



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 Tel No (01494) 883300 Fax No (01494) 883237				Product Type Pistol Rev. Screwdriver Adjustable Clutch		RPM 1,800 Cycles Per Min		
				Model No/Nos UT5964		Serial No		
Product Nett Weight 2.70 lbs 1.23 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 88.0 dB(A) Sound Power Level 100.0 dB(A)				
Recommended Working 6.3 bar 90 PSI				Test Method Tested in accordance with Pneurop				
Recommended Minimum n/a bar n/a PSI				test code PN8NTC1 and ISO Standard 3744				
Maximum 7.0 bar 100 PSI								
Personal Safety Equipment				Vibration Level 3.7 Metres / Sec ²				
Use - Safety Glasses Yes				Test Method Tested in accordance with ISO				
Use - Safety Gloves				standards 8662 Parts 1 & 7				
Use - Safety Boots								
Use - Breathing Masks								
Use - Ear Protectors								

Foreseen Use

This screwdriver is designed for the tightening and loosening of threaded fasteners within the range as specified by the manufacturer. It should only be used in conjunction with 1/4" male hex shank screwdriver bits and fastener drivers.

Do not use the tool for any other purpose than that specified without consulting the manufacturer or his authorised representative.

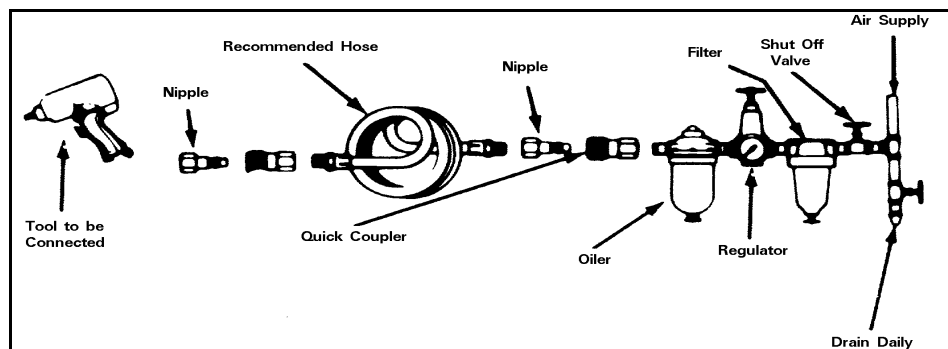
Putting Into Service

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

Work Stations

The tool should only be used as a hand held, 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. The operator must adopt a firm grip sufficient to resist the torque reaction of the tool, i.e. the tool will try to turn in the hand. The operator must also be aware that when loosening fasteners, the tool can move quite quickly away from the fastener being undone. An allowance must be made for this rearward movement to avoid hand entrapment. The operator must also make allowance that if the tool does turn in the hand, the hand is not trapped against any rigid object.



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 the correct screwdriver bit or fastener driver to suit the screw or fastener to be tightened or loosened. Slide back the sleeve (4) and insert appropriate drive bit.

Model UT5964 has an adjustable clutch so that the torque applied to the fastener can be adjusted to give the required tightness within the torque range of the tool. To set the tool to give a particular torque output, first remove the clutch housing - left hand thread and pull out the clutch assembly being careful not to lose guide pin and spring (23) and (24). Hold the clutch carrier or insert a 1/4 hex Allen key in cam spindle (14) and with a spanner rotate adjustment nut (7) until it just touches sleeve bearing (6). This is the clutch set at its lowest output level. Reassemble the tool, try it on the joint to be fastened. If more torque is required to place the fastener repeat the process but rotate the adjustment nut (7) until there is a gap between it and the sleeve bearing proceeding at approximately one turn of the nut at a time until the correct tightness is achieved. If too high a setting is reached rotate the adjustment nut back a part of a turn at a time.

If the adjustment nut (7) is rotated too far along the cam spindle (14) it is possible that the clutch will not slip and a reaction torque against the hands will be felt. In this situation, if the fastener is not sufficiently tightened or cannot be loosened then the tool in adjustable clutch mode has insufficient capacity. Select a more powerful tool. The person setting up the tool must be aware of this torque reaction at high setting levels of the clutch and that the tool will try to turn against the hand. All that is required is a firm grip.

The tool, when the stall torque position has been reached, can still be used to set or loosen fasteners, provided the operator is aware of the need to resist the torque reaction of the tool. Further adjustment of adjusting nut (7) at this point will not increase the output of the tool. The only thing that will affect the output is a change in the air supply pressure. The output can be increased up to the use of the maximum allowed supply pressure and decreased with a reduction in supply pressure until the tool fails to operate.

It must also be understood that even if the clutch is set to slip it may not do so if the supply air pressure falls below the pressure at which the clutch was set. It is therefore strongly recommended that a pressure control valve is used. Information as to suitable equipment can be obtained from your supplier.

When using the tool keep the screwdriver bit pressed firmly into the screw head to avoid cam out and screw head damage.

Dismantling & Assembly Instructions

Disconnect tool from the air supply.

Grip the tool in a vice fitted with soft jaws on housing (36) and unscrew (left hand thread) clutch housing (5) from internal gear (22). Pull out clutch assembly being careful not to lose spring guide (23) and spring (24). Grip the clutch assembly and with a needle pointed tool prise out retaining ring (1) and remove washer (2) spring (3) and ball retainer (4) being careful not to lose screwdriver bit retaining ball (13). Again with a needle pointed tool remove second retaining ring (1) and pull off sleeve bearing (6). Unscrew adjusting nut (7) and pull off washer (8), clutch spring (9) and washer (10). Remove from vice and tap the front end to remove 4 off balls (11). Remove retaining ring (15) and separate cam spindle (14) from clutch carrier (12). Remove a third retaining ring (1) and pull off drive dog (16).

Unscrew internal gear (22) from housing (36). Grip the internal gear (22) and push out the internal gear assembly and separate bearing (21), 3 off planet gears (26) and gear carrier (25) with 3 off pins. Do

not remove the 3 off pins. Drive out pin (37). Drive out pin and unscrew set screw to be able to pull off trigger (47) and remove valve spring (46). Grip throttle valve (40) and pull out the complete valve assembly. Separate reverse valve (43) with ball (44), O-ring (42), reverse valve bushing (41), O-ring (39), throttle valve (40) and O-ring (38). O-ring (39) may be taken off of throttle valve (40). Unscrew air inlet (51) and remove two screws (50) and take out exhaust diffuser (49). Carefully grip the splined end of the rotor (29) and pull out the complete motor assembly from housing (36). Remove pin (32). Remove retaining ring (28P) and grip bearing case (28) and with a non metallic or soft metal (lead or aluminium) hammer tap the splined end of rotor (29) to drive it through bearing (27) and bearing case (28). Remove cylinder (31) and 4 off rotor blades (30) from rotor (29). Support the cylinder side face of end plate (33) and tap the non splined end of the rotor (29) to separate it from end plate (33) and bearing (34). Tap out bearing (27) from bearing case (28).

Reassembly

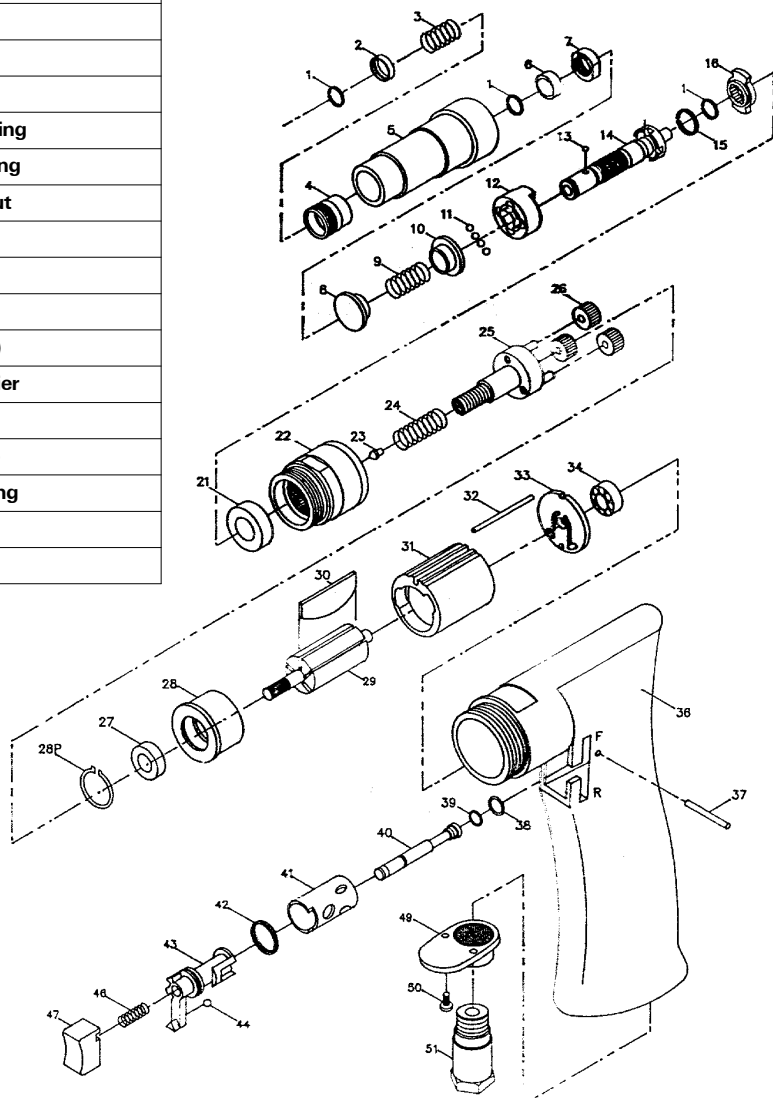
Clean all components and examine for wear. Look in particular for cuts on O-rings and wear on rotor blades and clutch parts. Replace parts only with parts obtained from the manufacturer or an authorised distributor. Coat all parts with a pneumatic tool lubricating oil and grease all bearings, gears and clutch parts with a molybdenum or lithium based general purpose grease and reassemble in the reverse order. Before reassembling make sure that the faces of end plates (28) and (33) that abut cylinder (31) are flat and free from burrs and surface marking. If necessary lap on a flat very fine grade of abrasive paper. When refitting the complete motor assembly in the housing (36) first make sure the assembly is clamped tightly together and the rotor (29) spins freely. Slide the assembly with pin (32) into the housing (36) ensuring that the motor locating pin (32) locates in the hole in the bottom of the main bore of housing (36) situated between the two main ports. Reassemble in the reverse order.

Reset the clutch and/or the air pressure as required - see Section Operating.

Safety Rules For A Screwdriver

- 1) Read all the instructions before using this tool. All operators must be fully trained in its use and aware of these safety rules.
- 2) Do not exceed the maximum working air pressure.
- 3) Use personal safety equipment.
- 4) Use only compressed air at the recommended conditions.
- 5) If the tool appears to malfunction remove from use immediately and arrange for service and repair.
- 6) If the tool is used with a balancer or other support device ensure that it is fixed securely.
- 7) Always keep hands away from the working attachment fitted to the tool.
- 8) The tool is not electrically insulated. Never use the tool if there is any chance of it coming into contact with live electricity.
- 9) Always when using the tool adopt a firm footing and/or position and grip the tool firmly to be able to counteract any forces or reaction forces that may be generated whilst using the tool.
- 10) Use only correct spare parts. Do not improvise or make temporary repairs.
- 11) Do not lock, tape, wire, etc. the on/off valve in the run position. The trigger/lever etc. must always be free to return to the 'off' position when it is released.
- 12) Always shut off the air supply to the tool, and depress the trigger/lever etc. to exhaust air from the feed hose before fitting, adjusting or removing the working attachment.
- 13) Check hose and fittings regularly for wear. Replace if necessary. Do not carry the tool by its hose and ensure the hand is remote from the on/off control when carrying the tool with the air supply connected.
- 14) Take care against entanglement of moving parts of the tool with clothing, ties, hair, cleaning rags, etc. This will cause the body to be drawn towards the tool and can be very dangerous.
- 15) It is expected that users will adopt safe working practices and observe all relevant legal requirements when installing, using or maintaining the tool.

Ref No	Part No	Description
1	596401	Retaining Ring (3)
2	596402	Washer
3	596403	Spring
4	596404	Ball Retainer
5	596405	Clutch Housing
6	596406	Sleeve Bearing
7	596407	Adjusting Nut
8	596408	Washer
9	596409	Spring
10	596410	Washer
11	596411	Steel Ball (4)
12	596412	Clutch Carrier
13	596413	Steel Ball
14	596414	Cam Spindle
15	596415	Retaining Ring
16	596416	Drive Dog
21	596421	Ball Bearing



Ref No	Part No	Description
22	596422	Internal Gear
23	596423	Spring Guide
24	596424	Spring
25	596425	Gear Carrier
26	596426	Gear (3)
27	596427	Ball Bearing
28	596428	Bearing Case
28P	596428P	Retaining Ring
29	596429	Rotor
30	596430	Rotor Blade (5)
31	596431	Cylinder
32	596432	Motor Pin
33	596433	End Plate
34	596434	Ball Bearing
36	596436	Motor Housing

Ref No	Part No	Description
37	596437	Pin
38	596438	O Ring
39	596439	O Ring
40	596440	Throttle Valve
41	596441	Reverse Valve Bush
42	596442	O Ring
43	596443	Reverse Valve
44	596444	Steel Ball
45	596445	Detent Rubber
46	596446	Spring
47	596447	Zinc Trigger
48	596448	Screw
49	596449	Sxhaust Diffuser
50	596450	Screw (2)
51	596451	Air Inlet

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

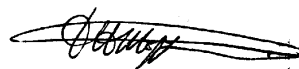
Model UT5964 Pistol Reversible Screwdriver, Serial Number

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**

Lane End

D.H.Moppett (Man. Director)



Place and date of issue

Name and signature or equivalent marking of authorised person

- 16) Do not install the tool unless an easily accessible and easily operable on/off valve is incorporated in the air supply.
- 17) Take care that the tool exhaust air does not cause a problem or blows on another person.
- 18) Never lay a tool down unless the working attachment has stopped moving.
- 19) Always ensure that the reverse button is in the selected position before starting the tool.
- 20) Do not use bits or sockets with excessive wear to the input and output drives. Make sure the bit, socket, extension is firmly fixed to the tool.
- 21) When loosening fasteners first ensure that there is sufficient clearance behind the tool to avoid hand entrapment. The tool will move away from the threaded joint as the nut/bolt is loosened and rides up the thread moving the tool with it.

Notes

Accessories

Distributor