



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 3/8 and 1/2 Square Drive Ratchet Wrenches		RPM 170 Cycles Per Min	
					Model No/Nos UT8002 - 3/8 SQ UT8012 - 1/2 SQ		Serial No	
Product Nett Weight 2.64 lbs 1.20 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 Recommended Working 6.3 bar 90 PSI Recommended Minimum n/a bar n/a PSI Maximum 7.0 bar 100 PSI					Noise Level S/Pressure 84.0 (8002) 86.0 (8012) dB(A) S/Power 95.0 (8002) 96.0 (8012) dB(A) Test Method Tested in accordance with Pneurop test code PN8NTC1 and ISO Standard 3744			
Personal Safety Equipment Use - Safety Glasses Yes Use - Safety Gloves Use - Safety Boots Use - Breathing Masks Use - Ear Protectors					Vibration Level 2.9 (8002) 2.6 (8012) Metres / Sec ² Test Method Tested in accordance with ISO standards 8662 Parts 1 & 7			

Foreseen Use Of The Tool

The tool is designed to be used only for the purpose of driving, tightening and loosening of threaded fasteners, usually nuts and bolts, when fitted with a suitable drive socket.

It is allowed to use suitable extension bars, universal joints and socket adaptors between the square output drive of the ratchet wrench 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 authorised supplier. To do so may be dangerous.

Never use the ratchet 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 even to be used as a ratchet wrench.

Work Stations

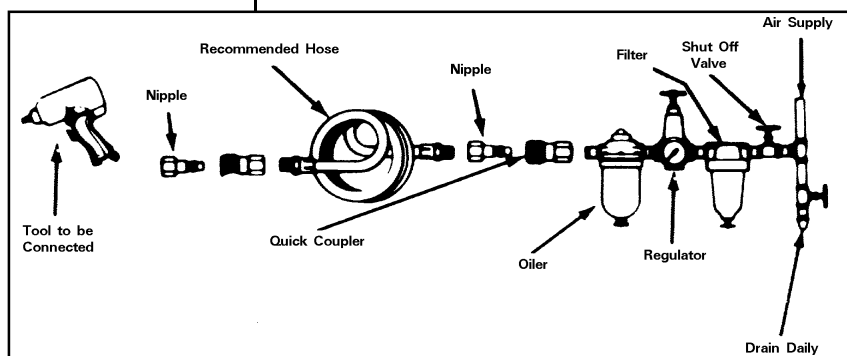
The tool should only be used as a handheld hand operated tool.

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 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. 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

Fit securely to the tool the socket or attachment required to perform the operation. Ensure that the reverse button situated on the opposite side to the square drive output shaft is in the correct position for tightening or loosening the fastener.

The nut/bolt can then be run down the thread using the power drive of the tool. When the tool stops the handle of the tool can be used as a ratchet lever and operated to give the required tightness of the joint.

For loosening a joint the tool can be used in the reverse sequence.

Dismantling & Assembly Instructions

Disconnect tool from air supply.

Grip motor housing with bushing (1) in a vise fitted with soft jaws. With a snap ring plier, remove the retaining ring (52). By using an adjustable wrench, unscrew the air hose assembly (53), inlet bushing (50) and inlet bushing (12) then separate o-ring (14), connecting ring (51), muffler (13) and o-ring (14). Unscrew valve screw (11) and remove o-ring (10), (9), air regulator (8), spring (7), throttle pin (6), o-ring (5), (4). Use a proper steel bar, tap out pin (3) and remove throttle lever (2) from motor housing with bushing (1). Release housing with bushing (1) from vise, slide off comfort grip (48) from housing with bushing (1) then return housing with bushing to vise.

Remove retainer ring (46) and by moving ratchet yoke (34) from side to side to push out the complete ratchet anvil assembly out of the ratchet housing (30). Remove the thrust washer (45), steel balls (44) and springs (43). Rotate reverse button (35) until a semi-circular groove in it lines up with pin (40). Then, tap out pin (40) by using a suitable punch, remove ratchet pawl (42), lock pin (37), spring (36) and reverse button (35) from ratchet anvil (41). Do not try to remove the steel ball from the drive of ratchet anvil (41) and only remove roll pin (39) from ratchet anvil (41) when a replacement is required. Remove ratchet yoke (34), washer (38), drive bushing (33) and crank shaft (32) from ratchet housing (30). Unscrew lock ring (28) from internal gear (25) then unscrew ratchet housing (30) (left hand thread) from lock ring (28). With a suitable punch, tap needle bearing (31), bushing (29) out of ratchet housing (30) slightly. Remove planet gear carrier (27) and planet gears (26) from internal gear (25). Do not remove any of the pins from planet gear carrier (27). Use a special wrench which locates in the teeth of the internal gear (25), unscrew the internal gear (25) from motor housing with bushing (1). If this proves to be difficult to unscrew, provide some local heating to the lock ring (28) and/or internal gear (25) to soften and break the grip of the thread locking sealant. Pull out the motor assembly from housing with bushing (1). Grip the front end plate (22), to avoid the splines of rotor (20) from damage, use a rubber hammer, slightly tap the splined end of the rotor (20) through the front end plate (22) and ball bearing (23) assembly. Take off cylinder (19) and remove rotor blades (21). With a suitable punch, tap the rear end of rotor (20) slightly to separate rotor (20) from rear end plate (17). Then, press out ball bearing (23) from front end plate (22) and ball bearing (16) from rear end plate (17). Do not remove the steel balls (18) from front end plate (22) and rear end plate (17) unless replacements are required.

Reassembly

Clean all parts and examine for wear. Look in particular for wear and cracks on ratchet pawl (42), ratchet anvil (41) and ratchet yoke (34). Coat all parts with a pneumatic tool lubricating oil and grease all bearings, gears, and ratchet mechanism parts with a molybdenum or lithium based general purpose grease. Before reassembling the motor, make sure that the faces of rear end plate (17) and front end plate (22) that abuts cylinder (19) are flat and free from burrs. If necessary, lap on a flat, very fine grade of abrasive paper. Reassemble in the reverse order. When refitting the complete motor assembly to the housing with bushing (1), make sure that the assembly is clamped tightly together and the rotor spins freely, ensure the steel ball (18) in the side of front end plate (22) locates in the slot in motor housing with bushing (1).

Safety Rules For A Ratchet Wrench

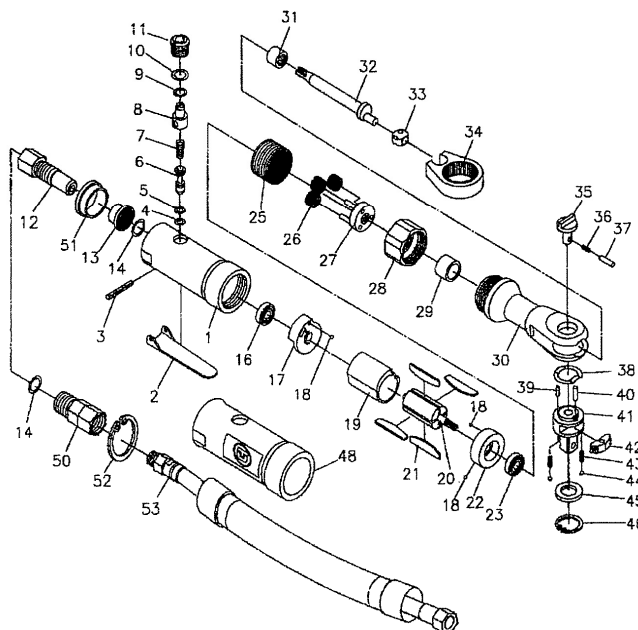
- 1) Read all the instructions before using this tool. All operators must be fully trained in its use and aware of these safety rules.
- 2) Do not exceed the maximum working air pressure.
- 3) Use personal safety equipment.
- 4) Use only compressed air at the recommended conditions.
- 5) If the tool 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.
- 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 sockets with excessive wear to the input and output drives. Periodically check the square drive on the ratchet wrench. Make sure the 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.

UT8002

3/8 SQ Drive Ratchet Wrench

UT8012

1/2 SQ Drive Ratchet Wrench



Ref No	Part No	Description
1	RL60201P	Motor Housing w/ Bushing
2	RL80512C1	Throttle Lever
3	RL805132	Pin
4	RL80504	O-Ring
5	RL80505	O-Ring
6	RL80506	Throttle Pin
7	RL80507	Spring
8	RL13004	Air Regulator
9	RL80509	O-Ring
10	RL80510	O-Ring
11	RL80511	Valve Plug
12	RL602121B	Air Inlet
13	RL80416	Muffler
14	RL80515	O-Ring (2)
16	RL80417	Ball Bearing
17	RL80418	Rear End Plate
18	RL80421	Steel Ball (3)
19	RL80422	Cylinder
20	RL60220	Rotor
21	RL80420	Rotor Blade (4)
22	RL60222	Front End Plate
23	RL80524	Ball Bearing
25	RL60225	Internal Gear
26	RL60226	Planet Gear (3)
27	RL60227	Planet Gear Carrier
28	RL60228	Lock Ring
29	RL60229	Bushing

Ref No	Part No	Description
30	RL602301	Ratchet Housing
31	RL60231	Needle Bearing
32	RL60232	Crank Shaft
33	RL60233	Drive Bushing
34	RL60234	Ratchet Yoke
35	RL60235	Reverse Button
36	RL60236	Spring
37	RL60237	Lock Pin
38	RL60238	Washer
39	RL60239	Roll Pin
40	RL60240	Pin
41	RL60241	Ratchet Anvil (3/8" Drive)
	RL60341	Ratchet Anvil (1/2" Drive)
42	RL60242	Ratchet Pawl
43	RL60243	Spring (2)
44	RL60244	Steel Ball (2)
45	RL60245	Thrust Washer (3/8" Drive)
	RL60345	Thrust Washer (1/2" Drive)
46	RL60246	Retaining Ring
48	RL60248V	Comfort Grip
50	RL804141BS	Air Inlet
51	RL60251	Connecting Ring
52	RLCR101	Retaining Ring
53	RL602531	Air Hose Assembly
	XL60203	Nameplate

Universal Air Tool Company Limited

declare under our sole responsibility that the product

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

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

D.H.Moppett (Man. Director)

Place and date of issue

Name and signature or equivalent marking of authorised person

Notes

Distributor