DURAPAC
ENGINEERED FOR RELIABILITY

Instruction Manual

Manual Hydraulic Bottle Jacks
Model – DBJ Series

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This is a safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid injury or death

1.0 Product Information

DURAPAC – Hydraulic Bottle Jacks are engineered to meet Industrial Standards for Performance and Safety. The DBJ Series of bottle jacks are a premium range ideally suited to most industrial lifting and pushing applications. Models from 10-20 ton feature an additional screw extension and most can be used in both the vertical and horizontal positions. All jacks are repairable and seal kits are available.

- All jacks have been designed for ease of use and handling
- Operating handle is included with all models
- Carbon steel base is automatically welded to ensure increased resistance to high pressure and provide greater durability
- Chrome plated steel piston rod resists corrosion and extends life
- Internal stroke limiter prevents piston rod over-extension

Special skill, knowledge and training may be required for a specific task and the product may not be suitable for all jobs. The user must ultimately make the decision regarding suitability of the product for any given task and assume the responsibility of safety for all in the work area. Contact a Durapac representative if you are unsure of your bottle jack's suitability for a particular application.

2.0 Receiving Instructions

It is recommended prior to use that an inspection be done by qualified personnel and that any missing or damaged parts, decals, warning/safety labels or signs are replaced with Durapac authorised replacement parts only. Any bottle jack that appears to be damaged in any way, is worn, leaking or operates abnormally should be removed from service immediately until such time as repairs can be made. Any bottle jack that has been or suspected to have been subject to a shock load should be removed from service immediately until inspected by a Durapac authorised service centre. Owners and operators of this equipment should be aware that the use and subsequent repair of this equipment may require specialised training and knowledge.

3.0 Safety

Save these instructions. For your safety, read and understand the information contained within. The owner and operator should have an understanding of this product and safe operating procedures before attempting to use this product. Instructions and safety information should be conveyed in the operator's native language before use of this product is authorised. Make certain that the operator thoroughly understands the inherent dangers associated with the use and misuse of the product. If any doubt exists as to the safe and proper use of this product as outlined in this factory authorised manual, remove from service immediately.

DANGER:

- To avoid personal injury keep hands and feet away from work area during operation
- **Do NOT** handle pressurised hoses. Escaping oil under pressure can penetrate the skin

causing serious injury. If oil is injected under the skin, see a doctor immediately

- Stay clear of loads supported by hydraulics. A cylinder, when used as a load lifting device, should never be used as a load holding device. After the load has been raised or lowered, it must always be supported mechanically

WARNING:

- The system operating pressure must not exceed the pressure rating of the lowest rated component in the system. Install pressure gauges in the system to monitor operating pressure. It is your window to what is happening in the system
- Always wear appropriate personal protective equipment (PPE) when operating hydraulic equipment. The operator must take precaution against injury due to failure of the tool or work piece(s)
- **Do NOT** hold or stand directly in line with any hydraulic connections while pressurising
- **Do NOT** attempt to disconnect hydraulic connections under pressure. Release all line pressure before disconnecting hoses
- All personnel must be clear before lowering load or depressurising the system
- **Do NOT** attempt to lift a load weighing more than the capacity of the cylinder

IMPORTANT:

- If at any stage, the safety related decals become hard to read, these must be replaced
- Minimum age of the operator must be 18 years. The operator must have read and understood all instructions, safety issues, cautions and warnings before starting to operate the equipment. The operator is responsible for this activity towards other persons
- **Do NOT** lift hydraulic equipment by the hoses or couplers. Use the carrying handle or other means of safe transport
- Hydraulic equipment must only be serviced by a qualified hydraulic technician. For repair service, contact the Durapac authorised service centre in your area. To protect your warranty, use only high quality hydraulic oil

CAUTION:

- **KEEP HYDRAULIC EQUIPMENT AWAY FROM FLAMES AND HEAT.** Hydraulic fluid can ignite and burn. Excessive heat will soften packings and seals, resulting in fluid leaks. Heat also weakens hose materials and packings. For optimum performance do not expose equipment to temperatures of 65°C (150°F) or higher. Protect all equipment from weld spatter
- No alteration should be made to this device

3.1 Hydraulic Bottle Jacks

- **Do NOT** exceed the rated capacity of the jack or any equipment in the system
- **Do NOT** tamper with the adjustment of the jacks internal relief valve screw. To do so may cause the jack to fail

- **Do NOT** use in an unstable or hazardous position
- Always use the jack on solid and level surface that is capable of carrying the load. If used to lift a vehicle, set the vehicle's parking brake and chock the tyres
- Keep the load stable during lifting. An unstable load may cause the jack or load to slip
- Centre the load on the jack. Off centre loads can damage seals and cause hydraulic failure
- Keep non-essential personnel at a safe distance when using the jack
- **Do NOT** carry the jack by the jacking lever
- **Do NOT** lift people or loads with people on them
- Ensure that the jack is undamaged and in good working order. Do not use the jack if it is damaged
- **Do NOT** use the jack for any purpose other than that for which it is intended
- Keep the jack clean, particularly the head
- **Do NOT** operate the system with bent or damaged couplers or damaged threads
- **Do NOT** subject the jack and its components to shock loads
- Use only Durapac approved accessories and components

FAILURE TO HEED THESE WARNINGS MAY RESULT IN PERSONAL INJURY AS WELL AS PROPERTY DAMAGE.

4.0 Installation

4.1 Familiarise yourself with the specifications and illustrations in this owner's manual. Know your bottle jack, its limitations and how it operates before attempting to use. Refer to the specification chart below or if in doubt, contact a Durapac representative.

Model Number	Capacity (ton)	Stroke (mm)	Collapsed Height (mm)	Extended Height (mm)	Weight (kg)
DBJ-10	10	147	240	387	8.2
DBJ-10S		95	170	265	6.4
DBJ-20	20	152	265	417	13.3
DBJ-20S		85	187	272	10.0
DBJ-30	30	155	282	437	19.6
DBJ-30S		80	182	262	13.8
DBJ-50	50	155	305	460	42.3

4.2 Check oil level in reservoir before operating the jack.

4.3 Remove air from the system – Air can accumulate in the hydraulic system during the initial setup or after prolonged use, causing the cylinder to respond slowly or in an unstable manner. Should removal of air from the jack be required, please follow the steps in 6.2 – Bleeding Air from the System in the Maintenance Section.

4.4 Lubrication - Oil the pivots of the manual pump mechanism.

5.0 Operation

⚠ **CAUTION:** Always support the load by mechanical means before working on or under the load

5.1 Raising the Jack

5.1.1 Use the narrow end of the jack handle to tighten/close the release valve (clockwise).

5.1.2 Position the jack under the load point. Do not use handle in the release valve to move jack-damage will result.

5.1.3 Insert handle into the socket and pump the jacking lever in an up and down motion.

⚠ 10 and 20 ton models can be operated horizontally. When operated in this position, hydraulic stroke will be reduced to approximately 2/3

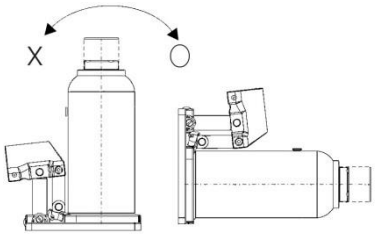


Figure 1 – Horizontal Operation

5.2 Lowering the Jack

5.2.1 Check beneath the load for any obstructions and remove any mechanical supports.

5.2.2 Slowly open the release valve (counter clockwise) with handle. Control the rate of descent by smoothly opening or closing the valve.

Note: The release valve should not be closed abruptly (except in an emergency) since this shock loads the hydraulic system.

5.2.3 After use, the jack should be stored with the piston fully retracted.

6.0 Maintenance

IMPORTANT:

- Check oil level and lubricate regularly
- Use only good quality hydraulic fluid. **Do NOT** use brake fluid, transmission fluid, turbine oil, motor oil, alcohol, glycerine etc. Use of anything other than good quality hydraulic oil will void warranty and damage the jack, hose, and application. We recommend Durapac Hydraulic Oil or equivalent
- Equipment must only be serviced by a qualified hydraulic technician. For repair service, contact your local Durapac authorised service centre

The greatest single cause of failure in hydraulic systems is dirt; keep the jack clean and well lubricated to prevent foreign matter from entering the system. If the jack has been exposed to rain, snow, sand or grit, it must be cleaned before and after each use.

Maintenance is required when wear or leakage is noticed. Periodically inspect all components to detect any problem that may require service and maintenance.

6.1 Adding Hydraulic Fluid

6.1.1 With Jack sitting on its base, open release valve with handle (not more than two counter-clockwise turns).

6.1.2 Press down on head to ensure piston is fully down.

6.1.3 Remove the oil filler plug.

6.1.4 Use a small funnel to fill the reservoir until oil level reaches the bottom of filler hole.

6.1.5 Bleed air from system if necessary.

6.1.6 Close the release valve (turn clockwise).

6.1.7 Wipe up any spilled fluid and reinstall the oil filler plug.

6.2 Bleeding Air from the System

6.2.1 Repeat Steps 6.1.1 to 6.1.2 (above), if required.

6.2.2 Operate manual pump for three strokes to bleed any air from the system.

6.2.3 Recheck oil level after removing air.

6.2.4 Close the relief valve (turn clockwise).

6.3 Changing Hydraulic Fluid

⚠ For best results, change fluid once a year or every 300 hours of use

6.3.1 Repeat Steps 6.1.1 to 6.1.3 (above).

6.3.2 Pour used fluid into a sealable container.

6.3.3 Repeat Steps 6.1.4 to 6.1.7 (above).

6.3.4 Dispose of fluid in accordance with local regulations.

6.4 Lubrication

Oil the pivots of the manual pump mechanism.

6.5 Storage

6.5.1 When not in use, the jack should be stored with the piston fully retracted.

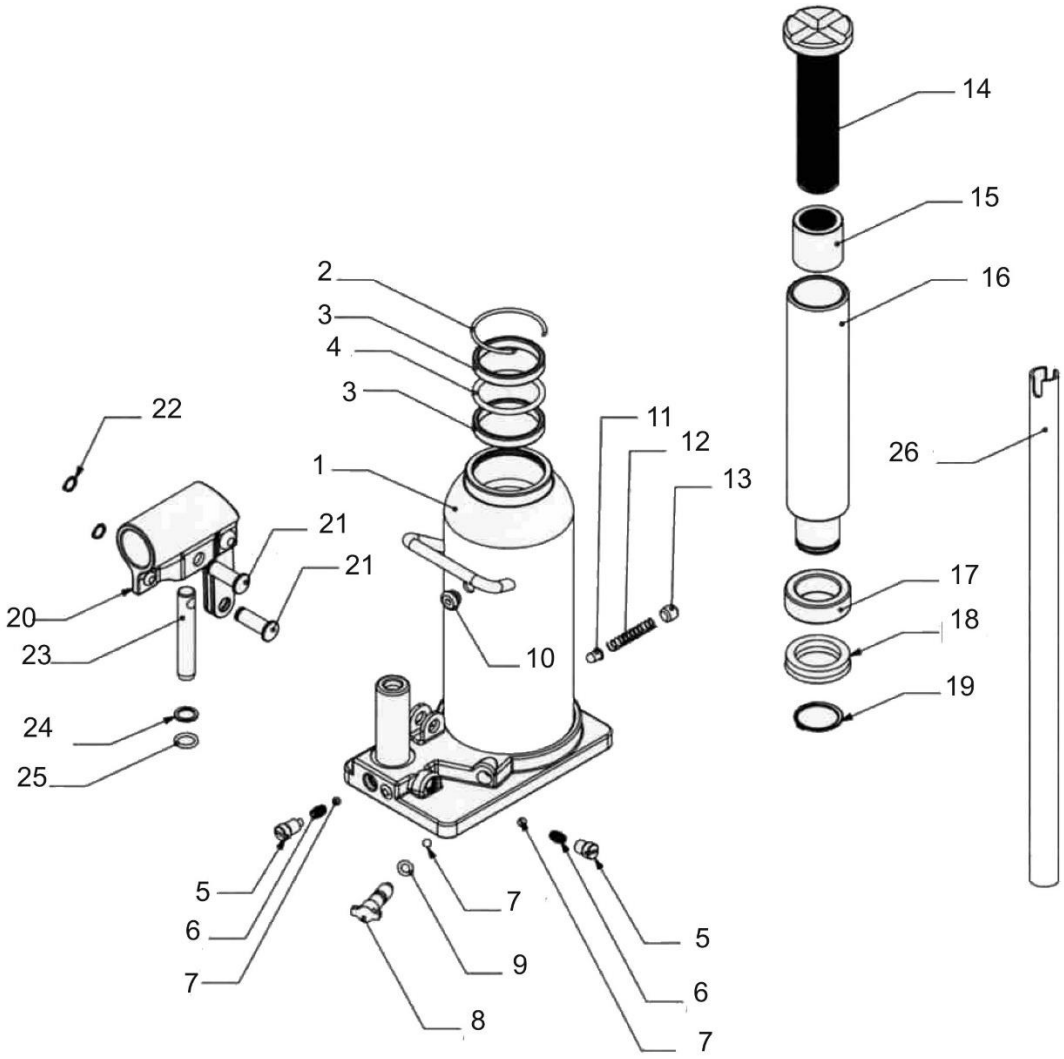
6.5.2 Wipe thoroughly clean and store in a clean, dry environment. Avoid temperature extremes.

7.0 Troubleshooting

Problem	Cause	Solution
Jack will not lift load	Release valve not fully closed	• Close valve firmly
	No oil or low oil level	• Top-up to correct level
	Air-locked system	• Refer to 6.2 - Bleeding Air from the System
	Load is above capacity of system	• Use correct equipment
Erratic Action	Air in system	• Refer to 6.2 - Bleeding Air from the System
	Viscosity of oil too high	• Change to lower viscosity oil
	Internal leakage in cylinder	• Replace worn seals • Check for excessive contamination or wear
	Cylinder sticking or binding	• Check for dirt, gummy deposits or leaks • Check for misalignment, worn parts or defective seals
Jack will not lift smoothly or to full height	Oil level low	• Top-up to correct level
	Air in system	• Refer to 6.2 - Bleeding Air from the System
	Cylinder sticking or binding	• Check for dirt, gummy deposits or leaks • Check for misalignment, worn parts or defective seals
Jack advances slowly	Pump not working correctly	• Rework pump
	Leaking seals	• Replace seals
Jack advances but does not hold load	Pump check valve not working correctly	• Clean/replace check valve
	Cylinder seals are leaking	• Replace seals
	Overload valve leaking or not adjusted correctly	• Replace / adjust overload valve
Jack leaks oil	Worn or damaged seals	• Replace seals
Jack will not retract or retracts slowly	Release valve is closed	• Open release valve
	Cylinder damaged internally	• Send to a Durapac authorised service centre for repair
	Reservoir too full	• Drain oil to correct level

8.0 Parts Breakdown and List

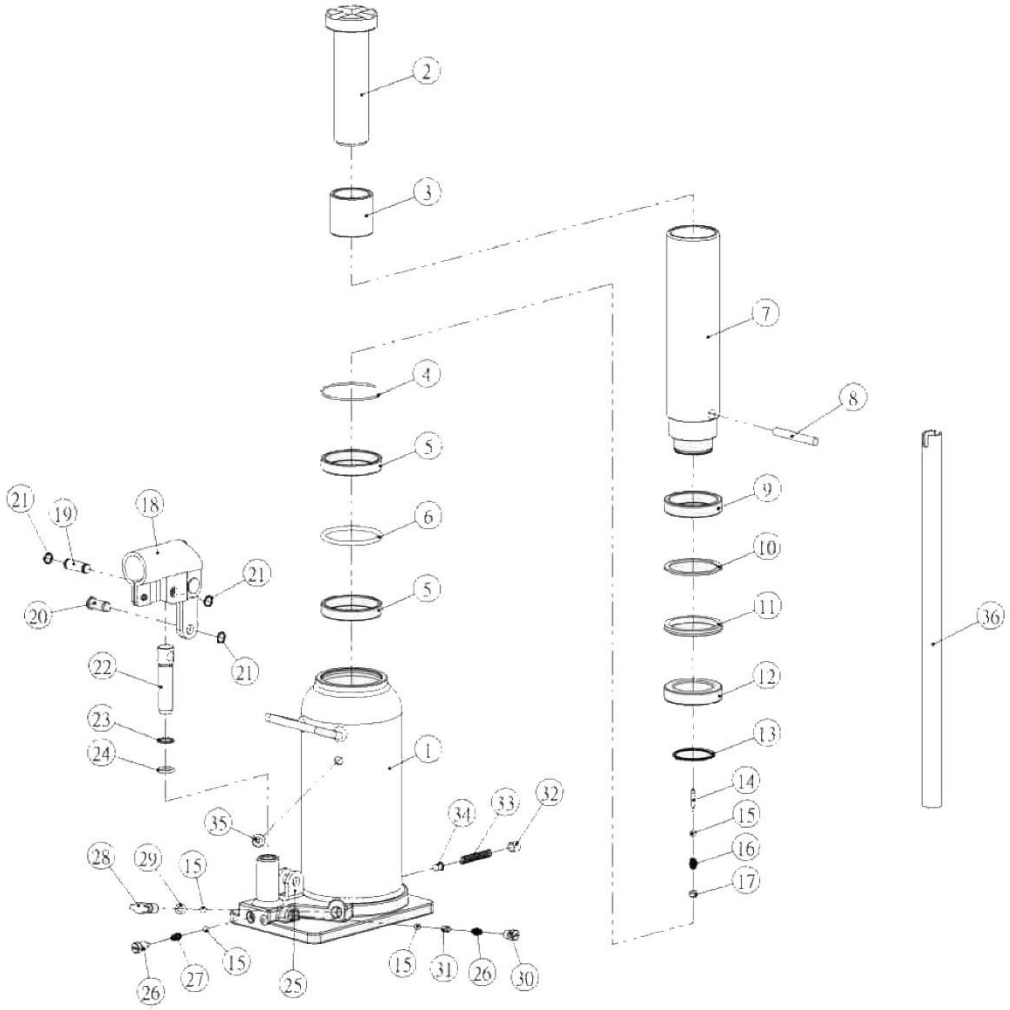
8.1 Models: DBJ-10 & DBJ-10S



Item	Description	Qty
1	Barrel	1
2	Up-stop ring	1
3	Up-tube ring	2
4	O-ring	1
5	Inlet bolt	2
6	Spring	2
7	Steel ball	5
8	Release valve bolt	1
9	O-Ring	1
10	Oil cap	1
11	Filter	1
12	Filter-spring	1
13	PT plug	1

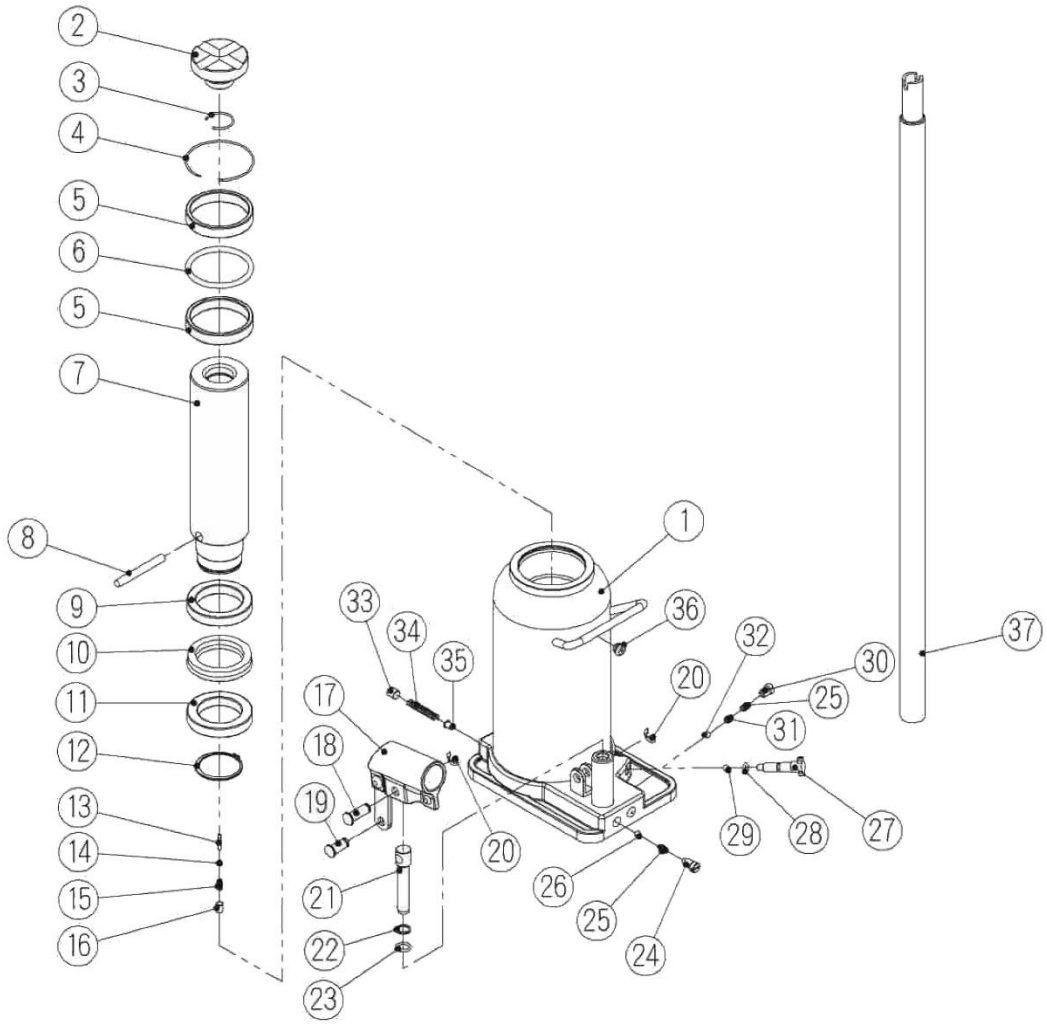
Item	Description	Qty
14	Piston rod thread	1
15	Piston rod nut	1
16	Piston rod	1
17	Up-piston ring	1
18	Seal	1
19	C-type ring	1
20	Cardan joint	1
21	Joint pin - long	1
22	Joint pin - short	1
23	Pin	1
24	Spacer	1
25	O-ring	1
26	Handle bar	1

8.2 Models: DBJ-20 & DBJ-20S



Item	Description	Qty	Item	Description	Qty
1	Barrel	1	19	Joint pin	1
2	Piston rod thread	1	20	Pin 10	1
3	Piston rod nut	1	21	C-type ring	3
4	Up-stop ring	1	22	Joint piston rod	1
5	Up-tube ring	2	23	Back-up ring	1
6	O-ring	1	24	O-ring	1
7	Piston rod	1	25	U-cup	1
8	Safety valve pin	1	26	Inlet bolt	1
9	Low tube ring	1	27	Spring	2
10	Back-up ring	1	28	Release valve bolt	1
11	Seal	1	29	O-Ring	1
12	Piston ring	1	30	Outlet bolt	1
13	C-type ring	1	31	Outlet plug	1
14	Oil return-pin	1	32	PT plug	1
15	Steel ball	4	33	Filter spring	1
16	Safety valve spring	1	34	Filter	1
17	Bolt	1	35	Oil cap	1
18	Cardan joint	1	36	Handle bar	1

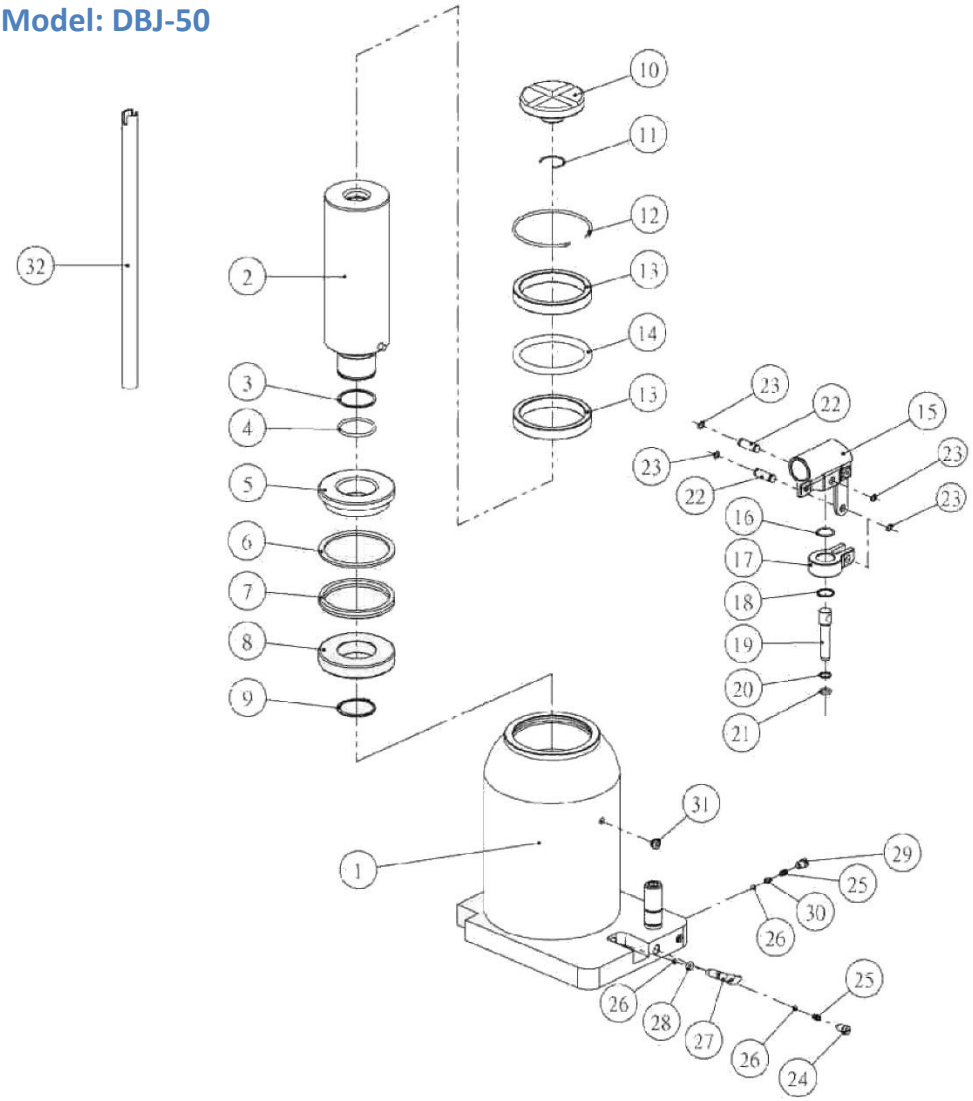
8.3 Models: DBJ-30 and DBJ-30S



Item	Description	Qty
1	Barrel	1
2	Saddle	1
3	Saddle ring	1
4	Up-stop ring	1
5	Up-tube ring	2
6	O-ring	1
7	Piston rod	1
8	Safety valve pin	1
9	Up piston ring	1
10	Seal	1
11	Low piston ring	1
12	C-type ring	1
13	Oil return-pin	1
14	Steel ball	1
15	Safety valve spri	1
16	Bolt	1
17	Cardan joint	1
18	Joint pin-long	1
19	Joint pin-short	1

Item	Description	Qty
20	E-type ring	2
21	Joint piston rod	1
22	Back-up ring	1
23	O-ring	1
24	Inlet bolt	1
25	Spring	2
26	Steel ball	1
27	Release valve bolt	1
28	O-ring	1
29	Steel ball	1
30	Outlet bolt	1
31	Steel ball space	1
32	Steel ball	1
33	Bolt	1
34	Filter-spring	1
35	Filter	1
36	Oil cap	1
37	Handle bar	1

8.4 Model: DBJ-50



Item	Description	Qty
1	Body combination	1
2	Plug	1
3	Back-up ring	1
4	O-ring	1
5	Piston seal	1
6	Back-up ring	1
7	Seal	1
8	Piston seal	1
9	C-type ring	1
10	Saddle	1
11	Stop-ring	1
12	Stop-ring	1
13	Up-lining ring	2
14	O-ring	1
15	Rocker joint	1
16	Stop-ring	1

Item	Description	Qty
17	Omnibearing ring	1
18	C-type ring	1
19	Rod	1
20	Back-up ring	1
21	O-ring	1
22	Fixed bolt	2
23	C-type ring	4
24	Bolt	1
25	Spring	2
26	Steel ball	3
27	Bolt	1
28	O-ring	1
29	Bolt	1
30	Ball pedestal	1
31	Oil bung	1
32	Rocker bar	1

Serial number and model need to be quoted when ordering parts.
Repair kits are available on request.