

Instruction Sheet Hydraulic Hand Pump Set 700 bar



Product information are also available on the NTN-SNR web site at www.ntn-snr.com.

1.0 IMPORTANT RECEIVING INSTRUCTIONS

Visually inspect all components for shipping damage. Shipping damage is **not** covered by warranty. If shipping damage is found, notify carrier at once. The carrier is responsible for all repair and replacement costs resulting from damage in shipment.

2.0 SAFETY RECOMMENDATIONS



Read all instructions, warnings and cautions carefully. Follow all safety precautions to avoid personal injury or property damage during system operation. NTN-SNR cannot be responsible for damage or injury resulting from unsafe product use, lack of maintenance or incorrect product and/or system operation. Contact NTN-SNR when in doubt as to the safety precautions and operations. Failure to comply with the following cautions and warnings could cause equipment damage and personal injury.

A **CAUTION** is used to indicate correct operating or maintenance procedures and practices to prevent damage to, or destruction of equipment or other property.

A **WARNING** indicates a potential danger that requires correct procedures or practices to avoid personal injury.

A **DANGER** is only used when your action or lack of action may cause serious injury or even death.



WARNING: Wear proper personal protective gear when operating hydraulic equipment.



DANGER: **Never** set the relief valve to a higher pressure than the maximum rated pressure of the pump. Higher settings may result in equipment damage and/or personal injury. Do not remove relief valve.



WARNING: Never use the pump together with accessories which are rated below the maximum pressure of the pump. Install pressure gauges in the system to monitor operating pressure.

CAUTION: Avoid damaging hydraulic hose. Avoid sharp bends and kinks when routing hydraulic hoses. Using a bent or kinked hose will cause severe back-pressure.

- Sharp bends and kinks will internally damage the hose leading to premature hose failure.

CAUTION: **Do not drop heavy objects on hose.** A sharp impact may cause internal damage to hose wire strands. Applying pressure to a damaged hose may cause it to rupture.

CAUTION: **Keep hydraulic equipment away from flames and heat.** 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.



DANGER: Do not handle pressurized hoses. Escaping oil under pressure can penetrate the skin, causing serious injury. If oil is injected under the skin, see a doctor immediately.



WARNING: Immediately replace worn or damaged parts by genuine NTN-SNR parts only.



CAUTION: Always use the handle to carry the pump. Carrying the pump by the hose may damage the hose and/or the pump.

CAUTION: Hydraulic equipment must only be serviced by a qualified hydraulic technician. For repair service, contact the Authorized NTN-SNR or your distributor in your area. To protect your warranty, use only recommended oil.

SPECIFICATIONS – Use this instruction sheet for the following hand pump models.

Hand Pump Specifications

Model	Type (Speed)	Maximum Pressure Rating psi [bar]		Oil Volume per Stroke in ³ [cm ³]		Usable Oil Capacity in ³ [cm ³]	Weight (Kg)
		Stage 1	Stage 2	Stage 1	Stage 2		
PUMP700b-0,3L	2	200 [13]	10,000 [700]	.221 [3.6]	.055 [.90]	20 [320]	2,4
PUMP700b-0,9L	2	200 [13]	10,000 [700]	.687 [11.3]	.151 [2.5]	55 [900]	4,1

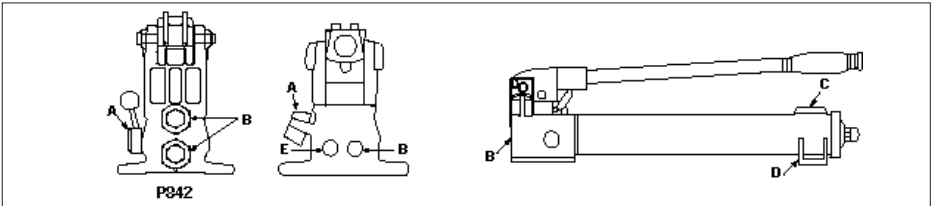
3.0 DESCRIPTION

3.1 Models PUMP 700b 0,3L and 0,9L

Figure 1 and the corresponding table show the main components of hand pump models PUMP 700b 0,3L and 0,9L. The dual-purpose vent/fill cap acts as a pressure relief valve in case of accidental reservoir pressurization.

Fig. 1	PUMP700b-0,3L	PUMP700b-0,9L
A	Release Valve	Release Valve
B	1/4 NPTF Outlet Port	3/8 NPTF Outlet Port
C	Vent/Fill Cap	Vent/Fill Cap
D	Mounting Slots	Mounting Slots
E	—	—

Figure 1



Kit content:	Pump Set 700b-0,3L	Pump Set 700b-0,9L
	1 2-stage manual pump	For hydraulic nut size < or = HMV 54 EBF
1 adaptater pressure gauge	700 bar pump with 0,3 liter reservoir	700 bar pump with 0,9 liter reservoir
1 pressure switch	1/4" male, 3/8" female	3/8" male, 3/8" female
1 hose	700 bar	700 bar
1 quick coupling connector (female)	700 bar, length 1,5 m	700 bar, length 3 m
	G 1/4 (1500 bars)	G 1/4 (1500 bars)

4.0 INSTALLATION

4.1 Pump Venting

Vented pumps provide slightly better performance. For pumps with nylon reservoir, turn vent/fill cap 1/4 turn counter-clockwise to vent. Close vent prior to transporting pump to prevent oil leakage.

4.2 Pump Position

Operating position: Vertical or horizontal.

NOTE: When operating the pump in the vertical position, the hose end must be pointed down, or the pump will pick up air and will not build pressure properly.

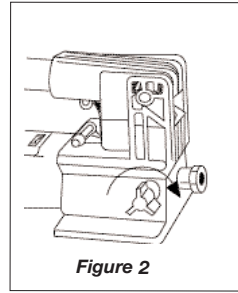


Figure 2

5.0 OPERATION

5.1 Before Using the Pump

1. Check all system fittings and connections to be sure they are tight and leak free.
2. Check oil level in reservoir before operating pump. See "Adding Oil to the Pump" on page 3.



CAUTION: NEVER add extensions to pump handle. Extensions cause unstable pump operation.



WARNING: In certain situations the pump handle can "kick back". Always keep your body to the side of the pump, away from the line of force of the handle.

NOTE: To reduce handle effort at high pressure, take short strokes. Maximum leverage is obtained in the last 5° of stroke.

5.2 Using Two-Speed Pumps

These pumps provide 2-stage flow. Under no-load, the pump operates in the high flow first stage for rapid advance. When the load is contacted, the pump automatically shifts to the second stage for building pressure.

NOTE: For best performance, operate pump handle at moderate speed during the high flow first stage. Rapid handle speed in the first stage will prevent the pump from delivering full volume of oil.

5.3 Single-Acting Applications with Release Valve

1. Close release valve by turning clockwise, as shown in Figure 6.



CAUTION: Close release valve finger tight ONLY. Using tools on release valve can damage it and cause the pump to malfunction.

2. Operate pump handle to deliver hydraulic power to system. Pressure will be maintained until release valve is opened.
3. Open release valve (turn counter-clockwise) to release pressure, allowing oil to flow back to the reservoir

5.4 Relief Valve Adjustment

All pumps contain a factory set relief valve to prevent over-pressurization of the system. Lower pressure settings can be obtained. Contact your Authorized NTN-SNR distributor.

6.0 AIR REMOVAL

Removing air from the hydraulic system will help the piston to advance and retract smoothly.

7.0 MAINTENANCE

Use only recommended hydraulic oil with these pumps to promote long pump life and to protect your warranty.

7.1 Adding Oil to the Pump

Check oil level regularly.

1. Remove vent/fill cap from reservoir.
2. Fill reservoir only to level mark shown on pump.
3. Remove air from system if necessary.
Rereck oil level after removing air.
4. Return vent/fill cap to proper position.

7.2 Keeping Oil Lines Clean

When coupler halves are disconnected, always screw on dust caps. Use every precaution to guard unit against entrance of dirt because foreign matter may cause pump failure.

7.3 Lubricating the Pump

To extend pump life and improve performance, lubricate the beam pin (A), cross pin (B), and piston head (C) regularly, using roller bearing NTN-SNR Lub UNIVERSAL grease. See figure 3

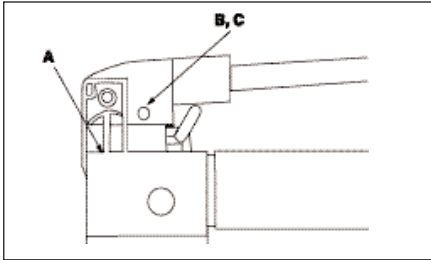


Figure 3

7.4 Changing the Oil

1. Drain all oil and refill with clean recommended oil every 12 months. If pump is used in dirty environments, change the oil more often.
2. Remove vent/fill cap or plug from reservoir.
3. Tilt pump to drain out old oil.
4. Fill reservoir only to level mark shown on pump.
5. Replace the vent/fill cap or plug.
6. Dispose of used oil properly.

7.5 REPLACEMENT PARTS

Designation	Description
TOOL PUMP REPAIR KIT	Repair kit
TOOL MANOMETER ADAPTATOR 0,3 L	Gauge adaptator for 0,3L reservoir
TOOL MANOMETER ADAPTATOR 0,9 L	Gauge adaptator for 0,9L reservoir
TOOL MANOMETER 700	Pressure Gauge 700b
TOOL FLEXIBLEHOSE 1500	High pressure hose 1,5 m (for 0,3L) with quick coupling connector
TOOL FLEXIBLEHOSE 3000	High pressure hose 3 m (for 0,9L) with quick coupling connector
TOOL PUMP COUPLING 1/4	Quick connection coupling G1/4

8.0 TROUBLESHOOTING GUIDE

The following information is intended as an aid in determining if a problem exists. For repair service, contact the Authorized NTN-SNR distributor in your area.

TROUBLESHOOTING		
Problem	Possible Cause	Solution
Hydraulic nut does not advance, advances slowly, or advances in spurts.	<ol style="list-style-type: none"> 1. Oil level in pump reservoir is low. 2. Release valve open. 3. Loose hydraulic coupler. 4. Load is too heavy. 5. Air trapped in system. 	<ol style="list-style-type: none"> 1. Add oil according to the Maintenance instructions on page 3. 2. Close the release valve. 3. Check that all couplers are fully tightened. 4. Do not attempt to lift more than rated tonnage. 5. Remove air according to the instructions on page 3.
Hydraulic nut advances, but does not hold pressure.	<ol style="list-style-type: none"> 1. Leaking connection. 2. Leaking seals. 3. Internal leakage in pump. 	<ol style="list-style-type: none"> 1. Check that all connections are tight and leak free. 2. Locate leak(s) and have equipment serviced by a qualified hydraulic technician. 3. Have pump serviced by a qualified hydraulic technician.
Hydraulic nut does not retract, retracts part way, or retracts more slowly than normal.	<ol style="list-style-type: none"> 1. Release valve closed. 2. Pump reservoir is over-filled. 3. Loose hydraulic coupler. 4. Air trapped in system. 5. Hose I.D. too narrow. 6. Hydraulic nut retraction spring broken. 	<ol style="list-style-type: none"> 1. Open release valve. 2. Drain oil level to full mark. See page 3 instructions for adding oil. 3. Check that all couplers are fully tightened. 4. Remove air according to the instructions on page 3 5. Use larger diameter hydraulic hose. 6. Have hydraulic nut serviced by NTN-SNR Experts & Tools Service.