



Model 5550

1/2" Sq. Drive Pistol Grip Impact Tool

Form # Z470
Date 1-98/A



IMPORTANT

Read these instructions carefully before installing, operating, servicing or repairing this tool. Keep these instructions in a safe accessible place.

SAFETY MESSAGES		WARNING	Operator Instructions
Personal Safety Equipment			
Use – Safety Glasses	YES	Always Read Instructions Before Using Power Tools	Includes: Safety Rules Foreseen Use Work Stations Putting Into Service Operating Dismantling and Assembly.
Use – Safety Gloves		Always Wear Safety Goggles	
Use – Safety Boots		Wear Hearing Protection	
Use – Breathing Masks		Avoid Prolonged Exposure To Vibration	
Use – Ear Protectors	YES		

Safety rules when using a 5550 Impact Tool

- Use only impact sockets and extensions, universal joints, etc., rated as being suitable for use with impact tools.
- Prolonged exposure to vibration may cause injury.
- Read all instructions before using this tool. All operators must be fully trained in its use and aware of these safety rules.
- Do not exceed the maximum working air pressure.
- Use personal protection equipment as recommended.
- Use compressed air only at the recommended conditions.
- If the tool appears to malfunction, remove from use immediately and arrange for service and repair. If it is not practical to remove tool from service, then shut off the air supply to the tool and write or have written a warning note and attach it to the tool.
- If tool is to be used with a balancer or other suspension device, ensure that the tool is firmly attached to the suspension/support device.
- When operating the tool, always keep the body and particularly the hands away from the working attachment fixed to the tool.
- The tool is not electrically insulated. Never use the tool if there is any chance of coming into contact with live electricity.
- Always when using the tool, adopt a firm footing and/or position and grip the tool sufficiently only to overcome any reaction forces that may result from the tool doing work. Do not overgrip.
- Use only correct spare parts for maintenance and repair. Do not improvise or make temporary repairs. Major servicing and repairs should only be carried out by persons trained to do so.
- Do not lock, tape, wire, etc. the 'On/Off' valve in 'On' position. The throttle trigger/lever, etc. must always be free to return to the 'Off' position when released.
- Always shut off the air supply to the tool and press the 'On/Off' valve to exhaust the air from the feed hose before fitting, removing or adjusting the working attachment fitted to the tool.
- Before using the tool, make sure that a shut off device has been fitted to the supply line and the position is known and easily accessible so that the air supply to the tool can be shut off in an emergency.
- Check hose and fittings regularly for wear.
- Take care against entanglement of the moving parts of the tool with clothing, hair, ties, cleaning rags, rings, jewelry, watches, bracelets, etc. This could cause the body or parts of the body to be drawn towards and in contact with the moving parts of the tool and could be very dangerous.
- It is expected that users will adopt safe working practices and observe all local, regional or country legal

- requirements when installing, using or maintaining the tool.
- Take care that the exhaust air does not point towards any other person or material or substance that could be contaminated by oil droplets. When first lubricating a tool or if the tool exhaust has a high oil content, do not allow the exhaust air to come near very hot surfaces or flames.
- Never lay the tool down until the working attachment has stopped moving.
- When the tool is not in use, shut off the air supply and press throttle trigger/lever to drain the supply line. If the tool is not to be used for a period of time, first lubricate, disconnect from air supply and store in a dry average room temperature environment.
- If the tool is passed from one user to a new or inexperienced user, make sure these instructions are available to be passed with the tool.
- Do not remove any manufacturer fitted safety devices where fitted, i.e., wheel guards, safety trigger, speed governors, etc.
- Wherever possible, secure workpiece with clamps, a vise, etc. to make it rigid so it does not move during the work operation. Keep good balance at all times. Do not stretch or overreach.
- Try to match the tool to the work operation. Do not use a tool that is too light or heavy for the work operation. If in doubt, seek advice.
- In general terms, this tool is not suitable for underwater use or use in explosive environments — seek advice from manufacturer.
- Try to make sure that the work area is clear to enable the work task to be performed safely. If practical and possible, try to clear unnecessary obstructions before starting work.
- Always use air hose and couplings with minimum working pressure ratings at least 1 1/2 times the maximum working pressure rating of the tool.

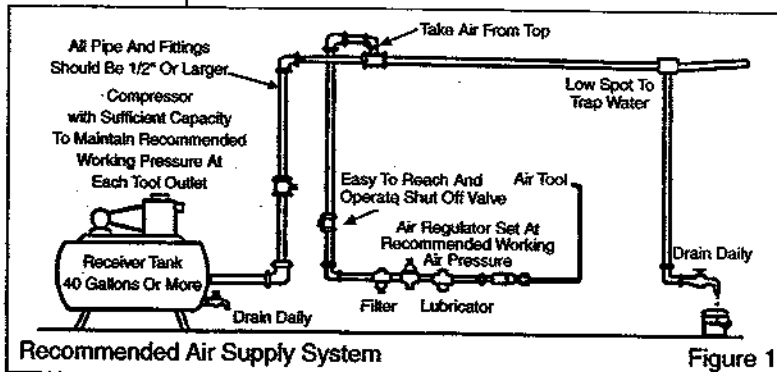


Figure 1

Foreseen Use Of The Tool – 5550

The impact tool is designed for the tightening and loosening of threaded fastener within the range as specified by the manufacturer. It should only be used in conjunction with suitable impact type 1/2" square female drive nut running sockets. Only use sockets which are of the impact type.

It is allowed to use suitable extension bars, universal joints and socket adaptors between the square output drive of the impact tool and the female square drive of the socket.

Do not use the tool for any other purpose than that specified without consulting the manufacturer or the manufacturer's authorized supplier. To do so may be dangerous.

Never use an impact tool as a hammer to dislodge or straighten cross threaded fasteners. Never attempt to modify the tool for other uses and never modify the tool for even its recommended use as a nutrunner.

Work Stations

The tool should only be used as a handheld, hand operated tool. It is always recommended that the tool is used when standing on a solid floor. It can be used in other positions, but before any such use, the operator must be in a secure position having a firm grip and footing and be aware that when loosening fasteners the tool can move quite quickly away from the fastener being undone. An allowance must always be made for this rearward movement so as to avoid the possibility of hand/arm/body entrapment.

Putting Into Service

Air Supply

Use a clean lubricated air supply that will give a measured air pressure at the tool of 90 PSIG (6.2 bar) when the tool is running with the trigger/lever fully depressed. Use recommended hose size and length. It is recommended that the tool is connected to the air supply as shown in figure 1. Do not connect the tool to the air line system without incorporating an easy to reach and operate air shut off valve. The air supply should be lubricated. It is strongly recommended that an air filter, regulator, lubricator (FRL) is used as shown in Figure 1 as this will supply clean, lubricated air at the correct pressure to the tool. Details of such equipment can be obtained from your supplier. If such equipment is not used, then the tool should be lubricated by shutting off the air supply to the tool, depressurizing the line by pressing the trigger on the tool. Disconnect the air line and pour into the hose adaptor a teaspoonful (5ml) of a suitable pneumatic motor lubricating oil preferably incorporating a rust inhibitor. Reconnect tool to air supply and run tool slowly for a few seconds to allow air to circulate the oil. If tool is used frequently, lubricate on daily basis and if tool starts to slow or lose power.

It is recommended that joint tightness of the threaded fastener assembly be checked with a torque wrench.

It is recommended that the air pressure at the tool while the tool is running is 90 PSI/6.2 bar.

Operating

The output of the impact tool in prime working condition is governed by mainly three factors:

- a) the input air pressure;
- b) the time the impact tool is operated on the joint. Normal time for joints of average tension requirement 3 to 5 seconds;
- c) the setting of the air regulator for a given joint at a given pressure operated for a given time.

The air regulator (14) can be used to regulate the output of the impact tool if no other means of control is available. It is strongly recommended that an external pressure regulator, ideally as part of a filter/regulator/lubricator (FRL), is used to control air inlet pressure so that the pressure can be set to help control the tension required to be applied to the threaded fastener joint.

There is no consistent, reliable torque adjustment on an impact tool of this type. However, the air regulator can be used to adjust torque to the approximate tightness of a known threaded joint. To set the tool to the desired torque, select a nut or screw of known tightness of the same size, thread pitch and thread condition as those on the job. Turn air regulator to low position, apply tool to nut and gradually increase power (turn regulator to admit more air) until nut moves slightly in the direction it was originally set. The tool is now set to duplicate that tightness, note regulator setting for future use. When tightening nuts not requiring critical torque values, run nut up flush and then tighten an additional one-quarter to one-half turn (slight additional turning is necessary if gaskets are being clamped). For additional power needed on disassembly work, turn regulator to its fully open position. This impact tool is rated a 1/2" bolt size.

Rating must be downgraded for spring U bolts, tie bolts, long cap screws, double depth nuts, badly rusted conditions and spring fasteners as they absorb much of the impact power. When possible, clamp or wedge the bolt to prevent springback.

Soak rusted nuts in penetrating oil and break rust seal before removing with impact tool. If nut does not start to move in three to five seconds use a larger size impact tool. Do not use impact tool beyond rated capacity as this will drastically reduce tool life.

NOTE: Actual torque on a fastener is directly related to joint hardness, tool speed, condition of socket and the time the tool is allowed to impact.

Use the simplest possible tool-to-socket hook up. Every connection absorbs energy and reduces power.

The direction of rotation of this tool is controlled by the throttle lever. Be sure that it is known which side of the lever has to be pressed to give the required direction of rotation before applying the impact tool to the joint to be fastened or loosened.

For best results:

- 1) Always use the correct size impact type socket.
- 2) Use extra deep sockets in place of extension bars where possible.
- 3) Do not use oversized, worn or cracked sockets.
- 4) Hold the tool so the socket fits squarely on the fastener. Hold the tool firmly, but not too tightly, pressing slightly forward.

Dismantling & Assembly Instructions

Disconnect tool from air supply.

Remove protective boot (46). Remove oil plug (22) and drain oil into a suitable container. Grip motor housing (1) in a vise fitted with soft jaws and remove hose adaptor (10) together with spring (9), O-ring retainer (8), valve stem (6) fitted with O-ring (7). Drive out spring pin (15) and carefully pull out regulator (14) together with O-ring (13). O-ring (13) may be pried off of regulator (14) but do not attempt to remove the small ball.

Drive out spring pin (12) and remove trigger (11). Insert a small diameter rod into the hose adaptor hole and push out throttle push pin (4) together with O-ring (5) via the trigger pin slot.

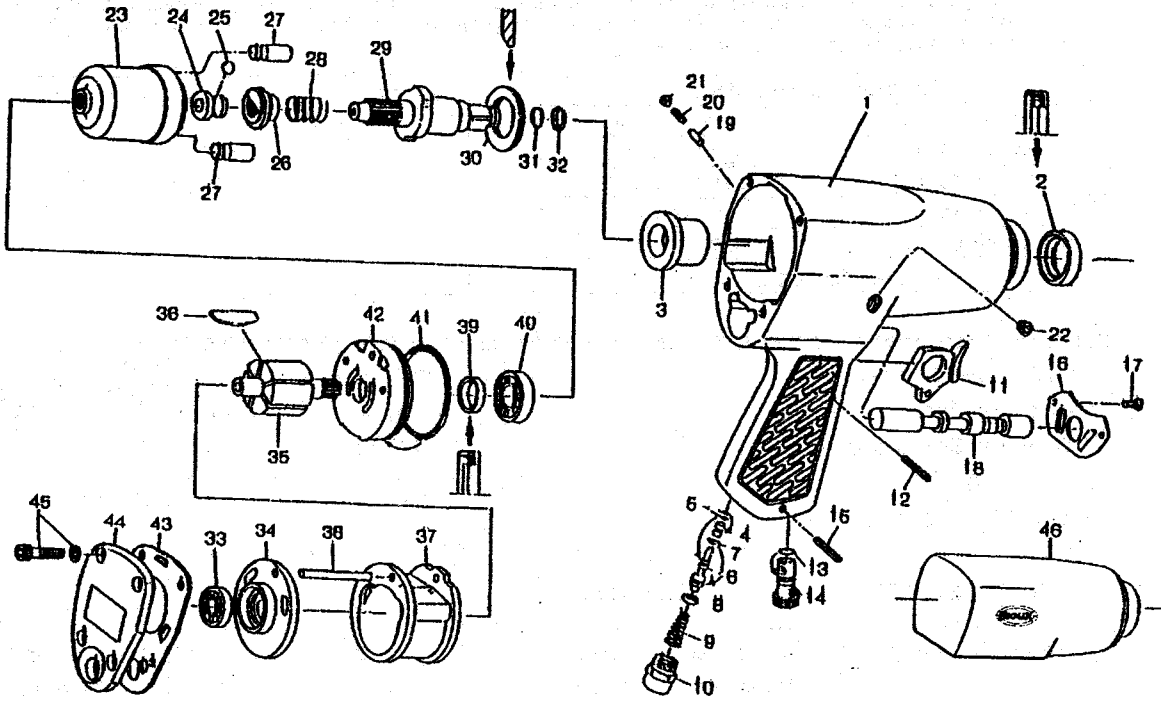
Unscrew retainer plug (21) and remove spring (20) and reverse valve stop pin (19). Reverse valve (18) may now be pushed out of motor housing (1). Do not attempt to remove the brass reverse valve bushing from the motor housing (1).

Remove 2 screws (17) and exhaust deflector (16). Remove 4 cap screws with washers (45) and remove end cap (44) and gasket (43). By gently tapping the square end of anvil (29) the complete hammer assembly and motor assembly may be removed from the rear end of motor housing (1). Oil seal (2) may be hooked out of, and anvil bushing (3) pressed out of motor housing (1). Pull apart the motor and hammer assemblies. Remove guide pin (38) and pull off rear end plate (34) and front end plate (42) from rotor (35) and remove 6 rotor blades (36) and cylinder (37) noting its orientation with the front end plate for correct reassembly. Bearing (33) may be tapped out of rear end plate (32) and bearing (40) from front end plate (42) with a suitable punch and oil seal (39) hooked out of front end plate (42).

Remove O-ring (41) from end plate (42). Remove anvil spacer (30) and pull out anvil (29) to separate hammer cage (23), cam ball pilot (24), ball (25), hammer cam (26), spring (28) and 2 pins (27). Note that on reassembly, the chamfer on the bore of anvil spacer faces towards hammer cage (23). Socket retaining ring (32) and O-ring (31) may be removed from anvil (29).



5550 1/2" Square Drive Pistol Grip Impact Tool



Ref. No.	Part No.	Description
1	505377	Motor Housing
2	505185	Oil Seal
3	505378	Anvil Bushing
4	67241	Throttle Push Pin
5	66591	O-Ring (2)*
6	66594	Valve Stem
7	66593	O-Ring
8	66595	O-Ring Retainer
9	66596	Throttle Valve Spring
10	66597	Hose Adaptor
11	66598	Throttle Trigger
12	66599	Spring Pin
13	66600	O-Ring
14	66601	Air Regulator
15	67229	Spring Pin
16	505379	Exhaust Deflector
17	67227	Screw (2)*
18	67225	Reverse Valve
19	67224	Reverse Valve Stop Pin
20	67223	Spring
21	66608	Retainer Plug
22	66604	Oil Plug
23	505174	Hammer Cage
24	505175	Cam Ball Pilot
25	505176	Cam Ball

Ref. No.	Part No.	Description
26	505177	Hammer Cam
27	505178	Hammer Pin (2)*
28	505179	Cam Release Spring
29	505380	Std. Anvil Assy. (includes Items 31 & 32)
30	505181	Anvil Spacer
31	66673	O-Ring
32	66674	Socket Retainer Ring
33	66704	Ball Bearing
34	505381	Rear End Plate
35	505382	Rotor
36	505383	Rotor Blade (Set of 6)
37	505384	Cylinder
38	66663	Guide Pin
39	66664	Oil Seal
40	66658	Ball Bearing
41	66665	O-Ring
42	505386	Front End Plate
43	505387	Gasket
44	505388	End Cap
45	66713	Cap Screw with Washer (4)*
46	5005	Rubber Housing Boot
Not Shown	505389	Nameplate
Not Shown	67255	Nameplate Screw (2)*
Not Shown	505385	Warning Label

*Order Quantity as Needed



Reassembly

Clean all component parts and examine for wear and cracks, etc., and replace as necessary. Look in particular for wear and cuts on O-rings and seals, wear on rotor blades and wear and cracks on anvil (29) particularly in the area of the square drive, hammer cage (23), cam (26), cam ball pilot (24) and hammer pins (27). Make sure that the faces of end plates (34) and (42) that abut the cylinder (37) are flat and free of burrs. Lap on a flat fine grade of abrasive paper if necessary. Use one manufacturer or authorized distributor spare parts. Lightly coat all parts with a suitable pneumatic tool lubricating oil and reassemble in the reverse order.

On completing the assembly, make sure the anvil is free to rotate and the lever and regulator operate freely. Remove oil plug (22) and pour in one ounce (28cc) of a suitable SAE10 or SAE20 grade oil. Do not overfill as this will result in a reduction of the power of the tool. Pour approx. 5ml of a good quality pneumatic tool motor lubricating oil (preferably one containing a rust inhibitor) into the air intake with the trigger depressed. Connect tool to a suitable air supply and operate tool slowly for a few seconds to allow the oil to circulate and reset for operation required. Refer to section "Operating".

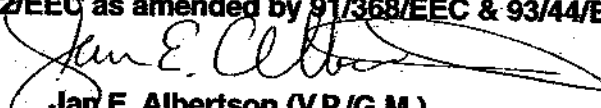
Operation Specification	
Air Consumption	3.5 cfm (25 scfm)
Maximum Torque	460 ft. lb. (624Nm)
Working Torque	50-260 ft. lb. (68-353Nm)
Air Inlet Thread	1/4-18NPT
Overall Length	7.5" (190mm)
at 90 PSIG (6.2 bar)	

NOTES

Manufacturer/Supplier Sioux Tools Inc. 2901 Floyd Boulevard P.O. Box 507 Sioux City, IA 51102 U.S.A. Tel No. 712-252-0525 Fax No. 712-252-4267		Product Type 1/2" Sq. Drive Pistol Grip Impact Tool	RPM 6,800 <small>Cycles Per Min.</small>	
		Model No/Nos 5550	Serial No.	
Product Net Weight 5.3 lbs 2.4 Kg	Recommended Use Of Balancer Or Support NO	Recommended Hose Bore Size - Minimum 5/16 Ins 8 MM	Recommended Max. Hose Length 30 Ft 10 M	
Air Pressure		Noise Level: Sound Pressure Level 91.0 dB(A) Sound Power Level 102.0 dB(A)		
Recommended Working 6.2 bar 90 PSI Maximum 6.2 bar 90 PSI		Test Method: Tested in accordance with Pneurop test code PN8NTC1 and ISO Standard 3744		
SAFETY MESSAGES <small>Personal Safety Equipment</small> Use - Safety Glasses YES Use - Safety Gloves Use - Safety Boots Use - Breathing Masks Use - Ear Protectors YES	 WARNING Always Read Instructions Before Using Power Tools Always Wear Safety Goggles Wear Hearing Protection Avoid Prolonged Exposure To Vibration	Vibration Level Less than 2.7 Meters / Sec²	Test Method: Tested in accordance with ISO standards 8662 Parts 1 & 7	

Declaration of Conformity
Sioux Tools Inc.
2901 Floyd Boulevard, P.O. Box 507, Sioux City, Iowa 51102
 declare under our sole responsibility that the product

Model 5550 Sq. Dr. Pistol Grip Impact Tool, Serial Number
 to which this declaration relates is in conformity with the following standard(s) or other normative document(s)
EN792 (Draft), EN292 Parts 1 & 2, ISO 8662 Parts 1 & 7, Pneurop PN8NTC1
 following the provisions of **89/392/EEC as amended by 91/368/EEC & 93/44/EEC Directives**


Jan E. Albertson (V.P./G.M.)

Name and signature or equivalent marking of authorized person