80234313
Edition 2
May 2014

Air Grinder, Die Grinder, Sander and Belt Sander

Series G1 (Angle)

Maintenance Information

Save These Instructions

Ingersoll Rand

Product Safety Information

WARNING

- **Failure to observe the following warnings, and to avoid these potentially hazardous situations, could result in death or serious injury.**
- **Read and understand this and all other supplied manuals before installing, operating, repairing, maintaining, changing accessories on, or working near this product.**
- **Always wear eye protection when operating or performing maintenance on this tool. The grade of protection required should be assessed for each use and may include impact-resistant glasses with side shields, goggles, or a full face shield over those glasses.**
- **Always turn off the air supply, bleed the air pressure and disconnect the air supply hose when not in use, before installing, removing or adjusting any accessory on this tool, or before performing any maintenance on this tool or any accessory.**
- **Do not use this tool if the actual free speed exceeds the rated rpm. Check the free speed of this tool before mounting any accessories, after all tool repairs, before each job and after every 8 hours of use. Check speed with a calibrated tachometer, without the abrasive product installed.**

Note: *When reading the instructions, refer to exploded diagrams in parts Information Manuals when applicable (see under Related Documentation for form numbers).*

Lubrication

Whenever one of these Grinder, Die Grinder, Sander or Belt Sander is disassembled for overhaul or replacement of parts, lubricate the tool as follows::

1. Always wipe the Vanes (30) with a light film of oil before inserting them into the vane slots.
2. Inject 0.5 to 1.0 cm3 of Ingersoll Rand No. 10 Oil into the air Inlet Assembly (1) after assembly.
3. Whenever a new Wick (45) is installed, soak the Wick in approximately 1-1/2 cm3 of Ingersoll Rand No. 63 Oil. Do not substitute any other oil.
4. Whenever the motor is disassembled, remove the old grease and refill the cavity behind the Rear Rotor Bearing (28) with 3/4 cm3 of Ingersoll Rand No. 68 Grease.

Disassembly

General Instructions

1. Do not disassemble the tool any further than necessary to replace or repair damaged parts.
2. When grasping a tool or part in a vise, always use soft-sided vise jaws to protect the surface of the part or tool and help prevent distortion. This is particularly true of threaded members and housings.
3. When grasping a tool in a vise, first place the tool housing in the provided Clamp Tool (38), then grasp outer surface of Clamp Tool in the vise to protect the housing from damage.
4. 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.
5. Do not disassemble the tool unless you have a complete set of new gaskets and O-Rings for replacement.
6. Do not press any needle bearing from a part unless you have a new needle bearing on hand for installation. Needle bearings are always damaged during the removal process.
7. Press the Idler Wheel Shaft (84) out of the Yoke and Idler Wheel (82).
8. The Idler Wheel contains an Idler Wheel Bearing (83) at each end. Simultaneously press both Bearings out of the Wheel.

Disassembly of the Sanding Arm (Belt Sander Models)

1. For 18" models, slide the Cover (69) rearward toward the handle of the Sander until it is free. It may require a light rap on the front edge of the Cover to disengage it from its locking points.
2. Using the Guard Clamp Screw Wrench (85), loosen the Guard Clamp Screw (71) and remove the Guard (70) and assembled sanding arm from the Angle Housing (40).
3. Using a screwdriver, remove the two Clevis Mounting Screws (74) and separate the Clevis (73) from the Guard.
4. For 12" x 1/2" and 18" x 1/2" models, use a screwdriver, to remove the two Belt Plate Retaining Screws (77), two Belt Plate Spacers (78) and the Belt Plate (76).
5. If the Belt Pad (75) must be replaced, peel the Pad from the side of the Clevis or Yoke (79) and scrape the surfaces clean.
6. To separate the Yoke from the Clevis, press the Yoke Retaining Pin (81) out of the Yoke and Clevis with an arbor press.

WARNING

Be careful not to allow the compression of the Yoke Spring (80) to expel the Yoke or Clevis in an unsafe manner when the pressing plug is withdrawn from the Yoke.

Disassembly of all Angle Heads

1. **For all Collet models**, grasp the tool, mounted in the Clamp Tool (38), in soft-sided vise jaws with the Collet (50) upward. Using the Collet Body Wrench (61) on the flats of the Collet Arbor (49) and the second Collet Body Wrench on the Collet Nut (51), unscrew the Collet Nut and remove the Collet.
2. **For All Wheel models** grasp the tool, mounted in the Clamp Tool (38), in soft-sided vise jaws with the Flange Nut (60) upward.
3. **For models ending in P63** insert the Arbor Wrench (64) into the end of the Arbor to keep it from turning and using the Flange Nut Wrench (65), unscrew and remove the Flange Nut.
4. **For models ending in H63**, use the Arbor Wrench (61) on the flats of the Arbor to keep it from turning and using a 1/2" wrench, unscrew and remove the Flange Nut.
5. Remove the wheel, Wheel Flange (59) and Flange Spacer (58) from the Arbor.
6. Using a 9/64" hex wrench, loosen Guard Adapter Screw (53) and remove the Guard Adapter Assembly (52) from
7. Using a 1/8" hex wrench, unscrew and remove the three Guard Mounting Screws (57), Guard Lock Washers (56) and Wheel Guard (54).
8. **For all Belt Sander Models**, grasp the tool, mounted in the Clamp Tool (38), in soft-sided vise jaws with the Arbor (66) upward. Using the Arbor Wrench (61) on the flats of the arbor to keep it from turning, unscrew the Drive Sleeve (68) and remove the Spindle Cap (67).
9. **For all Sander models**, grasp the tool, mounted in the Clamp Tool (38), in soft-sided vise jaws with the Arbor (49) facing upward

For All models - Continue Here

10. Using the Arbor Bearing Cap Wrench (62), unscrew and remove the Arbor Bearing Cap (48). This is a **left-hand thread**. Rotate the Cap Wrench **clockwise** to remove the Cap.
11. Using the Clamp Nut Wrench (63), loosen the Clamp Nut (42) and pull the Angle Housing Assembly away from the Motor Housing (12). This is a **left-hand thread**. Rotate the Nut Wrench **clockwise** to loosen the Nut.

12. Grasp the Arbor and pull the assembled Arbor out of the Angle Head. If the Wick (45) needs replacement, pull it out of the Angle Housing.
13. If the Upper Arbor Bearing (44) needs replacement, support the Angle Head on the table of an arbor press, bearing end down, and press the Bearing out of the Angle Head.
14. Grasp the Arbor in soft sided vise jaws with the output end downward. Using an adjustable wrench, unscrew and remove the Bevel Gear Nut (46) and lift the Bevel Gear (39) off the Arbor.
15. If the Lower Arbor Bearing (47) must be replaced, use a piece of tubing to support the Bearing on the table of an arbor press and press the Arbor from the Bearing.

⚠ WARNING

When removing the Clamp Nut in the following procedure, take all precautions necessary to prevent the Spacer from being forcefully ejected in a manner or direction that is hazardous.

16. If the Clamp Nut must be removed from the Angle Housing, insert the blades of two screwdrivers, approximately 180 degrees apart, under the Clamp Spacer (41) and pry the Spacer off the Housing.

Disassembly of the Motor

1. Remove the Flange clamp (37) and front Housing Cap (36) from the front of the Motor Housing Assembly (12). Remove the Front Muffler (35) if it remains in the Housing.
2. Grasp the Bevel Pinion (39) and pull the assembled motor out of the Motor Housing. Remove the two Rear Rotor Bearing Spacers (27) from the bottom of the Cylinder (18).
3. Remove the Vanes (30) from the Rotor (29).
4. Grasp the Rotor in smooth sided vise jaws with the Bevel Pinion upward. Using a 9/16" wrench on the Pinion, unscrew and remove the Pinion.
5. If the Front Rotor Bearing (34) must be replaced, support the Front End Plate (31) between two blocks on the table of an arbor press. Place the blocks as close to the body of the Rotor as possible and press the Rotor from the Bearing and End Plate. Remove the Front End Plate Spacer (32) from the hub of the Rotor.
6. If the Rear Rotor Bearing (28) must be replaced, use snap ring pliers to remove the Rear Rotor Bearing Retainer (26).
7. Using a bearing puller, pull the Rear Rotor Bearing off the hub of the Rotor.

Assembly

General Instructions

1. Always press on the inner ring of a ball-type bearing when installing the bearing on a shaft.
2. Always press on the outer ring of a ball-type bearing when pressing the bearing into a bearing recess.
3. Whenever grasping a tool or part in a vise, always use soft-sided vise jaws. Take extra care not to damage threads or distort housings.
4. When grasping a tool in a vise, first place the tool housing in the provided Clamp Tool (38), then grasp outer surface of Clamp Tool in the vise to protect the housing from damage.
5. Except for bearings, always clean every part and wipe every part with a thin film of oil before installation.
6. Check every bearing for roughness. If an open bearing must be cleaned, wash it thoroughly in clean solvent and dry with a clean cloth. Sealed or shielded bearings should not be cleaned. Work grease into every open bearing before installation.
7. Apply a film of O-Ring lubricant to every O-Ring before installation.
8. Unless otherwise noted, always press on the stamped end of a needle bearing when installing a needle bearing into a recess

Assembly of Motor Housing and Cylinder

1. If the Throttle Bushing was removed, Properly secure the Cylinder (18) and press the Throttle Bushing into the hole on the side of the Cylinder closest to threaded opening.

Disassembly of the Inlet and Throttle

1. Using a 3/4" wrench or six point socket, unscrew and remove the Inlet Assembly (1).
2. Remove the Inlet Seal (2) and Inlet Screen from the Inlet
3. Remove the Ball (4) and Ball Valve Spring (3) from the Cylinder Assembly (18).
4. Press the Throttle Lever Pin (7) from the Rear Exhaust Diffuser (5) and remove the Lever Assembly (9).
5. Remove the Rear Exhaust Diffuser from the Housing. Remove Rear Exhaust Diffuser Gasket (8), Rear Exhaust Diffuser Muffler (10) and Lever Support (6) from the Diffuser.
6. If the Ball Valve Seat must be replaced, insert a hooked tool through the central opening of the Seat and, catching the underside of the Seat, pull it from the Housing.
7. Remove Rear Housing Muffler (11) from the Housing.
8. Push Throttle Pin Assembly (21) out of Housing and remove from opening in Cylinder.
9. Remove Throttle Pin O-Ring (22) from Throttle Pin.

Disassembly of Motor Housing and Cylinder

1. Thread Inlet Bushing into Cylinder and place Cylinder, Inlet end down, on flat hard surface. Grasp Housing and pull down to separate it from the Cylinder. Remove Inlet from Cylinder and pull Cylinder out of Housing.
2. Remove Flow Guide Assembly (23) and Intake Cover Assembly (24) from Exhaust Seal (16).
3. Remove Cylinder Plug Assembly (19) and O-ring (20) from Cylinder Plug.
4. Remove Intake Cover O-Ring (25) from Intake Cover.
5. Remove Rear Cylinder O-Ring (15) and then the Exhaust Seal from the Cylinder.
6. Remove Front Cylinder O-Ring (17) from the Cylinder.
7. If the Throttle Bushing needs to be replaced, insert a small hooked tool into the hole in the bushing and catch the underside. Pull Bushing from Cylinder.
9. Place large end of Cylinder on flat hard surface and slide Housing (12) over Cylinder assembly. Be sure that hole in top of Housing lines up with hole in Throttle Bushing. Press down on Housing until these holes are aligned. when looking down length of Rotor, with threaded end away.

2. Apply O-Ring lubricant to the Front Cylinder O-Ring (17) and install onto the small end of Cylinder. Slide O-Ring past all inlet and exhaust slots, into Front O-Ring groove.
3. Install Exhaust Seal (16) onto small end of Cylinder and move it all the way down over O-Ring. Line up and seat protrusion on Exhaust Seal with slot in Cylinder for proper orientation.
4. Install the Rear Cylinder O-Ring (15) onto small end of Cylinder. Slide O-Ring into rear O-Ring groove in Cylinder.
5. Install the Cylinder Plug O-Ring (20) on the Cylinder Plug (19) and press the plug into the hole in the Cylinder near the Throttle Bushing.
6. Install Intake Cover O-Ring (25) in groove on Intake Cover (24).
7. Assemble Flow Guide onto Cylinder. For rear exhaust insert the rubber plug on the Flow Guide into the hole in the Exhaust Seal. For front exhaust, insert the Flow Guide tab into the Exhaust Seal hole. There is a protrusion on the Exhaust Seal that inserts into the groove in the top of the Flow Guide. Be sure this protrusion is inserted in this groove.
8. Assemble Intake Cover onto Cylinder. There is a tab on the front of the Intake Cover that inserts into the Exhaust Seal and a tab that inserts into a hole in the Cylinder for proper alignment.
9. 9. Place large end of Cylinder on flat hard surface and slide Housing (12) over Cylinder assembly. Be sure that hole in top of Housing lines up with hole in Throttle Bushing. Press down on Housing until these holes are aligned.

Assembly of the Throttle and Inlet

1. If the Ball Valve Seat was removed, use a 5/8" wooden dowel with a flat end to push the Seat into the Cylinder.
2. Assemble Throttle Pin O-Ring (20) onto Throttle Pin (21).
3. Using needle nose pliers, grasp Throttle Pin above O-Ring and insert into threaded end of Cylinder. Align Pin with holes in Cylinder and Housing and insert. Release Throttle Pin and push it the rest of the way into the hole.
4. Insert the Ball (4) and then the Ball Valve Spring (3) small end first into the Cylinder opening.
5. Assemble Lever Support (6) into Rear Exhaust Diffuser (5), the U shaped side of support inserted first into front of the Diffuser. Slide tabs into the slots on the Diffuser and line up the holes with the holes in the Diffuser.
6. Assemble Rear Exhaust Diffuser Gasket (8) onto Rear Exhaust Diffuser and assemble Diffuser onto the Housing Assembly.
7. Align hole in Lever Assembly (9) with hole in Exhaust Diffuser and press the Throttle Lever Pin (7) through Exhaust Diffuser holes.
8. Push the Inlet Screen closed end leading, into the large end of the Inlet Assembly (1), until it is past the threads inside of the Inlet. After lubricating the Inlet Seal (2) with O-Ring lubricant and being careful not to nick the Seal on the threads of the Inlet, install the Seal on the Inlet.
9. Thread the Inlet Assembly into the Cylinder and tighten it between 20 to 25 ft–lb (27.1 to 33.9 Nm) torque.

Assembly of the Motor

1. If the Rear Rotor Bearing (28) was removed, stand the Rotor (29) upright on the table of an arbor press with the threaded end downward. Place the threaded rotor hub into a hole drilled into a flat, smooth block so that the Rotor rests flat on the large rotor body. Press the Rear Rotor Bearing onto the hub of the Rotor.
2. Install the Rear Rotor Bearing Retainer (26) in the groove on the hub of the Rotor.
3. Install the Front End Plate (31), counterbored end trailing, onto the threaded hub of the Rotor. Place the Spacer (32) onto the threaded hub of the Rotor, in the hole of the Front End Plate.

NOTICE

Before performing the next step, be aware that the Front Rotor Bearing is a flush ground bearing and must be installed in a specific manner. The end of the Bearing with a stain or hash marks must be away from the Spacer.

4. Stand the small hub of the Rotor on the table of an arbor press with the threaded end upward and press the Front Rotor Bearing (34) onto the hub of the Rotor.
5. Grasp the assembled Rotor in soft-sided vise jaws with the threaded rotor hub upward.
6. Thread the Bevel Pinion (39) onto the Rotor and using a torque wrench, tighten the Pinion between 14 and 19 ft-lb (19.0 and 25.8 Nm) torque.
7. Inject approximately 0.7 cm3 of Ingersoll Rand No. 68 Grease into the small recess at the bottom of the Cylinder. Drop the two Rear Rotor Bearing Spacers (27) into the bottom of the Cylinder.
8. Wipe each Vane (30) with a light film of oil and insert Vane into each vane slot in the Rotor. Be sure that the black line on Vane faces to the left inside the vane slot when looking down length of Rotor, with threaded end away.
9. Grasp the Bevel Pinion and insert the assembled Rotor into the Cylinder.
10. Assemble the Front Muffler (35) into the Front Housing Cap (36). Ensure muffler is installed in the Cap and does not get pushed down into the Motor Housing.
11. Assemble Front Housing Cap onto Motor Housing (12), aligning notches on Cap with notches in the Cylinder. Place Flange Clamp (37) in groove in Cap.

Assembly of the Angle Head

1. If the Upper Arbor Bearing (44) was removed and a new Bearing must be installed, proceed as follows:
   a. Support the machined face of the Angle Head (40) on the table of an arbor press with the upper arbor bearing bore upward.

NOTICE

When installing the Bearing in the next step, always press on the stamped or closed end of the Bearing.

   b. Press a new Upper Arbor Bearing into the bore, until it is flush with the top of the Angle Housing.

2. If the Lower Arbor Bearing (47) is being installed, it is necessary to note the identification marks on the Lower Arbor Bearing. One side of the Bearing has stains or hash marks across the inner and outer races. Using a sleeve that contacts the inner ring of the Lower Arbor Bearing, press the Bearing, stain or hash mark side leading, onto the Arbor (49).

NOTICE

The Bevel Gear and Bevel Pinion in the next step are specially matched sets. Some sets are color coded for manufacturing purposes only. Only the Gear and Pinion set furnished as a replacement part or the same Gear and Pinion set removed from one tool is a matched set. A Bevel Gear from one tool and a Bevel Pinion from another tool with the same color code IS NOT A MATCHED SET. Replace these parts only as a matched set. Failure to do so will result in unsatisfactory tool performance and damage to the Bevel Gear and Bevel Pinion.

3. Slide the Bevel Gear (39), geared face trailing, onto the small threaded end of the Arbor, aligning the integral keys or spline of the Gear with the slotted keyways or spline in the Arbor.
4. Thoroughly clean the small threads on the Arbor above the Bevel Gear and the threads in the Bevel Gear Nut (46).
5. Apply a thin coat of Loctite 277* (M. I. Hernon Grade 429) to the threads of the Bevel Gear Nut and the Nut threads on the Arbor. Thread the Bevel Gear Nut onto the Arbor to retain the Bevel Gear and tighten the Nut to 8 to 9 ft-lb (10.8 to 12.2 Nm) torque.
6. Form the Wick (45) into a horseshoe shape and fully insert it into the U-shaped cavity in the Angle Head. If installing one of the Wicks having a notch on one side, make certain the notch enters the Housing first. Saturate the Wick with approximately 1.5 cm3 of Ingersoll Rand No. 63 Oil. Do not substitute any other oil.
7. Inject 3 cm3 of Ingersoll Rand No. 67 Grease into the Upper Arbor Bearing and Wick cavity in the Angle Head. Do not substitute any other grease.
8. Carefully grasp the assembled Motor Housing, mounted in Clamp Tool, in soft-sided vise jaws with the Throttle Lever downward.
9. Install the motor Clamp Nut (42), threaded end trailing, onto the motor end of the Angle Head. Spread the Clamp Spacer (41) and install it, beveled end trailing, onto the motor end of the Angle Head against the Clamp Nut.
10. Position the output end of the Angle Head upward and 180 degrees opposite to the Throttle Lever and thread the Clamp Nut onto the Cylinder. Using the Clamp Nut Wrench (63), tighten the Nut to 20 to 25 ft-lb (27 to 34 Nm) torque. This is a left-hand thread, turn counterclockwise to tighten.
11. Thoroughly clean the internal threads of the Angle Head and the threads on the Arbor Bearing Cap (48).
12. Insert the assembled Arbor into the Angle Head, bevel gear end first, making sure the teeth on the Bevel Gear and Pinion mesh. Rotate the Arbor manually to determine they are rotating smoothly.
13. Carefully apply a thin coat of Loctite 277 to both sets of threads.
14. Using the Arbor Bearing Cap Wrench (62), install the Arbor Bearing Cap and tighten to 12 to 15 ft-lb (16.2 to 20.3 Nm) torque. The Bearing Cap has a left-hand thread: turn counterclockwise to

install.

15. Allow assembled components that have Loctite on threads to cure before running tool.

Assembly Instructions for All Collet Models

1. Install the Collet (50) into the end of the Arbor.
2. Using the Collet Body Wrench (61) to hold the Arbor, thread the Collet Nut (51) onto the Arbor.

Assembly Instructions for All Wheel Models

1. Position the Wheel Guard (54) against the flat face of the Guard Adapter Assembly (52) and using a 1/8" hex wrench, install the three Guard Mounting Screws (57) and Lock Washers (56). Tighten the Screws to 2.5 to 3.0 ft-lb (3.4 to 4.1 Nm) torque.
2. Position the Guard Adapter Assembly recessed surface leading, on the hub at the spindle end of the Angle Head and using a 9/64" hex wrench, tighten the Wheel Guard Adapter Screw (53) to 6 to 6.5 ft-lb (8.1 to 8.8 Nm) torque.
3. For Models ending in P63, thread the Flange Spacer (58) onto the Arbor and using the Arbor Wrench (64) to hold the Arbor, tighten the Spacer with the second Arbor Wrench (61).
4. For Models ending in P63, install the Wheel Flange (59), wheel and Flange Nut (60) on the Arbor. Use the Arbor Wrench (64) to hold the Arbor while tightening the Flange Nut with the Flange Nut Wrench (65).
5. For models ending in H63, install wheel against flat face on Arbor and install the Flange Nut (60).

Assembly Instructions for All Belt Sander Models

1. Install the Spindle Cap (67) onto the Arbor (66). Hold the Arbor with the Arbor Wrench (61) and thread the Drive Sleeve (68) onto the Arbor and tighten.

Assembly of the Sanding Arm (Belt Sander Models)

NOTICE

In the following step, ball bearings used in models having 1/4" wide belts must have the bearing seal facing outward.

1. If the Idler Wheel Bearings (83) were removed, press one Bearing into the Idler Wheel (82) until it is flush with the edge of the Wheel. Invert the Wheel. Press the remaining Bearing into the Wheel until it is flush with the edge of the Wheel.

NOTICE

In the following step, one hole in the Yoke is slightly larger than the other one. Determining which hole is larger will enable you to use finger pressure to insert the Shaft through that side of the Yoke.

2. Position the assembled Idler Wheel between the two ears of the Yoke (79) and press the Idler Wheel Shaft through the Yoke and assembled Idler Wheel.
3. For 12" x 1/2" and 18" x 1/2" models, place the Yoke Spring (80) into the hole in the end of the Clevis (73) and position the assembled Yoke over the Spring at the end of the Clevis. Make certain the slots in the Yoke align with the pin hole in the Clevis. Compress the Spring with the Yoke and press the Yoke Retaining Pin (81) through the Clevis and Yoke.
   For 18" x 1/4" models, place the Yoke Spring (80) inside the end of the Yoke opposite the Idler Wheel until it stops against the tab. Position the Clevis (73) to slide into the Yoke making certain the Spring enters the slot in the end of the Clevis. Make certain the slot in the Yoke aligns with the pin hole in the Clevis. Compress the Spring with the Yoke and press the Yoke Retaining Pin (81) through the Clevis and Yoke.
4. For 12" x 1/2" and 18" x 1/2" models, insert one of the Belt Plate Retaining Screws (77) through one of the holes in the Belt Plate (76). Install one of the Belt Plate Spacers (78) on the Screw and start the Screw into the Clevis at the guard end. Insert the remaining Screw into the hole in the Plate at the yoke end and install the remaining Spacer on that Screw between the Plate and Clevis. Tighten both Screws hand tight with a screwdriver.
5. If the Belt Pad (75) is being replaced, peel the protective tape off the Pad and place the adhesive side of the Pad against the side of the Clevis opposite the Belt Plate.
6. **For 12" models**, using a screwdriver, attach the Clevis to the Guard (70) with the two Clevis Mounting Screws (74). Tighten the Screws between 8 and 10 in–lb. (0.9 and 1.1 Nm) torque.
   For 18" models, position the Alignment Block (72) between the Clevis and the Guard (70) and secure it in position by attaching the Clevis to the Guard with the two Clevis Mounting Screws (74). Tighten the Screws between 8 and 10 in–lb. (0.9 and 1.1 Nm) torque.
7. Position the Guard on the Angle Head (40) and secure it by tightening the Guard Clamp Screw (71) between 2 and 3 ft–lb (2.7 and 4.0 Nm) torque.
8. Install a new sanding belt over the Spindle Cap and around the Idler Wheel.
9. **For 18" models**, align the Cover (69) with the Guard and slide it forward toward the Idler Wheel until it snaps into position and stays there.
10. Operate ths Sander at low speed to determine if the new belt is tracking properly. If the belt fails to track properly, realign the Clevis by tightening or loosening one or both of the Clevis Mounting Screws.

Trouble	Probable Cause	Solution
Low power or low free speed	Insufficient air pressure.	Check air line pressure at the Inlet of the Tool. It must be 90 psig (6.2 bar/620 kPa).
	Plugged Inlet Bushing Screen	Disassemble the Inlet and remove Exhaust Diffuser to replace Mufflers for Rear Exhaust. Disassemble Front Clamp Nut and remove Front Cap for Front Exhaust. Ensure muffler is in Front Cap and not pushed down into Motor Housing.
	Plugged Inlet Screen.	Clean the Inlet Screen with a clean, suitable cleaning solution or replace the Screen.
	Worn or broken Vanes.	Install a complete set of new Vanes.
	Loose Clamp Nut or Arbor Housing.	Tighten the Nut or Housing between 20 and 25 ftlb (27 and 34 Nm) torque.
	Worn or broken Motor Housing	Replace the Motor Housing.
	Grit buildup under the Throttle Lever restricting full Throttle Valve Plunger movement	Remove the Throttle Lever and clean the groove in the Motor Housing.
	Bent stem on Throttle Valve.	Replace the Throttle Valve.
	Cylinder Plug missing, missing O-Ring or out of hole in Cylinder.	Confirm Cylinder Plug has O-ring and is fully pressed into Cylinder.
Excessive runout	Bent Arbor.	Replace the Arbor.
	Loose Collet Nut.	Tighten the Collet Nut until snug.
	Worn or damaged Collet, Collet Nut or Nosepiece.	Replace the damaged component and retest.
	Worn or damaged Upper Arbor Bearing or Lower Arbor Bearing.	Replace the worn or damaged Bearing.
Scoring of End Plate	Worn Front End Plate Spacer or Front End Plate.	Install a new Front End Plate Spacer and Front End Plate.
	Worn Front Rotor Bearing.	Install a new Front Rotor Bearing.
Leaky Throttle Valve	Dirt accumulation on Throttle Valve or Throttle Valve Seat.	Disassemble, inspect and clean parts.
	Worn Throttle Valve or Throttle Valve Seat.	Replace the Throttle Valve and/or Throttle Valve Seat.
	Excessive dirt build-up beneath the Throttle Lever.	Clean out the slot area.
	Bent Throttle Valve Plunger.	Replace the Plunger.
Exhausts at wrong direction	Incorrect orientation of the Flow Guide.	Reverse the Flow Guide inside the Motor Housing.
Front Rotor Bearing runs hot	Front End Plate Spacer rubbing the bore of the Front End Plate.	Replace the Front End Plate and Front End Plate Spacer combination.
	Incorrect Front Rotor Bearing installation orientation.	If a black stain or black hashmarks are not visible on the face of the Bearing when it is assembled with the End Plate and Rotor, the Bearing is installed backwards. If possible, remove the Bearing and install it correctly or replace the Bearing.
Slow tool idle	Bent or leaky Throttle Valve.	Replace the Throttle Valve.
Rough operation/vibration	Improper lubrication or dirt buildup.	Disassemble the Tool and clean in a suitable cleaning solution. Assemble the Tool and inject 3 cm3 of the recommended oil into the Inlet and run the tool long enough to coat the internal parts with the oil.
	Worn or broken Rear Rotor Bearing or Front Rotor Bearing.	Replace the worn or broken Bearings. Examine the Front End Plate, Front End Plate Spacer Front Seal Cup Assembly and Rear Rotor Bearing Spacers and replace any damaged parts. If the rear end plate is damaged, replace the Rotor.
	Worn or broken Upper Arbor Bearing or Lower Arbor Bearing.	Replace the worn or broken Bearing.
	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.

Trouble	Probable Cause	Solution
Sanding Belt not tracking	Worn Idler parts	Install a new Idler Wheel Assembly
	Misalignment	Adjust the Clevis Mounting Screws
	Sanding on push side of Clevis	Sand on pull side of the Clevis.

Related Documentation

For additional information refer to:
Air Grinder Product Safety Information Form 04584959.
Air Die Grinder Safety Information Form 04580288.
Air Sander Safety Information Form 04580387.
Air Belt Sander Safety Information Form 04584942.
Product Information Manual Forms 80156425 or 80156474 or 80156441 or 80156433.
Parts Information Manual Form 80156458.

Manuals can be downloaded from ingersollrandproducts.com

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