



巨輪興有限公司

高雄市岡山區岡山北路199號

**CHU LUN SING CO.,LTD**

No.199, Gangshan N. Rd., Gangshan Dist.,

Kaohsiung City 82059, Taiwan

<http://www.sunrun.com.tw>

E-mail:sun.run@msa.hinet.net

TEL:886-7-6210505

FAX:886-7-6217575

# 液壓氣動泵浦-扭力扳手專用 操作說明

## SPA-554TQ



---

中文 : C1~C5

中文  
English  
Ver. 16

## 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：**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：**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：**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。



**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



**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。



**危險事項：**為避免人員及設備傷害，請不要任意移除扳手上的保護蓋。也請不要任意改裝扳手。千萬不可更改旋轉接頭內的釋放閥。



**注意事項：**不正確的系統安裝會造成錯誤訊息及危險。安裝前請確認旋轉接頭已完全清除雜物。使用完畢後，旋轉接頭請務必蓋上防塵蓋。

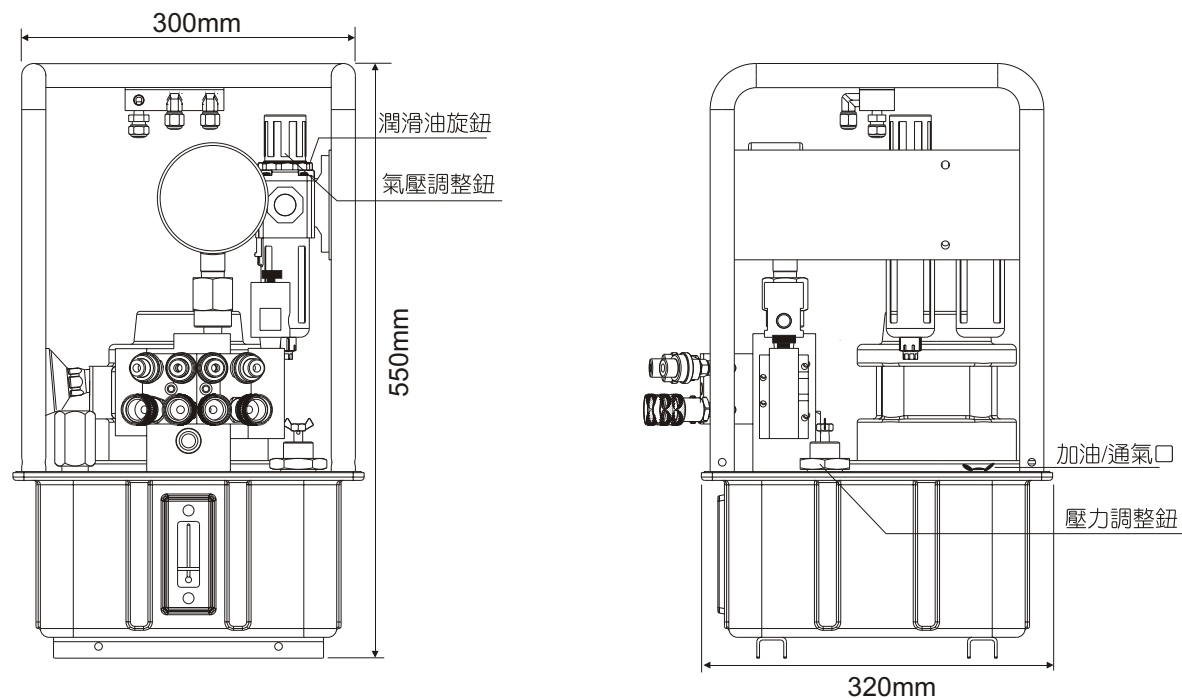


**注意事項：**千萬不要搭配不相符的套筒和驅動頭。



**注意事項：**使用時請配合套筒。

## 2. 規範



Model Number 型 號	Air Supply Req'd 使用空壓	DBa at Idle and 700bar 噪音值	Hp 馬達	Flow rate @115VAC(L/min) 流量				Oil tank 油箱 (L)	Weight (with oil) 重量 (含油) (kg)
				0 (bar)	70 (bar)	350 (bar)	700 (bar)		
SPA-554TQ	1.4M <sup>3</sup> /min @6 bar	75	4	7.4	1.3	1.1	0.9	8	44

## 3. 安裝及操作

### 3.1 油管與接頭連接

- 3.11 將油管的一端連接泵浦端 (H或A) 而油管的另一端連接扳手(H或A). 泵浦端的 H或A 千萬不可連接扳手端的 L 或 B 油孔。
- 3.12 確認所使用伏特是否合用。
- 3.13 確認是否有足夠的液壓油 (Aw32)。
- 3.14 確認油桶裏的液壓油。液壓油液面應該在自油桶頂往下 1" ~ 2" 的位置。

**警告: 千萬不可在無油或不正確油品下操作設備！**

扭力設定壓力

#### ★ 警告 ★

務必於扳手放置至螺栓**前**做此調整動作。泵浦的壓力可能會設定的比建議的高出一些。超扭力使用可能使設備和人員產生危險。

★視扭力扳手操作說明書所建議扭力值找出對應的壓力。

★鬆開洩壓閥避免非預期性的壓力產生。

★打開泵浦開關。持續按壓"UP" 鍵，並且隨時注意壓力錶讀值。

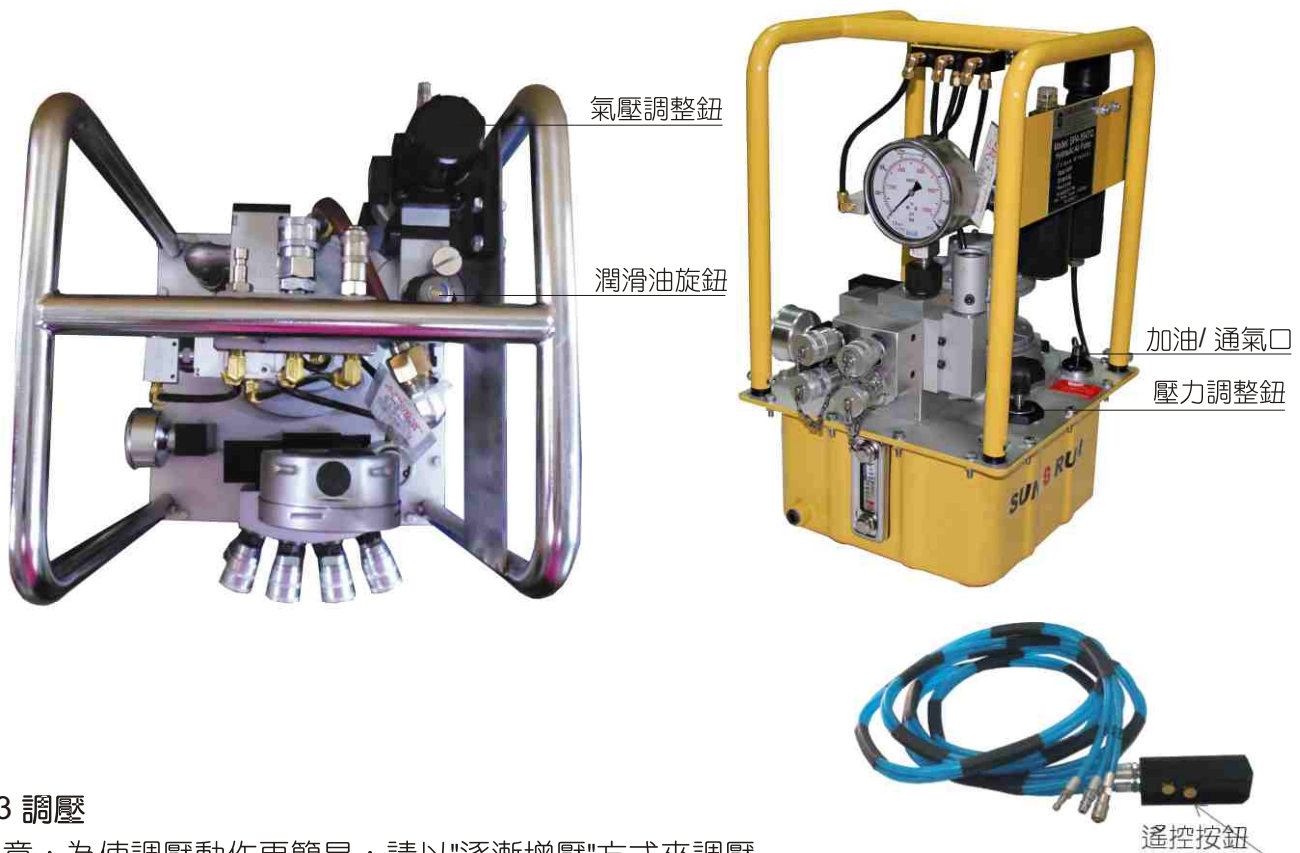
★當持續按壓按鈕，順時針旋轉洩壓閥來增加壓力或是逆時針旋轉洩壓閥來減少壓力。重覆旋轉動作來設定所需的壓力。

★反覆操作泵浦數來測試壓力值。

### 3. 操作(續)

#### 3.2 首次使用或是久未使用而再度使用時

- 3.21 確認所有接頭、閥門或油管都是鎖緊狀態；油箱油位在標準位置。
- 3.22 鬆開 "加油/ 通氣口" 約1.5圈。
- 3.23 按下遙控按鈕，輕輕的按壓數次會發現泵浦壓力來回增加；如果泵浦沒有壓力可能是沒有啟動，只要先移除系統端的油管讓液壓油流回油桶。讓泵浦作動直到看到持續流出有空氣泡沫的液壓油，再重新接回油管即可。
- 3.24 使扳手重新空車完全動作數次，讓扳手裏的空氣或是油路間的空氣完全排出並注意是否有其他問題發生。



#### 3.3 調壓

注意：為使調壓動作更簡易，請以"逐漸增壓"方式來調壓

- 3.31 一方面持續按住遙控按鈕，一方面慢慢順時針轉動"壓力調整鈕"；若需減壓則逆時針旋轉壓力調整鈕。
- 3.32 泵浦動作其間若需持壓則需持續按壓遙控按鈕，不可放鬆。

## 4. 維修及保養

### 4.1 排出空氣

當油位太低時空氣可能累積在系統內；空氣會造成不穩定或是較慢的動作。所以當重新加滿油後需將系統或是扳手內的累積空氣排出。

將扳手空車放置平穩地面，來回全荷載操作數次，即可排出空氣。

### 4.2 油位確認

4.2.1 每使用10小時後即需確認液壓油油位。確認油位時扳手軸心需完全退回至未使用狀態，檢查油位是否維持在加油孔下約1/2" (15mm) 位置。

4.2.2 一般使用300小時的液壓油需完全排出後重新倒入乾淨且合乎使用的液壓油(AW32)。更新頻率視使用程度或是使用環境而定。

### 4.3 潤滑及調整氣壓

4.3.1 當泵浦滿載使用或高度循環使用下每100小時需注意並加入1-3滴潤滑油如右圖所視，順時針為滴入。轉圈愈多，滴點愈多。

4.3.2 氣壓調整亦同，順時針為增氣壓；逆時針為反。



## 5.疑難排除

問題	原因	解決方法
泵浦無法送油或是無法輸送完全	<ol style="list-style-type: none"> <li>1.油位太低。</li> <li>2.快速接頭鬆脫。</li> <li>3.系統內有空氣。</li> <li>4.風管漏氣。</li> <li>5.泵浦內或過濾器有異物。</li> <li>6.冷油或油質過於厚重。</li> <li>7.洩壓閥或低壓閥無法切換。</li> <li>8.油桶太小。</li> <li>9.方向閥錯誤。</li> <li>10.馬達運轉方向錯誤。</li> <li>11.油桶真空。</li> <li>12.低壓泵浦有問題。</li> </ol>	<ol style="list-style-type: none"> <li>1.將液壓油加滿至加油孔下約1/2"(15mm)滿。</li> <li>2.檢查快速接頭是否完全密合安裝。有時是因為接頭內鋼珠損壞或有異物卡住造成鋼珠無法正常運作。</li> <li>3.排出系統內空氣。</li> <li>4.檢查並確認風管線路。</li> <li>5.清理泵浦過濾器，如有必要亦需拆開泵浦全面清理。</li> <li>6.更換較薄稀的油品。</li> <li>7.調整至適當壓力。</li> <li>8.更換符合使用的扳手或是更換較大的油桶。</li> <li>9.仔細檢查所有零件，必要時更換。</li> <li>10.氣動馬達：空氣管路連接錯誤。</li> <li>11.檢查加油 / 通氣塞是否打開</li> <li>12.打開低壓泵齒輪尾蓋。清理泵浦並更換問題齒輪、轉軸、主體或尾蓋</li> </ol>
泵浦無法持壓	<ol style="list-style-type: none"> <li>1.先檢查是否有其他洩漏，如果不是外在漏油即內部問題。</li> <li>2.先測試是否是控制閥洩漏，將泵浦自油桶提出但仍將過濾組合放在液壓油中。移除排油管檢查閥是否漏油，假如閥並無漏油情況即可能是內部切換閥洩漏。</li> <li>3.壓力開關油封洩漏。</li> </ol>	<ol style="list-style-type: none"> <li>1.管路密封。</li> <li>2.清理並更換流量控制閥零件。假如為內部切換閥洩漏，必須拆開泵浦更換機座及其他零件。</li> <li>3.更換油封。</li> </ol>
泵浦無法到達壓力	<ol style="list-style-type: none"> <li>1.壓力錶問題。</li> <li>2.檢查是否有外漏。</li> <li>3.確認外部調壓。檢查釋放閥設定。</li> </ol>	<ol style="list-style-type: none"> <li>1.更換壓力錶。</li> <li>2.管路重新密封。</li> <li>3.將泵浦自油桶提出但過濾器仍在油內。當釋放閥打開注意壓力讀值。假如一切功能正常釋放閥壓力到達即應開始洩漏。</li> </ol>

# 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

高雄市岡山區岡山北路199號

TEL:886-7-6210505

FAX:886-7-6217575







巨輪興有限公司

高雄市岡山區岡山北路199號

**CHU LUN SING CO.,LTD**

No.199, Gangshan N. Rd., Gangshan Dist.,

Kaohsiung City 82059, Taiwan

<http://www.sunrun.com.tw>

E-mail:sun.run@msa.hinet.net

TEL:886-7-6210505

FAX:886-7-6217575

# OPERATING INSTRUCTIONS

## HYDRAULIC AIR PUMP

### **SPA-554TQ**



---

English : E1~E5

中文  
English  
Ver. 16

## 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 the tool or workpiece.



**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.



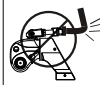
**WARNING:** Never pressurize uncoupled couplers. Only use hydraulic equipment in a coupled system.



**WARNING:** 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.



**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.



**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:** To avoid personal injuries and equipment damage, do not remove the shroud of the wrench. Do not modify any component of the wrench. Do not change the relief valve which is inside the swivel couplings.



**CAUTION:** The incorrect system connection will cause failure and danger. Before connection, make sure the swivel couplings being clean. After application, the swivel couplings must be put on the dust caps.

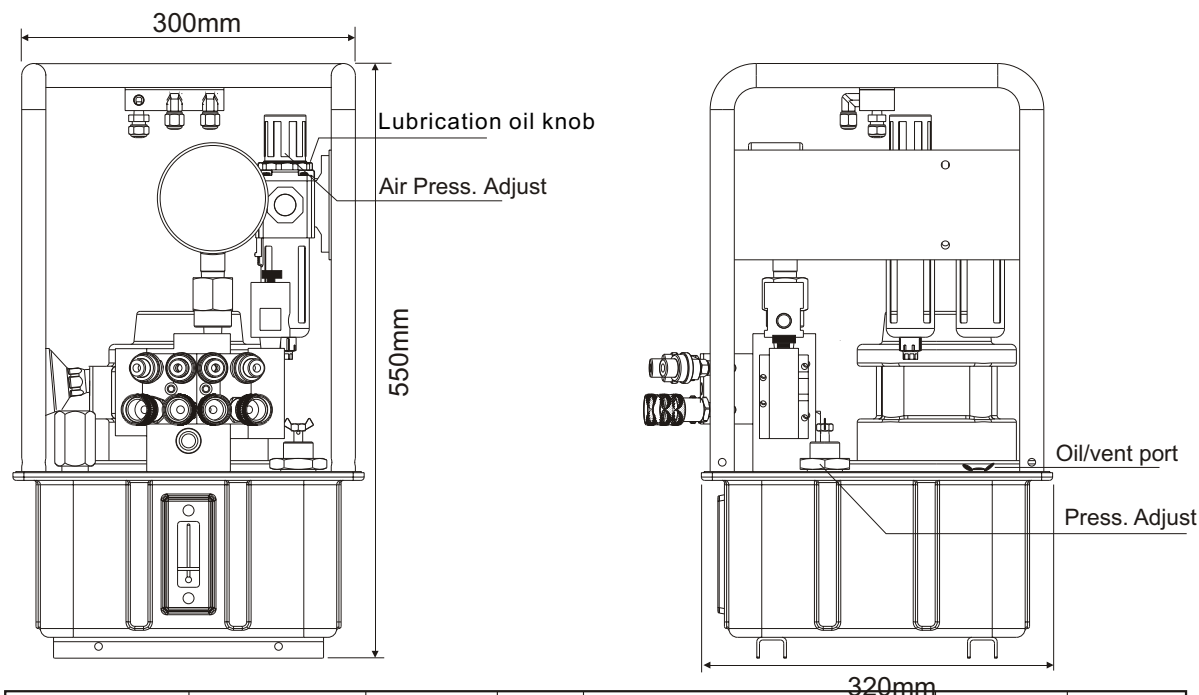


**CAUTION:** Do not use worn socket and square drive.



**CAUTION:** Please use the socket of good performance.

## 2.SPECIFICATION



Model Number 型 號	Air Supply Req'd 使用空壓	DBa at Idle and 700bar 噪音值	Hp 馬達	Flow rate @115VAC(L/min) 流量				Oil tank (L)	Weight (with oil) 重量 (kg)
				0 (bar)	70 (bar)	350 (bar)	700 (bar)		
SPA-554TQ	1.4M³/min @6 bar	75	4	7.4	1.3	1.1	0.9	8	44

## 3.OPERATION

### 3.1 Hose and coupler install

3.11 Connect the one end of hose at pump coupler (HorA) and hose the other end connect to wrench (HorA). Pump H or A end can't be connected to wrench L or B end.

3.12 Check volt.

3.13 Check enough hydraulic oil (Aw32).

3.14 Check oil level in reservoir. Oil level should be 1" to 2" from the top of the reservoir plate.

**WARNING: CAN'T BE USE IN NO OIL OR FAIL OIL !**

### Pressure torque setting

#### ★ WARNING ★

Make these adjustments BEFORE putting torque wrench on nut or bolt head. The pump pressure setting may be above the pressure needed to provide the required torque for your application. Exceeding required torque will cause equipment damage and may lead to serious personal injury.

★See torque wrench instructions for amount of pressure required to produce desired torque.

★Loosen lock unit and back out relief valve to prevent unintended pressure build-up.

★Turn pump on. Press and hold the "UP" button, and read pressure gauge.

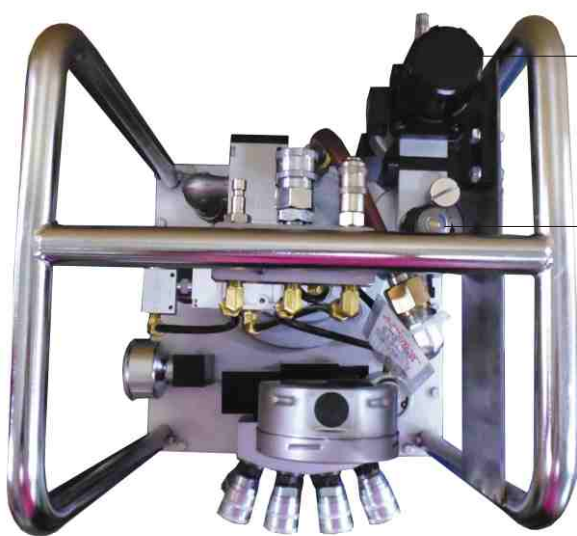
★While holding the button, turn relief valve in (clockwise) to increase pressure or out (counter-clockwise) to decrease maximum pressure. Repeat unit correct pressure is obtained.

★Run pump several times to test this setting.

### 3.OPERATION

#### 3.2 When operating the pump for the first time:

- 3.21 Valve and hose connections must be tight, and the reservoir must be filled to the proper oil level. Start the motor.
- 3.22 Release Vent/ Fill cap to 1.5 circles.
- 3.23 To press remote button several times to build pressure. If the pump doesn't build pressure, it may not be primed. Disconnect a hose from the system and route it back to the pump reservoir. Run the pump until a steady flow of oil is observed free of suspended air bubbles. Reconnect the hose to the system.
- 3.24 Run hydraulic torque wrench out to its full travel several times to eliminate air from the system. For more complete instructions, refer to the section titled "Bleeding Air From The System." The pump is ready to be put into regular operation.



Air press. Adjust

Lubrication oil knob



oil/ vent port

Press. Adjust

#### 3.3 Adjusting The Pressure Regulating Valve

NOTE: For easy adjustment of the pressure regulating valve, always adjust the pressure by increasing to the desired pressure setting.

- 3.31 One hand to press remote button continuity, on the other hand, slowly turn the pressure adjust in clockwise direction to increase pressure. If you want to reduce pressure just turn pressure adjust counterclockwise.
- 3.32 When the desired pressure is reached, please don't turn the knob anymore and the directed pressure will be set.



Remote button

## 4. Maintain oil level

### 4.1 Bleeding Air From The System

Air can accumulate in the hydraulic system if the reservoir level is too low. This air cause the torque wrench to respond in an unstable or slow manner. Just put torque wrench on the smooth ground that is no load condition and operates it in full stroke for several times that will bleed air from torque wench system.

### 4.2 Hydraulic Fluid Level

4.21 Check the oil level in the reservoir after each 10 hours of use. Proper oil level is 1/2" (15mm) from the top of the fill hole when all wrench plungers are retracted.

4.2.2 Drain, flush, and refill the reservoir with an approved, high-grade hydraulic oil (Aw32) after approximately every 300 hours of use. The frequency of oil changes will depend upon the general working conditions, severity of use, and overall cleanliness and care given the pump.

### 4.3 Lubrication and Air pressure adjust

4.3.1 If the pump is operated on a continuous duty cycle, 100 hours or a maximum speeds for extended periods, an automatic air line oiler should be installed in the air inlet line as close to the pumping unit as possible. Set the unit to feed 1-3 drops of oil per minute. Turn clockwise is addition, counterclockwise is reduction.



4.3.2 Air pressure adjust operation is also clockwise to addition and counterclockwise is reduction.

## 5.TROUBLESHOOTING GUIDE

PROBLEM	CAUSE	SOLUTION
Pump is not delivering oil or delivers only enough oil to advance torque wrench(s) partially or erratically (continued)	<ol style="list-style-type: none"> <li>1.Oil level too low.</li> <li>2.Loose-fitting coupler to cylinder.</li> <li>3.Air in system.</li> <li>4.Air leak in suction line.</li> <li>5.Dirt in pump or filter plugged.</li> <li>6.Cold oil or oil too heavy.</li> <li>7.Relief valve or low pressure unloading calve out of adjustment.</li> <li>8.Reservoir capacity is too small.</li> <li>9.Defective directional valve.</li> <li>10.Motor rotating in wrong direction.</li> <li>11.Vacuum in reservoir.</li> <li>12.Low pressure pump wrong.</li> </ol>	<ol style="list-style-type: none"> <li>1.Fill reservoir to 1/2"(15mm) from top of filler hole with all wrench plungers retracted.</li> <li>2.Check quick-disconnectcouplings to wrenches. Inspect couplers to ensure that they are completely coupled. Occasionally couplers have to be replaced because the ball check doesn't stay open due to wear.</li> <li>3.Bleed the system.</li> <li>4.Check and tighten suction line.</li> <li>5.Pump filter should be cleaned and, if necessary, pump should be dismantled and all parts inspected and cleaned.</li> <li>6.Change to lighter oil.</li> <li>7.Adjust as needed.</li> <li>8.Use smaller object or larger reservoir.</li> <li>9.Inspect all parts carefully and replace if necessary.</li> <li>10.Air motor : Air line connected into wrong port.</li> <li>11.Check for plugged vent in filler plug.</li> <li>12.Remove end cap from low pressure gear pump. Clean pump, and replace worn gears, shifting spool, body or end cap.</li> </ol>
Pump can't build full pressure. (Continued)	<ol style="list-style-type: none"> <li>1.Check to see if there are any external leaks. If no oil leakage is visible, the problem is internal.</li> <li>2.To test for a leaking control valve, lift the pump from the reservoir but keep the filter in the oil. Remove the drain line to see if the oil is leaking from the valve. If the valve is not leaking, the internal check valve could be leaking. Refer to the note concerning checking for oil leaks at the beginning of this troubleshooting Guide.</li> <li>3.Leaking pressure switch seal.</li> </ol>	<ol style="list-style-type: none"> <li>1.Seal leaking pipe fittings with pipe sealant.</li> <li>2.Clean, reseal or replace flow control valve parts. If the intenal check valve(s) are leaking, the pump must be dismantled and the seat areas repaired, poppets replaced, etc.</li> <li>3.repair or replace seal.</li> </ol>
Pump will not build full pressure	<ol style="list-style-type: none"> <li>1.Faulty pressure gauge.</li> <li>2.Check for external leakage.</li> </ol>	<ol style="list-style-type: none"> <li>1.Calibrate gauge.</li> <li>2.Seal faulty pipe fitting with pipe sealant.</li> </ol>