



Form 16572562
Edition 1
September 2005

Air Drill

30 R44 and R44SE

Maintenance Information



Save These Instructions



⚠ WARNING

Always wear eye protection when operating or performing maintenance on this tool.

Always turn off air supply and disconnect air supply hose before installing, removing or adjusting any accessory on this tool, or before performing any maintenance on this tool.

LUBRICATION

Each time the Models 30, R44, and R44SE are disassembled for maintenance, repair or replacement of parts, lubricate the tool as follows:

1. Inject 2 or 3 strokes (1 – 2 cc) of Ingersoll–Rand No. 28 Grease from No. P225–228 Grease Gun into each Grease Fitting (8 or 22).
2. Fill the oil reservoir with Ingersoll–Rand No. 10 Oil, daily.

DISASSEMBLY

General Instructions

1. Do not disassemble the tool any further than necessary to replace or repair damaged parts.
2. Whenever grasping a tool or part in a vise, always use leather–covered or copper–covered vise jaws to protect the surface of the part and help prevent distortion. This is particularly true of threaded members and housings.
3. Do not remove any part which is a press fit in or on a subassembly unless the removal of that part is necessary for repairs or replacement.
4. Do not disassemble the tool unless you have a complete set of new gaskets and O–rings for replacement.

Maintenance Procedures

NOTICE

Install the Rotor Bearings, shielded side first, on the Rotor.

The Governor Assembly has left–hand threads, turn clockwise to remove.

The Spindle Packing Nuts (77 and 87) have left–hand threads, turn clockwise to remove.

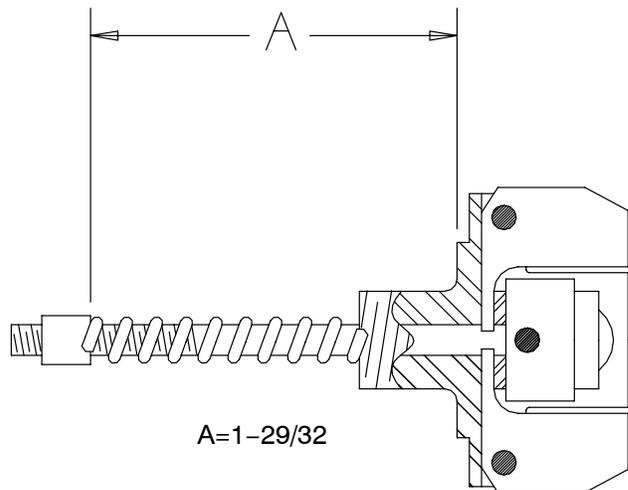
When assembling the Multi–Vane motor, be sure to properly install the Cylinder (32 or 36) For **nonreversible** tools, it must be possible to align the air ports and dowel

hole in the Cylinder with those in the End Plate installed on the rotor hub. For **reversible** tools, note that there is a 3/4" hole in each longitudinal flat on the Cylinder. Install the Cylinder so that these holes are closer to the governor end of the motor.

After assembling the gearing in the Gear Case, check the clearance between the Bevel Pinion (47 or 45) and the Bevel Gear (53 or 49) by rotating the Pinion. Add or remove Bevel Gear Bearing Shims (57 or 54) as required to produce only a slight backlash.

GOVERNOR ADJUSTMENT

When installing a new Governor Assembly, screw the Adjusting Nut onto the Stem to **dimension "A"** shown in Dwg. TPD497. This will usually result in the proper governed free speed of the Spindle. However, this is only an approximate setting and, after checking with a tachometer, further adjustment may be necessary. Screw the nut farther onto the Stem to increase the speed; back it off to decrease the speed.



(Dwg. TPD497)

The correct governed free speed for the various Models at the Spindle is:

Model	Speed, rpm
30	185
R44	165
R44SE	95

TROUBLESHOOTING GUIDE

Trouble	Probable Cause	Solution
Low power or low free speed	Dirty Inlet Bushing or Air Strainer Screen and/or Exhaust Silencer	Using a clean, suitable, cleaning solution in a well-ventilated area, clean the Air Strainer Screen, Inlet Bushing and Exhaust Silencer. Allow to air dry.
	Worn or broken Vanes	Replace complete set of Vanes.
	Worn or broken Cylinder and/or scored End Plates.	Examine Cylinder and replace it if it is worn or broken or if bore is scored or wavy. Replace End Plates if they are scored.
	Dirty motor parts.	Disassemble the tool and clean all parts with a clean, suitable, cleaning solution, in a well-ventilated area. Reassemble the tool.
	Improper positioning of Reverse Valve.	Make certain Reverse Valve is fully engaged to left or right.
Motor will not run	Incorrect assembly of motor.	Disassemble motor, replace worn or broken parts and reassemble as instructed.
Rough operation	Worn or broken Rear Rotor Bearing Assembly or Front Rotor Bearing	Examine each bearing. Replace if worn or damaged.
	Worn or broken Bevel Gear or Bevel Pinion	Examine the Bevel Gear and Bevel Pinion. If either is worn or damaged, replace both the Gear and the Pinion because they are a matched set and must not be used separately.
Air leaks	Worn Valve Face or Valve Face Cap	Replace worn parts.
	Oil Chamber Plug worn or not tight	Tighten the Plug. If the problem persists, replace the Plug.
Gear Case gets hot	Insufficient grease	Clean and inspect the Gear Case gearing parts and lubricate as instructed in LUBRICATION .
	Worn or damaged parts	Clean and inspect the Gear Case and gearing. Replace worn or broken components.

NOTICE

SAVE THESE INSTRUCTIONS. DO NOT DESTROY.



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