




Universal Tool

Operator 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.

Manufacturer/Supplier Universal Air Tool Company Limited Unit 8 Lane End Industrial Park High Wycombe Bucks HP14 3BY		Product Type Right Angle Drills	RPM 800 Cycles Per Min	
Tel No (01494) 883300 Fax No (01494) 883237		Model No/Nos UT8807B 3/8" Capacity UT8807B-1/2 1/2" Capacity	Serial No	
Product Nett Weight 2.64 (3/8) 2.97 (1/2) lbs 1.20 (3/8) 1.35 (1/2) Kg	Recommended Use Of Balancer Or Support No	Recommended Hose Bore Size - Minimum 3/8 Ins 10 M/M	Recommended Max Hose Length 30 Ft 10 M	
Air Pressure		Noise Level Sound Pressure Level 83.9 dB(A)		
Recommended Working	6.3 bar 90 PSI	Test Method Tested in accordance with Pneurop test code PN8NTC1 and ISO Standard 3744		
Recommended Minimum	n/a bar n/a PSI			
Maximum	7.0 bar 100 PSI			
Personal Safety Equipment		Vibration Level Less than 2.5 Metres / Sec²		
Use - Safety Glasses	Yes	Test Method Tested in accordance with ISO standard 8662/1		
Use - Safety Gloves				
Use - Safety Boots				
Use - Breathing Masks				
Use - Ear Protectors				

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.

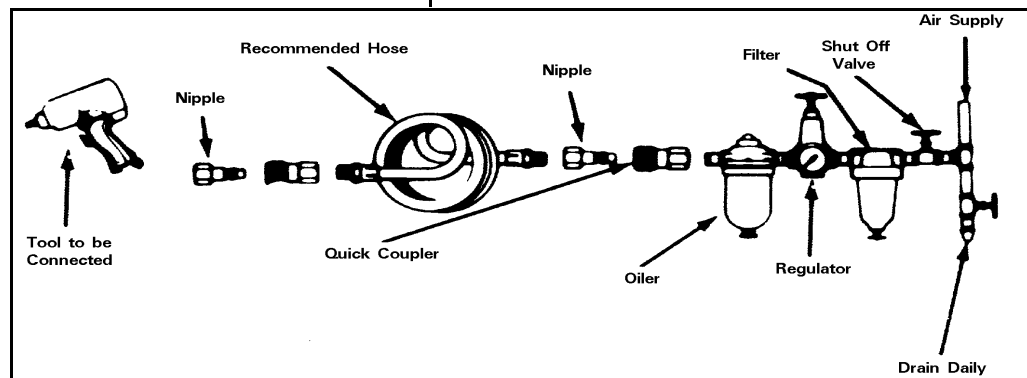
Work Stations

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 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 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 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.

To remove the drive chuck (2) first open the chuck jaws with the key provided and remove chuck screw(1) [left hand thread]. Place chuck key securely into chuck and give the key a sharp tap so as to unscrew a right hand thread. Grip motor housing (40) in a vice with soft jaws on the flats at the rear end. Drive out pin (43) and take off throttle lever (42). Unscrew inlet bushing (51) together with screen (52). With a needle pointed tool, prise out deflector retainer (50), pull out deflector (48) and remove O-Ring (49) from deflector (48). Unscrew 2 off screws (47) and take off body cap (46), muffler (45) and gasket (44). Unscrew valve screw (29) together with O-Ring (30) and reverse retainer (31) and take out spring (32) and pull out valve pin (36), valve (34), O-Ring retainer (33) and O-Ring (35).

Pull out reverse valve (37) and take out spring (38). Do not remove either of the brass bushes in the motor housing (40) unless replacements are required. If necessary reverse bush (39) can be taken out of motor housing (40) by first removing pin (41). With circlip pliers remove retaining ring (3) and pull out the output spindle assembly. Unscrew nut (9), remove washer (8), bevel gear (7) and key (5). Drive spindle (4) through bearing (6). Tap out needle bearing (10) from angle head (11) but do not remove grease plug (12) unless a replacement is required.

Slacken lock ring (15) and then unscrew angle head (11) [left hand thread] from main assembly. Take out gear drive assembly and dismantle by pressing pinion gear (13) through 2 off bearings (14). Unscrew completely lock ring (15) and take out planet gear with pins

assembly (16), 3 off idler gears (17) and internal gear (18). Pull out the motor assembly, complete with cylinder pin (25) from motor housing (40).

Grip the front end plate (20) by hand and with a non metallic or soft metal (lead or aluminium) hammer tap the splined end of the rotor (21) to drive it through the front end plate (20) and bearing (19) assembly. Tap out bearing (19) from front end plate (20). Remove cylinder (23) and take out four off rotor blades (22) from rotor (21). Take off retaining ring (28) from rotor (21) and support rear end plate (24) in a piece of tube with a diameter as close as possible to the maximum diameter of the rotor and tap the non splined end of the rotor to drive it through the rear end plate (24) and bearing (27).

Take out motor gasket (26) from motor housing (40).

Reassembly

Clean all component parts and examine for wear before reassembling. Use only manufacturer or distributor supplied parts. Check in particular for wear on bevel gears, O-Rings and rotor blades. Lightly coat all parts with a suitable pneumatic tool lubricating oil, preferably one incorporating a rust inhibitor. Pack bearings and grease gears and bevel gears with a lithium or molybdenum based general purpose grease. Reassemble in the reverse order taking note of the following:

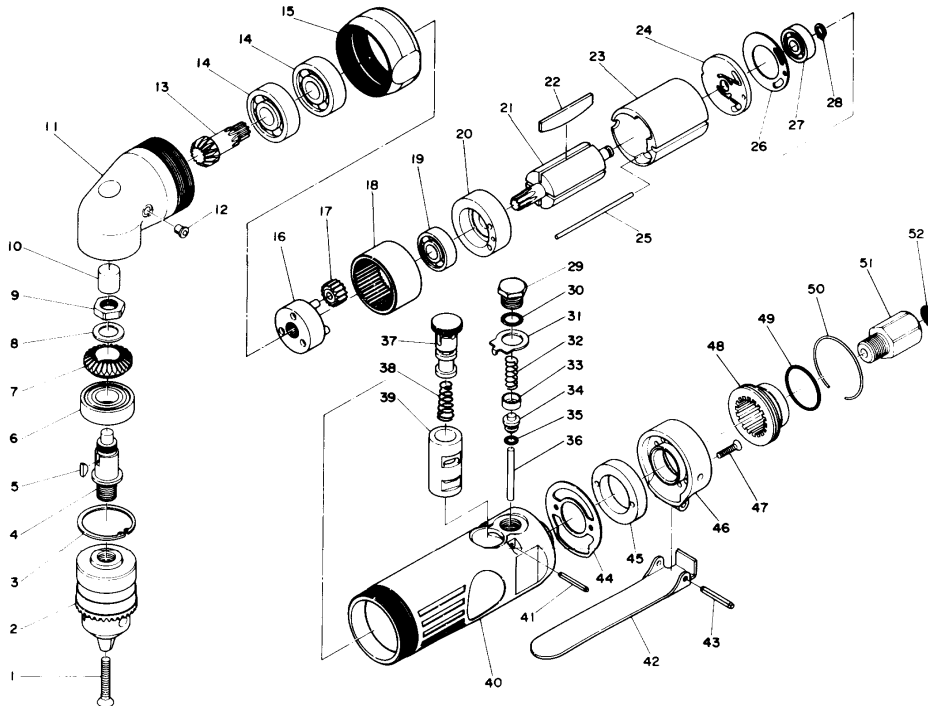
- 1) When fitting gasket (26) make sure that it does not cover the ports and is positioned correctly.
- 2) Make sure that the motor locating pin locates correctly in the holes in the motor end plates and in the small hole between the two ports at the bottom of the main bore of the motor housing.
- 3) Check the diameter of the pins in planet gear with pin assembly (16). If the diameter of these pins falls below 0.155" (3.93mm) replace the assembly.
- 4) For the motor assembly, ensure that the motor end plates that abut the cylinder are flat and free from burrs and sharp edges. If necessary lap the faces on a very fine grade of abrasive paper laid on a flat surface. Set the clearance between the rear end plate and the rotor with the components pulled apart by hand to be between 0.0015" (0.040mm) and 0.0025" (0.065mm).

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.
- 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

UT8807B 3/8" Capacity Angle Drill

UT8807B-1/2 1/2" Capacity Angle Drill



Ref No	Part No	Description
1	900418	Chuck Screw
2	H0019	Chuck 3/8" Capacity
	H0020	Chuck 1/2" Capacity
3	722001	Retaining Ring
4	900419	Spindle
5	900420	Key
6	732229	Ball Bearing
7	900421	Bevel Gear
8	900422	Washer
9	900423	Nut
10	731956	Needle Bearing
11	900424	Angle Head
12	900390	Grease Plug
13	900425	Pinion Gear
14	732191	Ball Bearing (2)
15	900426	Lock Ring
16	732446	Planet Gear w/Pin
17	731038	Idler Gear (3)
18	900427	Internal Gear
19	729188	Ball Bearing
20	900428	Front Plate
21	900429	Rotor
22	729709	Rotor Blade (4)
23	900104	Cylinder
24	900102	Rear End Plate
25	900105	Cylinder Pin
26	900113	Motor Gasket

Ref No	Part No	Description
27	729012	Ball Bearing
28	729180	Retaining Ring
29	900208	Valve Screw
30	729088	O-Ring
31	900200	Reverse Retainer
32	729063	Valve Spring
33	729043	O-Ring Retainer
34	731998	Valve
35	1008173	O-Ring
36	900193	Valve Pin
37	900194	Reverse Valve
38	900199	Reverse Spring
39	900195	Reverse Bush
40	900430	Motor Housing
41	731930	Roll Pin
42	900192	Throttle Lever
43	729167	Lever Pin
44	900198	Gasket
45	900209	Muffler
46	900197	Body Cap
47	900206	Screw (2)
48	729702	Deflector
49	1012371	O-Ring
50	729703	Deflector Retainer
51	900196	Inlet Bushing
52	1005726	Screen

Declaration of Conformity
Universal Air Tool Company Limited
Unit 8, Lane End Industrial Park, High Wycombe, Bucks, HP14 3BY, England

declare under our sole responsibility that the product

Model UT8807B Right Angle Drills, Serial Number

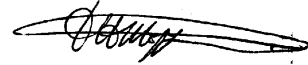
to which this declaration relates is in conformity with the following standard(s) or other normative document(s)

EN792 (Draft), EN292 Parts 1 & 2, ISO 8662 Part 1, Pneurop PN8NTC1

following the provisions of **89/392/EEC as amended by 91/368/EEC & 93/44/EEC Directives**

Lane End

D.H.Moppett (Man Director)



Place and date of issue

Name and signature or equivalent marking of authorised person

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.

Accessories

Notes

Distributor

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