



巨輪興有限公司

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倒拉式千斤頂 操作手冊

BSRC & BSRP



BSRC-series



BSRP-series

中文 : C1~C5

1. 安全預防措施



不遵守以下的注意事項和警告將引起設備損失及人員傷害。



重要事項：未滿18歲人員不得擅自操作。操作 SUN RUN 油壓設備前請先仔細閱讀並了解相關操作手冊、安全事項和警告事項。操作人員負有油壓設備週邊之人員及環境之安全責任。



警告事項：為確保避免人員傷害和設備作業損失，請確認所有油壓設備及週邊配件，使用最大壓力為 700 bar(10,000psi)。



警告事項：操作人員於使用期間為避免傷害，需全程配戴安全防護措施。



警告事項：不得使用油壓設備作為支撐重物使用。當液(油)壓缸作為負載頂昇設備時，僅可頂昇，不可用來支撐重物使用。當完成頂升作用後，需使用機械性工具來固定支撐。



警告事項：必須使用硬性物體來支撐重物。慎選能承受重物的鋼鐵或木塊來支撐荷載。不要在頂升或持壓使用中將液(油)壓缸當做墊塊使用。



危險事項：為避免人員傷害，請於操作過程中手、腳遠離液(油)油壓缸和液壓設備。



警告事項：禁止超載使用。超載使用易造成設備損害及人員損傷。液(油)壓缸設計最大使用壓力為 700 bar (10,000psi)。



危險事項：千萬不可將溢流(安全)閥的壓力值設定高於泵浦的額定壓力。超載的壓力值可能引起設備損壞及人員損傷。尤其千萬不可拆除溢流(安全)閥。



警告事項：系統操作壓力絕不可超過最低壓力元件之值最低值。系統中應加裝壓力錶藉以監測系統中的壓力並了解使用狀態。



警告事項：避免損壞油壓管。捲收油管時，避免油管強烈彎曲或打結。使用彎曲或打結油管易引起背壓。強烈彎曲或打結的油管亦易引起內部損壞或提早油管老化。



千萬不要重壓油管。劇烈的撞擊會造成油管內鋼絲網損壞。使用受損的油管可能導致油管破裂。



重要事項：千萬不要利用油管來提攜其他油壓設備(例如:小型油壓缸、泵浦..等)。



危險事項：液(油)壓設備應遠離火或熱源。高溫會軟化包裝和密封材料，導致液壓油洩漏；高溫同時也會造成油管材質與包裝變質。為確保最好狀態，不要將液(油)壓設備暴露於 65°C(150°F)高溫。在電焊場所時亦應注意防止電焊火花噴到油管。

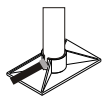


危險事項：不要用手對油管施加壓力(包括拉或舉高) 高壓下洩漏的液壓油會穿透皮膚造成嚴重傷害。當液壓油侵入皮膚請立即就診。

1. 安全預防措施



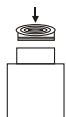
警告事項：液(油)壓缸只能在已連接好的液壓油路中使用；快速接頭尚未確實連接時禁止使用或加壓，否則高壓情況下接頭的油封及鋼珠會高速噴出造成人員傷亡。



警告事項：頂昇荷載前，請確保油壓裝置平穩。油壓缸必須放在平穩可支撐重物的基座上。若情況許可，可使用油壓缸基座來增加穩定性。千萬不可使用焊接或其他方法將油壓缸與所使用的基礎面(支撐座)連接一起。



避免荷載不直接作用在油壓缸的主軸中心上。偏心荷載易導致油壓缸和主軸受損。此外，重物亦可能因傾斜而滑落，引發潛在危險。



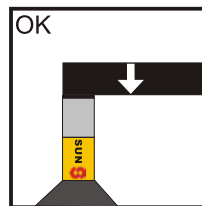
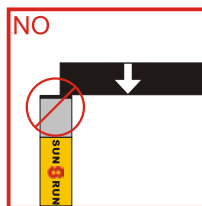
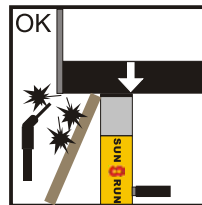
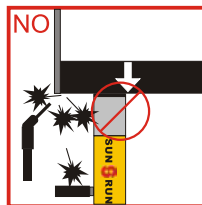
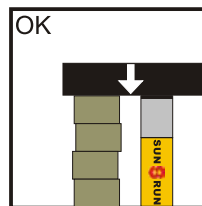
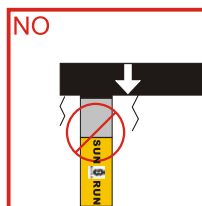
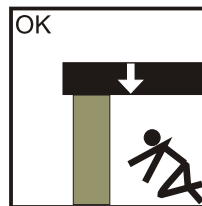
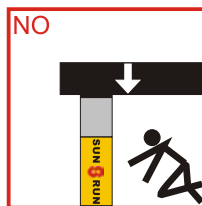
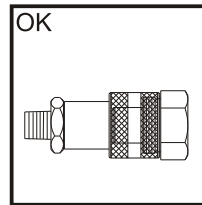
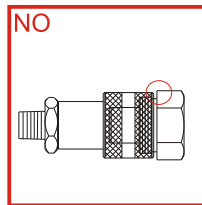
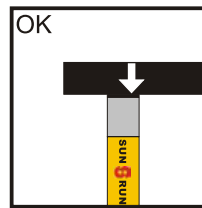
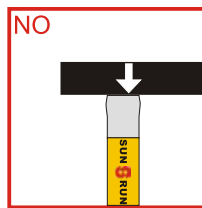
將荷載平均的分布在墊塊表面。傾斜墊塊可消除偏荷載。當無使用螺牙連接其他附件時，一定要使用墊塊以保護主軸。



警告事項：當零件出現裂痕或損壞時，應立即以**SUN RUN** 零件更換。正確標準的零件可防止人員或設備損傷。**SUN RUN**零件經特別設計可完全適用並適用產品標稱的額定荷載或壓力。

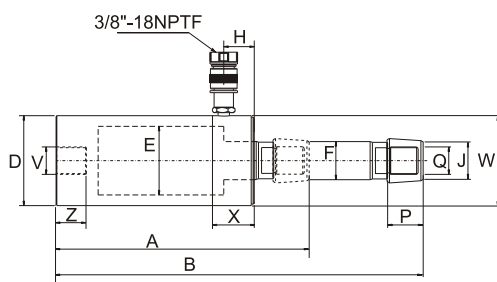


重要事項：液壓設備必需由合格的液壓技工進行維修。需要修理時，請連繫就近的**SUN RUN**服務據點並使用**SUN RUN** 液壓油保固方為有效。



2.規範

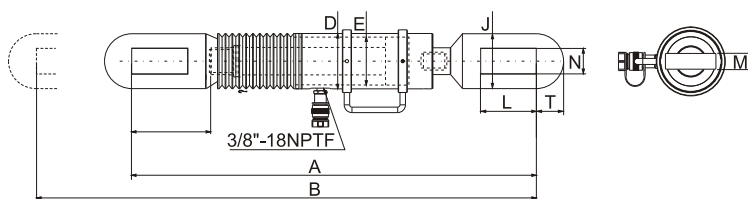
BSRC-series



底座螺孔Cylinder Mounting Dimension				
Cylinder Model/ Capacity	Base Mounting Hole	Collar Thread	Collar Thread Length	Mtg. Thread Length
型號-能力 (ton)	底部螺孔 V	外牙螺紋 W	外牙長度 X (mm)	底螺紋深 Z (mm)
BSRC-25	3/4"-14NPT	1-1/2"-16UN	24	17
BSRC-55	1-1/4"-11.5NPT	2-1/4"-14UN	26	24
BSRC-106	M30-2	M85-2	25	24

Model Number 型號	外部尺寸 Outer Dimension												牙紋尺寸 Threads Dimension	
	Cylinder Capacity 能力 ton(kN)	Stroke 揚程 (mm)	Cylinder Effective Area 受壓面積 (cm ²)	Oil Cap. 總油量 (cm ³)	Coll. Height 本身高 A (mm)	Ext. Height 伸長總高 (mm)	O.D 外徑 D (mm)	Cylinder Bore Diam. 內徑 E (mm)	Plunger Diam. 主軸直徑 F (mm)	Top to inlet. Port 頂部進油孔位置 H (mm)	Saddle Diam. 墊塊尺寸 J (in)	Wt. 總重 (kg)	Plunger Thread Length 螺紋深度 P (mm)	Plunger Outside Thread 主軸螺紋 Q (mm)
BSRC-25	2.5(24)	127	3.5	45	264	391	48	28.4	19.0	45	3/4"-14NPT	1.8	28	11/16"-24
BSRC-55	5(51)	140	7.3	101	301	441	57	42.9	30.2	42	1-1/4"-11.5NPT	4.5	32	1-3/16"-16
BSRC-106	10(105)	151	15.0	228	289	440	85	54.1	31.8	39	—	9.5	25	M30-2

BSRP-series



Model Number 型號	外部尺寸 Outer Dimension									連接勾尺寸 Link Dimension				
	Cylinder Capacity 能力 ton(kN)	Stroke 揚程 (mm)	Cylinder Effective Area 受壓面積 (cm ²)	Oil Cap. 總油量 (cm ³)	Coll. Height 本身高 A (mm)	Ext. Height 伸長總高 B (mm)	O.D 外徑 D (mm)	Cylinder Bore Diam. 內徑 E (mm)	Wt. 總重 (kg)	Link Ht. 勾高度 J (mm)	Link Opening 勾開口 L (mm)	Link Thickness 勾厚度 M (in)	Link Width 勾寬 N (mm)	Slot to Link end 勾端吊耳厚度 T (mm)
BSRP-106	10(105)	151	15.0	227	541	692	85	54.1	13.2	67	115	22	30	32
BSRP-306	30(326)	155	46.6	722	1085	1240	136	88.9	48.1	114	145	35	39	50
BSRP-606	50(505)	152	72.1	1096	719	871	140	110.0	53.5	130	149	39	50	70

2.1 油管須連接3/8" NPT 接頭，操作單動液(油)壓缸時使用帶用洩壓閥或安裝3通閥的液(油)壓泵浦。
重要事項：
以手動方式確實鎖緊所有接口。鬆動的連接接口會阻塞液壓泵浦與液(油)壓缸間液壓油的流通。

3.安裝/ 操作

3.1 利用裝有洩壓閥的液壓泵浦操作液(油)壓缸前進/頂昇 和回縮/下降。
先將油管接上泵浦出油口。

3.2 將油管安裝至所有的液壓缸或液壓工具。

3.3 手動泵浦操作前準備

3.3.1. 確認系統所有的安裝及連接是否牢固無洩漏。

3.3.2. 確認操作前泵浦油位是否正常。

3.4 空氣排除

3.4.1. 將液壓系統中的空氣排除，有助液壓缸平順地前進。

3.4.2. 將液(油)壓缸主軸朝下，且液(油)壓缸位置須比泵浦低。
將油壓缸完全頂昇/回縮2~3次。

3.5 檢查泵浦系統

3.5.1. 順時針方向關閉洩壓閥

3.5.2. 操作泵浦手搖桿將壓力傳送至液壓系統，讓油缸揚昇，壓力將維持至鬆開洩壓閥。

3.5.3. 油缸的回縮速度視油管的長度和油壓線路中的其它條件所影響。

注意：於附載時，勿離油缸和附載重物太近。

系統操作壓力時，千萬不可握住油管，當液壓油漏出會傷及皮膚，則需立刻就醫。

4.維修

4.1 只使用SUN RUN 提供之液壓油，以確保液壓品質。

4.2 當油壓缸與油管分開存放時，請分別以防塵蓋加以防護。保持油壓缸完全清潔可延長使用壽命。

4.3 油壓缸應水平儲放，避免油封變型。

5.故障排除

下列資訊可有助於解決使用疑問

問題	原因	解決
液壓缸無法回縮或回縮速度較慢	<ol style="list-style-type: none"> 1. 泵浦油量太少 2. 泵浦洩壓閥被打開 3. 接頭鎖太緊 4. 附載太重 5. 系統內含空氣 6. 油壓缸內部損壞 7. 泵浦故障 	<ol style="list-style-type: none"> 1. 將液壓油加入適當油位 2. 關緊泵浦洩壓閥 3. 鬆開接頭 4. 不要超過可附載噸數 5. 排出空氣 6. 請送回維修廠維修 7. 請送回維修廠維修
油壓缸可動作可是無法持壓	<ol style="list-style-type: none"> 1. 連接部份有洩漏 2. 油壓缸油封漏油 3. 泵浦或閥門故障 	<ol style="list-style-type: none"> 1. 清除並重新塗上接著劑於接頭螺牙上,重新鎖緊螺牙 2. 更換不良油封。確認油封是否遭汙染或磨耗。務必更換已受汙染的液壓油 3. 請參考泵浦及閥門使用說明
液壓缸部份無法揚升,動作較平常慢	<ol style="list-style-type: none"> 1. 連接部分或接頭鬆脫 2. 液壓管線或配件有被設限(阻塞) 3. 系統中有空氣 4. 泵浦洩壓閥關閉 5. 回縮彈簧磨損或斷裂 6. 泵浦油箱太滿 	<ol style="list-style-type: none"> 1. 請重新鎖緊 2. 請清除或更換 3. 將系統中的空氣排除 4. 將泵浦洩壓閥打開 5. 請洽詢液壓維修部門 6. 將液壓油倒出至適當油位
液壓缸漏油	<ol style="list-style-type: none"> 1. 密封圈損壞 2. 液壓缸內部損壞 3. 連接部分或接頭鬆脫 	<ol style="list-style-type: none"> 1. 請重新更換或洽詢液壓維修部門 2. 請重新更換或洽詢液壓維修部門 3. 確認所有連接為鎖緊的且沒有漏油

出廠證明暨保固書

產品名稱：

型 號：

序 號：

出廠日期： / /

保固期間： / / ~ / /

該產品經公司嚴格品質管制,並測試合格出廠,本產品自驗收合格日起保固一年,如非人為使用不當或天然不可抗拒之災害,本公司免費維修,如非以上之原因本公司將酌收材料成本負責維修。

公司：巨輪興有限公司

負責人：蘇明益

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OPERATING INSTRUCTIONS

Single-Acting Hydraulic Pull Cylinder

BSRC & BSRP



BSRC-series



BSRP-series

English : E1~E5

1. SAFETY PRECAUTIONS



Fail to comply with the following cautions and warnings could cause equipment damage and personal injury.



IMPORTANT : 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 SUN RUN equipment. The operator is responsible for this activity towards other persons.



WARNING : To avoid personal injury and possible equipment damage, make sure all hydraulic components withstand the maximum pressure of 700 bar (10,000psi).



WARNING: Always wear safety glasses. The operator must take precaution against injury due to failure of the tool or workpiece.



WARNING: 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 blocked mechanically.



WARNING: USE ONLY RIGID PIECES TO HOLD LOAD. Carefully select steel or wood blocks that are capable of supporting the load. Never use a hydraulic cylinder as a shim or spacer in any lifting or pressing application.



DANGER: To avoid personal injury keep hands and feet away from cylinder and workpiece during operation.



WARNING : Do not overload equipment. Overloading causes equipment failure and possible personal injury. The cylinders are designed for a max. Pressure of 700 bar (10,000psi).



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 : 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.



CAUTION: Avoid sharp bends and kinks that will cause severe back-up pressure in hoses. Bends and kinks lead to premature hose failure.



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.



IMPORTANT: Do not lift hydraulic equipment by the hoses or couplers. Use the carrying handle or other means of safe transport.





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. Protect hoses and cylinders from weld spatter.




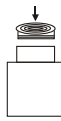
DANGER: Do not handle pressurized hoses. Escaping oil under pressure can penetrate the skin causing serious injury. If oil is injected under the skin, see a doctor immediately.


1. SAFETY PRECAUTIONS


 **WARNING:** Never pressurize uncoupled couplers. Only use hydraulic equipment in a coupled system.

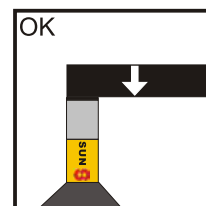
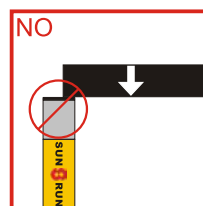
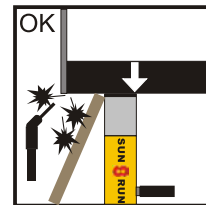
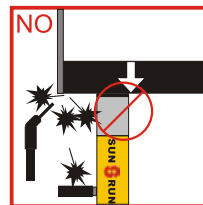
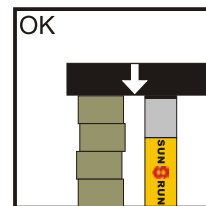
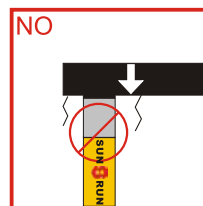
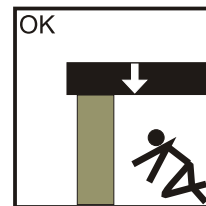
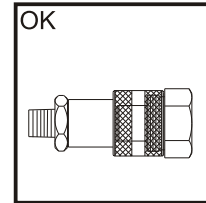
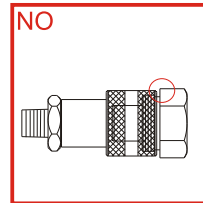
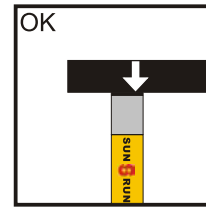
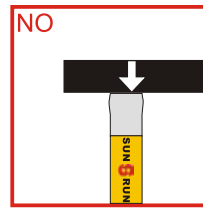
 **WARNING: BE SURE SETUP IS STABLE BEFORE LIFTING LOAD.** Cylinders should be placed on a flat surface that can support the load. Where applicable, use a cylinder base for added stability. Do not weld or otherwise modify the cylinder to attach a base or other support.

 **Avoid** situations where loads are not directly centered on the cylinder plunger. Off-center loads produce considerable strain on cylinder and plungers. In addition, the load may slip or fall, causing potentially dangerous results.

 Distribute the load evenly across the entire saddle surface. Always use a saddle to protect the plunger.

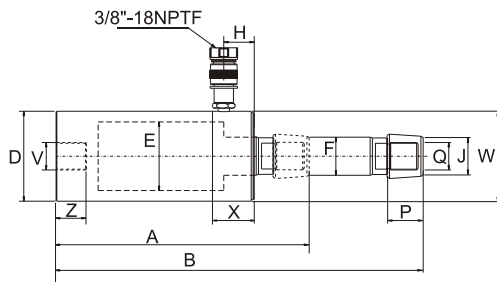
 **WARNING:** Immediately replace worn or damaged parts with genuine SUN RUN parts. SUN RUN parts are designed to fit properly and withstand rated loads.

 **IMPORTANT:** Hydraulic equipment must only be serviced by a qualified hydraulic technician. For repair service, contact the SUN RUN Service Center in your area. To protect your warranty, use only SUN RUN oil.



2. SPECIFICATION

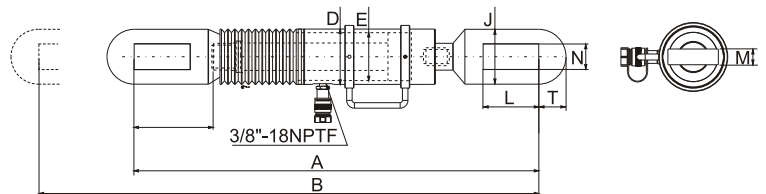
BSRC-series



底座螺孔Cylinder Mounting Dimension				
Cylinder Model/ Capacity	Base Mounting Hole	Collar Thread	Collar Thread Length	Mtg. Thread Length
型號-能力 (ton)	底部螺孔 V	外牙螺紋 W	外牙長度 X (mm)	底螺紋深 Z (mm)
BSRC-25	3/4"-14NPT	1-1/2"-16UN	24	17
BSRC-55	1-1/4"-11.5NPT	2-1/4"-14UN	26	24
BSRC-106	M30-2	M85-2	25	24

Model Number 型號	外部尺寸 Outer Dimension												牙紋尺寸 Threads Dimension	
	Cylinder Capacity	Stroke	Cylinder Effective Area	Oil Cap.	Coll. Height	Ext. Height	O.D	Cylinder Bore Diam.	Plunger Diam.	Top to inlet. Port	Saddle Diam.	Wt.	Plunger Thread Length	Plunger Outside Thread
	能力 ton(kN)	揚程 (mm)	受壓面積 (cm ²)	總油量 (cm ³)	本身高 A (mm)	伸長總高 (mm)	外徑 D (mm)	內徑 E (mm)	主軸直徑 F (mm)	頂部進油油孔位置 H (mm)	墊塊尺寸 J (in)	總重 (kg)	螺紋深度 P (mm)	主軸螺紋 Q (mm)
BSRC-25	2.5(24)	127	3.5	45	264	391	48	28.4	19.0	45	3/4"-14NPT	1.8	28	11/16"-24
BSRC-55	5(51)	140	7.3	101	301	441	57	42.9	30.2	42	1-1/4"-11.5NPT	4.5	32	1-3/16"-16
BSRC-106	10(105)	151	15.0	228	289	440	85	54.1	31.8	39	—	9.5	25	M30-2

BSRP-series



Model Number 型號	外部尺寸 Outer Dimension									連接勾尺寸 Link Dimension				
	Cylinder Capacity	Stroke	Cylinder Effective Area	Oil Cap.	Coll. Height	Ext. Height	O.D	Cylinder Bore Diam.	Wt.	Link Ht.	Link Opening	Link Thickness	Link Width	Slot to Link end
	能力 ton(kN)	揚程 (mm)	受壓面積 (cm ²)	總油量 (cm ³)	本身高 A (mm)	伸長總高 B (mm)	外徑 D (mm)	內徑 E (mm)	總重 (kg)	勾高度 J (mm)	勾開口 L (mm)	勾厚度 M (in)	勾寬 N (mm)	勾端吊耳厚度 T (mm)
BSRP-106	10(105)	151	15.0	227	541	692	85	54.1	13.2	67	115	22	30	32
BSRP-306	30(326)	155	46.6	722	1085	1240	136	88.9	48.1	114	145	35	39	50
BSRP-606	50(505)	152	72.1	1096	719	871	140	110.0	53.5	130	149	39	50	70

2.1 Attach hose to coupler in 3/8" NPT port. Connect mating coupler halves together hand tight only. Using tools will damage the coupler.

CAUTION: Position hoses to avoid sharp bends, kinks, and sharp impacts from falling objects, because they may cause wear or damage to the hose, leading to premature failure.

3.OPERATION

- 3.1 Use a pump with a release valve or a 3-way valve and one hose.
- 3.2 Make hydraulic connections.
- 3.3 Fully hand-tighten all couplers .
Loose coupler connections will block the flow of oil between the pump and the cylinder.
- 3.4 Remove air from the cylinder by positioning the cylinder so that the plunger is pointed down and the cylinder is lower than the pump.
Fully extend and retract the cylinder 2 or 3 times.
- 3.5 Operate the pump to build pressure, causing the cylinder to retract. The cylinder will extend when the pressure is released. The speed of extension is dependent on the length of the hose and other restrictions in the line.



WARNING : 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.

Operate the hydraulic pump to retract and extend the cylinder. The speed of extension is affected by the length of the hose and other restrictions in the line.

4.MAINTENANCE

- 4.1 Use only SUN RUN oil with these cylinder. The use of any other oil may invalidate your warranty.
- 4.2 Use dust caps when cylinders are disconnected from the hose. Keep entire cylinder clean to prolong cylinder life.
- 4.3 Store cylinders upright to prevent seal distortion.

5.TROUBLE-SHOOTING GUIDE

PROBLEM	CAUSE	SOLUTION
Cylinder does not retract, retracts part way, or retracts in spurts.	<ol style="list-style-type: none"> 1. Oil level in the pump is low. 2. Pump release valve is open. 3. Coupler not fully tightened. 4. Load is too heavy. 5. Air in the hydraulic system. 6. Cylinder plunger binding. 7. Pump is malfunctioning. 	<ol style="list-style-type: none"> 1. Add oil according to the instructions supplied. 2. Close pump release valve. 3. Check that all couplers are fully tightened. 4. Do not attempt to pull a load that exceeds rated tonnage. 5. Remove air according to the instructions (Section 3, No.4) 6. Check for damage to the cylinder. Have cylinder serviced by a qualified hydraulic technician. 7. Have Pump serviced by a qualified hydraulic technician.
Cylinder retract but will not hold.	<ol style="list-style-type: none"> 1. Leaking connections. 2. Cylinder seals leaking. 3. Pump is malfunctioning. 	<ol style="list-style-type: none"> 1. Check that all connections are tight and leak free. 2. Locate leaks and have cylinder serviced by a qualified hydraulic technician. 3. Have Pump serviced by a qualified hydraulic technician.
Cylinder does not advance, advances part way, or advances more slowly than normal.	<ol style="list-style-type: none"> 1. Loose hydraulic coupler. 2. Hose I.D. too narrow. 3. Air trapped in system. 4. Pump release valve closed. 5. Cylinder retraction spring broken or other cylinder damage. 6. Pump reservoir is over-filled. 	<ol style="list-style-type: none"> 1. Check that all couplers are fully tightened. 2. Use larger diameter hydraulic hose. 3. Remove air according to the instructions above. 4. Open pump release valve. 5. Have cylinder serviced by a qualified hydraulic technician. 6. Drain oil level to full mark. See pump instructions for adding oil.
Cylinder leaks oil.	<ol style="list-style-type: none"> 1. Worn or damaged seals. 2. Internal cylinder damage. 3. Leaking connections. 	<ol style="list-style-type: none"> 1. Have cylinder serviced by a qualified hydraulic technician. 2. Have cylinder serviced by a qualified hydraulic technician. 3. Check that all connections are tight and leak free.