

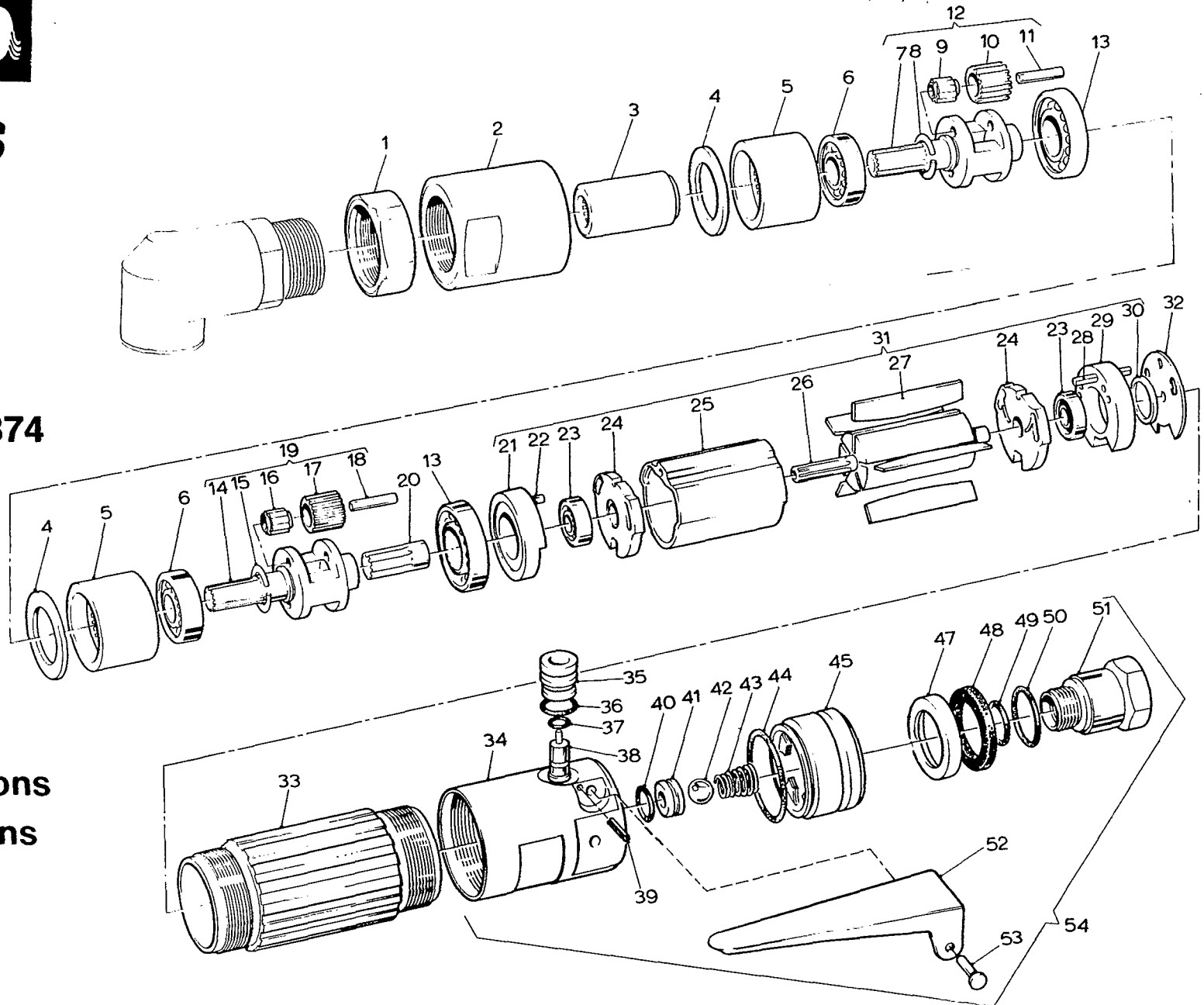
*Desoutter*



# D Series

Angle Wrench

Type Code  
D4142-L-700 1295374



Operating Instructions  
Servicing Instructions  
Parts List

**REQUIREMENTS****Air Supply**

A water free and filtered air supply is required, at a pressure of 6 bar (87 lbf/in<sup>2</sup>), with a flow of 9.3 l/s (20 cu.ft/ min.); controlled by a pressure regulator selected from the Desoutter Air Line Service Equipment Catalogue.

**Lubrication**

Correct lubrication is vital for the maximum performance of the tool and an airline lubricator should be fitted into the system down stream of the filter.

Desoutter recommend the use of an ISO Viscosity Classified Oil, grade number ISO VG 15, in the lubricator.

**OPERATING**

Supplied with each tool is an exhaust hose, this can be fitted if required to direct the exhaust air away from the tool.

If required the head can be orientated to suit the application. Slacken lock nut (1) reposition the head and tighten the lock nut.

**SERVICE REQUIREMENTS****General Notes**

Use the following lubricants:

Oil - ISO Viscosity Classified - ISO VG 15, for motors.

Grease - BP FG00 EP, for motor bearings.

Grease - Duckhams Type Q5618, for gears and other bearings.

Silicone Grease - Molykote 33, for 'O' rings.

The following tools will be required:

Clamp Block — Part No. 39373 (1 pair)

Spanner — 32mm

Spanner — 30mm

Spanner — 24mm

Spanner — 19mm

The following torque values MUST be used:

Item 1 to Item 2: 24 Nm (18 lbf.ft.)

Item 2 to Item 33: 30 Nm (22 lbf.ft.)

Item 33 to Item 34: Hand tighten, faces abutting

Item 51 to Item 34: 13.5 Nm (10 lbf.ft)

Item 101 to Item 110: 24 Nm (18 lbf.ft)

Item 115 to Item 110: 24 Nm (18 lbf.ft)

The following components have left hand threads: Lock Nut (1), End Cap (2), Clamp Nut (101), Angle Body (110) and Adaptor (115).

It is important that the end cap (2) is slackened first, NEVER attempt to unscrew the control top when the above component is fully tightened.

Bearings that have a retainer holding the balls in place must be assembled into the tool with the blank face of the retainer to the air flow; in the case of the motor the blank faces must face each other across the rotor.

Replace as necessary all 'O' rings, gaskets, bearings and rotor blades.

When locating the motor complete (25) in the control top complete (54) the pin projecting out of rear bearing housing complete (29) must enter the 'R' marked hole in the control top.

It is important that spacer (47) is located the correct way round: concave side to the rear of the tool.

**TO DISMANTLE**

Mount the motor case (33) between a pair of clamp blocks and clamp firmly in a vice. Slacken lock nut (1) and unscrew the angle head complete (116).

Unscrew the end cap (2) then the control top complete (54). Remove the motor case from the clamps and push the internal components out of the case.

The remainder of the dismantling follows normal engineering practice with reference to the illustration.

**TO ASSEMBLE**

Using the illustration as a guide, assemble the control top, the planet cage assembly and the angle head complete.

During assembly of the angle head check that shims (104) provide an axial and radial clearance of 0.013-0.038mm (0.0005-0.0015 in.) and that shim (112) is selected to obtain smooth rotation without any harshness.

The following instructions for the motor complete (31) must be followed:

Take the rotor (26) and place the rear bearing plate (24), with grooves to rotor, into position. Press bearing (23) onto the rotor so that there is a 0.038mm (0.0015 in.) gap between the rotor and the rear bearing plate. Holding the rotor and rear bearing plate assembly with the gear end of the rotor uppermost, slide the cylinder (25) over the rotor.

Locate the rotor blades (27) into their slots in the rotor and lubricate. Place the front bearing plate (24) into position, with grooves to rotor. Press the front bearing (23) onto the rotor until all the free axial movement between the front and rear bearings is removed. Place the front bearing housing (21) over its bearing making sure that the location pin and hole are aligned.

Locate the rear bearing housing (29) with cap (30) and check that the rotor is free to rotate.

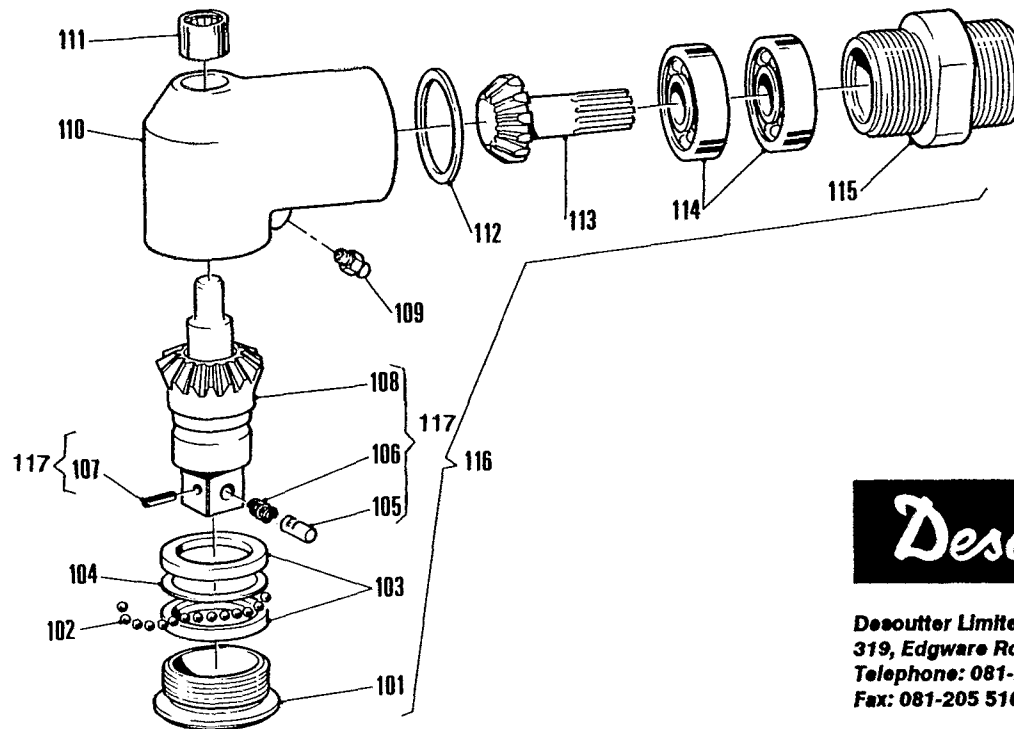
Stand control top on air inlet adaptor, place gasket (32) in position so that the required pin location hole is clear. Remove the rear bearing housing (29) from the motor complete (31) and locate in the control top, load the rest of the motor into position then slide the motor case (33) over the motor and screw fully into the control top.

Slide the planet cage assemblies into the motor case checking that as they engage with the motor they are free to rotate, fit and fully tighten the end cap (2).

Screw the lock nut (1) fully onto the angle head complete (116) then with the coupling (3) in position screw the angle head onto the tool and lock in the required orientation.

Item No.	Part No.	Description	Qty.	Item No.	Part No.	Description	Qty.	Item No.	Part No.	Description	Qty.
1	279223	Lock Nut	1	21	254893	Front Bearing Housing	1	#*40	500953	'O' Ring	1
2	279213	End Cap	1	22	256123	Spring Pin	1	41	252383	Valve Seat	1
3	28993	Coupling	1	*23	33433	Bearing	2	42	1693	Ball	1
4	37623	Washer	2	24	254873	Bearing Plate	2	43	252493	Spring	1
5	36713	Gear Ring	2	25	254853	Cylinder	1	*44	203423	'O' Ring	1
*6	2423	Bearing	2	26	98223	Rotor	1	45	252423	Silencer Housing	1
7	53913	Planet Cage	1	*27	36613	Rotor Blade	5	#46	Not Used		
*8	25573	Circlip	1	28	256113	Spring Pin	1	47	252483	Spacer	1
*9	502093	Needle Bearing	2	29	254883	Rear Bearing Housing (with item 28)	1	48	252453	Sintered Silencer	1
10	65383	Planet Wheel	2				1	*49	202313	'O' Ring	1
11	1453	Planet Pin	2	30	254903	End Cap	1	*50	268513	'O' Ring	1
12	163053	Planet Cage Complete	1	31	268603	Motor Complete	1	51	261503	Inlet Adaptor — ¼ in. BSP	1
*13	2413	Bearing	2	*32	253003	Gasket	1	—	261513	Inlet Adaptor — ¼ in. NPT	1
14	83123	Planet Cage	1	33	252593	Motor Case	1	#52	305983	Lever	1
*15	25573	Circlip	1	34	252333	Control Top	1	#53	153863	Lever Rivet	1
*16	502093	Needle Bearing	2	35	252533	Guide	1	54	261393	Control Top Complete — ¼ in. BSP	1
17	65383	Planet Wheel	2	*36	203713	'O' Ring	1	—	261403	Control Top Complete — ¼ in. NPT	1
18	1453	Planet Pin	2	*37	261213	'O' Ring	1				
19	78053	Planet Cage Complete	1	#38	306003	Valve Rod	1				
20	65373	Pinion	1	39	261223	Spring Pin	1				

Item No.	Part No.	Description	Qty.
101	28943	Clamp Nut	1
*102	72408	Ball	15
*103	28963	Front Bearing	2
*104	76130023	Shim — 0.002 in. (0.05mm)	As reqd
—	76130033	Shim — 0.003 in. (0.075mm)	As reqd
105	74503	Plunger	1
106	74513	Spring	1
107	74523	Retainer Pin	1
108	36913	Spindle	1
109	25873	Grease Nipple	1
110	28883	Angle Body	1
*111	28893	Needle Bearing	1
*112	76120023	Shim — 0.002 in. (0.05mm)	As reqd
—	76120033	Shim — 0.003 in. (0.075mm)	As reqd
—	76120053	Shim — 0.005 in. (0.12mm)	As reqd
—	76120103	Shim — 0.010 in. (0.25mm)	As reqd
113	85538	Splined Spindle	1
*114	2423	Bearing	2
115	279233	Adaptor	1
116	293333	Angle Head Complete	1
#117	161723	Bevel Spindle Sub-assembly	1



\* Indicates normal replacement items. It is recommended that adequate stocks are held for servicing requirements.

# Indicates updated parts.

Always quote tool number, serial number and spare part number when ordering spares.

**SUPPLIED ACCESSORIES**

—	222453	Exhaust Hose	1
—	235203	Clip—Exhaust Hose	1



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8.90

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