



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 1" Square Pistol Grip Impact Wrench		RPM 4,000 Cycles Per Min																													
				Model No/Nos UT8425R Std Anvil UT8426 6" Ext. Anvil		Serial No																													
Product Nett Weight 24.8 (Std) 27.3 (Ext) lbs 11.3 (Std) 12.4 (Ext) Kg		Recommended Use Of Balancer Or Support Yes		Recommended Hose Bore Size - Minimum 1/2 Ins 13 M/M		Recommended Max. Hose Length 30 Ft 10 M																													
Air Pressure <table><tr><td>Recommended Working</td><td>6.3</td><td>bar</td><td>90</td><td>PSI</td></tr><tr><td>Recommended Minimum</td><td>n/a</td><td>bar</td><td>n/a</td><td>PSI</td></tr><tr><td>Maximum</td><td>7.0</td><td>bar</td><td>100</td><td>PSI</td></tr></table>								Recommended Working	6.3	bar	90	PSI	Recommended Minimum	n/a	bar	n/a	PSI	Maximum	7.0	bar	100	PSI	Noise Level <table><tr><td></td><td>UT8425R</td><td>UT8426</td></tr><tr><td>Sound Pressure Level dB(A)</td><td>93.7</td><td>93.9</td></tr><tr><td>Sound Power Level dB(A)</td><td>105.5</td><td>105.5</td></tr></table> Test Method Tested in accordance with Pneurop test code PN8NTC1 and ISO Standard 3744					UT8425R	UT8426	Sound Pressure Level dB(A)	93.7	93.9	Sound Power Level dB(A)	105.5	105.5
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Foreseen Use Of Tool

The impact wrench 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 suitable impact type 1" 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 wrench and the square female drive of the socket.

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

Never use an impact wrench 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.

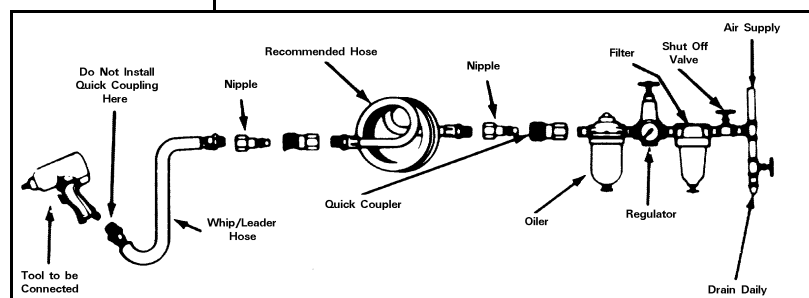
Work Stations

The tool should only be used as a handheld hand operated tool. It is always recommended that the tool is used when standing on 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 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 p.s.i./6.3 bar when the tool is running with the trigger fully depressed and the air regulator in its maximum opening flow position. 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 a quick connect coupling directly to the tool but use a whip or leader hose of say approximately 12 inches length. 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. When lubricating, also ensure that screen in hose adaptor (11) is clean.

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. For a lower air pressure the tool will give a lower output for a given setting of the air regulator set for 90 psi operation and an increased output for higher pressures. Hence it is possible that changes in supply pressure can give situations where the fastener is under or over tightened. For changes in pressure, the regulator position and application should be reassessed.

It is recommended that joint tightness of the threaded fastener assembly be checked with suitable measuring equipment.

Operating

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

- a) the input air pressure
- b) the time the impact wrench 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 item (19) can be used to regulate the output of the impact wrench if no other control means 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 wrench 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 wrench 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, not 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 wrench is rated a 1" bolt size. Rating must be down graded 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 wrench. If nut does not start to move in three to five seconds use a larger size impact wrench. Do not use impact wrench 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.

Dismantling and Assembly Instructions

Disconnect the tool from the air supply.

Remove oil fill plug (38) from motor housing (1) and drain the oil into a suitable container. Remove 4 off screws (54) with 4 off washers and take off dead handle (52) and handle band (53). Remove 4 off screws with washers (51) and pull off hammer housing (37) assembly. Press out oil seal (39) and anvil bushing (40) from hammer housing (37). Pull out anvil (47) or (47A) with anvil spacer (50). Take off and separate hammer cage (41), pilot shaft (42), cam ball (43), hammer

cam (44), 2 off hammer pins (45) and cam release spring (46). o-ring (48) and socket ring (49) may be prised off of anvil (47) or (47A). Remove o-ring (36) from motor housing (1). Remove 4 off screws with washers (35) and prise off end cap (34) with gasket (33). With a soft metal (lead, aluminium, copper, etc.) hammer tap the splined end of rotor (31) to drive rear end plate (26) assembly, rotor (31) and 6 off rotor blades (32) out of the rear end of motor housing (1). Look at this time and note, for reassembly, the orientation of the two exhaust holes in cylinder (29) i.e. the holes are positioned to the left hand side when looking from the rear end of motor housing (1). Press out front end plate (22) assembly and cylinder (29) assembly from motor housing (1). Do not remove 2 off guide pins (30) from cylinder (29) unless replacements are required. Tap out bearing (27) from rear end plate (26) but do not remove spring pin (28) unless a replacement is required. Remove o-ring (23), oil seal (24) and bearing (25) from front end plate (26). Drive out spring pin (3) and remove trigger pin (21) and pull out reverse valve/air regulator assembly being careful not to lose lock spring (14) and ball (15) from motor housing (1). Remove plug (20) and remove reversing lever (19) and separate air regulator (17), reversing valve (12), o-ring (13) and o-ring (18). Do not remove spring pin (16) and spring (14) and ball (15) from reversing valve (12) unless replacements are required. Unscrew hose adaptor (11) and take out o-ring (10), throttle spring (9), valve ball (7), valve pin (6) and o-ring (5). Remove plug (4).

Reassembly

Clean all parts and examine for damage and wear. Replace any parts with parts obtained from the manufacturer or an authorised representative. Check all o-rings for cuts and wear. Look in particular for wear, damage and cracks on hammer cage (41), hammer cage (42), ball (43), hammer cam (44), 2 off hammer pins (45) and anvils (47) and (47A) particularly in the area of the square drive. Ensure that the faces of end plates (22) and (26) that abut cylinder (19) are flat and free from burrs and surface defects. If necessary lap faces on a flat find grade of abrasive paper. Coat all parts with a pneumatic tool lubricating oil and assemble in the reverse order. On completing assembly make sure all parts are locked tight and that anvil (47) or (47A) is free to rotate and the trigger, reverse valve and regulator valves operate freely. Remove oil fill plug (38) and pour into the front end (40ml) of an SAE 20 grade oil. Replace plug. Depress trigger (2) and pour into the hose adaptor (11) 10ml (2 teaspoonfuls) of a good quality pneumatic tool motor lubricating oil. Release trigger and connect to a suitable oil supply. Run tool slowly for a few seconds to allow the oil to circulate. Set tool for operation required - see Section Operating.

Safety Rules When Using an Impact Wrench

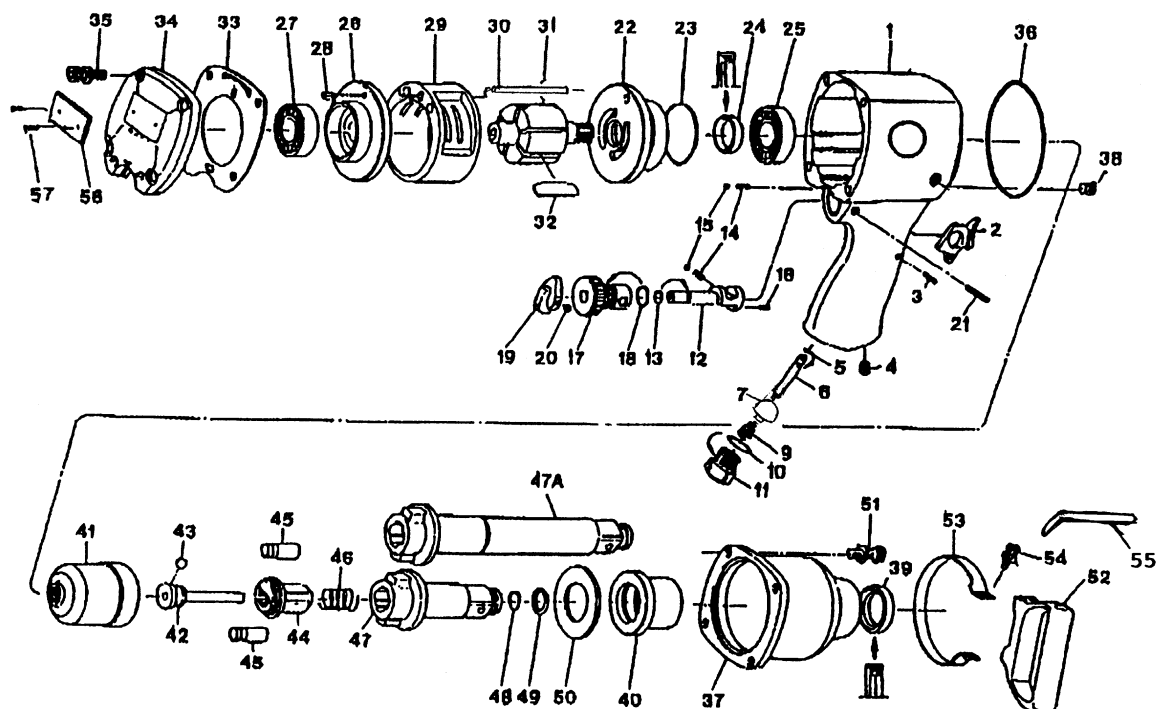
- 1) Read all the instructions before using this tool. All operators must be fully trained in its use and aware of these safety rules. All service and repair must be carried out by trained personnel.
- 2) The socket used must be of the correct drive size and the "impact" type. Never use sockets other than impact type.
- 3) Do not use sockets with excessive wear to the input and output drives. Check that the square on any other type of drive or the impact wrench is not cracked or excessively worn before fitting or changing socket, extension, etc. Make sure that the socket is firmly fixed to the tool.
- 4) Always ensure that a stable position or footing is adopted before using the tool.
- 5) Ensure that the tool has been correctly set up on a test joint. Incorrect set up could cause joint breakage with sudden and unexpected movement of the tool.
- 6) Use only correct spare parts for repair.
- 7) Always ensure that the reverse valve is in the correct position before operating the tool. Do not run the tool unless the socket is first located on the joint.
- 8) Check hose and fittings regularly for wear. Use quick connect

UT8425R

1" Square Drive Pistol Grip Impact Wrench - Std Anvil

UT8426

1" Square Drive Pistol Grip Impact Wrench - Ext Anvil



Ref No	Part No	Description
1	700531	Motor Housing
2	731851	Trigger
3	729006	Spring Pin
4	731860	Plug
5	731861	O-Ring
6	700633	Valve Pin
7	700636	Valve Ball
9	700485	Throttle Spring
10	700487	O-Ring
11	700502	Hose Adaptor
12	732192	Reversing Valve
13	1008127	O-Ring
14	731858	Lock Spring (2)
15	731859	Steel Ball (2)
16	732206	Spring Pin
17	700007	Air Rgulator
18	731857	O-Ring
19	731855	Reversing Lever
20	732205	Plug
21	732197-1	Spring Pin
22	700532	Front Plate
23	700003	O-Ring
24	700012	Oil Seal
25	731837	Ball Bearing
26	700533	Rear Plate
27	731846	Ball Bearing
28	731845	Spring Pin
29	700534	Cylinder

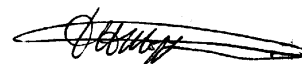
Ref No	Part No	Description
30	700647	Spring Pin (2)
31	700535	Rotor
32	700536	Rotor Blade (6)
33	731847	Gasket
34	700630	End Cap
35	731850-1	Screw w/washer (4)
36	700004	O-Ring
37	700537	Hammer Housing (Steel)
38	732198	Oil Fill Plug
39	700143	Oil Seal
40	700141	Anvil Bushing
41	700134	Hammer Cage
42	700017A	Pilot Shaft
43	700016	Cam Ball
44	700137-1	Hammer Cam
45	700136	Hammer Pin (2)
46	700138-1	Cam Release Spring
47	700139	Anvil (Standard)
47A	700140	Anvil (Extended)
48	731878	O-Ring
49	731879	Socket Ring
50	700147	Anvil Spacer
51	732199-1	Screw w/washer (4)
52	700637	Dead Handle
53	700538	Handle Band
54	700638	Screw 4)
55	700639	Lock Washer (4)
56	700545	Serial Number Plate
57	729343	Screw/Rivet (2)

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

Models UT8425R/UT8426 1" SD Impact Wrenches, 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

couplings only as recommended. See "Putting into Service". Do not carry the tool by the hose and ensure that the hand is away from the on/off valve when carrying.

9) Do not attempt to hold or guide the socket by hand when the tool is running.

10) Do not exceed maximum recommended air pressure.

11) Use safety equipment as recommended.

12) The tool is not electrically insulated. Do not use where there is a possibility of coming into contact with live electricity.

13) Preferably shut off the air supply before changing sockets or at least ensure that the hands are well clear of the operating trigger.

14) Take care against entanglement of moving parts of the tool with clothing, ties, hair, cleaning rags, etc.

15) 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 etc. is loosened and rides up the thread moving the tool with it.

16) Only use extensions, adaptors and universal joints suitable for use with impact wrenches.

17) If the tool appears to malfunction remove from use immediately and arrange for service and repair.

Notes

Technical Specification		
	UT8425R	UT8426
Overall Length	302 mm (11.9")	429 mm (16.9")
Width	111 mm (4.37")	
Air Inlet	1/2" 14 NPT	
Air Cons (Free)	60 SCFM (@ 90 PSIG)	
Air Cons (Load)	38 SCFM (@ 90 PSIG)	
Min Torque (5 Secs)	1300 ft lbs	1200 ft lbs
	179 Kgm	166 Kgm
	1763 Nm	1627 Nm
Operational Torque	600-1400 ft lbs	500-1300 ft lbs
	82.8-193.2 Kgm	69-179.4 Kgm
	813.6-1898.4 Nm	678-1763 Nm
Max Torque (30 Secs)	2800 ft lbs	2500 ft lbs
	386 Kgm	345 Kgm
	3797 Nm	3390 Nm

Distributor

Accessories