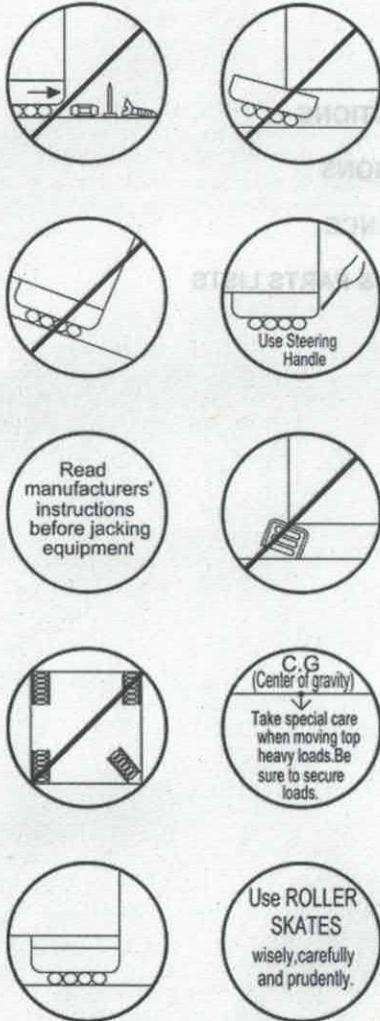


Instruction Manual



Note: Owner/Operator must read and understand this instruction manual before using the roller skates.

1. WARNING



2. OPERATING INSTRUCTIONS

- 1) Each roller must be inspected before initial use. The chain and chain rolls should move freely and the entire roller and roller parts should be 100% functional before use. The rollers should be inspected every six months after initial use.
- 2) When installing your roller under your heavy object, select an area that is easily accessible, and also provides the best load distribution, such as the corners of the object being moved. The point of placement should be able to support that part of the load. Lifting the object may be accomplished by a hydraulic jack, hoist, fork truck, pry bar, or any similar device depending upon the load weight. Lifting height is determined by the height of the roller. Note that the roller's low height makes lifting or raising of the equipment minimal.
- 3) Particular care should be taken when installing rollers. Such care should include lifting, prying and/or jacking the loads. All relevant manufacturer's bulletins on the use of any accessory equipment should be read thoroughly before proceeding.
- 4) Particular care should be paid to exact alignment of the rollers. Failure to do so could increase surface friction and, in cases of severe misalignment, cause possible shifting of the object on the roller. Rollers should be installed parallel to each other and at the same height.
- 5) Maximum speed of rolling surface should not exceed 10ft/min (3 meters/min).
- 6) If the object being moved has limited contact area or for any reason can shift, the roller should be affixed to the load in at least some temporary manner. This method of affixing the roller to the load should be able to withstand any horizontal force that might result from the load shift.
- 7) Particular care should be taken when moving top heavy equipment or equipment where there is a high center of gravity. The user should take all necessary precautions so that the load center is not allowed to shift even in the slightest amount. These precautions may include:
 - 7.1 Constant monitoring of rollers.
 - 7.2 Absolute cleanliness of moving surfaces.
 - 7.3 Use of a temporary method of attaching roller to load.
 - 7.4 Not moving on uneven surfaces or changing levels.
 - 7.5 Use of preload pads.
 - 7.6 Not turning load while moving.
 - 7.7 Moving slowly at all times.
- 8) The path upon which the roller transports the heavy load should be clean of all debris and should not have sharp protrusions of any sort.
- 9) Check to be sure that the floor surface or subsurface cannot deflect or "sag" due to the load concentration at that point. If so, the surface must be improved.
- 10) Rollers should be periodically inspected in accordance with Maintenance Instructions.
- 11) When using Rollers, it is assumed that the user has experience in moving or transporting heavy loads and can apply the common sense practices that apply in the wise and careful methods required to move, shift or transport heavy equipment.
- 12) If there are any questions or lack of experience in using rollers, be sure to contact our technical staff.

3. STORAGE INSTRUCTIONS

- 1) It is recommended that the rollers be stored in a dry location, preferably indoors. If they cannot be stored indoors, protect the Rollers by covering them with a suitable waterproof material, such as a sheet of heavy-gauge plastic or a tarpaulin. Do not enclose Rollers in sealed plastic bags because condensation can develop, especially if the Rollers are stored outdoors.
- 2) Make sure that Rollers do not sit on damp surfaces or in water. Protect them from dirt and grit, which is especially common in the field or at construction sites.
- 3) If the Rollers are stored for extended periods, visually inspect the Rollers every few months and re-lubricate if necessary.

NOTE: Prior to use after long-term storage, remove excess grease to minimize the attraction of foreign debris and to insure normal operation.

4. GENERAL MAINTENANCE

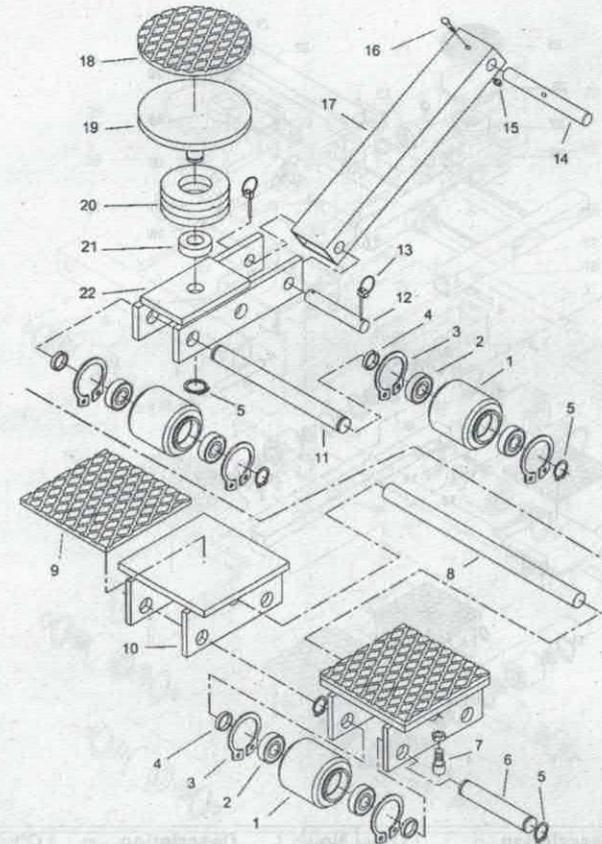
General maintenance requirements for the Roller System are limited to periodic visual inspections of the Roller System Components to ensure that foreign matter has not contaminated the Chain Rolls, that they are able to move freely, so as not to impede the operation of the Roller System. Below are the recommended procedures to maintain the Roller System in proper working order.

- 1) The Roller Skates should be visually inspected after every 50 hours of use, or every six months, whichever ever comes first, or after a prolonged period of use.
- 2) User can protect the chain rolls with grease when stored and not in use. Grease however, can attract foreign matter. Therefore, it is best to remove the excess grease before using the Roller Skates.
- 3) Chain Inspection Points:
 - 3.1 Inspect rolls for cracks and / or corrosion.
 - 3.2 Check for pin wear on ends of chain. Check chain linkage for free move movement. Verify that the individual chain rolls and the entire chain rotate with complete freedom.
- 4) Frame Inspection Points:
 - 4.1 Inspect all structural members for proper integrity.
 - 4.2 Make certain all bolts (if any) are free of corrosion.
 - 4.3 Clean dirt and grease off the center load plate.
 - 4.4 Inspect for any cracks or excessive wear.
- 5) When Roller Skates is ready for use, chain should be lightly oiled or greased, so that all rolls, and the entire chain can rotate freely around the load plate.

Note: Guide Roll is sealed, but exterior corrosion should be kept to a minimum.

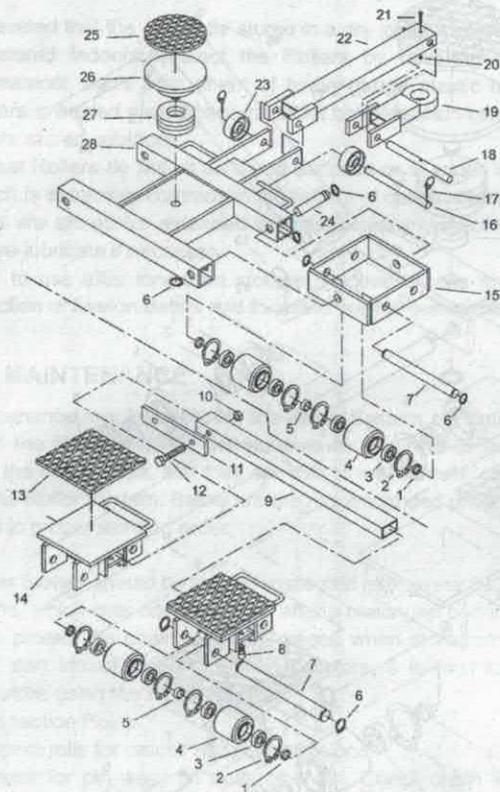
5. EXPLODED FIGURES & PARTS LISTS

5.1 Exploded figure of ET3 and parts list



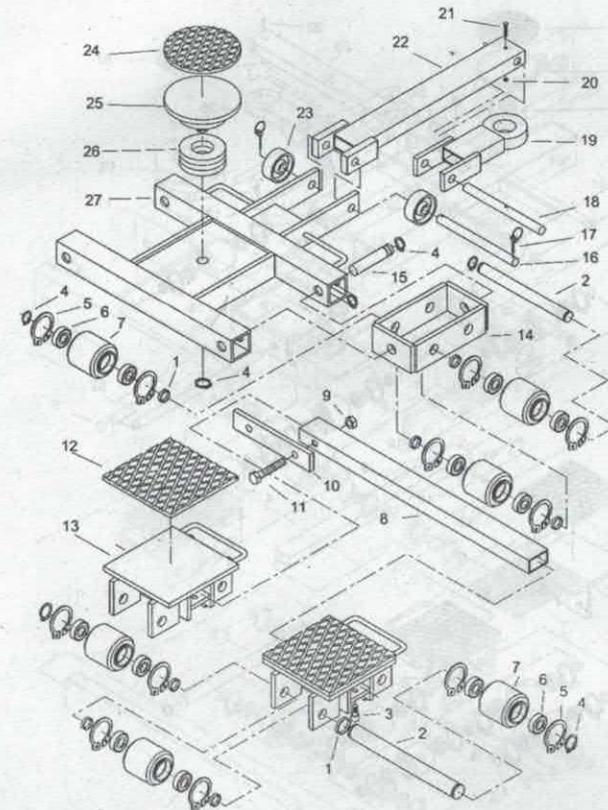
No.	Description	Q'ty	No.	Description	Q'ty
1	Roller	8	12	Optic axis 4	1
2	Bearing 80105	16	13	Spacing pin	2
3	Retaining ring A55	16	14	Optic axis 5	1
4	Dividing case 1	12	15	Hexagon nut M6	1
5	Retaining ring A25	13	16	Hex head bolt M6×40	1
6	Optic axis 3	4	17	Pull rod 1	1
7	Hex socket screw M12×20	2	18	Antiskid washer 2	1
8	Optic axis 2	1	19	Roller bracket 2	1
9	Antiskid washer 1	2	20	Bearing 8110	1
10	Roller bracket 1	2	21	Bushing	1
11	Optic axis 1	2	22	Roller bracket 3	1

5.2 Exploded figure of ET6 and parts list



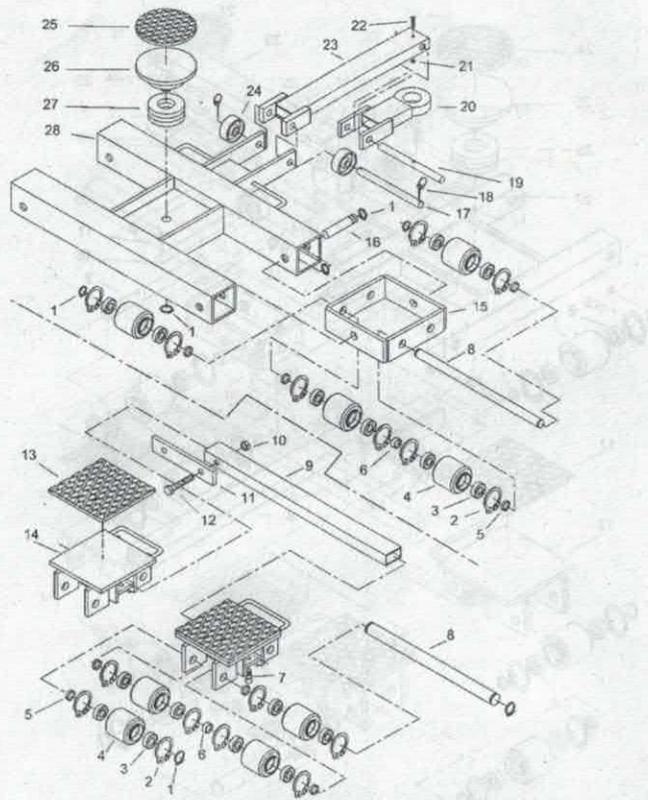
No.	Description	Q'ty	No.	Description	Q'ty
1	Dividing case 1	16	15	Wheel bracket 1	2
2	Retaining ring A55	32	16	Optic axis 8	1
3	Bearing 80105	32	17	Spacing pin	2
4	Roller	16	18	Optic axis 5	1
5	Dividing case 2	8	19	Pull ring 1	1
6	Retaining ring A25	25	20	Hexagon nut M6	1
7	Optic axis 6	8	21	Hex head bolt M6×40	1
8	Hex socket screw M12×20	4	22	Pull rod 2	1
9	Connecting rod	2	23	Auxiliary roller	2
10	Hex locking nut M16	2	24	Optic axis 7	4
11	Link	2	25	Antiskid washer 2	1
12	Hex head bolt M16×90	2	26	Roller bracket 4	1
13	Antiskid washer 3	2	27	Bearing 8122	1
14	Roller bracket 5	2	28	Roller bracket 6	1

5.3 Exploded figure of ET9 and parts list



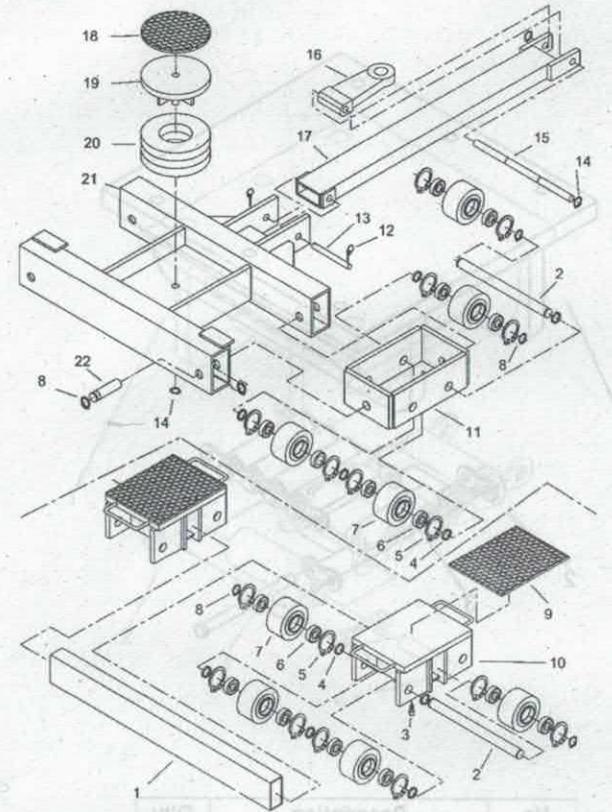
No.	Description	Q'ty	No.	Description	Q'ty
1	Dividing case 1	32	15	Optic axis 9	4
2	Optic axis 10	8	16	Optic axis 8	1
3	Hex socket screw M12×20	4	17	Spacing pin	2
4	Retaining ring A25	25	18	Optic axis 5	1
5	Retaining ring A55	48	19	Pull ring 1	1
6	Bearing 80105	48	20	Hexagon nut M6	1
7	Roller	24	21	Hex head bolt M6×40	1
8	Connecting rod	2	22	Pull rod 2	1
9	Hex locking nut M16	2	23	Auxiliary roller	2
10	Link	2	24	Antiskid washer 2	1
11	Hex head bolt M16×90	2	25	Roller bracket 4	1
12	Antiskid washer 4	2	26	Bearing 8122	1
13	Roller bracket 7	2	27	Roller bracket 8	1
14	Wheel bracket 2	2			

5.4 Exploded figure of ET12 and parts list



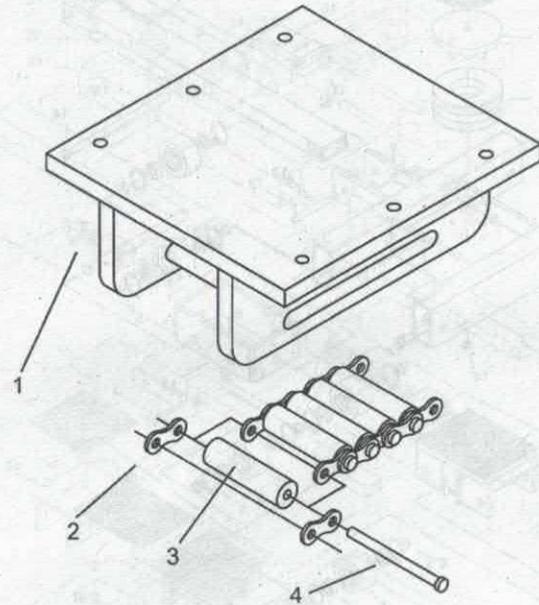
No.	Description	Q'ty	No.	Description	Q'ty
1	Retaining ring A25	25	15	Wheel bracket 1	2
2	Retaining ring A55	64	16	Optic axis 12	4
3	Bearing 80105	64	17	Optic axis 8	1
4	Roller	32	18	Spacing pin	2
5	Dividing case 1	32	19	Optic axis 5	1
6	Dividing case 2	8	20	Pull ring 1	1
7	Hex socket screw M12×20	4	21	Hexagon nut M6	1
8	Optic axis 11	8	22	Hex head bolt M6×40	1
9	Connecting rod	2	23	Pull rod 2	1
10	Hex locking nut M16	2	24	Auxiliary roller	2
11	Link	2	25	Antiskid washer 2	1
12	Hex head bolt M16×90	2	26	Roller bracket 4	1
13	Antiskid washer 3	2	27	Bearing 8122	1
14	Roller bracket 5	2	28	Roller bracket 9	1

5.5 Exploded figure of ET20 and parts list



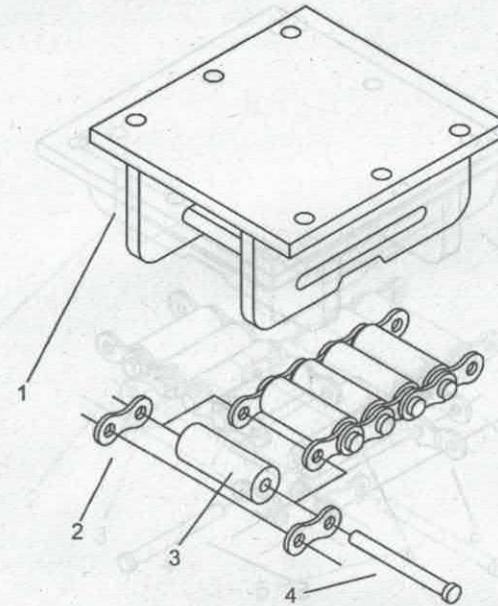
No.	Description	Q'ty	No.	Description	Q'ty
1	Connecting rod 2	1	12	Spacing pin	2
2	Optic axis 14	8	13	Optic axis 15	1
3	Hex socket bolt M12×20	4	14	Retaining ring A25	3
4	Dividing case 3	40	15	Optic axis 16	1
5	Retaining ring A70	64	16	Pull ring 2	1
6	Bearing 80107	64	17	Pull rod 3	1
7	Roller	32	18	Antiskid washer 6	1
8	Retaining ring A35	24	19	Roller bracket 11	1
9	Antiskid washer 5	2	20	Bearing 8236	1
10	Roller bracket 10	2	21	Roller bracket 12	1
11	Wheel bracket 4	2	22	Optic axis 13	4

5.6 Exploded figure of VA0.75 and parts list



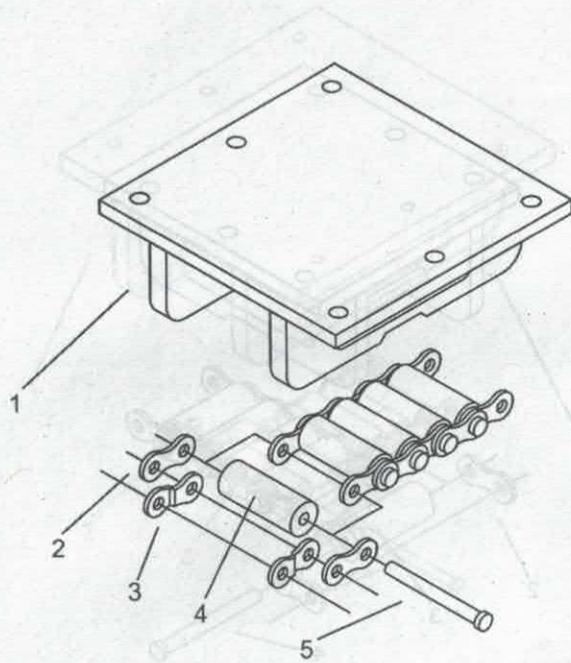
No.	Description	Q'ty
1	Roller bracket	1
2	Link	32
3	Roll	16
4	Axle	16

5.7 Exploded figure of VA2.5 and parts list



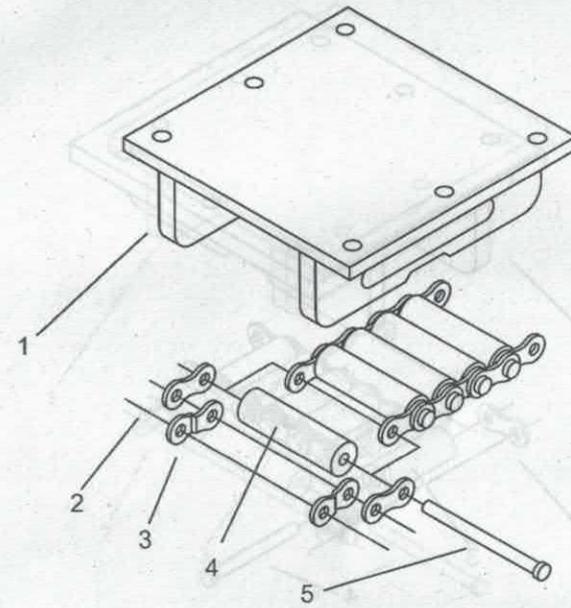
No.	Description	Q'ty
1	Roller bracket	1
2	Link	24
3	Roll	12
4	Axle	12

5.8 Exploded figure of VA5 and parts list



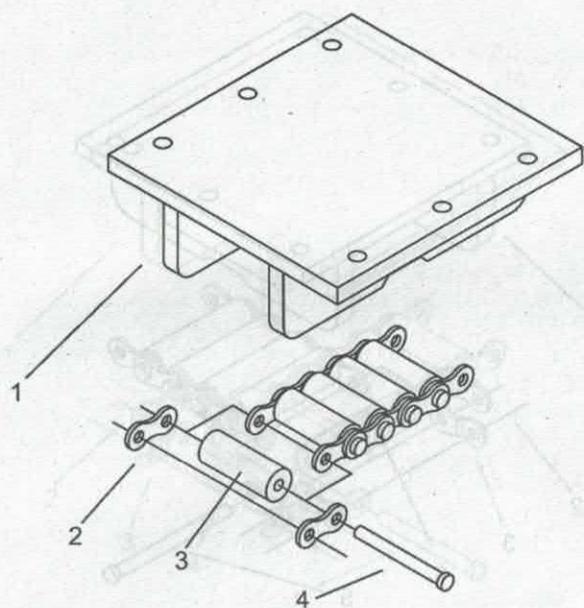
No.	Description	Q'ty
1	Roller bracket	1
2	Link	24
3	Bending Link	2
4	Roll	13
5	Axle	13

5.9 Exploded figure of VA8 and parts list



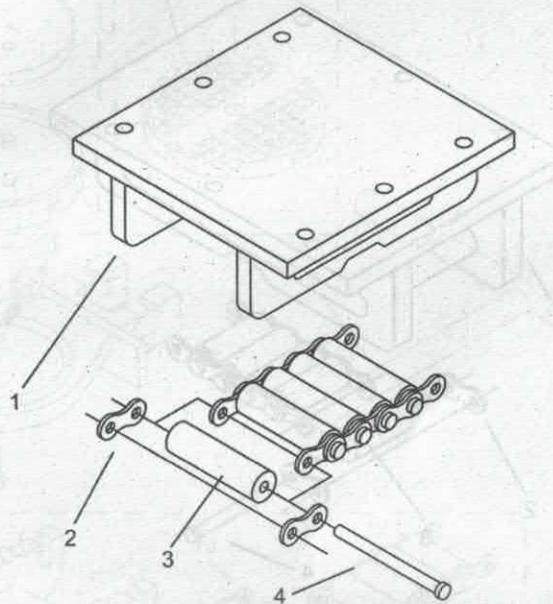
No.	Description	Q'ty
1	Roller bracket	1
2	Link	24
3	Bending Link	2
4	Roll	13
5	Axle	13

5.10 Exploded figure of VA15 and parts list



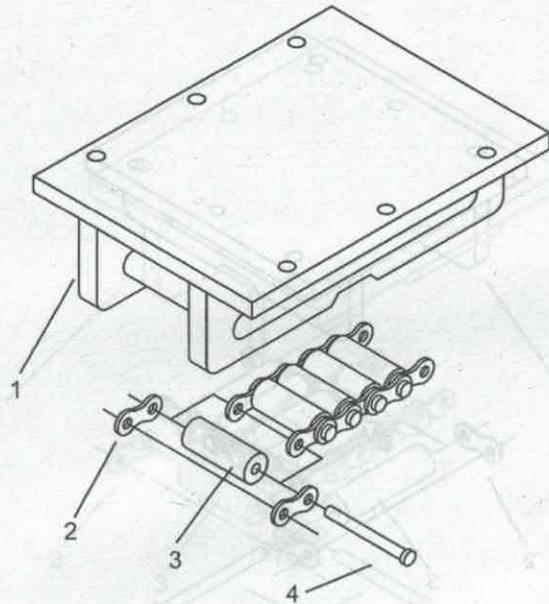
No.	Description	Q'ty
1	Roller bracket	1
2	Link	28
3	Roll	14
4	Axle	14

5.11 Exploded figure of VA20 and parts list



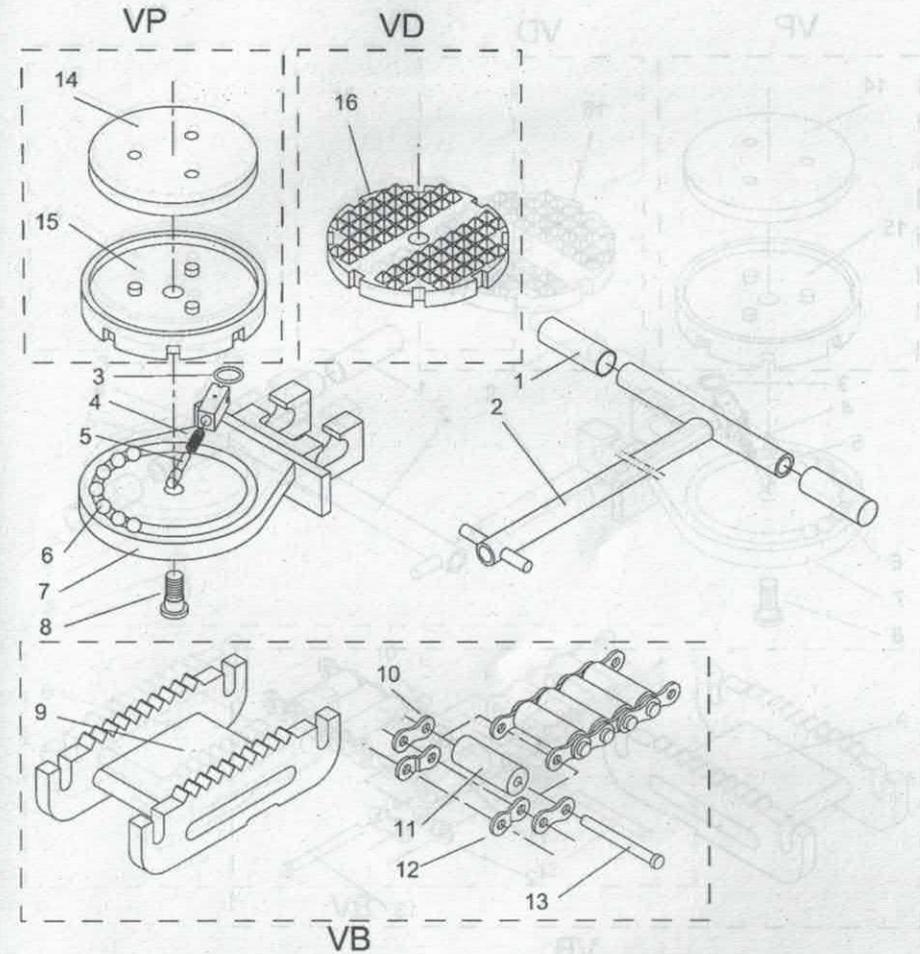
No.	Description	Q'ty
1	Roller bracket	1
2	Link	28
3	Roll	14
4	Axle	14

5.12 Exploded figure of VA50 and parts list



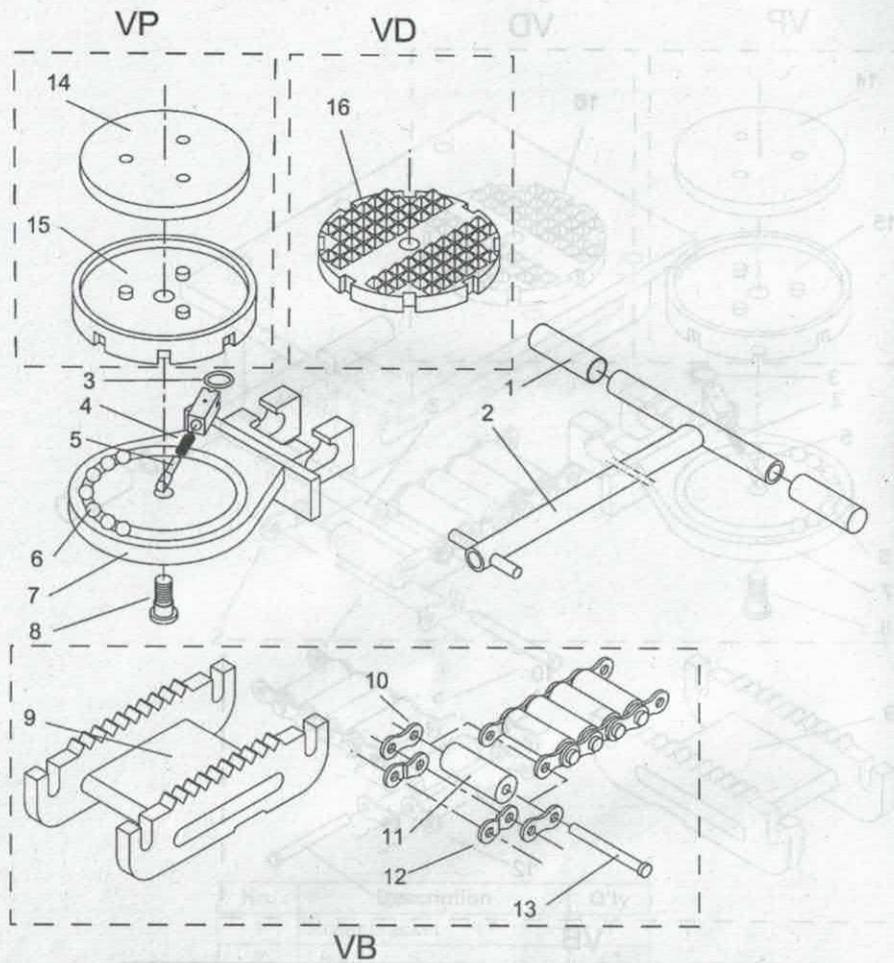
No.	Description	Q'ty
1	Roller bracket	1
2	Link	40
3	Roll	20
4	Axle	20

5.13 Exploded figure of VB3.75+VD (P)3.75 and parts list



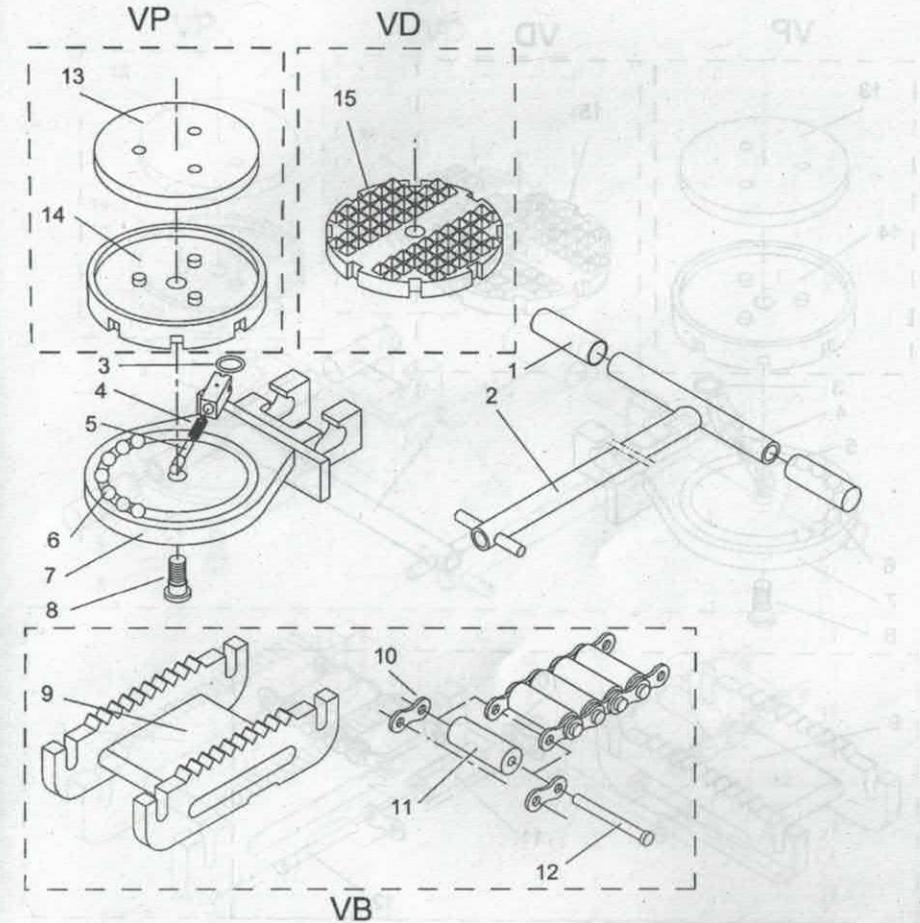
No.	Description	Q'ty	No.	Description	Q'ty
1	Handle	2	9	Roller bracket	1
2	Pull rod	1	10	Link	24
3	Key ring	1	11	Roll	13
4	Spring	1	12	Bending plate	2
5	Axle	1	13	Axle	13
6	Steel ball SØ14	26	14	Rubber cushion (VP)	1
7	Turning bracket	1	15	Disk (VP)	1
8	Bolt	1	16	Disk (VD)	1

5.14 Exploded figure of VB5+VD(P)5 and parts list



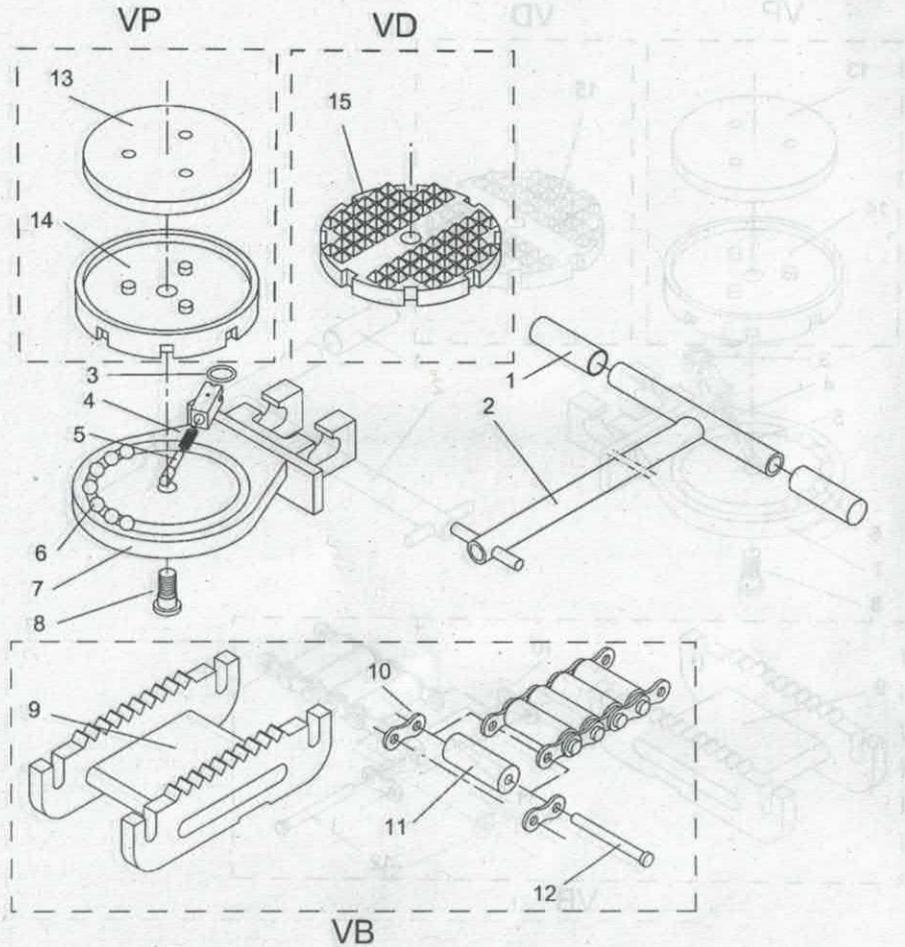
No.	Description	Q'ty	No.	Description	Q'ty
1	Handle	2	9	Roller bracket	1
2	Pull rod	1	10	Link	24
3	Key ring	1	11	Roll	13
4	Spring	1	12	Bending plate	2
5	Axle	1	13	Axle	13
6	Steel ball SØ14	26	14	Rubber cushion (VP)	1
7	Turning bracket	1	15	Disk (VP)	1
8	Bolt	1	16	Disk (VD)	1

5.15 Exploded figure of VB10+VD(P)10 and parts list



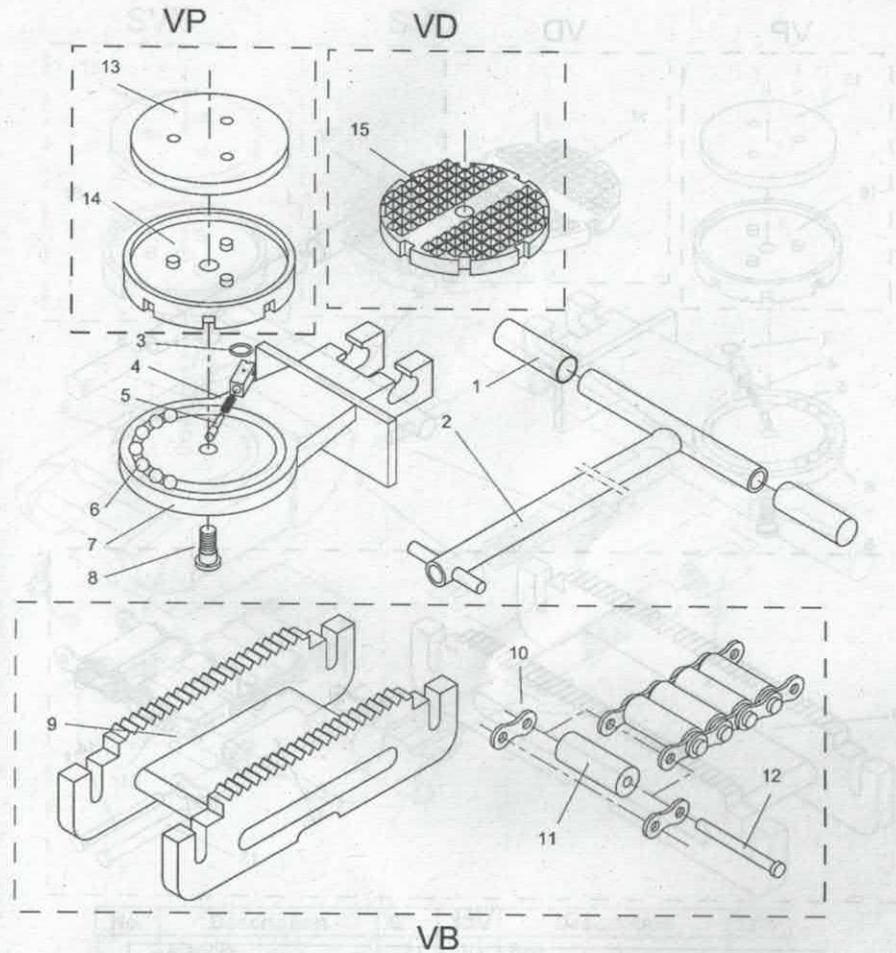
No.	Description	Q'ty	No.	Description	Q'ty
1	Handle	2	9	Roller bracket	1
2	Pull rod	1	10	Link	28
3	Key ring	1	11	Roll	14
4	Spring	1	12	Axle	14
5	Axle	1	13	Rubber cushion (VP)	1
6	Steel ball SØ14	26	14	Disk (VP)	1
7	Turning bracket	1	15	Disk (VD)	1
8	Bolt	1			

5.16 Exploded figure of VB12.5+VD(P)12.5 and parts list



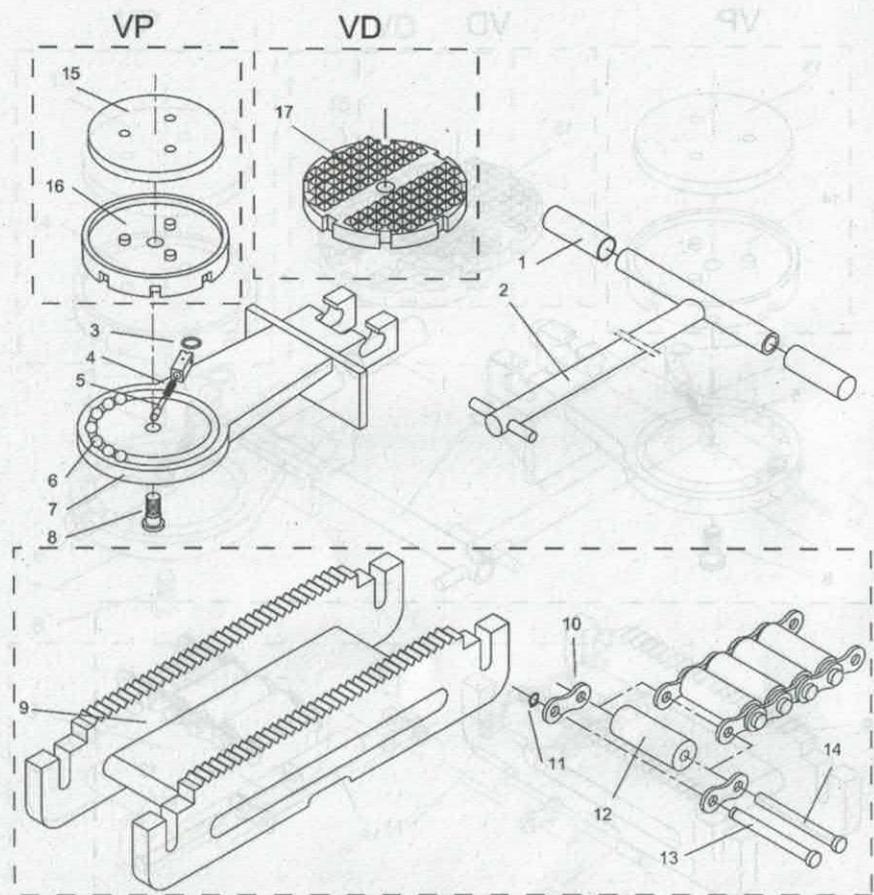
No.	Description	Q'ty	No.	Description	Q'ty
1	Handle	2	9	Roller bracket	1
2	Pull rod	1	10	Link	28
3	Key ring	1	11	Roll	14
4	Spring	1	12	Axle	14
5	Axle	1	13	Rubber cushion (VP)	1
6	Steel ball SØ14	26	14	Disk (VP)	1
7	Turning bracket	1	15	Disk (VD)	1
8	Bolt	1			

5.17 Exploded figure of VB25+VD(P)25 and parts list



No.	Description	Q'ty	No.	Description	Q'ty
1	Handle	2	9	Roller bracket	1
2	Pull rod	1	10	Link	28
3	Key ring	1	11	Roll	14
4	Spring	1	12	Axle	14
5	Axle	1	13	Rubber cushion (VP)	1
6	Steel ball SØ18	28	14	Disk (VP)	1
7	Turning bracket	1	15	Disk (VD)	1
8	Bolt	1			

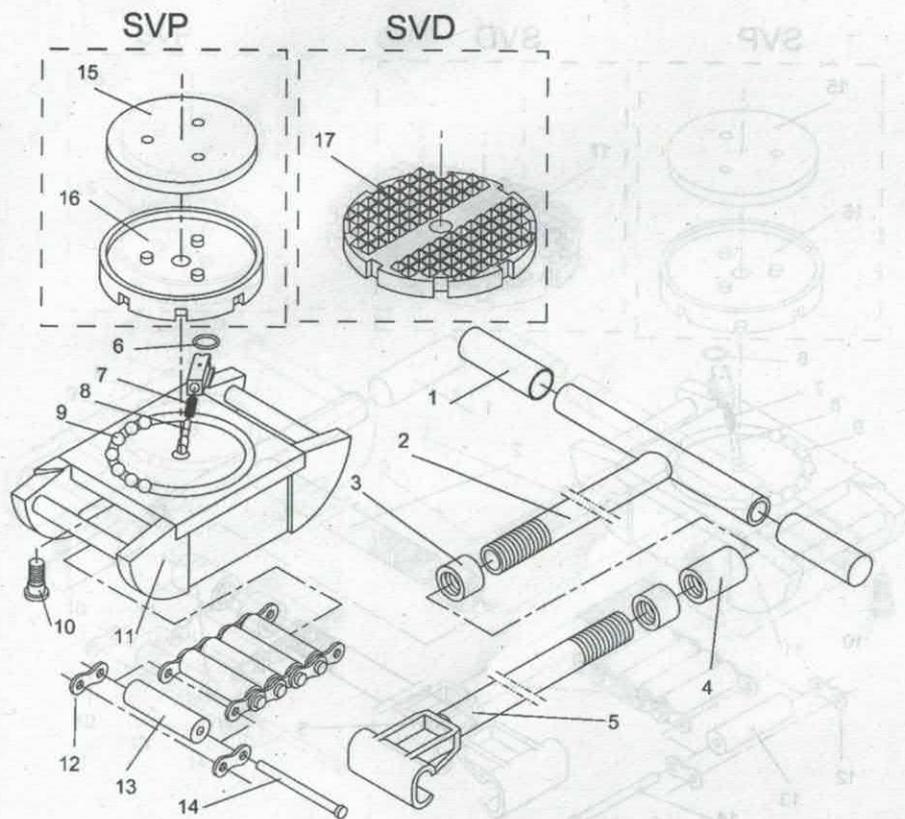
5.18 Exploded figure of VB65+VD(P)65 and parts list



VB

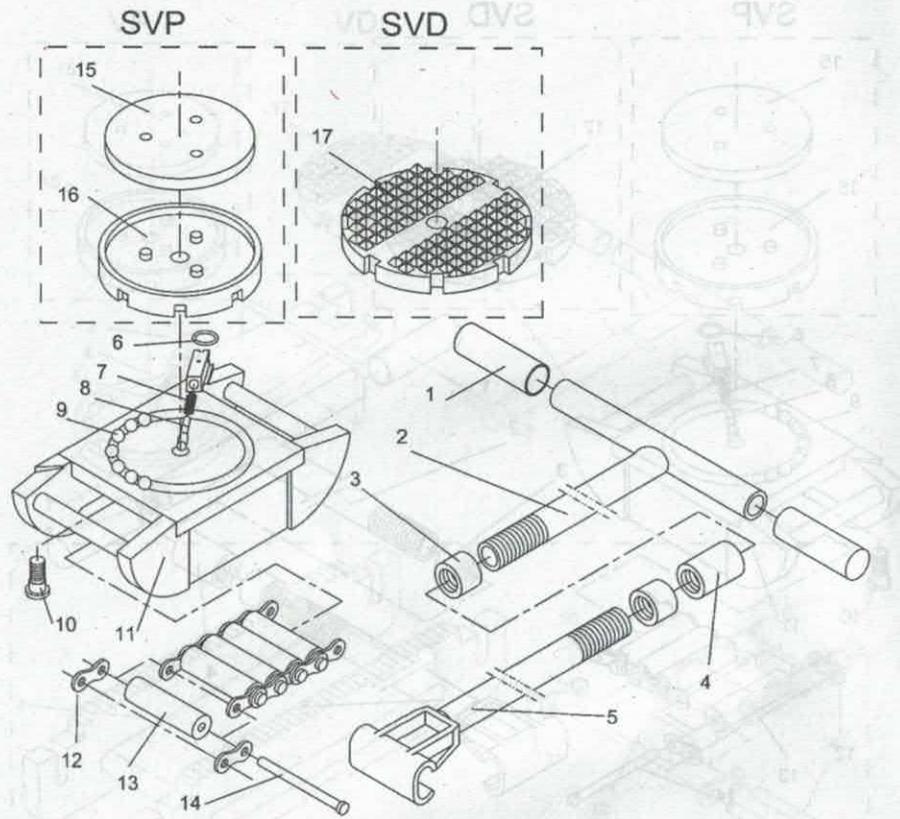
No.	Description	Q'ty	No.	Description	Q'ty
1	Handle	2	10	Link	36
2	Pull rod	1	11	Retaining ring	1
3	Key ring	1	12	Roll	18
4	Spring	1	13	Axle	1
5	Axle	1	14	Axle	17
6	Steel ball SØ18	28	15	Rubber cushion (VP)	1
7	Turning bracket	1	16	Disk (VP)	1
8	Bolt	1	17	Disk (VD)	1
9	Roller bracket	1			

5.19 Exploded figure of SVP(D)3.75 and parts list



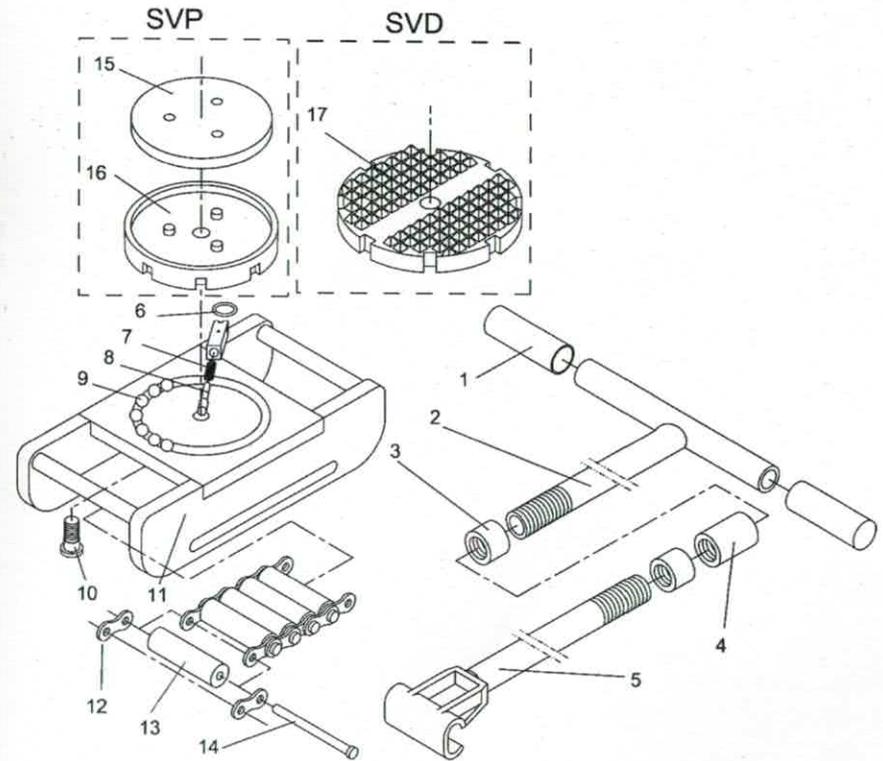
No.	Description	Q'ty	No.	Description	Q'ty
1	Handle	2	10	Bolt	1
2	Pull rod	1	11	Roller bracket	1
3	Locking nut	2	12	Link	28
4	Connecting case	1	13	Roll	14
5	Weld hook	1	14	Axle	14
6	Key ring	1	15	Rubber cushion (VP)	1
7	Spring	1	16	Disk (VP)	1
8	Axle	1	17	Disk (VD)	1
9	Steel ball SØ14	26			

5.20 Exploded figure of SVP(D)10 and parts list



No.	Description	Q'ty	No.	Description	Q'ty
1	Handle	2	10	Bolt	1
2	Pull rod	1	11	Roller bracket	1
3	Locking nut	2	12	Link	28
4	Connecting case	1	13	Roll	14
5	Weld hook	1	14	Axle	14
6	Key ring	1	15	Rubber cushion (VP)	1
7	Spring	1	16	Disk (VP)	1
8	Axle	1	17	Disk (VD)	1
9	Steel ball SØ14	26			

5.21 Exploded figure of SVP (D)15 and parts list



No.	Description	Q'ty	No.	Description	Q'ty
1	Handle	2	10	Bolt	1
2	Pull rod	1	11	Roller bracket	1
3	Locking nut	2	12	Link	32
4	Connecting case	1	13	Roll	16
5	Weld hook	1	14	Axle	16
6	Key ring	1	15	Rubber cushion (VP)	1
7	Spring	1	16	Disk (VP)	1
8	Axle	1	17	Disk (VD)	1
9	Steel ball SØ14	26			