Product Type **1/2 Capacity Reversible Pistol Grip Drill**

Model *527C*

Instructions

Includes - Foreseen Use, Work Stations, Putting Into Service, Operating, Dismantling, Assembly and Safety Rules

Important

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

Foreseen Use Of Tool

This drill is designed for the purpose of drilling holes in all types of materials, i.e. metals, wood, stone, plastics etc. using drilling bits designed for this purpose. It may be used with other forms of cutting tools, polishing devices or for sanding using coated abrasive products. Before using any such products first check with the manufacturer their suitability for use with this type of drill. Do not use bonded abrasive products (i.e. grinding wheels) or saw blades or any device which has a permitted safe working speed less than the free speed of the drill.

Do not use this drill for any other purpose than that specified without consulting the manufacturer or the manufacturer's authorised supplier.

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 the solid floor. It can be 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 the drill can develop a torque reaction see section "Operating".

Putting Into Service

Air Supply

Use a clean lubricated air supply that will give a measured air pressure at the tool of 90 p.s.i./6.3 bar when the tool is running with the trigger 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, depressurising the line by pressing the trigger on the tool. Disconnect the air line and pour into the intake bushing 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.

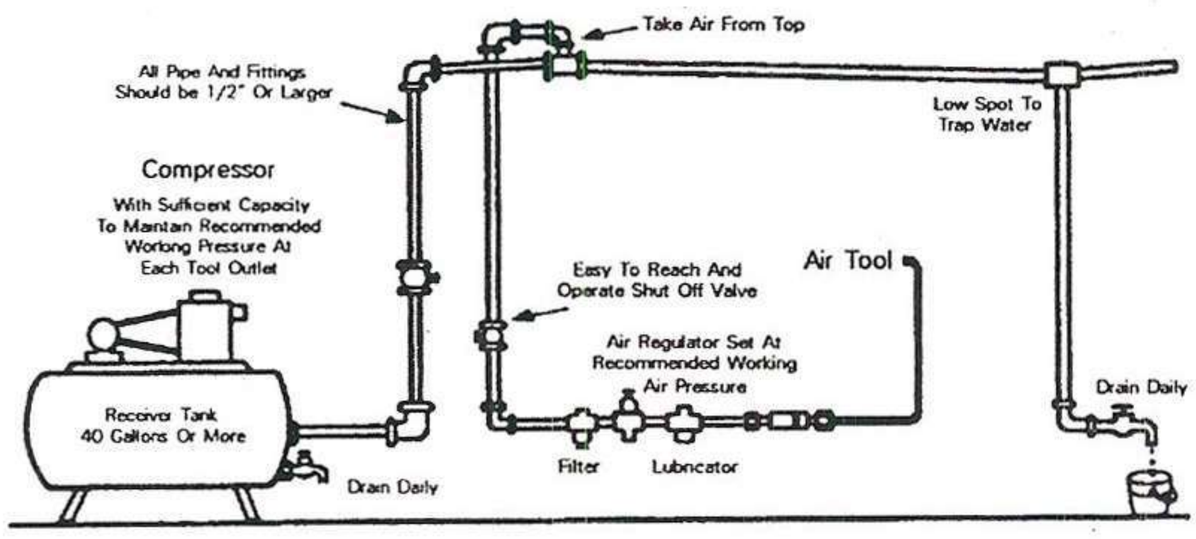
It is recommended that the air pressure at the tool whilst the tool is running is 90 p.s.i./6.3 bar. The tool can run at lower and higher pressures with the maximum permitted working air pressure of 100 p.s.i./7.0 bar.

Operating

Select suitable drill bit, insert the shank into the drill chuck as far as possible and tighten chuck with key supplied making sure that the shank of the device is securely clamped centrally between the three chuck jaws. Remove chuck key.

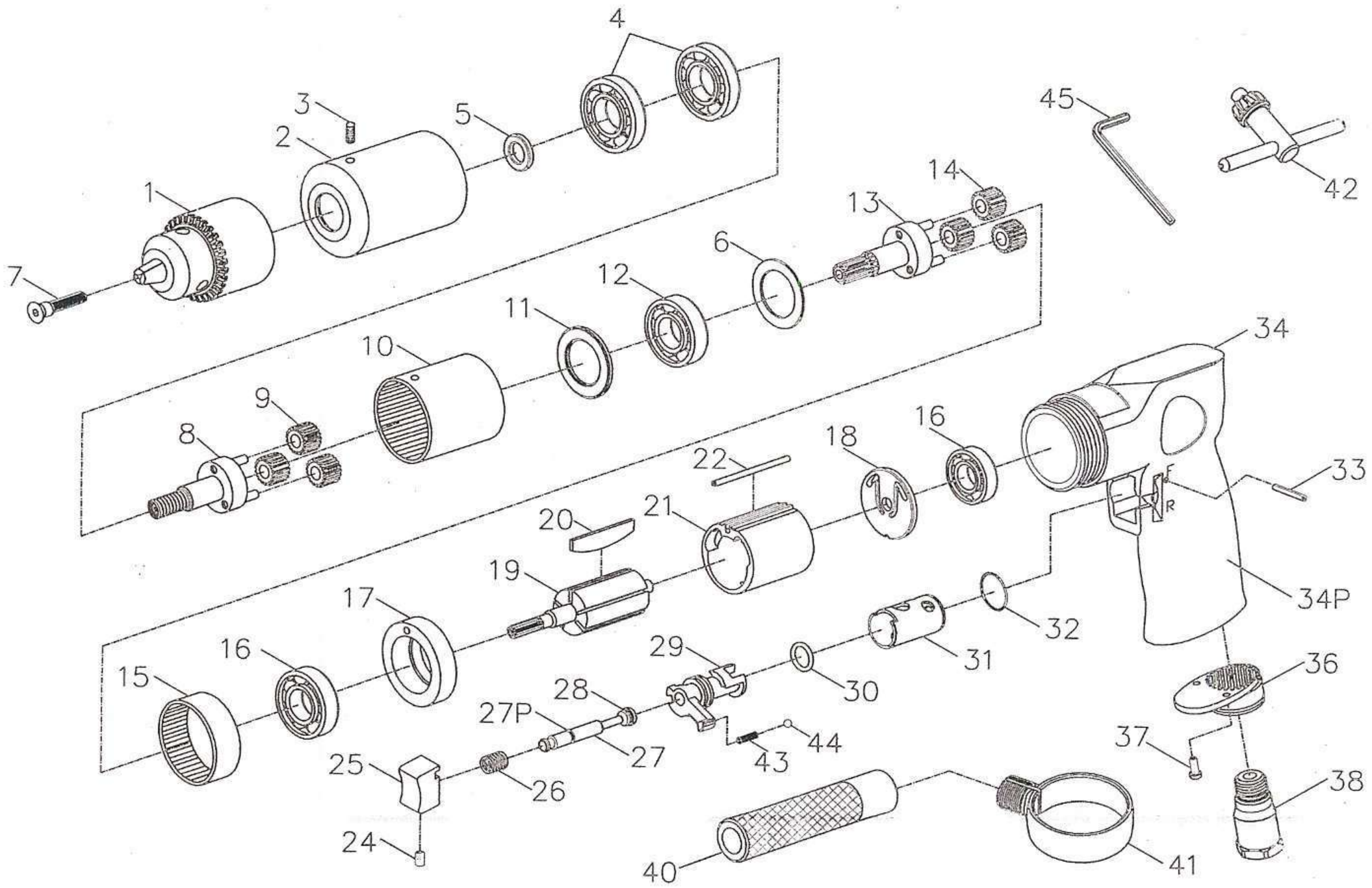
When drilling holes of all sizes it is advised to use a pointed punch to mark the centre at which the hole is to be drilled as this will provide a starting point for the drill tip. This procedure will prevent the drill bit from skidding, ensure that the hole is drilled where intended and help to prevent drill breakage when using small drills. When drilling, particularly with small diameter drills, always try to ensure that load applied to the drill is such that the drill bit is always at right angles to the hole being drilled. Do not force the drill but allow it to cut.

When drilling always adopt a firm posture to be able to counteract any sudden movement of the drill due to torque reaction. Such torque reaction can occur when the drill stalls due to a too heavy load being applied or the material being too hard or tough. The torque reaction can occur when the drill breaks through the material being drilled, particularly on sheet metal. Always use eye protection and hand protection is advised, particularly when drilling holes in metals where the material being removed from the hole is in the form of long sharp strips. Do not tie the drill chuck key to the drill as the attaching device i.e. string or chain could become



Recommended Air Supply System — Figure 1

1/2 Capacity Reversible Pistol Grip Drill



527C

Index No.	*Part No.*	*Description*	*No. Req.*	*Index No.*	*Part No.*	*Description*	*No. Req.*
1	527C-1	1 /2" Drill Chuck	1	24	527C-24	Set Screw	1
2	527C-2	Clamp Nut	1	25	527C-25	Trigger	1
3	527C-3	Set Screw	1	26	527C-26	Spring	1
4	527C-4	Ball Bearing	2	27	527C-27	Valve	1
5	527C-5	Chuck Spacer	1	27P	527C-27P	O-Ring	1
6	527C-6	Washer	1	28	527C-28	O-Ring	1
7	527C-7	Screw	1	29	527C-29	Reverse Valve	1
8	527C-8	Planet Carrier	1	30	527C-30	O-Ring	1
9	527C-9	Planet Gear	3	31	527C-31	Reverse Valve Block	1
10	527C-10	Internal Gear	1	32	527C-32	O-Ring	1
11	527C-11	Spacer	1	33	527C-33	Pin	1
12	527C-12	Ball Bearing	1	34	527C-34	Motor Housing	1
13	527C-13	Planet Carrier	1	34P	527C-34P	Housing Sleeve	1
14	527C-14	Planet Gear	3	36	527C-36	Exhaust Deflector	1
15	527C-15	Internal Gear	1	37	527C-37	Screw	2
16	527C-16	Ball Bearing	2	38	527C-38	Air Inlet	1
17	527C-17	Bearing Case	1	40	527C-40	Handle	1
18	527C-18	End Plate	1	41	527C-41	Clamp Ring	1
19	527C-19	Rotor	1	42	527C-42	Chuck Key	1
20	527C-20	Rotor Blade	5	43	527C-43	O-Ring	1
21	527C-21	Cylinder	1	44	527C-44	Steel Ball	1
22	527C-22	Motor Pin	1	45	527C-45	Allen Wrench	1

entangled with the rotating chuck and bit etc.
If using an abrasive device, drilling stone or performing any operation where dust is created, it is recommended to use a breathing mask.
Always ensure that the material to be drilled is firmly fixed to prevent its movement.
It is also recommended that when drilling holes of large diameter to first pre drill a hole of smaller diameter as this will reduce effort required to drill the hole and minimise torque reaction.

Dismantling & Assembly Instructions

Disconnect tool from air supply. Unscrew handle (40) and slide off clamp ring (41) insert chuck key in drill chuck (1) and unscrew screw (7) using allen wrench (90). Give the fitted chuck key a sharp tap with a hammer in a direction to loosen a right hand threaded joint to unscrew the drill chuck (1). If this fails to remove the drill chuck as it is too tightly fitted - see later. Unscrew air inlet with screen (38) and 2 off screws (37) and take off exhaust deflector (36). Drive out pin (33) and centralise the lever on reverse valve (29) between the forward and reverse positions. Grip trigger (25) and pull out the complete trigger assembly. Remove O-ring (32) from motor housing (34). Unscrew set screw (24) and pull off trigger (25) from valve (27). Separate spring (26), valve (27), O ring (28), reverse valve (29), O-ring (30), reverse valve block (31), ball (44) and indent (43). Remove set screw (3). Unscrew clamp nut (2) to remove gear assembly complete from motor housing (34). Take out ring gear (15), 3 off planet gears (14), spacer (11) and planet carrier (13) with ball bearing (12). Planet carrier (13) may be pressed through ball bearing (12) and spacer (6). Take out 3 off planet gears (9). If drill chuck (1) had not previously been removed because it was too tightly fitted, insert a rectangular bar in between the pins in planet carrier (8) and unscrew chuck (1) using chuck key (42). Press out from clamp nut (2) internal gear (10) and planet carrier assembly. Press out planet carrier (8) from chuck spacer (5) and 2 off bearings (4). Grip rotor (19) and pull out the complete motor assembly with motor pin (22). Grip bearing case (17) and tap the splined end of rotor (19) to drive it through bearing case (17) assembly. Tap out bearing (16) from bearing case (17). Take off cylinder (21) and 5 off rotor blades (20) from rotor (19). Support the cylinder side of end plate (18) and tap the non splined end of rotor (19) through end plate (18) and bearing (16).

Reassembly

Clean all parts and examine for damage and wear. Replace any parts with parts obtained from manufacturer or authorised distributor. Coat all parts with a suitable pneumatic tool lubricating oil and assemble in reverse order.

Safety Rules When Using A Drill

1) Read all the instructions before using this tool. All operators must be fully trained in its use and aware of these safety rules. All service and repair must be carried out by trained personnel.
2) Always select a suitable cutting, abrasive device suitable for use with this drill.
3) Always shut off the air supply to the drill and depress the trigger to exhaust air from the feed hose before fitting, adjusting or removing the device. Remove drill chuck key.
4) Always adopt a firm footing and/or position and be aware of torque reaction developed by the drill.
5) Use only correct spare parts.
6) Check hose and fittings regularly for wear. Do not carry the tool by its hose and ensure that the hand is remote from the on/off valve (trigger) when carrying the tool with air supply connected.
7) Do not exceed maximum recommended air pressure. Avoid low air pressures as this will allow the drill to stall more easily and develop torque reaction.
8) Use safety equipment as recommended.
9) The tool is not electrically insulated. Do not use where there is a possibility of coming into contact with live electricity, gas pipes, water pipes, etc. Check the area of operation before performing the operation.
10) Take care against entanglement of moving parts of the tool with clothing, ties, hair, cleaning rags, etc. This will cause the body to be moved towards the work process and can be very dangerous.
11) Do not attempt to hold or guide the drill chuck when the tool is running. Keep hands clear of the drilling process.
12) Use only compressed air at recommended conditions.
13) Do not attempt to fit attachments, i.e. for sawing, hedge cutting, grinding, chain sawing, etc.
14) If the tool appears to malfunction remove from use immediately and arrange for service and repair.
15) If an additional side handle is fitted to the tool ensure that it is correctly positioned and fixed securely.
16) If the drill is used with a balancer or other suspension device ensure that it is fixed securely.

Technical Specification

Product Type **1/2 Capacity Reversible Pistol Grip Drill**	Serial No	Other Data **Air Inlet** 1/4 NPT **Average Air Consumption** 17 cfm 0.48 m^3/m **Overall Length** 9.25 ins 235 mm **Chuck Capacity** 1/2 ins 12.7 mm **Spindle Thread** 3/8-24 UNF
Model *527C*	Recommended Minimum Hose Bore Diameter **3/8** ins **10** mm	
RPM **500**	Recommended Maximum Hose Length **30** ft **10** m	
Weight **1.95** Kg **4.3** lbs	Air Pressure Working **6.2 bar 90 PSIG** Maximum **7.0 bar 100 PSIG**	
Noise Level Sound Pressure Level **88.3** db(A) Sound Power Level **100.1** db(A) Tested in accordance with ISO Standard 3744 and Pneurop PN8NTC1.2	Vib Level **Less than 2.5** M/Sec^2 Tested in accordance with ISO Standard 8662/1	
Recommended Personal Safety Equipment	Use:- **Safety Glasses & Ear Protectors**	

⚠ WARNING ⚠

Dust created by sanding, sawing, grinding, drilling and other related activities may expose the user to dust and/or microscopic particles that *may contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.*

Users of this tool should review the chemical composition of the work surface and any products used in conjunction with the operation of this tool for any such chemicals prior to engaging in any activity that creates dust and/or microscopic particles.

Users should obtain the Material Safety Data Sheets for all identified chemicals, either from the manufacturer or their employer, and proceed to study, understand, and follow all instructions and warnings for exposure to such chemicals.

Some examples of these chemicals are: lead from lead-based paints; crystalline silica from bricks, cement and other masonry products; and arsenic and chromium from chemically treated lumber.

In order to reduce their exposure to such chemicals, users should always
*work in well-ventilated areas.
*wear appropriate safety equipment and clothing that are specifically designed to filter out microscopic particles.