

DOTCO®

45-8186

12R04.. Series 60,000 rpm ERGO Pencil Grinders



0 = Short Collet Guard
 1 = Long Collet Guard

12R0400
12R0410

1 8

Typical Model

(Select One)

OVERHOSE OPTION
TERMINATION 1 = 1 Foot Overhose
TERMINATION 2 = 2 Foot Overhose
TERMINATION 4 = 4 Foot Overhose

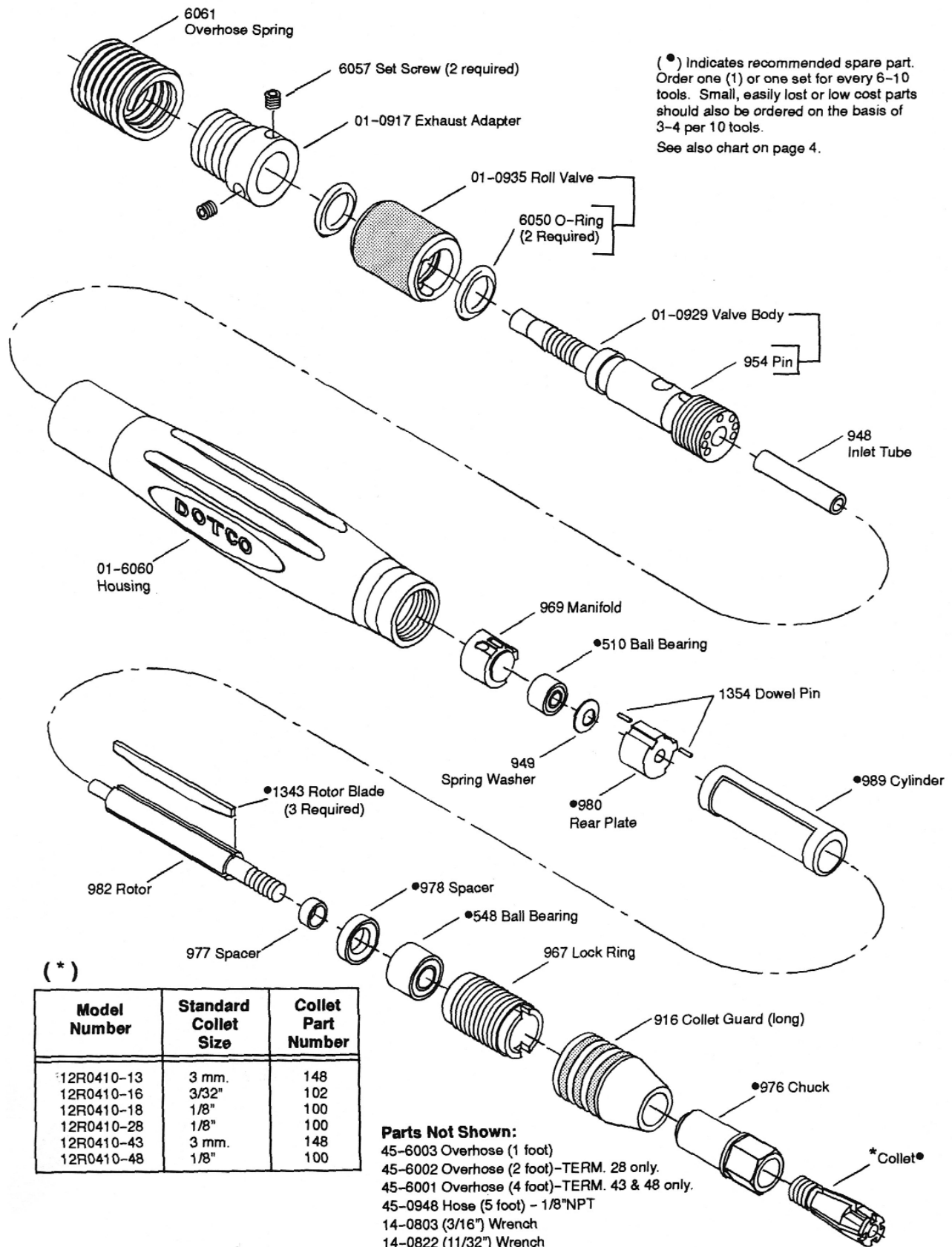
(Select One)

COLLET OPTION
TERMINATION 3 = 3 Millimeter
TERMINATION 6 = 3/32"
TERMINATION 8 = 1/8"

IMPORTANT: Read and comply with safety and operating instructions contained in this manual.

For additional product information visit our website at <http://www.coopertools.com>

DOTCO 12R04 Pencil Grinders



Service Instructions

DISASSEMBLY INSTRUCTIONS

To Remove and Disassemble Motor:

- 1.) Hold tool by placing Housing, part #01-6060, in a special Clamp, part #45-0941. Place clamp in vise with collet end up. Thread off front Lock Ring, part #967, using Spanner Wrench, part #45-0283, and remove tool from vise. Unscrew rear valve assembly by turning knurled Roll Valve, part #01-0935. Parts should unthread by hand. **CAUTION:** Do not Lose Inlet Tube, part #948.
- 2.) Push motor assembly forward out of the housing with a wood dowel. Lightly clamp motor assembly in vise with rear bearing plate, part #980, up.
- 3.) Using a small hammer and punch, top Rotor, part #982, from Rear Bearing, part #949. Remove Cylinder, Part #989, and three Rotor Blades, part #1343. Remove Rear Bearing, part #949, from rear plate. **NOTE:** Do not lose spring washer.
- 4.) Hold Rotor, part #982, in soft vise jaws and unthread Chuck Body, part #976. Remove Front Ball Bearing, part #548, and Bearing Spacer part # 978, from the front of the rotor. **NOTE:** Do not lose Spacer, part #977.

To Disassemble Throttle Valve:

- 5.) remove throttle valve assembly from housing as described above. Remove overhose and unthread air line hose. Loosen Set Screws, part #6057, From Exhaust Adapter, part #01-0917. **NOTE:** Do not lose set screws. Remove adapter from Valve Body, part #01-0929. Remove Slide Valve, part #01-0935. Remove two O-Rings, part #6050 from bore of roll valve. If Pin, part #954, in valve body is broken, insert a hardened punch in hole in back of pin and remove.

ASSEMBLY INSTRUCTIONS

To Reassemble Throttle Valve:

- 1.) Clean all parts thoroughly. Insert two O-Rings, part #6050, in Roll Valve, part #01-0935. Apply grease or O-Lube to o-rings. Assemble roll valve into Valve Body, part #01-0929. Be sure that locating slot in end of roll valve is toward the front and engages with Locating Pin, part #954.
- 2.) Slip Exhaust Adapter, part #01-0917, over Valve Body, part #01-0929. Use one drop or partial drop of Loctite® adhesive, grade

#242, or equivalent, on threads of Set Screws, part #6057, and tighten into groove in valve body. Allow 20minute for sealant to cure. Roll valve should rotate smoothly in approximately a 1/3 turn.

To Reassemble and Replace Motor:

- 3.) Thoroughly clean all parts except ball bearings. Assemble Spacer, part #977, and Bearing Spacer, part #978, onto threaded end of Rotor, part #982. Clamp rotor in soft vise jaws, threaded end up. Place Ball Bearing, part #548, on front of of rotor and push into place by threading on Chuck Body, part #976.
- 4.) Remove rotor from vise and insert three Rotor Blades, part #1343, into slots in rotor.
- 5.) Place Cylinder, part #989 over rotor with locating pin hole toward rear end. Assemble Rear Plate, Part #980, onto rear of rotor. Place Spring Washer, part #949 in cavity of rear plate. **NOTE:** Spring Washer is shaped like a small saucer; place in rear plate cup side up, so that outer rim will contact outer race of Ball Bearing, part #510.
- 6.) Place assembly on a flat plate in which a .375" diameter hole has been drilled. Insert Chuck Body, part #976, through hole so that outer race of Front Ball Bearing, part #548, rests against the plate.
- 7.) Press Rear Bearing, part #510, onto rotor and into rear plate. press on both inner and outer bearing races with a pin, .310/.305" in diameter, and flat on one end. press until Bearing, part #510 seats firmly against spring washer.
- 8.) Push motor assembly into rear end of Housing, part #01-6060, pushing against rear end of rotor with a wooden dowel. Insert Inlet Tube, part #948, into threaded end of Valve Body, part #01-0929. Thread valve body into housing, leaving approximately .010" gap between Roll Valve, part #01-0935, and housing.
- 9.) Hold tool by placing housing in special DOTCO Clamp, part #45-0941. Place clamp in vise with collet end up. Thread Lock Ring, Part #967, into housing, using Spanner, part #45-0283, until firmly locked against motor assembly. Spindle must turn finger free.

COLLETS

Never tighten any collet into the chuck without the arbor of a mounted point or carbide bur installed through the collet.

RECOMMENDED SPARE PARTS LIST

These parts are suggested as a recommended inventory of spare parts. Where parts are small, low cost, or easily lost, then we recommend stocking 3 to 4 for every 10 tools. Other larger, lower wear, or more expensive parts should be maintained as one, or one set, for every 6 to 10 tools.

Part #	Description	Qty. Per Tool	Recommended Spare Parts	
			Per Tool	Per 10 Tools
510	Ball Bearing	1	1	2
548	Ball Bearing	1	1	2
976	Chuck	1	-	2
978	Spacer	1	-	2
980	Rear Plate	1	-	2
989	Cylinder	1	-	2
1343	Rotor Blade	3	3	15
Var.	Collet	1	-	2

DOTCO 12RO4 Pencil Grinders

Safety First!

ALWAYS COMPLY WITH:

1. General industry Safety & Health Regulations, Part 1910, OSHA 2206, available from: Sup't of Documents; Government Printing Office; Washington, DC 20402.
2. Safety Code of Portable Air Tools, ANSI B186.1 available from: American National Standards Institute, Inc.; 1430 Broadway; New York, NY 10018.
3. State and Local regulations.

Portions of the above codes and regulations are listed below for quick reference.

THE FOLLOWING EXCERPTS ARE NOT INTENDED TO BE ALL INCLUSIVE: STUDY AND COMPLY WITH ALL REGULATIONS!

1. **TOOL INTENT:** Tools shall be used only for purposes intended in their design (refer to product catalog).
2. **AIR SUPPLY:** Test and operate tools at 90 PSIG maximum unless tool is marked otherwise. Use recommended airline filters-regulators-lubricators.
3. **UNUSUAL SOUND or VIBRATION:** If tool vibrates or produces an unusual sound, repair immediately for correction.
4. **OPERATOR PROTECTIVE EQUIPMENT:** Wear goggles or face shield at all times tool is in operation. Other protective clothing shall be worn, if necessary. SEE REGULATIONS.
5. **SAFETY MAINTENANCE PROGRAM:** Employ a safety program to provide inspection and maintenance of all phases of tool operation and air supply equipment in accordance with "Safety Code for Portable Air Tools."



CAUTION: Disconnect the air supply hose before servicing the tool.

INSTALLATION:

For best performance, a working air pressure of **90 pounds per square inch** is recommended. Pippings, fittings, and hose should be adequate to maintain **90 psig** while the tool in in operation. An air line filter and lubricator, such as CooperTools' #F02-M Filter (1/4" NPT) and #L02-EP Lubricator (1/4" NPT) should be used (refer to product catalog). Hose should be blown out before attaching to tool.

LUBRICATION:

The gears in angle head style tools must be lubricated every 8 hours of operation with high quality gear grease. CooperTools' grease #45-0980 is recommended. A Grease Gun, #45-1982, is furnished with each geared tool. Insert the nozzle into the flush type lube fitting, located on the side or top of the angle head, and pump four or five times. The motor must be lubricated and moisture free. Use a high grade SAE #5 spindle oil, such as CooperTools' Lubricating oil #45-0918 (one quart). Two or three drops per minute should be sufficient lubrication. **NOTE: Turbine motor type tools (10-90 & 10-95) must NOT be oiled.**

LOSS OF POWER:

It is seldom necessary to disassemble this tool for loss of power. A loss of power may not be related to the tool. First, check the air line regulator. Also, check the air line pressure; it should be 90 psig at or near the tool while the tool is running. Check the size of hose and fittings to be certain they are not causing air restrictions. Make certain they are not plugged with dirt, rust, or scale.

SERVICE INSTRUCTIONS:

The parts of this tool are small and require careful handling. We recommend the tool be returned to the factory for repair. However, if the tool is to be repaired in the field, carefully follow instructions. Do not squeeze the tool or parts in a vise except as specified. Care must be used during assembly and disassembly. When pressing bearings onto a shaft, press only on the inner race. When pressing bearings into a bore, press on the outer race only. **NOTE: Ball bearings are the shielded type. They are lubricated for life by the bearing manufacturer and should not be washed out with solvents to clean.**



WARNING!

CHECK SPEED OF TOOL WITHOUT WHEEL BEFORE IT IS RELEASED FOR USE.

The **SPEED TOLERANCE** is rated speed minus 10%. The tool must **NOT** have a free speed higher than the RPM stamped on the housing. Use an accurate tachometer to check the tool speed, with 90 psig air pressure at the tool with the tool running.