      |
| 11           | 102 131   | 102 131                                      |   |           | 1                      |
| 12           | 101 137   | 101 137                                      |   |           | 1                      |
| 13           | 101 396   | 101 396                                      |   |           | 1                      |
| 14           | 100 264   | 100 264                                      | AS 6 x 1                                | DIN 71412 | 1                      |
| 15           | 100 191   | 100 191                                      | M 8 x 20                                | DIN 933   | 8                      |
| 16           | 100 455   | 100 455                                      | A 8                                     | DIN 127   | 8                      |
| 17           | 100 461   | 100 461                                      | A 14                                    | DIN 127   | 1                      |
| 18           | 100 355   | 100 355                                      | M 8                                     | DIN 934   | 8                      |
| 19           | 100 368   | 100 368                                      | M 14                                    | DIN 934   | 1                      |
| 20           | 100 721   | 100 721                                      | A 14 x 1                                | DIN 471   | 1                      |
| 21           |   | 100 507                                      |   |           | 1                      |
| 22           | 100 069   | 100 069                                      | M 12 x 20                               | DIN 912   | 1                      |
| 23           | Zahnstange: Gesamtlänge angeben<br>advise total length of rack<br>veuillez indiquer longueur totale de la crémaillère |  |   |           |                        |



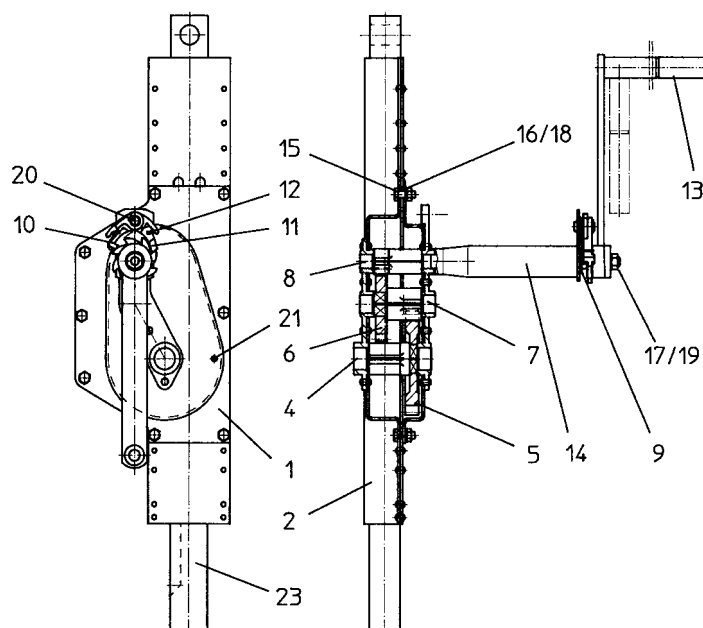
Typ 1685.5



| Typ/<br>Type | 1624.10<br>Teile-Nr.<br>Part-No.<br>Référence   | 1685.10<br>Teile-Nr.<br>Part-No.<br>Référence | Abmessung/DIN-Nr.<br>Dimensions/DIN-No.<br>Dimensions/DIN-No. |           | Stück<br>Qty.<br>Pièce |
|--------------|---|---|---|-----------|------------------------|
| 1            | 108 135   | 108 136                                       |   |           | 1                      |
| 2            | 102 159   | 102 159                                       |   |           | 1                      |
| 4            | 102 162   | 114 197                                       |   |           | 1                      |
| 5            | 102 163   | 102 163                                       |   |           | 1                      |
| 6            | 102 166   | 102 166                                       |   |           | 1                      |
| 7            | 102 167   | 102 167                                       |   |           | 1                      |
| 8            | 102 164   | 102 164                                       |   |           | 1                      |
| 9            |   | 100 057                                       |   |           | 1                      |
| 10           | 102 152   | 102 152                                       |   |           | 1                      |
| 11           | 102 174   | 102 174                                       |   |           | 1                      |
| 12           | 101 137   | 101 137                                       |   |           | 1                      |
| 13           | 101 398   | 101 398                                       |   |           | 1                      |
| 14           |   | 108 125                                       |   |           | 1                      |
| 15           | 100 203   | 100 203                                       | M 10 x 25   | DIN 933   | 8                      |
| 16           | 100 457   | 100 457                                       | A 10  | DIN 127   | 8                      |
| 17           | 100 463   | 100 463                                       | A 16  | DIN 127   | 1                      |
| 18           | 100 361   | 100 361                                       | M 10  | DIN 934   | 8                      |
| 19           | 100 369   | 100 369                                       | M 16  | DIN 934   | 1                      |
| 20           | 100 721   | 100 721                                       | A 14 x 1  | DIN 471   | 1                      |
| 21           | 100 264   | 100 264                                       | AS 6 x 1  | DIN 71412 | 1                      |
| 23           | Zahnstange: (Gesamtlänge und Ausführung, Zug oder Druck angeben)<br>advise total length of rack and wether push or pull application<br>veuillez indiquer longueur totale de la crémaillère et si c'est pour charge en traction ou appui |   |   |           |                        |



Typ 1685.10



## SLIDING DEVICE

Version: Rack jack construction (see next page)

### Notes on safety, installation and servicing:

1. The casing for the rack jacks must be securely mounted on the vehicle frame. The rack casings must also not move during operation.
2. The opposite drive journals on the crank drive unit must be flush.
3. The slide section must slide freely in the vehicle frame over the entire sliding area and must not stick.
4. The racks are pushed out individually and pinned and secured using bolts.
5. The racks must move parallel with each other in all planes.
6. Both parts of the connection shaft are to be pushed into each other loosely until the connection shaft can be placed on the square pin of the projecting gearbox part.
7. Predrill both connection shaft parts together, bolt them together and secure them.
8. Check and ensure that the slide section slides freely by connecting and disconnecting the crank.

### Lubrication:

As required, but grease adequately at least once per week.

If you have any questions, our technical support team can be contacted at any time. Tel. 09375/84-0

