




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 Die Grinder - Right Angle Head	RPM 22,000 Cycles Per Min	
	Model No/Nos UT5715	Serial No	

Product Nett Weight 1.10 lbs 0.50 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
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Air Pressure		Noise Level Sound Pressure Level 90.0 dB(A) Sound Power Level 97.0 dB(A)	
Recommended Working	6.3 bar 90 PSI	Test Method Tested in accordance with Pneurop test code EN ISO 15744:2008	
Recommended Minimum	n/a bar n/a PSI		
Maximum	7 bar 100 PSI		

Personal Safety Equipment		Vibration Level Less than 2.5 Metres / Sec² Wncertainty K Less than 1.5 m / s² Test Method Tested in accordance with ISO standard EN ISO 28927-12	
Use - Safety Glasses	Yes		
Use - Safety Gloves	Yes		
Use - Safety Boots			
Use - Breathing Masks	Yes		
Use - Ear Protectors	Yes		

Foreseen Use Of The Tool

This die grinder is primarily designed for use with bonded abrasive mounted point grinding wheels. It may also be used with steel rotary files and carbide burrs provided their speed rating matches the speed of the grinder.

This tool should not be fitted with cutting off wheels, saw blades, drill bits, etc. If there is any doubt about the correct use of this product contact your supplier for advice.

Also make sure that the shank size of the attachment to be driven matches with the collet size fitted in the grinder and that the maximum allowed running speed of the attachment exceeds that marked on the grinder.

There are special rules governing the use of bonded abrasive mounted point grinding wheels - for details see section "Operating".

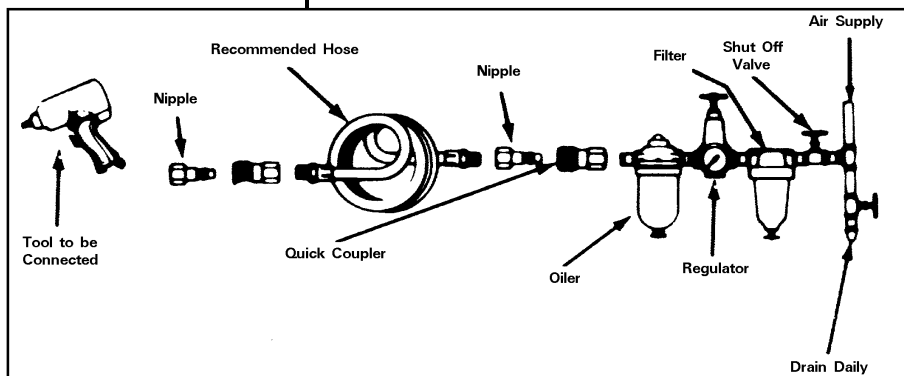
Putting Into Service

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 lever/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 lever/trigger on the tool. Disconnect the air line and

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 of the extra safety precautions that must be observed when using Grinding Machines.



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.

If tool is used daily then every other day grease gears (27) & (32) via grease plug (40).

Operating

Select a suitable mounted point that has a free running speed higher than the maximum running speed marked on the tool. Make sure that the diameter of the shank exactly matches the diameter of the collet mounted in the grinder. There are three standard sizes of collet available for use with this grinder, i.e.

- 1) - 1/4" Dia (0.250ins) (6.35mm)
- 2) - 6mm (0.236ins)
- 3) - 1/8" (0.125ins) (3.175mm)

Never try to force a 1/4" diameter shank into a 6mm collet. Never try to close a 1/4" diameter collet to secure a 6mm shank. Always match correctly the shank size to the collet size. If uncertain, have parts measured by a competent person.

Push the shank as far as possible into the collet and tighten the collet nut using the spanners provided on the collet nut and output spindle.

The shank of the mounted point may be pulled forward from the maximum insertion length but always ensure a minimum gripping length of not less than 10mm - See Figure 2.

Be aware that the allowed running speed of the mounted point is lowered because of an

increase in the length of the shank between the end of the collet and the body of the mounted point. This distance is shown in Diagram 2 as "LO" and is called the overhang. The information with respect to mounted point size, permissible running speed and reduction in running speed due to an increase in overhang is available from the supplier of the mounted point.

If the increase in overhang for access reasons takes the permissible running speed of the mounted point below the free running speed of the grinder select a smaller diameter mounted point.

The fitting of the mounted point should be done by a trained operator.

When first starting the grinder with a new wheel fitted, the grinder should not be near other persons and be held in a protected area, i.e. under a bench and run for a few seconds. This will protect personnel from possible effects of damage to the mounted point before it was fitted to the grinder i.e. wheel breakage.

Always use eye protection and wear protective gloves if there are sharp edges in the work area. The tool and the grinding process can create a noise level such that the use of ear protectors is advised.

If the grinding process creates a dust then use a suitable breathing mask. Check that the material being worked will not cause harmful dust or fumes. If this is so then special breathing masks may be required.

If the grinder vibrates when first fitting a mounted point or during operation, remove from service immediately and correct fault before continuing to use.

Do not apply excessive pressure as this will reduce the cutting efficiency and can bend the shank of the mounted point causing vibration and the possibility of breakage. Apply light loads to allow the wheel to cut.

Handle the grinder with care. If the grinder is dropped, carefully check the mounted point for damage, i.e. cracks, chipping and start for the first time as for fitting a new wheel i.e. under a bench.

Never exceed the maximum air pressure. If there is this possibility always use this grinder with a pressure reducing valve fitted in the supply line. Your supplier will advise of suitable equipment.

This grinder is fitted with a speed regulator and the speed may be reduced by rotating air regulator (41). When making speed checks always rotate the air regulator to the position to give the highest maximum speed.

Dismantling & Assembly Instructions

Disconnect tool from air supply.

Grip spindle (33) and unscrew collet nut (25) and pull out collet (24). With a suitable wrench unscrew [left hand thread] clamp nut (31) and pull out the gear drive assembly. Remove bearing (13), pull off bevel gear (30) and key (32) and separate bearing (20) and spindle (33). Unscrew cap (26) and remove cap (26) and angle housing (28). Unscrew lock (23) from motor housing (45). Lock (26) may be removed from angle housing (28) by unscrewing it (left hand thread). Pull out the motor assembly from motor housing (45) complete with

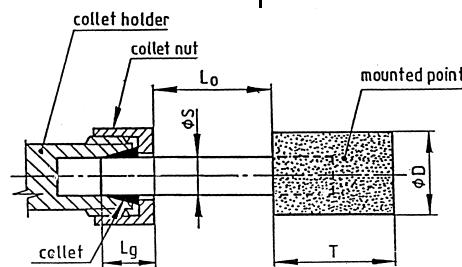


Figure 2. Gripping length of collet and chuck

- D = diameter of mounted point
- T = length of mounted point
- Lo = overhang
- S = diameter of shank
- Lg = gripping length

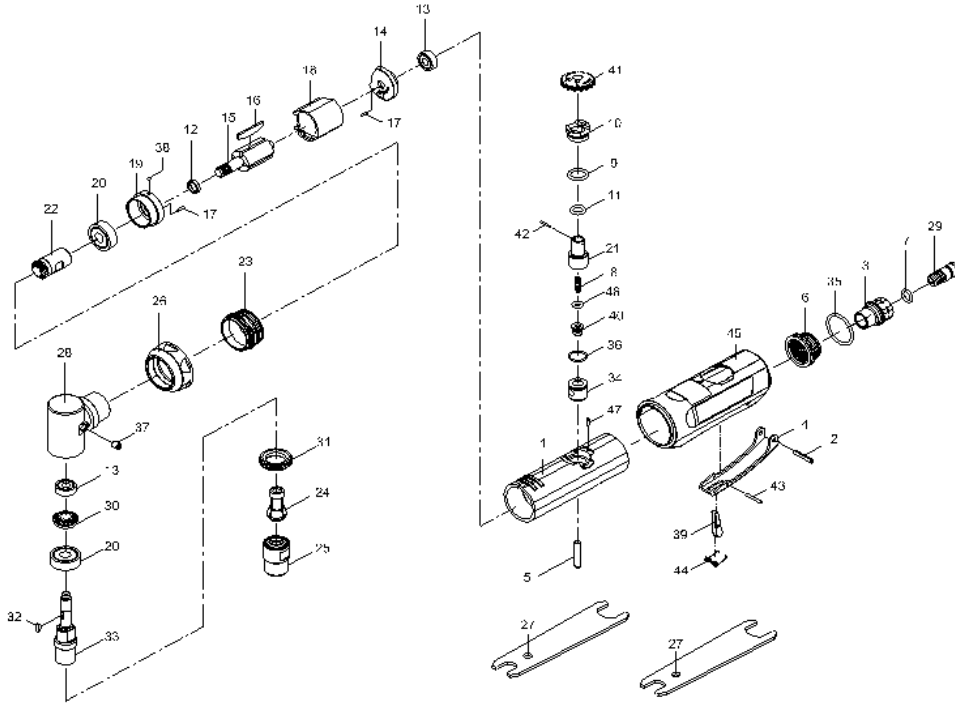
pinion gear (22) and grip the rear plate (14) tightly by hand and tap the end of the

rotor (15) to drive the rotor through the rear plate (14) and bearing (13) assembly. Remove cylinder (18) noting its location to rear plate (14) and front plate (19) for reassembly. Remove 4 off rotor blades (16) from rotor (15). Grip the rotor (15) in a vice fitted with soft jaws and unscrew pinion gear (22) from the rotor. The rotor (15) may be pulled or tapped clear of rotor spacer (12), front end plate (19), bearing (20). Pins (17) and (38) may be pulled out of front end plate (19) if replacements are required. Bearing (13) may be tapped out of rear plate (14).

Reassembly

Clean and examine parts for wear and replace any parts only with those supplied by the manufacturer or authorised distributor. Ensure that the faces of end plates (14) and (19) that abut cylinder (18) are flat and free from burrs and surface marking. If necessary lap on a flat very fine grade of abrasive paper. Lightly coat all parts in suitable pneumatic tool lubricating oil, pack bearings and gears with a lithium or molybdenum based general purpose grease and assemble in the reverse order.

Note:- when reassembling the motor assembly ensure that the pins (17) in end plates (19) and (14) locate in the narrow groove in the outer diameter of cylinder (18). When assembling the complete motor and pinion assembly into the motor housing (45) ensure that the steel ball (38) located in the side of front end plate (19) locates in the slot in the front end of motor housing (45).



Ref No	Part No	Description
1	522201	Motor Housing
2	40337	Lever Pin
3	522203-21	Air Inlet
4	522204	Throttle Lever
5	522205	Valve Shaft
6	52206	Deflector
7	OR00705105-1	O-Ring
8	522208	Spring
9	73107	O-Ring
10	522210	Valve Screw
11	72834	O-Ring
12	52212	Rotor Spacer
13	O52213	Ball Bearing (2)
14	52214	Rear End Plate
15	52215	Rotor
16	52216	Vane (4)
17	30117	Spring Pin (2)
18	52218	Cylinder
19	52219	Front End Plate
20	O30120	Ball Bearing (2)
21	522221	Controller
22	52222	Pinion Gear
23	522223	Front Coupling
24	51224	Collet

Ref No	Part No	Description
25	52225	Collet Nut
26	522226	Front Cap
27	52227	Spanner (2)
28	56228	Head
29	522241-21	Fixed Shaft
30	52230	Bevel Gear
31	52231	Lock ring
32	52232	Key
33	52233	Spindle
34	522236	Bushing
35	52235	O-Ring
36	52236	O-Ring
37	56237	Oil Cap
38	52245	Steel Ball
39	522239	Safety Bar
40	522240	Throttle Valve
41	522238	Knob
42	522217	Spring Pin
43	522220	Spring Pin
44	522212	Spring
45	522252-18	Grip
46	30107	O-Ring
47	70117	Spring Pin

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 UT57 15 Die Grinder (R/A Head), Serial Number

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

EN ISO 12100:2010 & EN ISO 11148-9:2011 & EN ISO 28927-12 & EN ISO 15744:2008
following the provisions of **89/392/EEC as amended by 91/368/EEC & 93/44/EEC Directives**

Lane End

Arthur Paterson
Operation Director



Place and date of issue

Name and signature or equivalent marking of authorised person

Safety Rules When Using A Die Grinder

- 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) Always select suitable abrasive to use with this tool - see Operating Instructions.
- 3) Always shut off the air supply to the grinder and depress the lever to exhaust air from the feed hose before fitting, adjusting or removing the mounted point.
- 4) Always adopt a firm footing and/or position before using the grinder.
- 5) Use only correct spare parts.
- 6) Check hose and fittings regularly for wear. Do not carry the tool by its hose.
- 7) Do not remove and never tie down the safety lever.
- 8) Never exceed the maximum air pressure and check the free running speed frequently. Have air regulator fully open.
- 9) Use safety equipment as recommended.
- 10) Take care against entanglement of moving parts of the tool with clothing, ties, hair, cleaning rags, etc.
- 11) Use only compressed air at the recommended pressure.
- 12) Do not attempt to fit any other attachment than those recommended - see "Foreseen Use of Tool"
- 13) If the tool appears to malfunction remove from use immediately and arrange for service and repair.

Notes

Accessories

Distributor