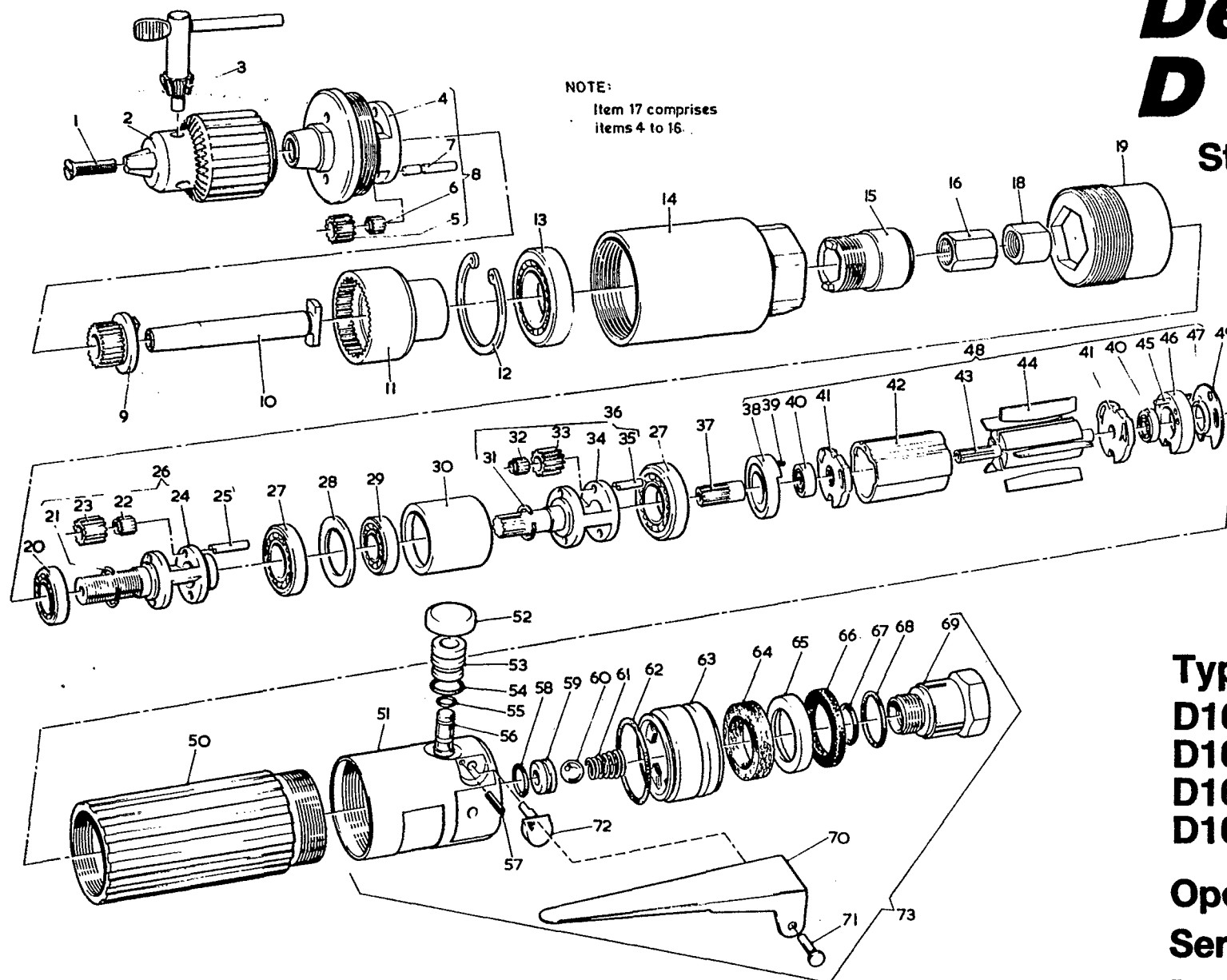


# Desoutter D Series

## Straight Case Tapper



Type	Code
D16-S-1000	1274544
D16-L-1000	1274624
D16-S-500	1274384
D16-L-500	1274464

Operating Instructions  
Servicing Instructions  
Parts List

## D16

## Operating / Servicing Instructions / Parts List

## D16

## Final Assembly

Stand control top on air inlet adaptor, place gasket (49) in position so that the required pin location hole is clear. Remove the rear bearing housing (46) from the motor complete (48) and locate in the control top, load the rest of the motor into position then slide the motor case (50) 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. Mount the motor case between a pair of clamp blocks, clamp firmly in a vice and fully tighten the gear and nose (19). Assemble the tapping head complete with its chuck onto the tool, check that the chuck can be rotated by hand and that it is free to engage both gear positions.

The tool can now be removed from the clamps, connected to the air supply and tested for correct operation.

Item No.	Part No.	Description	Qty.
1	12233	Screw	1
2	29492	Chuck and Key—6mm	As fitted
—	29042	Chuck and Key—8mm	As fitted
3	29182	Key for 6mm Chuck	As reqd
—	29232	Key for 8mm Chuck	As reqd
4	10743	End Cap	1
5	1443	Planet Wheel	2
*6	502093	Needle Bearing	2
7	10753	Planet Pin	2
8	10783	End Cap Complete	1
9	10713	Sun Pinion	1
10	77753	Chuck Spindle	1
11	10703	Internal Gear	1
*12	263403	Circlip	1
*13	1483	Bearing	1
14	274193	Case	1
15	263703	Drive Dog	1
16	263723	Drive Adaptor	1
17	274203	Tapping Head Complete	1
18	305953	Spindle Nut	1
19	268973	Gear and Nose	1
*20	178543	Bearing	1
*21	25573	Circlip—1000 rpm	1
—	37423	Circlip—500 rpm	1
*22	502093	Needle Bearing	2
23	65383	Planet Wheel—1000 rpm	2
—	36703	Planet Wheel—500 rpm	2
24	2813	Planet Cage—1000 rpm	1
—	60663	Planet Cage—500 rpm	1
*25	1453	Planet Pin	2
26	65393	Planet Cage Complete—1000 rpm	1
—	60733	Planet Cage Complete—500 rpm	1
*27	2413	Bearing	2
28	37623	Washer	1
*29	2423	Bearing	1
30	36713	Gear Ring	1
*31	25573	Circlip—1000 rpm	1
—	37423	Circlip—500 rpm	1
*32	502093	Needle Bearing	2

Item No.	Part No.	Description	Qty.
33	65383	Planet Wheel—1000 rpm	2
—	36703	Planet Wheel—500 rpm	2
34	83123	Planet Cage—1000 rpm	1
—	42273	Planet Cage—500 rpm	1
*35	1453	Planet Pin	2
36	78053	Planet Cage Complete—1000 rpm	1
—	42283	Planet Cage Complete—500 rpm	1
37	65373	Pinion—1000 rpm	1
38	254893	Front Bearing Housing	1
39	256123	Spring Pin	1
*40	33433	Bearing	2
41	254873	Bearing Plate	2
42	254853	Cylinder	1
43	98223	Rotor—1000 rpm	1
—	37163	Rotor—500 rpm	1
*44	36613	Rotor Blade	5
45	256113	Spring Pin	1
46	254883	Rear Bearing Housing— with item 45	1
47	254903	End Cap	1
48	268603	Motor Complete—1000 rpm	1
—	268583	Motor Complete—500 rpm	1
*49	253003	Gasket	1
50	252973	Motor Case	1
51	252333	Control Top	1
52	157663	Button—'S' tools only	1
53	252533	Guide	1
54	203713	'O' Ring	1
55	261213	'O' Ring	1
56	252503	Valve Rod	1
57	261223	Spring Pin	1
*58	500953	'O' Ring	1
59	252383	Valve Seat	1
60	1693	Ball	1
61	252493	Spring	1
*62	203423	'O' Ring	1
63	252423	Silencer Housing	1
64	252933	Felt Silencer	1
65	252483	Spacer	1
66	252453	Sintered Silencer	1
*67	202313	'O' Ring	1
*68	268513	'O' Ring	1
69	261503	Inlet Adaptor—¼ in. BSP	1
—	261513	Inlet Adaptor—¼ in. NPT	1
70	252573	Lever—'L' tools only	1
71	41633	Lever Pin—'L' tools only	1
72	252983	Insert—'S' tools only	2
73	261333	Control Top Complete ¼ in. BSP—'S' tools	1
—	261343	Control Top Complete ¼ in. NPT—'S' tools	1
—	261393	Control Top Complete ¼ in. BSP—'L' tools	1
—	261403	Control Top Complete ¼ in. NPT—'L' tools	1
Supplied Accessories			
—	222453	Exhaust Hose	1
—	235203	Clip—Exhaust Hose	1

Item No. Part No. Description Qty

## Option Accessories

— 16852 Quick Release Chuck Complete 1

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

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



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## D16

## Operating / Servicing Instructions

## D16

## 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 9.4 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

The tapping operation is controlled by a push-pull action. To tap a hole, push with sufficient pressure to engage forward then depress the lever/button. At tapping depth pull on the tool to engage reverse drive, the tool will withdraw from the workpiece at twice the forward speed.

## Warning:

- (1) Always allow the tool to stop before removing work or resting tool.
- (2) Ensure that no loose articles of clothing or cleaning material can be caught by the rotating parts of the tool.
- (3) Always disconnect tool from the power supply before attempting any replacement, adjustment, servicing or dismantling.
- (4) Ensure that work piece is securely clamped before commencement of operation — clear all loose items from vicinity.

## SERVICE REQUIREMENTS

## General Notes

Use the following lubricants:

Oil — ISO Viscosity Classified — ISO VG 15, for motors.  
Grease — Duckhams Laminoid 'O' 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).  
Wedges part no. 75938 — removing item 2.  
Hexagon Key part no. 277343 — for item 19.  
Service tool part no. 14963 } Separating item 11  
Spanner part no. 179003 } from item 15  
Spanner 36mm  
Spanner 33mm  
Spanner 32mm  
Spanner 19mm  
Spanner 14mm

The following torque values MUST be used:

Item 1 to Item 10: 5.5Nm (4 lbf.ft)  
Item 4 to Item 14: 30Nm (22 lbf.ft)  
Item 11 to Item 15: 24Nm (18 lbf.ft)  
Item 14 to Item 19: 30Nm (22 lbf.ft)  
Item 16 & 18 to Item 24: 22Nm (16 lbf.ft)  
Item 19 to Item 50: 30Nm (22 lbf.ft)  
Item 50 to Item 51: Hand tighten — faces abutting  
Item 69 to Item 51: 13.5Nm (10 lbf.ft)

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

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.

The following components have Left Hand Threads: item 4, item 14, item 19, item 50 and item 51.

It is important that the gear and nose (19) is slackened first, NEVER attempt to unscrew the control top when the above component is fully tightened.

When locating the motor complete (48) in the control top complete (73) the pin projecting out of rear bearing housing complete (46) must enter the 'R' marked hole in the control top.

It is important that spacer (65) is located the correct way round: concave side to the rear of the tool.

## TO DISMANTLE

Fully open the chuck jaws and release screw (1), remove the chuck (2) using wedges to break the taper lock.

Separate the tapping head complete (17) from the main tool and put on one side for later dismantling.

Mount the motor case (50) between a pair of clamp blocks and clamp firmly in a vice. Using the hexagon key unscrew the gear and nose (19). Remove from the clamp blocks, unscrew the control top complete (73) and push the internal components out of the motor case.

Clamp the tapping head complete (17) by its flats in a vice and unscrew the end cap complete (8) withdraw with the sun pinion (9) and chuck spindle (10).

Engage service tool 14963 with internal gear (11) and the drive dog (15), use spanner 179003 to unscrew the internal gear whilst restraining the drive dog.

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

## TO ASSEMBLE

## Sub-Assemblies

Using the illustration as a guide assemble the control top, the planet cages and the tapping head. Use special tools where necessary to assist in assembly.

The following instructions for the motor complete (48) must be followed.

Take the rotor (43) and place the rear bearing plate (41), with grooves to rotor, into position. Press bearing (40) 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 (42) over the rotor.

Locate the rotor blades (44) into their slots in the rotor and lubricate. Plate the front bearing plate (41) into position, with grooves to rotor.

NOTE: If a new bearing (40) is to be fitted into the front bearing housing (38) make sure that the bearing is 0.25mm (0.010 in.) below the housing face out of which pin (39) protrudes.

Press the front bearing housing with its bearing onto the rotor making sure that all location holes are aligned so that the pins can pass through on assembly.

NOTE: This assembly should be pressed on using the inner race of front bearing (40) and taking the reaction on the end face of the rotor rear bearing spigot. The assembly should be pressed on until all the free axial movement between the front and rear bearings is removed.

Locate the rear bearing housing (46) with cap (47) and check that the rotor is free to rotate.