



04584355  
Edition 2  
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# Air Impact Wrench

## 2925B2Ti and 2925RB2Ti

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# Maintenance Information



Save These Instructions

**IR** *Ingersoll Rand*

## WARNING

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

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

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

## Lubrication

Each time a Series 2925B2Ti Impactool is disassembled for maintenance and repair or replacement of parts, lubricate the tool as follows:

1. Work approximately 12 to 15 cc of **Ingersoll Rand** No. 170 Grease into the impact mechanism. Coat the Anvil (40) lightly with grease around the Hammer Case

Bushing (42). Inject approximately 2 to 4 cc of grease into the Grease Fitting (18).

2. Use **Ingersoll Rand** No. 10 Oil for lubricating the motor. Inject approximately 1 to 2 cc of oil into the air inlet before attaching the air hose.

## Disassembly

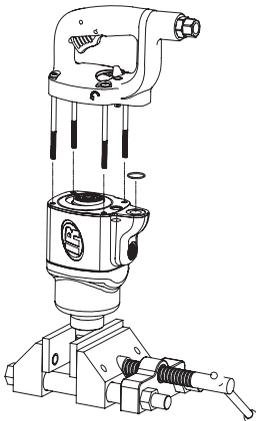
### General Instructions

1. Do not disassemble the tool any further than necessary to replace or repair damaged parts.
2. Whenever grasping a tool or a 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 repair or replacement.
4. Do not disassemble the Impactool unless you have a complete set of new gaskets and o-rings for replacement.

### Disassembly of the Hammer Case and Anvil Assembly

## WARNING

Before disassembling this tool, clamp the anvil drive in leather-covered or copper-covered vise jaws with the Handle (1) pointing upward. See Drawing TPD2021-1.



(Dwg. TPD2021-1)

1. Unscrew and remove the four Handle Bolts (2).
2. Lift the assembled Motor Housing (30) off of the Hammer Case (43). Make sure that you hold the Backcap in position on the Housing and that the motor does not come out of the Housing.
3. Remove the Hammer Case Gasket (41) and replace with a new one when assembling the Hammer Case to the Housing.

4. Remove the Hammer Case and impact mechanism assembly from the vise. Remove the Hammer Frame Washer (36) from the rear of the Hammer Frame and set it aside on a clean bench.
5. Place the impact mechanism on a bench with the Anvil pointing upward. Make sure that the Hammer Pins (38) do not drop out of the Hammer.
6. Lift the Hammer Case off of the Anvil (40). If it is unnecessary to disassemble the impact mechanism, set it aside intact.

### Disassembly of the Impact Mechanism

1. Set the mechanism, driver end up, on the workbench

## NOTICE

Note the twin Hammers within the Hammer Frame. These are identical but must be placed in the Hammer Frame in a particular relationship. Using a felt tipped pen, mark the top Hammer "T↑" and the bottom Hammer "B↑" with arrows pointing upward. Mark both Hammers on same end.

2. With the mechanism sitting upright on the workbench, slowly rotate the Anvil in a clockwise direction until it comes up solid.

## NOTICE

If you continue to rotate the Anvil, it will cam the Hammers out of engagement. Do not do this; merely rotate the Anvil until it comes up solid.

3. Hold the Hammer Frame firmly and, without disturbing the Hammers, gently lift the Anvil, simultaneously rotating it clockwise about 1/8 of a turn, from the Hammer Frame.
4. With the Anvil removed, lift out the two Hammer Pins.

## CAUTION

The twin Hammers are now free to slide from the Hammer Frame. Be careful not to drop them.

### Disassembly of the Reverse Valve

1. Remove the four Handle Bolts (2)
2. Lift the Handle (1) off of the rear of the Motor Housing (30).
3. Discard the Handle Gasket (19) and replace it with a new one when assembling the tool.
4. Use a hooked tool to remove the Reverse Valve (10) from the reverse valve bushing. Set the Reverse Valve aside on a clean bench.
5. Remove and discard the Reverse Valve O-ring (6).
6. Replace it with a new one when assembling the Reverse Valve.

- Use a flat, thin blade screwdriver to remove the Reverse Lever Retaining Ring (9) and Reverse Lever Spring (7) from the Reverse Lever (8).
- Remove the Reverse Lever from the Backcap.

### Disassembly of the Motor

- Remove the four Handle Bolts (2).
- Remove the Handle, Motor Clamp Washer (20) and Handle Gasket (19) from the Housing and set them aside on a clean bench. Discard the Handle Gasket and replace it with a new one when assembling the tool.
- Lift the Housing from the Hammer Case (43). Place one hand over the rear of the Housing and turn the Housing over so that the assembled motor can slide and be guided out of the Housing.

- Place the assembled motor on a clean bench with the rotor spline facing upward.
- Remove the Front End Plate (28) and Cylinder (26).
- Remove the Rotor (24) from Rear End Plate (22).
- Remove the Vanes from the Rotor.
- Inspect all motor parts including the Front Rotor Bearing (29) and Rear Rotor Bearing (21) and replace all worn or damaged parts.

### Disassembly of the Throttle Mechanism

- Unscrew and remove the Air Inlet Bushing (16).
- Remove the Screen (15), Throttle Valve Spring (14) and Throttle Valve (13).
- Remove the Trigger (3) from the Handle.
- Remove the Trigger Plunger (11) from the Handle.

## Assembly

### General Instructions

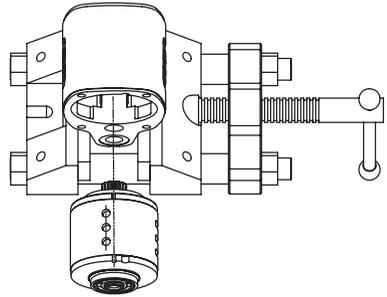
- Always press on the **inner** ring of a ball-type bearing when installing the bearing on a shaft.
- Always press on the **outer** ring of a ball-type bearing when pressing the bearing into a bearing recess.
- Whenever grasping a tool or part in a vise, always use leather-covered or copper-covered vise jaws. Take extra care with threaded parts or housings.
- Always clean every part and wipe every part with a thin film of oil before installation.
- Apply a film of O-ring lubricant to all O-rings before final assembly.
- Check every bearing for roughness. **Sealed or shielded bearings should never be cleaned.** Work grease thoroughly into every open bearing before installation.

### Assembly of the Throttle Mechanisms

- Coat the Trigger Plunger (11) with oil and insert it into the hole in the Handle (1).
- Install a new Throttle Valve Seat (12) in the Throttle Valve (13) and insert it into Handle, large end first.
- Install the Throttle Valve Spring (14), small end first, then Screen (15). Replace Inlet O-ring (17). Coat new O-ring with O-ring lubricant and install it in the Inlet.
- Screw Inlet into Handle until snug and then tighten to 30-35 ft. lb. (41-47 Nm) torque.

### Assembly of the Motor

- Pack the Front Rotor Bearing (29) and Rear Rotor Bearing (21) with the recommended grease. Install the Front Rotor Bearing in the Front End Plate (28) and the Rear Rotor Bearing in the Rear End Plate (22).
  - Slide the assembled Rear End Plate and Rear Rotor Bearing on the hub of the Rotor (24).
  - Set the assembled Rear End Plate and Rotor on a clean surface with the spline of the Rotor pointing upward.
  - Insert the Vanes (25) in the vane slots on the Rotor.
  - Install the Front and Rear Cylinder Dowels (27) in the Cylinder (26).
  - Slide the Cylinder over the Rotor and Vanes making sure that the Rear Cylinder Dowel enters the notch in the outside diameter of the Rear End Plate.
- For Series 2925RBTI:** Assemble Cylinder with exhaust ports to **LEFT** of top dead center (11 o'clock position). See Dwg. TPD2022.

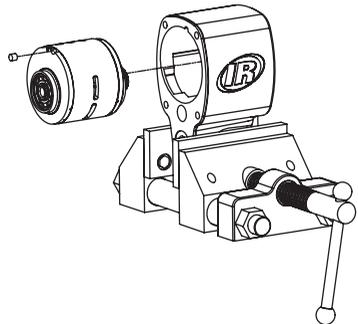


(Dwg. TPD2022)

### NOTICE

**If more power is needed for forward operation than for reverse operation, install the Cylinder with exhaust ports to the RIGHT of top dead center (1 o'clock position).**

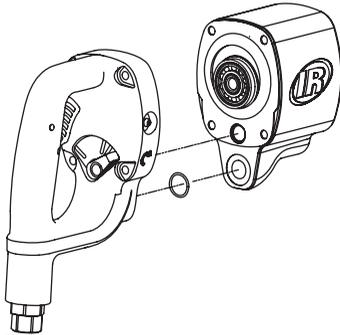
- Install the assembled Front End Plate and Bearing over the front, splined end of the Rotor making sure that the front Cylinder Dowel fits into the notch in the outside diameter of the Front End Plate.
- Grasp the Housing with one hand and set it upside down on its top. With the other hand, carefully guide the motor assembly into the Housing, making sure that the side of the motor assembly containing the Cylinder Dowels is oriented to the top of the Housing. Install Locating Pin (23) into Housing and End Plate. See Dwg. TPD2023-1.



(Dwg. TPD2023-1)

## Assembly of the Reverse Valve

1. Coat a new Reverse Valve O-ring (6) with O-ring lubricant and install it in the groove on the Reverse Valve (10).
2. Install the Reverse Valve in the reverse valve bushing with the slotted end trailing, making sure that the index mark on the Reverse Valve is aligned with the index mark on the Bushing. See Dwg. TPD2024-1.

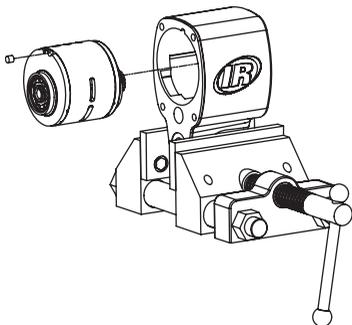


(Dwg. TPD2024-1)

### NOTICE

**The Reverse Valve must be installed and indexed with the bushing as directed in Step 2 and Dwg. TPD2024. Failure to do so will cause improper operation of the Reverse Valve.**

3. Insert the Reverse Lever (8) into the Handle (1).
4. Slide the Reverse Lever Spring (7) over the shaft of the Reverse Lever and secure the Spring and Reverse Lever by installing the Reverse Lever Snap Ring (9) in the groove in the shaft of the Reverse Lever. Rotate the Reverse Lever so that it is pointing to the symbol for FORWARD (clockwise) operation. See Dwg. TPD2024-1.

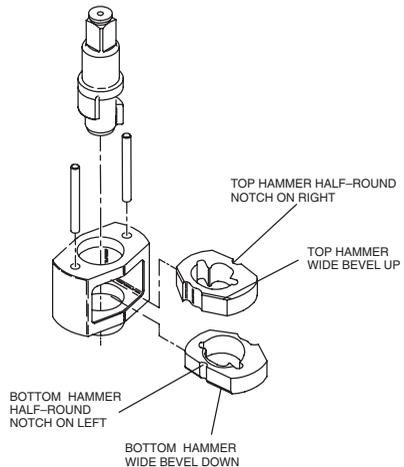


(Dwg. TPD2023-1)

## Assembly of the Impact Mechanism

### NOTICE

**To ensure proper Reverse Valve operation, the Reverse Lever must stay in this position when installing the Backcap and Reverse Valve.**



1. Coat the Hammers (39) with a light film of **Ingersoll Rand No. 170 Grease**.
2. Replace the Hammers in the Hammer Frame (37) exactly as they were when you marked them prior to disassembly.

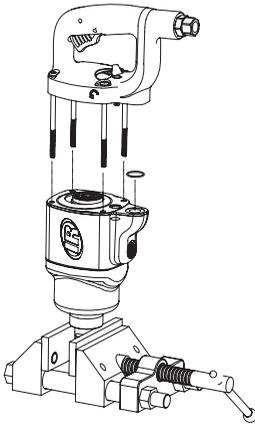
### NOTICE

**If you are installing new Hammers or want to change the location of the existing Hammers to utilize both impacting surfaces, slide the Hammers in the Hammer Frame so that the half-round notch on one Hammer is located on one side of the Frame and the half-round notch on the other Hammer is located on the other side of the Frame. These Hammers must be installed with the wide bevels facing the web of the Hammer Frame as illustrated.**

3. Replace the Hammer Pins (38).
4. Examine the base of the Anvil (40) and note its contour. While looking down through the Hammer Frame, swing the top Hammer to its full extreme one way or another until you can match the contour of the Anvil. Enter the Anvil into the Hammer Frame and through the first Hammer. Swing the bottom Hammer in the opposite direction from the top Hammer and maneuver the Anvil slightly until it drops into the bottom Hammer.

## Assembly of the Tool

1. Wipe a thin film of the recommended grease on the inside of the Hammer Case Bushing (42) and insert the assembled impact mechanism into the Hammer Case (43).
2. Secure the Hammer Case and impact mechanism by the anvil (square drive) end in leather-covered or copper-covered vise jaws. See Dwg. TPD2021-1.



(Dwg. TPD2021-1)

3. Install a new Hammer Case Gasket (41) on the Hammer Case making sure that the holes in the gasket align with the holes in the Hammer Case.

### NOTICE

When installing optional Hanger Kit, place Gasket on the Hammer Case followed by the Hanger.

4. Wipe a small amount of the recommended grease on the flat side of the Hammer Frame Washer (36) and place it on the splined face of the Hammer Frame (37) with the hub end of the washer pointing up.

### NOTICE

When installing optional Hanger Kit, place additional washer provided between the Hammer Frame and Hammer Frame Washer.

5. Set the fully assembled Motor Housing over the opening in the Hammer Case. Insert the spline drive of the Rotor into the splined hole of the impact mechanism. Make sure of the wide section of the Hammer Case is just above the Trigger.
6. Place a new Handle Gasket (19) over the rear of the Housing making sure that the holes in the Gasket align with the holes in the Housing and that the profile of the Gaskets matches the profile of the Housing.
7. Place a Motor Clamp Washer (20) over the rear of the motor with the convex side up and matching the large outside diameter of the Rear End Plate.
8. Place O-ring (32) in counterbore around air passage on the housing.
9. Place the Handle (1) over the back of the Housing making sure that the Reverse Valve Lever (8) is in the full-forward (clockwise) position with the lugs in the Lever engaging the slots in the Reverse Valve. Make sure that the index mark on the Reverse Valve lines up with the index mark on the reverse valve bushing.
10. Install the four Backcap Bolts and tighten to 10-12 ft-lbs (13-16 Nm) torque.

## Troubleshooting Guide

Trouble	Probable Cause	Solution
Low power	Dirty Inlet Bushing or Inlet Screen and/or Muffler	Using a suitable cleaning solution, in a well ventilated area, clean Inlet Screen, Inlet Bushing and Muffler.
	Worn or broken Vanes	Replace the <b>complete</b> set of Vanes.
	Worn or broken Cylinder and/or scored End Plates	Examine the Cylinder and replace it if it is worn or broken or if the bore is scored or wavy. Replace the End Plates if they are scored.
Motor will not run	Dirty motor parts.	Disassemble tool and clean all parts with a suitable cleaning solution, in a well-ventilated area. Reassemble tool as instructed in this manual.
	Improper positioning of the Reverse Valve Lever or Reverse Valve	Make certain that the Reverse Valve Lever is in the reverse position or one of the three forward positions. If the tool has been disassembled, refer to Dwg. TPD2024-1 for proper Reverse Valve and Reverse Lever orientation.
Tool will not impact	Incorrect assembly of the motor.	Disassemble the motor, replace worn or broken parts and reassemble as instructed.
	Insufficient lubricant in the impact mechanism	Remove the Hammer Case Assembly and lubricate the impact mechanism.
	Broken or worn impact mechanism parts	Remove the Hammer Case and examine the impact mechanism parts. Replace any worn or broken parts.
	Impact Mechanism not assembled correctly.	Refer to <b>Assembly of the Impact Mechanism</b> .

## Related Documentation

For additional information refer to:  
 Safety Information Manual 04580916.  
 Product Information Manuals 16573206.  
 Parts List Manuals 04584579.

Manuals can be downloaded from [www.irtools.com](http://www.irtools.com).

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Notes

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**Notes**

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