



巨輪興股份有限公司

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氣動千斤頂 / 氣-手二用千斤頂 操作手冊

ST/ STH



中文 : C1~C7

中文
English
Ver.24

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: 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。



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)。



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: 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: 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。



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。



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。



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。

適用範圍：
氣動/ 氣-手二用千斤頂

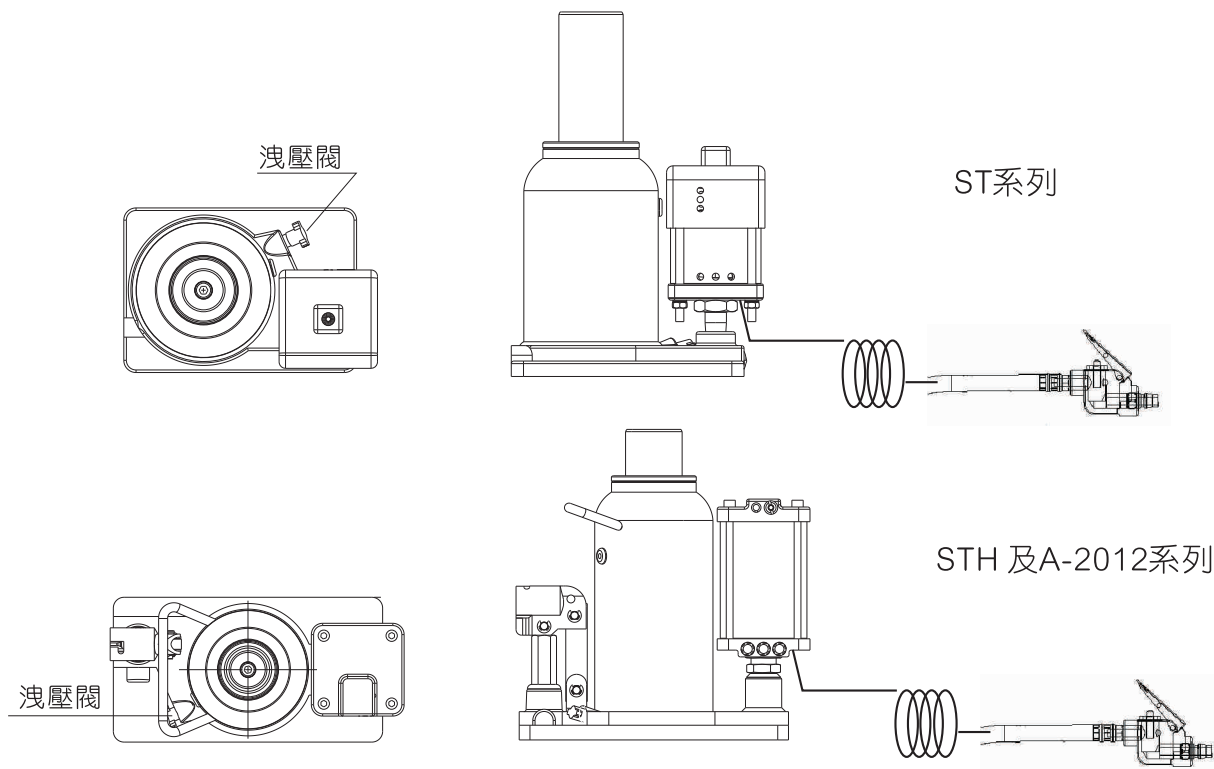
適用型號:STH-20A, STH-20B STH-30A,STH-30B
A-2012, ST-20A, ST-20B, ST-20C, ST-30A
ST-30B

2. 規格

此系列千斤頂以氣壓驅動並輔以簡易手動操作，以備氣壓驅動不足時使用。
所有千斤頂均配有一洩壓閥(如下圖)藉以洩壓方式調整主軸高度。

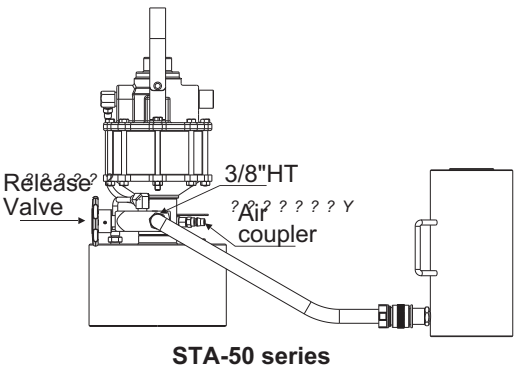
????	STH-20A	STH-20B	STH-30A	STH-30B	A-2012
能力 (tons)	20	20	30	30	20
本身高 A(mm)	235	210	240	215	242
伸長總高 B(mm)	385	335	385	335	392
揚程 (mm)	150	125	145	120	150
重量 (kg)	14.5	13.5	19.6	18.6	15
氣壓 (kgf/cm ²)	8-12				
適用液壓油	R32				

????	ST-20H	ST-20A	ST-20B	ST-20C	ST-30A	ST-30B
能力 (tons)	20	20	20	20	30	30
本身高 A(mm)	455	235	210	185	235	210
伸長總高 B(mm)	799	385	335	285	380	330
揚程 (mm)	344	150	125	100	145	120
重量 (kg)	22.0	16.0	15.0	14.0	22.0	21.0
氣壓 (kgf/cm ²)	8-12					
適用液壓油	R32					



2. 規格

Model Number 型 號	Capacity 能 力 (ton)	Stroke 揚 程 (mm)	Min. Height 本身高 A (mm)	Ext. Height 伸長總高 B (mm)	Plunger Diam. 主軸直徑 J (mm)	Base Dimensions 底座尺寸 L x W (mm)	Auxiliary Height 輔助高 (mm)	Air pressure range 使用空壓 (kgf/cm ²)	Weight 總 重 (kg)
STA-50	50	150	248	398	70	150 x 170	10,45,80	8-12	37.0



STA-50 series

3. 操作

3.1 ST, STH, A-2012 系列

3.1.1 當第一次使用千斤頂時，請完成下列步驟：

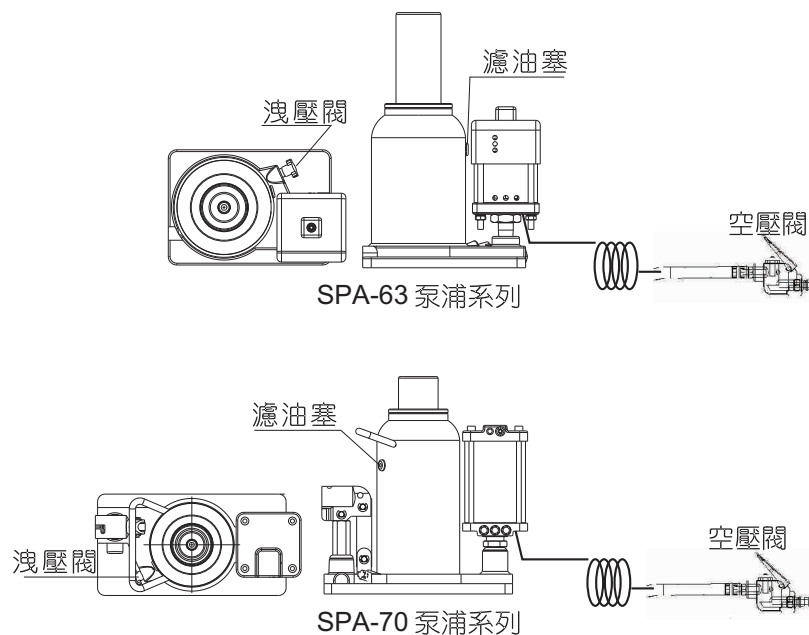
- (A) 確認油位：利用把手打開洩壓閥 (稍轉2圈即可)此時壓力下降並確認主軸及墊塊也完全降至原點，然後將濾油塞拆下。液壓油R32油位應至少加至濾油塞底位置。
- (B) 排系統內空氣：同上打開洩壓閥後，操作手動泵浦3揚程將空氣排出後再關上洩壓閥。
- (C) 潤滑：墊塊螺牙及泵浦軸心需定期潤滑。
定期滴2~3滴潤滑油在空壓閥上。然後接上空壓源操作30秒使潤滑油均勻散佈。

3.1.2 揚昇：

- (A) 確保上述動作均完成。
- (B) 確認洩壓閥已關閉。
- (C) 確認墊塊已安裝在主軸上，必要時墊塊螺牙可轉上至千斤頂許可的高度。
- (D) 將空壓板按下即揚昇，壓板放鬆即停止。此時也可選擇手動操作泵浦來揚昇千斤頂。
- (E) 確保千斤頂於荷載時能與載物中心荷載。

3.1.3 下降

- (A) 確認下降過程中是否還有任何阻物或是否已移除軸支撐物。
- (B) 慢慢地用手工工具打開洩壓閥藉以調整上升或下降的速度。
注意：洩壓閥不應該突然被關閉(除非意外)。
- (C) 使用完後千斤頂及泵浦都應完全回縮妥善放置。
- (D) 確保上述動作均完成。
- (E) 確認洩壓閥已關閉。
- (F) 確認墊塊已安裝在主軸上，必要時墊塊螺牙可轉上至千斤頂許可的高度。
- (G) 將空壓板按下即揚昇，壓板放鬆即停止。此時也可選擇手動操作泵浦來揚昇千斤頂。
- (H) 確保千斤頂於荷載時能與載物中心荷載。

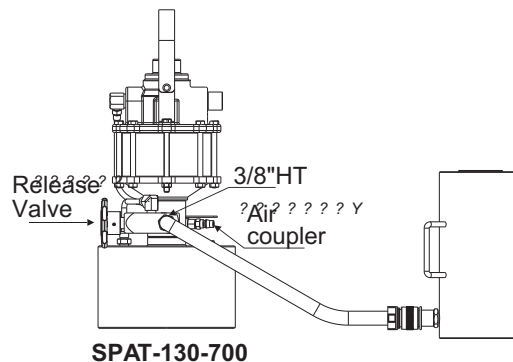


3. 操作 (可參考SPAT氣動泵浦操作手冊)

3.2 STA-50 系列

3.2.1 泵浦連接

- (A) 先將油管接上泵浦出油口。使用一圈半的鐵弗龍帶(或其他螺紋密封材質)纏在油管接頭上。
螺紋第一圈不可被密封帶遮住，避免密封帶脫落流入液壓系統引發危害，修剪鬆散的密封帶尾端。
- (B) 將油管安裝至所使用的液壓缸或液壓工具
- 注意：以單動液壓缸來說，可以一條油管連接液壓缸和泵浦；而雙動液壓缸則需二條油管連接液壓缸和液壓泵浦，其中一條連接泵浦的壓力出口及液壓缸壓力口，另一條油管則連接泵浦及液壓缸回油口。

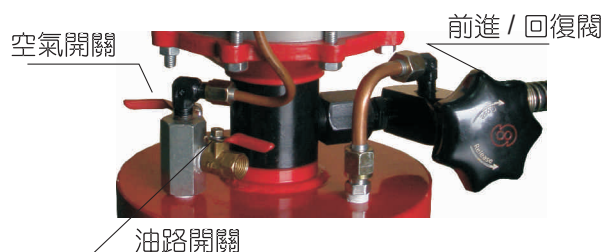


3.2.2 泵浦操作前準備

- (A) 確認系統所有的安裝及連接是否牢固無洩漏。
- (B) 確認操作前泵浦油位是否正常。可參考步驟4「維修」增加液壓油。

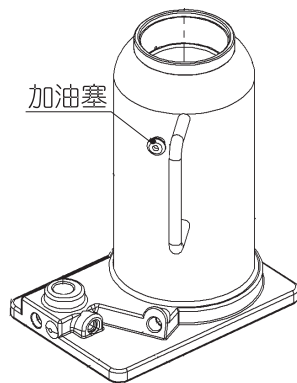
3.2.3 操作

- (A) 接上空氣接頭後打開空氣開關，此時油路開關是閉鎖狀態，並可明顯聽見泵浦快速作動「BOBO」聲。
- (B) 欲使工作前進或後退時，則將空氣開關關閉；油路開關打開並旋轉前進 / 後退閥，工具即可動作。
- (C) 工作完成後務必關閉油路開關後再離開空氣開關。



4. 維修

- 4.1 請定期清潔、加油及潤滑（圖4.1）。
- 4.2 請定期確認油位。主軸需完全回縮而油位需至少達濾油塞底。必要時可自加油塞加入液壓油至塞底位置。
請確認液壓油品質，請勿加入有雜質、劣品或不合規格的液壓油。
- 4.3 正常使用狀態下一年至少換一次油。將洩壓閥打開、拆下濾油塞；將千斤頂往濾油塞方向倒下則液壓油自動排出。
重新關閉洩壓閥後再重新自濾油塞加入乾淨合格的液壓油。重複3.1(b)動作將空氣排出，再重新確認油位是否合於標準。
無論是排出或是重新安裝時都要確保千斤頂系統內無異物。
- 4.4 請注意廢油處理，請勿造成區域內二次環境污染。



風嘴潤滑

新品使用時為避免風壓使用造成風嘴內部零件缺乏油潤，無法壓縮活動。連續使用二天後請注入約2c.c AW-22液壓油增加潤滑度。

AW-22可向本公司購買。



4.1

4.5 STA-50維修 (可參考SPAT氣動泵浦操作手冊)

4.5.1 油位確認

操作每隔40小時即需確認液壓油位是否正常。必要時加入液壓油至加油蓋下約1/2" (1cm) 處。

請使用由SUN RUN 所提供之液壓油。使用其他液壓油造成的設備損害，保固無效。

4.5.2 更換液壓油

操作每隔100小時即需更換新液壓油。假如操作環境較多污染則需更頻繁地更換液壓油。

- 1.將加油/通氣栓打開。
- 2.將儲油箱內所有舊油倒光。
- 3.加入新油至加油/通氣塞下 1/2 inch (1cm)處。
- 4.再鎖回加油/通氣栓。

重要事項: 加油時需確定所有液壓系統回縮歸零狀態，否則所加入的液壓油將超出本身所能容納的液壓油。

5. 故障排除

狀況	原因	解決辦法
千斤頂無法上升揚程	1.洩壓閥關閉不完全 2.低油位 3.低空壓	1.閥完全關閉 2.加油至標準油位 3.空壓最少 8kgf/cm ²
千斤頂無法持壓	洩壓閥關閉不完全	閥完全關閉
千斤頂無法平順地上升至全揚程	1.低油位 2.千斤頂內有空氣	1.加油至標準油位 2.參考3.1.1(B)排出空氣
千斤頂無法完全回縮	洩壓閥打開不完全	慢慢打開洩壓閥



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OPERATING INSTRUCTIONS HYDRAULIC BOTTLE JACK WITH AIR PUMP **ST/ STH**



English : E1~E7

中文
English
Ver.24

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



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



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



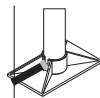
WARNING : The system operating pressure must not exceed the pressure rating of the lowest rated component in the system. Install pressure gauges in the system to monitor operating pressure. It is your window to what is happening in the system.



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



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.



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.



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.



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.

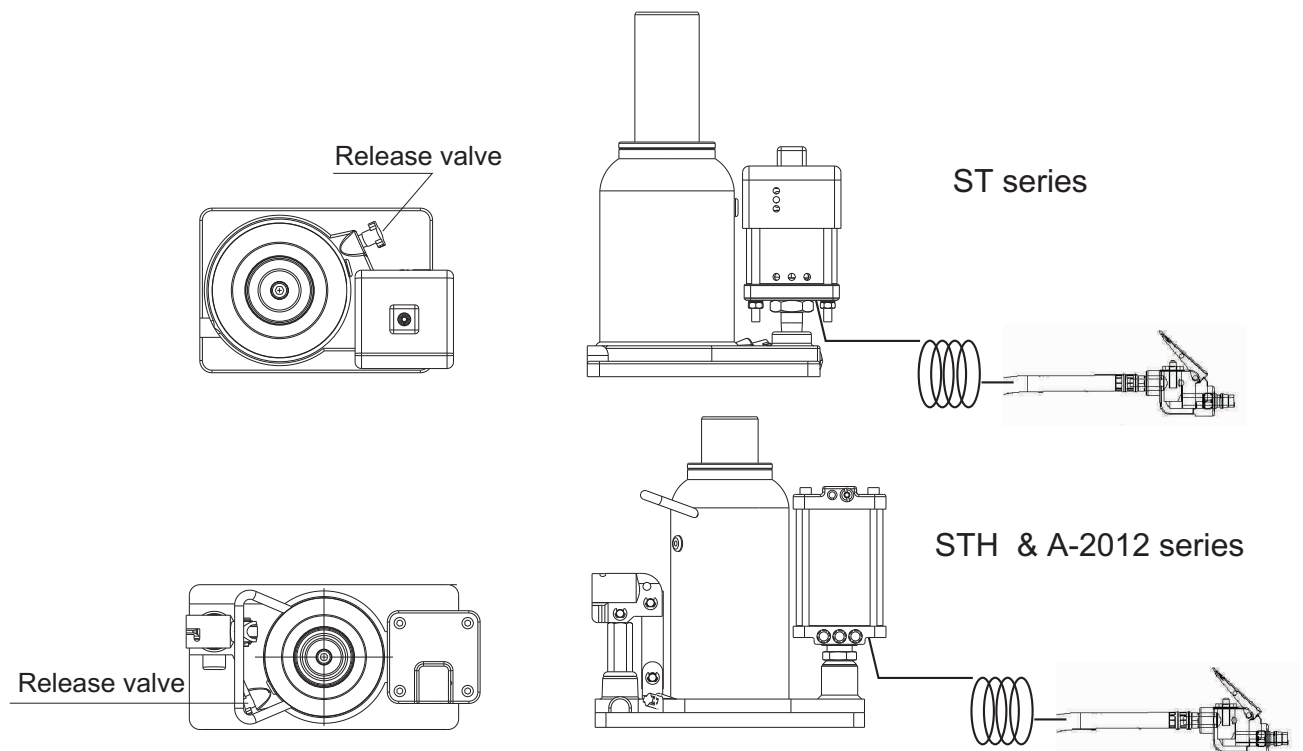
2.INTRODUCTION & SPECIFICATIONS

These are air operated hydraulic bottle jacks with the facility for manual operation should an air supply not be available.

All have a release valve (as below) to adjustable saddle-to-piston height, allowing for maximum hydraulic stroke over a range of standing heights.

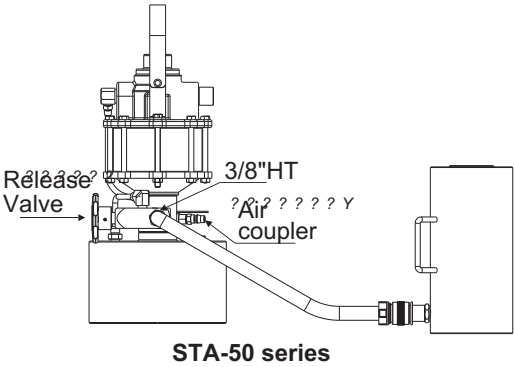
Model	STH-20A	STH-20B	STH-30A	STH-30B	A-2012
Cap. (tons)	20	20	30	30	20
Min. Height A(mm)	235	210	240	215	242
Max. Height B(mm)	385	335	385	335	392
Piston stroke (mm)	150	125	145	120	150
Weight (kg)	14.5	13.5	19.6	18.6	15
Air pressure (kgf/cm ²)	8-12				
Hydraulic oil	R32				

Model	ST-20H	ST-20A	ST-20B	ST-20C	ST-30A	ST-30B
Cap. (tons)	20	20	20	20	30	30
Min. Height A(mm)	455	235	210	185	235	210
Max. Height B(mm)	799	385	335	285	380	330
Piston stroke (mm)	344	150	125	100	145	120
Weight (kg)	22.0	16.0	15.0	14.0	22.0	21.0
Air pressure (kgf/cm ²)	8-12					
Hydraulic oil	R32					



2.INTRODUCTION & SPECIFICATIONS

Model Number	Capacity	Stroke	Min. Height	Ext. Height	Plunger Diam.	Base Dimensions	Auxiliary Height	Air pressure range	Weight
	(ton)	(mm)	A (mm)	B (mm)	J (mm)	L x W (mm)	(mm)	(kgf/cm ²)	(kg)
STA-50	50	150	248	398	70	150 x 170	10,45,80	8-12	37.0



3. OPERATION

3.1 ST, STH, A-2012 series

3.1.1 Before first using jack carry out the following preparation:

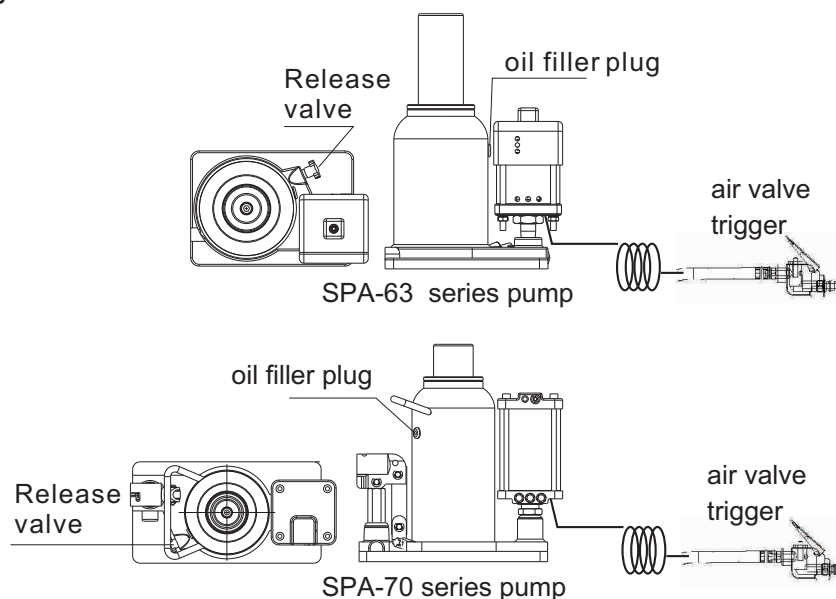
- (A) Check oil level: Open release valve with handle (not more than two turns) and press down on saddle to ensure piston is fully down, then remove oil filler plug. Oil should be level with bottom of filler hole.
Adjust level as necessary and replace plug.
- (B) Bleed system: With release valve open, operate manual pump for three strokes to bleed any air from the system. Close relief valve.
- (C) Lubricate: Oil the pivots of the manual pump mechanism and the screw thread of the saddle post.
Put 2~3 drops of air tool oil into the inlet of the air valve..
Connect to air supply and operate for 30 seconds to distribute lubricant.

3.1.2 Rising

- (A) Ensure compliance with all safety instructions-chapter 3.1.1.
- (B) Check that release valve is closed.
- (C) Position jack so that saddle is under vehicle jacking point. If necessary screw up saddle to just below jacking point.
- (D) Press the air valve trigger to raise, release trigger to stop. Alternatively use the handle to operate the manual pump.
- (E) Always support the jacked vehicle on axle stands before working on or under it.

3.1.3 Lowering

- (A) Check beneath vehicle for any obstructions and remove axle stands.
 - (B) Slowly open release valve with handle and 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.
- (C) After use jack should be stored with the piston and the manual pump socket both fully down.



3. OPERATION (refer SPAT instruction manual

3.2 STA-50 series

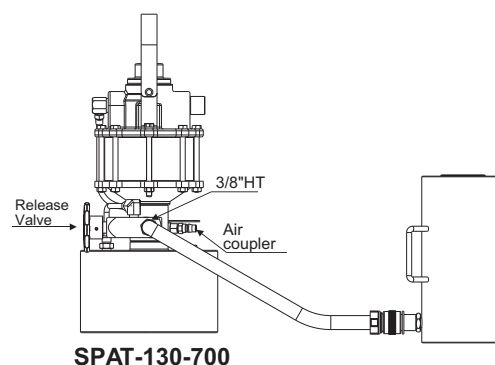
3.2.1 Connecting the Pump

(A) Thread hose into pump outlet. Use 1-1/2 wraps of Teflon tape (or suitable thread sealant) on hose fitting, leaving the first complete thread free of tape to ensure that tape does not shed into hydraulic system, causing damage. Trim loose ends.

(B) Connect the hose(s) to your cylinder or tool.

Note : For single-acting cylinders, connect one hoses from the pump to the cylinder. For double-acting cylinders, connect two hoses.

Connect one hose from the pressure port of the pump to the pressure port of the cylinder. Connect another hose from the retract port of the pump to the retract port of the cylinder.



3.2.2 Before Using the Pump

(A) Check all system fitting and connections to be sure they are tight and leak free.

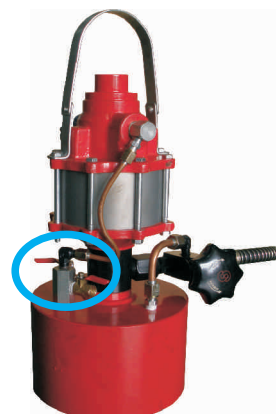
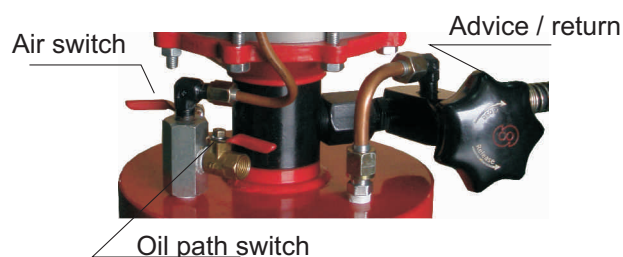
(B) Check oil level in reservoir before operating pump. See chapter 4 " MAINTENANCE" to adding oil to the pump.

3.2.3 Operating

(A) Connect air adaptor and open air switch and close "oil path switch" (see below photo) at the same time user can hear a loud voice "BO BO BO" that because the pump working quickly.

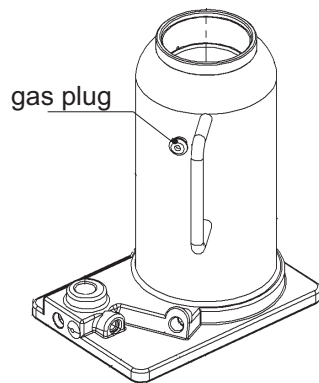
(B) If you want the object return back or release pressure, please close "Air switch" and open the "Oil path switch" then turn "Advice / return" valve to release direction.

(C) After working, MUST close "oil path switch " and then separate the air connect and air switch.



4. MAINTENANCE

- 4.1 Clean and lubricate on a regular basis (fig.4.1).
- 4.2 Regularly check oil level via filler hole. With piston fully down remove filler plug, oil should be level with filler hole. Top-up as necessary. Use a good quality jack oil such as Sealey Hydraulic Jack Oil. Do not use brake fluid.
- 4.3 Annual oil replacement is recommended for jacks in daily use. Remove filler plug and release valve, turn on its side and allow to drain. Replace release valve and refill with oil. Bleed system as in para. 3.1. level and replace filler plug.
- Ensure no dirt enters hydraulic system when draining, filling or removing/replacing components.
- 4.4 Always dispose of waste oil safely and legally. If in doubt consult your local authority.



Air connect lubrication

To avoid the parts of the air connect too dry to obstruct compressed function at first using. Please pour into about 2c.c AW-22 to air connect if work more than two days.

AW-22 please connect to company as below.



4.1

4.5 MAINTENANCE (refer SPAT instruction manual)

4.5.1 Checking the oil level

Check reservoir hydraulic oil level every 40 hours of operation. Add oil when necessary to bring the level to 1/2" (1cm) below the fill opening.

Use only SUN RUN hydraulic oil. The use of other oils or fluids may damage your system, and will void your SUN RUN warranty.

4.5.2 Changing the oil level

Check the reservoir after every 100 hours of operation. Refill with new hydraulic oil. If pump is operated in very dusty areas or at high temperatures, drain and refill and refill more frequently.

- 1.To drain the reservoir, remove the vent/fill plug (F) from the top right hand corner of the reservoir.
- 2.Tip the pump until all old oil is drained.
- 3.Refill with new oil through the same opening. Reservoir capacity is 0.75 gal.(2.8L) or 2 gal.(8L) depending on model.
- 4.Replace fill plug (F).

5. TROUBLESHOOTING

Situation	Result	Solve problems
Jack will not lift load.	1.Release valve not fully closed. 2.Oil level low. 3.Air supply low.	1.Close valve firmly. 2.Top-up to correct level. 3.Min. requirement 8kgf/cm ²
Jack will not hold load.	Release valve not fully closed.	Close valve firmly.
Jack will not lift smoothly or to full height.	1.Oil level low. 2.Air in hydraulic system.	1.Top-up to correct level. 2.Bleed system-see para.3.1(b).
Jack will not lower completely.	Release valve not sufficiently open.	Slowly open valve further.