

# PNEUMATIC C-RING TOOL SC50T

## SAFETY INSTRUCTIONS



### WARNINGS

- **Always** read tool manual before operating.
- Always wear safety glasses while operating or while in the vicinity of a tool in operation.
- For testing, always cycle tool away from work to insure proper ring closure. For safety reasons, an improperly functioning tool **must not** be used. When operating tool, never point or actuate tool other than into work.
- Operate tool in an unobstructed work area.
- Disconnect air supply prior to servicing, maintenance/repairs and when tool is not in use.
- Use clean dry air to maximize efficiency. **Do Not Exceed 105 P.S.I. (7.2 bars)**
- Do not use bottled gases such as oxygen, hydrogen, carbon dioxide, acetylene, etc.
- Tools shall be operated with a fitting or hose coupling on or near the tool in such a manner that all compressed air in the tool is discharged at the time the fitting or hose coupling is disconnected. Use ¼-18 NPT or equivalent fitting when connecting to the tool.

### WARNING:

The employer and/or user must ensure that proper eye protection is worn. Eye protection equipment must conform to the requirements of the American National Standard Institute, ANSI Z87.1-1989 and provide frontal and side protection. Eye protection shall be worn by the operator and others in the work area when loading, operating, or servicing this tool. Eye protection is required to guard against possible flying particles and/or debris, which could cause severe eye injury.

NOTE: Non-side shielded prescription glasses and faceshields alone do not provide adequate protection.

### **▲WARNING:** OPERATION

Always handle tool with care:

- Never engage in horseplay.
- Never pull the trigger unless nose of tool is directed toward the work.
- Keep others at a safe distance from the tool while the tool is in operation as actuation occurs, possibly causing injury. Keep hands and body away from the jaw mechanism of the tool.

### LOADING TOOL

#### **▲WARNING:**

When loading tool:

- Never place a hand or any part of body in jaw mechanism area of tool.
- Never point tool at anyone.
- Never actuate tool when loading, accidental injury may occur.

### AIR CONSUMPTION

SC50T Tool require 10.4 cubic feet per minute (.293 cubic meters per minute) of free air to operate at a rate of 100 cycles per minute, at 100 P.S.I. (6.9 bars).

**STANLEY**® **Fastening Systems**

## TO DISASSEMBLE

### Jaws, magazine and pusher assembly

1. Remove flexloc nuts, washers, support plate, latch spring and jaw bolts (#35, #34, #68, #37 and #61).
2. Remove button head socket cap screw (#67) and lock washer (#66) from feeder arm (#65).
3. Magazine assembly (#62) and spring bracket assembly (#58) may now be removed.
4. Drive out jaw bushings (#32) and remove jaws (#31 and #41).
5. Remove (2) flexlock nuts (#72) from studs (#16) at rear of tool and remove feeder arm bracket (#65).

### Feeder blade, rollers, piston rod

1. Remove button head screw and washer (#51 and #50) from trigger guard and (4) cap screws with lock washers (#30 and #29) in front end assembly (with piston) from cylinder housing.
2. Remove piston (#24), o-ring (#22), flexlock nut (#23) piston stop spacer assembly (#26), piston rod assembly with piston rod (#43), feeder blade (#40), (2) roller pins (#42) and (4) rollers (#39) from the front end assembly.

### Throttle

1. Loosen set screws (#19) on both ends. **Do not loosen center set screw #19.**
2. **Do not remove throttle valve bushing (#15), location is pre-set at Spenax.**
3. Remove air deflector parts (#1, #2, #3 and #4).
4. Remove rear valve seat (#5).
5. Remove throttle spring and locator parts (#7 and #8).
6. Remove front valve seat (#48) and throttle stem (#47) using a 3/16" wrench.
7. Using two 9/64" Allen wrenches, unscrew throttle valve screws (#9) to remove valve units. **Hint:** Hold tool so that the valve is vertical to help prevent losing parts.
8. One valve screw will remain with other valve parts on spacer (#14), and can be disassembled after removal from housing.

## TO RE-ASSEMBLE

1. Assemble one side of the o-ring support assembly (#9, #10, #11, #12, #13, #12, and #11) on spacer (#14). The chamfer on both washers (#10) should be installed, with chamfer side against cap screw head (#9).
2. Hold tool vertically and install o-ring support assembly with spacer into bushing from the top.
3. Holding cap screw with an Allen wrench, bring second o-ring support assembly (mounted on screw (#9)) in from the opposite side and complete valve assembly. The valve should have free motion of travel of about 3/32" [.09"(2.3mm)].
4. Insert valve spring locator and spring (#8 and #7) into the rear of the valve.
5. Screw rear valve seat with lubricated o-ring (#5 and #6) into rear of the valve port.
6. Insert throttle stem (#47) into front valve seat (#48) and slowly screw front valve seat with lubricated o-ring (#6) into front of the valve port. (See Throttle Valve Adjustment).
7. Assemble piston stop spacer assembly (#26), piston (#24), piston rod (#43) and nylock nut (#23) together. Be careful not to damage o-ring (#21) when pushing stop spacer onto piston rod, use lubrication. Place piston so that the extended neck is opposite the nylock nut. Nylock nut at rear of piston must be Loctited into place (Loctite #242 or equivalent). Place o-ring (#22) onto piston.
8. Mount feeder blade (#40) and two roller pins (#42) on piston rod (#43).

9. Place (4) rollers (#39) on the (2) roller pins (#42). Lubrication will hold the rollers in place while assembling the rest of the tool.
10. Mount latch (#38) onto side plate (#28R) with latch pin clip (#36).
11. Assemble trigger, (2) spacers and trigger guard (#44, #33 and #49) to the side plates with (3) roll pins (#45).
12. Mount side plate assembly (#28R, #28L, #44, #33 and #49) over stop spacer assembly.
13. Place cylinder gasket (#25) between the stop spacer and the housing.
14. Insert front end assembly into the cylinder housing. Be careful not to damage o-ring (#22) when pushing piston into the cylinder bore, use lubrication.
15. Secure front end assembly with (4) lock washers and cap screws (#29 and #30).
16. Leave trigger guard loose for adjusting the valve. See throttle valve adjustment procedure for proper valve adjustment instructions.
17. Mount feeder arm (#65) onto the studs at rear of the cylinder housing with two nylock nuts (#72).
18. Place spring bracket assembly (#58) between magazine assembly (#62) and side plate (#28L). If unassembled see Pusher Spring Installation Procedure.
19. Attach the magazine assembly (#62) to the feeder arm (#65) with lock washer and button head cap screw (#66 and #67). But do **not** tighten completely.
20. Place jaws (#31 and #41) between the side plates (#28R and #28L).
21. Install (2) jaw bushings (#32) through side plate, jaws and side plate (#28R, #31, #41 and #28L). Lubricate both jaws and bushings before installing them.
22. Place (1) .030" magazine shim (#60A) and (1) .010" magazine shim (#60C) under the foot of magazine (#62), between magazine and side plate. Other shims may be added or subtracted to get the proper drop in the magazine shoe (See Installation Procedure/Adjustments).
23. Insert (2) jaw bolts (#61) through magazine, shims, spring spool bracket, side plate, jaw bushing, side plate, latch spring (#37), support plate (#68) and (2) washers (#34). Secure jaw bolts with (2) nylock nuts (#35). Do not over tighten jaw bolts, jaws must still pivot freely.
24. Tighten button head cap screw (#67)
25. After all adjustments to the tool are made, the trigger guard is secured with button head screw and washer (#51 and #50).

## INSTALLATION PROCEDURE / ADJUSTMENTS

### Magazine

1. Before tightening jaw bolts (#61), insert approximately .040" of shims.
2. Tighten bolts and check shoe (#70) for proper fit. Shoe should have approximately .020"(.50mm) float up and down.
3. When shimmed correctly, and with the feeder blade in the forward position, the shoe will be approximately in the center of the available amount of travel.
4. Cycle tool and check for proper closure of ring. If feeder blade hits rear of shoe, add another shim. Shims (#60A & B) are available in two thickness' of .030"(.762mm) and .010"(.25mm).
5. When the tool is completely re-assembled, check to insure that magazine (#62) is parallel to housing (#17).

## INSTALLATION PROCEDURE / ADJUSTMENTS

(cont.)

### Pusher Spring

1. Attach spring (#63) in uncoiled position to pusher (#55) using roll pin (#64).
2. Insert slotted spring bolt (#57) through spring spool bracket.
3. Align spring end with hole in spring spool bracket and pass end of spring through bolt slot.
4. Pull pusher to the end of the magazine and clamp spring.
5. Using an Allen wrench, turn slotted bolt to wind spring until coil is completely tight.
6. Tighten spring bolt and Flexlock nut.

### Throttle valve

Follow these steps after completing tool assembly in order to minimize the time and effort required for optimum throttle valve adjustment:

1. Using the valve stem, slowly screw in the front valve seat (#48) until it bottoms, then back it out 1-1/2 turns.
2. Do the same with the rear valve seat (#5).
3. Attach an air line and fully depress the trigger. **AIR SHOULD LEAK OUT THE REAR VALVE SEAT. While depressing the trigger,** slowly turn in the rear valve seat (#5) until the air stops leaking.
4. Release the trigger. **AIR SHOULD LEAK OUT OF THE HANDLE.** Place a 3/16 wrench on the trigger valve stem (#47) and turn the front valve seat (#48) in slowly until the air stops leaking from the handle.
5. Gently depress the trigger. Air should flow evenly from the rear exhaust to the handle exhaust.
6. The valve should now be adjusted - test the tool
7. Tighten the front and rear valve seat locking set screws (#19) and re-test the tool.
8. **Do not loosen or tighten center locking set screw (#19) it is pre-set from Spenax.**
9. Do not screw set screw (#1) in too far or it will result in the tool running sluggish by restricting the air flow.

### TOOL LEAKS AIR OR IS SLUGGISH

1. If tool is leaking air in the throttle area, see "Throttle Valve Adjustment" section.
2. Should the tool leak air in both the triggered and rest positions, a damaged piston o-ring may be the cause. Once the piston o-ring has been replaced, lubricate with lithium grease. Tilt the front of the tool to one side to allow the o-ring on the piston to pass the notch on the cylinder liner. If this procedure is not followed, the o-ring may be damaged during the insertion of the piston assembly into the cylinder housing.
3. If the tool still continues to leak, the liner may be leaking between the housing. The tool should be sent back to Spenax for repair.
4. In the event the rear throttle valve screw is turned in too far, the tool will operate slowly or in a sluggish manner during the opening/loading sequence. This screw controls the amount of rear exhaust. When properly adjusted, two or three threads should be exposed once the nut and washer are in place.

### LUBRICATION

1. The "SC" series Flex-C tools are designed for long, trouble-free service with minimal air line lubrication. (If an in-line

lubricator is used, it should be set at the minimum rate of flow.)

2. Excess oil in the tool will attract dirt, lint, and the adhesive material used in collating the fasteners, preventing smooth operation. When lubrication is used, always use a good **grade of 5W non-detergent oil with no additives.**
3. When servicing or repairing tool use **lithium grease** on all moving parts.

### FILTER AND REGULATOR

1. The air line should always contain a filter and regulator unit to provide the tool with a constant flow of clean, dry air. If moisture and contaminants are allowed to enter the tool, the tool's serviceable life will be decreased.
2. The regulator should be set between 100 and 105 psi. (6.90 - 7.24 bar). Never operate this tool beyond 115 psi. (7.93 bar).

### TIPS ON EXTENDING TOOL LIFE

The serviceable life of the "SC" series tools can be extended greatly by using the following guidelines:

1. Always use Stanley Spenax brand fasteners. Never replace worn or broken parts with anything other than genuine Stanley Spenax parts. **Generic fasteners** may shorten the life of your Flex-C tool and **will void** the manufacturer's warranty.
2. Keep your tool(s) clean and dry. Always use clean, dry air and never exceed the recommended air pressure noted above.
3. Use of this tool at minimum air pressure required for the work at hand will greatly extend the life of the tool.
4. Exercise caution not to drop equipment. Tools dropping onto the floor or ground is a primary reason for parts replacement.

### HELPFUL HINTS FOR FIELD SERVICE TOOL JAMS

1. The most common reason for jamming problems in the SC tool is operator error. Because of the tool's valve unit, the trigger must be pulled completely to the rear to ensure positive functioning of the valve. If the tool is "short cycled," the feed mechanism will return forward prematurely in an attempt to pick up a second ring. This will most likely cause a jam.
2. If a jam occurs, pull pusher back and remove remaining rings from magazine. Point tool away from yourself and others, and cycle tool slowly. This should force jammed ring(s) out of jaw mechanism.
3. If procedure "2" does not clear the tool, **disconnect air**, lay tool on a clean flat surface and remove top jaw bolt and nut, and pull top jaw and bushing from tool. Jammed rings are now exposed and may be removed from tool. Remove build up of dirt, lint, and any other foreign debris and check for worn or damaged parts. Re-assemble in reverse order.
4. Replace worn or damaged parts to keep tool operating properly.

SPECIFICATIONS AND TYPES OF MATERIALS AVAILABLE BY PART NUMBER							
Part Number	Per Strip #	Per Box #	Material	Wire Diameter	Ring I.D.	Ring Leg Opening	Operating Range of Tool SC50T
RING11RG40	40	1,600	Light Galvanized	0.120	1.53	1.10	.410 - .465
RING11AL40	40	1,600	Aluminum	0.120	1.53	1.10	.410 - .465
RING11G40	40	1,600	High Tensile Galvanized	0.120	1.53	1.10	.460 - .513
RING11SS40	40	1,600	High Tensile Stainless Steel	0.120	1.53	1.10	.425 - .495

\* Please specify “Blunt” or “Sharp” when ordering rings.

#### RING DOES NOT CLOSE COMPLETELY

1. Check air pressure. Line pressure at the tool should be between 100 and 105 psi (6.90 - 7.24 bar) for most applications. The tool should never be operated at pressures exceeding 115 psi (7.93 bar).
1. A 3/8” (9.5 mm) or larger air line should be used with the “SC” Series Tools. Air lines in excess of 100’ (30.5 meters) in length can cause air volume deficiencies at the tool which will prevent normal operation.
2. Check for foreign debris in the jaw area. This is especially true in the area between the side plates and rollers.
3. The jaws may be worn from extended use. Check the “land” between the receiving grooves of the jaws. If the land is worn excessively, replacing the jaw(s) is recommended.
4. When the tool is used in corrosive applications, light oil should be applied on a regular basis to the jaw bushings and rollers. Unlubricated and/or corroded jaw bushings may cause the tool to function poorly.
5. When ring teardrops, the latch is not backing the ring up properly. Replace or reshape latch spring to hold latch against the side plate. The latch may also need replaced to get proper ring shape.

#### FEEDING PROBLEMS

1. If rings do not feed smoothly down the magazine, check pusher spring for proper tension. If the magazine is covered with dirt from field use, clean the magazine and apply a light coating of oil.
1. When rings feed properly on the magazine but do not feed into the jaws without spitting out of the magazine side of the tool, or if the rings sit in the jaw grooves on an angle, check jaws to insure freedom of movement. With the jaws void of rings, the vertical movement should be approximately .09” (2.3 mm). The jaw bolt nuts should be snug, but **never over-tightened**.
2. After considerable use or several jams, the fingers on the pusher may show signs of spreading. This may cause the pusher to “hang up” on the magazine, with little or no pressure behind the rings. The last few rings in the strip will not feed into the jaw mechanism. The pusher fingers can be squeezed back into proper position or the pusher should be replaced. **NEVER USE LOOSE RINGS IN THE SC TOOL.**

#### LIMITED WARRANTY

Stanley Fastening Systems warrants to the original retail purchaser that this product is free from defects in material and workmanship, and agrees to repair or replace, at Stanley Fastening Systems’ option, any defective product within 60 days from the date of purchase. This warranty is not transferable. It only covers damage resulting from defects in material or workmanship, and it does not cover conditions or malfunctions resulting from normal wear, neglect, abuse, or accident.

THIS WARRANTY IS IN LIEU OF ALL OTHER EXPRESS WARRANTIES. ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS LIMITED TO THE DURATION OF THIS WARRANTY. STANLEY FASTENING SYSTEMS SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

Some states do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

To obtain warranty service, you must return the product at your expense together with the proof of purchase to a Stanley-Bostitch Regional warranty repair center or you may call us at 1-800-556-6696 or 1-800-832-3080 for the location of additional authorized warranty service locations in your area.

