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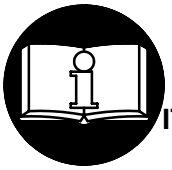
INSTRUCTIONS FOR SERIES 2161P AND 2171P SUPER DUTY IMPACTOOLS

NOTICE

Series 2161P and 2171P Impactools are designed for use in heavy assembly work and machinery maintenance.
Ingersoll–Rand is not responsible for customer modification of tools for applications on which Ingersoll–Rand was not consulted.

⚠ WARNING



IMPORTANT SAFETY INFORMATION ENCLOSED.
READ THIS MANUAL BEFORE OPERATING TOOL.
IT IS THE RESPONSIBILITY OF THE EMPLOYER TO PLACE THE INFORMATION IN THIS MANUAL INTO THE HANDS OF THE OPERATOR.
FAILURE TO OBSERVE THE FOLLOWING WARNINGS COULD RESULT IN INJURY.

PLACING TOOL IN SERVICE

- Always operate, inspect and maintain this tool in accordance with American National Standards Institute Safety Code for Portable Air Tools (ANSI B186.1).
- For safety, top performance, and maximum durability of parts, operate this tool at 90 psig (6.2 bar/620 kPa) maximum air pressure at the inlet with 1/2" (13 mm) inside diameter air supply hose.
- 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.
- Do not use damaged, frayed or deteriorated air hoses and fittings.
- Be sure all hoses and fittings are the correct size and are tightly secured. See Dwg. TPD905–1 for a typical piping arrangement.
- Always use clean, dry air at 90 psig (6.2 bar/620 kPa) maximum air pressure. Dust, corrosive fumes and/or excessive moisture can ruin the motor of an air tool.
- Do not lubricate tools with flammable or volatile liquids such as kerosene, diesel or jet fuel.
- Do not remove any labels. Replace any damaged label.

USING THE TOOL

- Always wear eye protection when operating or performing maintenance on this tool.
- Always wear hearing protection when operating this tool.
- Keep hands, loose clothing and long hair away from rotating end of tool.
- Note the position of the reversing lever before operating the tool so as to be aware of the direction of rotation when operating the throttle.
- Anticipate and be alert for sudden changes in motion during start up and operation of any power tool.
- Keep body stance balanced and firm. Do not overreach when operating this tool. High reaction torques can occur at or below the recommended air pressure.
- Tool shaft may continue to rotate briefly after throttle is released.
- Air powered tools can vibrate in use. Vibration, repetitive motions or uncomfortable positions may be harmful to your hands and arms. Stop using any tool if discomfort, tingling feeling or pain occurs. Seek medical advice before resuming use.
- Use accessories recommended by Ingersoll–Rand.
- Use only impact sockets and accessories. Do not use hand (chrome) sockets or accessories.
- Impact wrenches are not torque wrenches. Connections requiring specific torque must be checked with a torque meter after fitting with an impact wrench.
- This tool is not designed for working in explosive atmospheres.
- This tool is not insulated against electric shock.

NOTICE

The use of other than genuine Ingersoll–Rand replacement parts may result in safety hazards, decreased tool performance, and increased maintenance, and may invalidate all warranties.

Repairs should be made only by authorized trained personnel. Consult your nearest Ingersoll–Rand Authorized Servicenter.

Refer All Communications to the Nearest Ingersoll–Rand Office or Distributor.

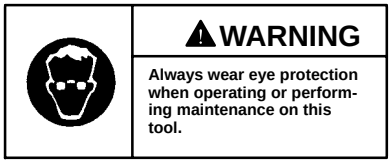
Printed in U.S.A.

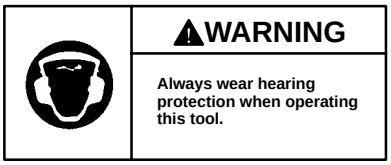
INGERSOLL-RAND®
PROFESSIONAL TOOLS

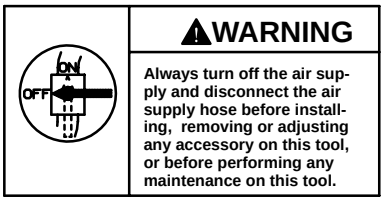
WARNING LABEL IDENTIFICATION

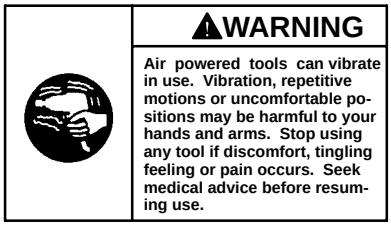
⚠ WARNING

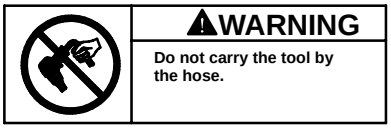
FAILURE TO OBSERVE THE FOLLOWING WARNINGS COULD RESULT IN INJURY.

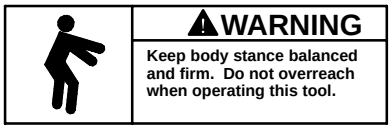


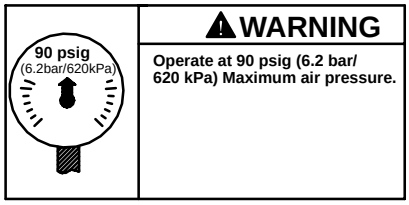












PLACING TOOL IN SERVICE

LUBRICATION

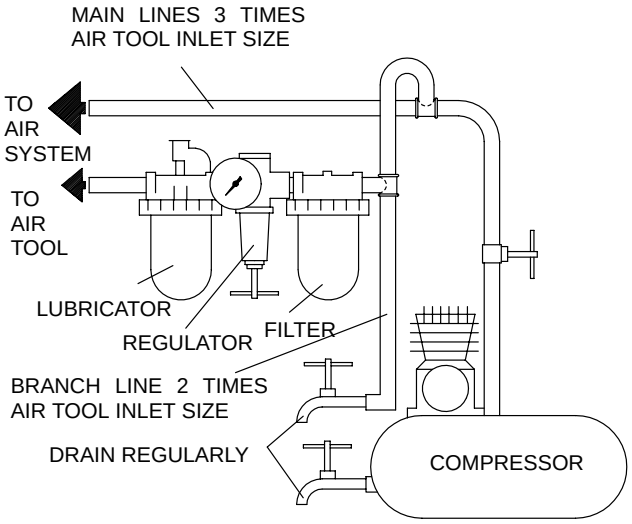
Ingersoll–Rand No. 50

Ingersoll–Rand No. 170

Always use an air line lubricator with these tools.
We recommend the following Filter–Lubricator–Regulator Unit:

For USA – No. C22–04–G00

After each forty–eight hours of operation, or as experience indicates, inject about 4 cc of Ingersoll–Rand No. 170 Grease into the Grease Fitting.



(Dwg. TPD905–1)

SPECIFICATIONS

Model	Type of Grip	Drive	Impacts per min.	Recommended Torque Range
		in.		**ft–lbs (Nm)**
2161P	pistol	3/4” sq. dr.	1,025	250–900 (339–1220)
2171P	pistol	1” sq. dr.	1,025	250–900 (339–1220)

MODE D'EMPLOI DES CLÉS À CHOCS SÉRIES 2161P ET 2171P

F

NOTE

Les clés à chocs des séries 2161P et 2171P sont destinées aux travaux de montage lourd et à l'entretien des machines.
Ingersoll–Rand ne peut être tenu responsable de la modification des outils par le client pour les adapter à des applications qui n'ont pas été approuvées par Ingersoll–Rand.

⚠ ATTENTION

D'IMPORTANTES INFORMATIONS DE SECURITÉ SONT JOINTES.
LIRE CE MANUEL AVANT D'UTILISER L'OUTIL.
L'EMPLOYEUR EST TENU À COMMUNIQUER
LES INFORMATIONS DE CE MANUEL AUX EMPLOYÉS UTILISANT CET OUTIL.
LE NON RESPECT DES AVERTISSEMENTS SUIVANTS PEUT CAUSER DES BLESSURES.

MISE EN SERVICE DE L'OUTIL

- **Toujours exploiter, inspecter et entretenir cet outil conformément au Code de sécurité des outils pneumatiques portatifs de l'American National Standards Institute (ANSI B186.1).**
- **Pour des raisons de sécurité, et pour obtenir les performances et la durabilité maximales des pièces, cet outil doit être alimenté avec de l'air comprimé à une pression maximum de 6,2 bar (620 kPa), et un tuyau flexible ayant un diamètre intérieur de 13 mm.**
- **Couper toujours l'alimentation d'air comprimé et débrancher le flexible d'alimentation avant d'installer, déposer ou ajuster tout accessoire sur cet outil, ou d'entreprendre une opération d'entretien quelconque sur l'outil.**
- **Ne pas utiliser des flexibles ou des raccords endommagés, effilochés ou détériorés.**
- **S'assurer que tous les flexibles et les raccords sont correctement dimensionnés et bien serrés. Voir Plan TPD905–1 pour un exemple type d'agencement des tuyauteries.**
- **Utiliser toujours de l'air sec et propre à une pression maximum de 6,2 bar (620 kPa). La poussière, les fumées corrosives et/ou une humidité excessive peuvent endommager le moteur d'un outil pneumatique.**
- **Ne jamais lubrifier les outils avec des liquides inflammables ou volatiles tels que le kérosène, le gasol ou le carburant d'aviation.**
- **Ne retirer aucune étiquette. Remplacer toute étiquette endommagée.**

UTILISATION DE L'OUTIL

- **Porter toujours des lunettes de protection pendant l'utilisation et l'entretien de cet outil.**
- **Porter toujours une protection acoustique pendant l'utilisation de cet outil.**
- **Tenir les mains, les vêtements flous et les cheveux longs, éloignés des parties tournantes de l'outil.**
- **Noter la position du levier d'inversion avant de mettre l'outil en marche de manière à savoir dans quel sens il va tourner lorsque la commande est actionnée.**
- **Prévoir, et ne pas oublier, que tout outil motorisé est susceptible d'à-coups brusques lors de sa mise en marche et pendant son utilisation.**
- **Garder une position équilibrée et ferme. Ne pas se pencher trop en avant pendant l'utilisation de cet outil. Des couples de réaction élevés peuvent se produire à, ou en dessous, de la pression d'air recommandée.**
- **La rotation de l'arbre de l'outil peut continuer brièvement après le relâchement de la gâchette.**
- **Les outils pneumatiques peuvent vibrer pendant l'exploitation. Les vibrations, les mouvements répétitifs et les positions inconfortables peuvent causer des douleurs dans les mains et les bras. N'utiliser plus d'outils en cas d'inconfort, de picotements ou de douleurs. Consulter un médecin avant de recommencer à utiliser l'outil.**
- **Utiliser les accessoires recommandés par Ingersoll-Rand.**
- **N'utiliser que les douilles et les accessoires pour clés à chocs. Ne pas utiliser les douilles et accessoires (chromés) de clés manuelles.**
- **Les clés à chocs ne sont pas des clés dynamométriques. Les connexions nécessitant un couple de serrage spécifique doivent être vérifiées avec un mesureur de couple après avoir été assemblées avec un clé à chocs.**
- **Cet outil n'est pas conçu pour fonctionner dans des atmosphères explosives.**
- **Cet outil n'est pas isolé contre les chocs électriques.**

NOTE

L'utilisation de rechanges autres que les pièces d'origine Ingersoll–Rand peut causer des risques d'insécurité, réduire les performances de l'outil et augmenter l'entretien, et peut annuler toutes les garanties.

Les réparations ne doivent être effectuées que par des réparateurs qualifiés autorisés. Consultez votre Centre de Service Ingersoll–Rand le plus proche.

Adressez toutes vos communications au Bureau Ingersoll-Rand ou distributeur le plus proche.

Imprimé aux É.U.

INGERSOLL-RAND®
PROFESSIONAL TOOLS

SIGNIFICATION DES ETIQUETTES D'AVERTISSEMENT

⚠ ATTENTION

LE NON RESPECT DES AVERTISSEMENTS SUIVANTS PEUT CAUSER DES BLESSURES

⚠ ATTENTION

Porter toujours des lunettes de protection pendant l'utilisation et l'entretien de cet outil.

⚠ ATTENTION

Porter toujours une protection acoustique pendant l'utilisation de cet outil.

⚠ ATTENTION

Couper toujours l'alimentation d'air comprimé et débrancher le flexible d'alimentation avant d'installer, déposer ou ajuster tout accessoire sur cet outil, ou d'entreprendre une opération d'entretien quelconque sur l'outil.

⚠ ATTENTION

Les outils pneumatiques peuvent vibrer pendant l'exploitation. Les vibrations, les mouvements répétitifs et les positions inconfortables peuvent causer des douleurs dans les mains et les bras. N'utiliser plus d'outils en cas d'inconfort, de picotements ou de douleurs. Consulter un médecin avant de recommencer à utiliser l'outil.

⚠ ATTENTION

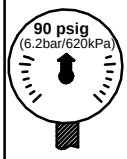
Ne pas transporter l'outil par son flexible.

⚠ ATTENTION

Ne pas utiliser des flexibles ou des raccords endommageés, effilochés ou détériorés.

⚠ ATTENTION

Garder une position équilibrée et ferme. Ne pas se pencher trop en avant pendant l'utilisation de cet outil.



⚠ ATTENTION

Utiliser de l'air comprimé à une pression maximum de 6,2 bar (620 kPa).

MISE EN SERVICE DE L'OUTIL

LUBRIFICATION

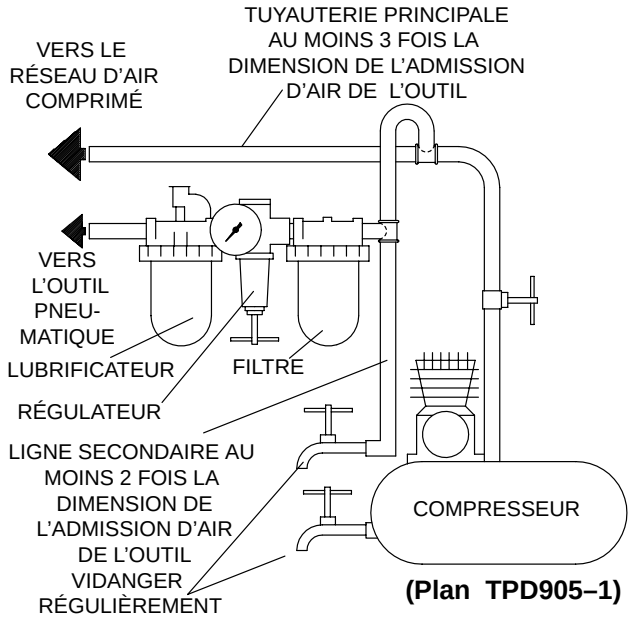
Ingersoll–Rand Nº. 50

Ingersoll–Rand Nº. 170

Utiliser toujours un lubrificateur avec ces outils. Nous recommandons l'emploi du filtre–régulateur–lubrificateur suivant :

Éu – No. C22–04–G00

Toutes les quarante–huit heures de fonctionnement, ou en fonction de l'expérience, injecter environ 4cm^3 de graisse Ingersoll–Rand No. 170 dans le raccord de graissage.



(Plan TPD905–1)

SPÉCIFICATIONS

Modèle	Type de poignée	Entraînement	Coups par minute	Gamme de couples recommandée
		in.		**ft–lbs (Nm)**
2161P	pistolet	3/4" entr. carré	1.025	250–900 (339–1220)
2171P	pistolet	1" entr. carré	1.025	250–900 (339–1220)

E

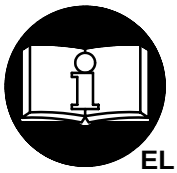
INSTRUCCIONES PARA LLAVES DE IMPACTO MODELOS 2161P Y 2171P

NOTA

Las llaves de Impacto Modelos 2161P y 2171P está diseñadas para uso en trabajos de montaje pesados y mantenimiento de maquinaria.

Ingersoll–Rand no aceptará responsabilidad alguna por la modificación de las herramientas efectuada por el cliente para las aplicaciones que no hayan sido consultadas con Ingersoll–Rand.

⚠ AVISO



SE ADJUNTA INFORMACION IMPORTANTE DE SEGURIDAD.
LEA ESTE MANUAL ANTES DE USAR LA HERRAMIENTA.
ES RESPONSABILIDAD DE LA EMPRESA ASEGURARSE DE QUE EL OPERARIO ESTE AL TANTO DE LA INFORMACION QUE CONTIENE ESTE MANUAL.
EL HACER CASO OMISO DE LOS AVISOS SIGUIENTES PODRIA OCASIONAR LESIONES.

PARA PONER LA HERRAMIENTA EN SERVICIO

- **Utilice, examine y mantenga siempre esta herramienta conforme al código de seguridad para herramientas neumáticas portátiles de la American National Standards Institute (ANSI B186.1).**
- **Para seguridad, máximo rendimiento y durabilidad de piezas, use esta herramienta a una máxima presión de aire de 90 psig (6,2 bar/620kPa) en la admisión de manguera de suministro de aire de diámetro interno de 13 mm.**
- **Corte siempre el suministro de aire y desconecte la manguera de suministro de aire antes de instalar, desmontar o ajustar cualquier accesorio de esta herramienta, o antes de realizar cualquier operación de mantenimiento de la misma.**
- **No utilice mangueras de aire y accesorios dañados, desgastados ni deteriorados.**
- **Asegúrese de que todas las mangueras y los accesorios sean del tamaño correcto y estén bien apretados. Vea Esq. TPD905–1 para un típico arreglo de tuberías.**
- **Use siempre aire limpio y seco a una máxima presión de 90 psig (6,2 bar/620kPa). El polvo, los gases corrosivos y/o el exceso de humedad podrían estropear el motor de una herramienta neumática.**
- **No lubrique las herramientas con líquidos inflamables o volátiles tales como queroseno, gasoil o combustible para motores a reacción.**
- **No saque ninguna etiqueta. Sustituya toda etiqueta dañada.**

USO DE HERRAMIENTA

- **Use siempre protección ocular cuando maneje, o realice operaciones de mantenimiento a, esta herramienta.**
- **Use siempre protección para los oídos cuando maneje esta herramienta.**
- **Mantenga las manos, la ropa suelta y el cabello largo alejados del extremo giratorio de la herramienta.**
- **Note la posición de la palanca de inversión antes de funcionar la herramienta para estar consciente de su dirección giratoria cuando funcione el estrangulador.**
- **Anticipe y esté alerta a los cambios repentinos en el movimiento durante la puesta en marcha y el manejo de toda herramienta motorizada.**
- **Mantenga una postura de cuerpo equilibrada y firme. No estire demasiado los brazos al manejar la herramienta. Pueden ocurrir reacciones de alto par a, o menos de, la recomendada presión de aire.**
- **El eje de la herramienta podría seguir girando brevemente después de haber soltado la palanca de estrangulación.**
- **Las herramientas neumáticas pueden vibrar durante el uso. La vibración, repetición o posiciones incomodas pueden dañarle los brazos y manos. En caso de incomodidad, sensación de hormigueo o dolor, deje de usar la herramienta. Consulte a un médico antes de volver a usarla otra vez.**
- **Utilice únicamente los accesorios Ingersoll–Rand recomendados.**
- **Utilice únicamente bocas y accesorios para llaves de impacto. No utilice bocas o accessorios manuales (cromados).**
- **Las llaves de impacto no son llaves de par. Las uniones que requieran pares específicos deberán ser comprobadas con un torsiómetro después de haberlas fijado con una llave de impacto.**
- **Esta herramienta no ha sido diseñada para trabajar en ambientes explosivos.**
- **Esta herramienta no está aislada contra descargas eléctricas.**

NOTA

El uso de piezas de recambio que no sean las auténticas piezas Ingersoll–Rand podría poner en peligro la seguridad, reducir el rendimiento de la herramienta y aumentar los cuidados de mantenimiento necesarios, así como invalidar toda garantía. Las reparaciones sólo serán realizadas por personal cualificado y autorizado. Consulte con el centro de servicio Ingersoll–Rand autorizado más próximo.

Toda comunicación se deberá dirigir a la oficina o al distribuidor Ingersoll–Rand más próximo.

Impreso en EE. UU.

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ETIQUETAS DE AVISO

⚠ AVISO

EL HACER CASO OMISO DE LOS AVISOS SIGUIENTES PODRIA OCASIONAR LESIONES.

⚠ ADVERTENCIA

Usar siempre protección ocular al manejar o realizar operaciones de mantenimiento en esta herramienta.

⚠ ADVERTENCIA

Usar siempre protección para los oìdos al manejar esta herriamenta.

⚠ ADVERTENCIA

Cortar siempre el suministro de aire y desconectar la manguera de suministro de aire antes de instalar, retirar o ajustar cualquier accesorio de esta herramienta, o antes de realizar cualquier operación de mantenimiento de la misma.

⚠ ADVERTENCIA

Las herramientas neumáticas pueden vibrar durante el uso. La vibración, los movimientos repetitivos o las posiciones incómodas podrían dañarle los brazos y las manos. En caso de incomodidad, sensación de hormigueo o dolor, dejar de usar la herramienta. Consultar al médico antes de volver a utilizarla.

⚠ ADVERTENCIA

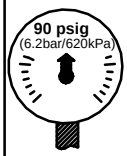
No coger la herramienta por la manguera para levantarla.

⚠ ADVERTENCIA

No utilizar mangueras de aire y accesorios dañados, desgastados ni deteriorados.

⚠ ADVERTENCIA

Mantener una postura del cuerpo equilibrada y firme. No estirar demasiado los brazos al manejar la herramienta.



⚠ ADVERTENCIA

Manejar la herramienta a una presión de aire máxima de 90 psig (6,2 bar/620 kPa).

PARA PONER LA HERRAMIENTA EN SERVICIO

LUBRICACION

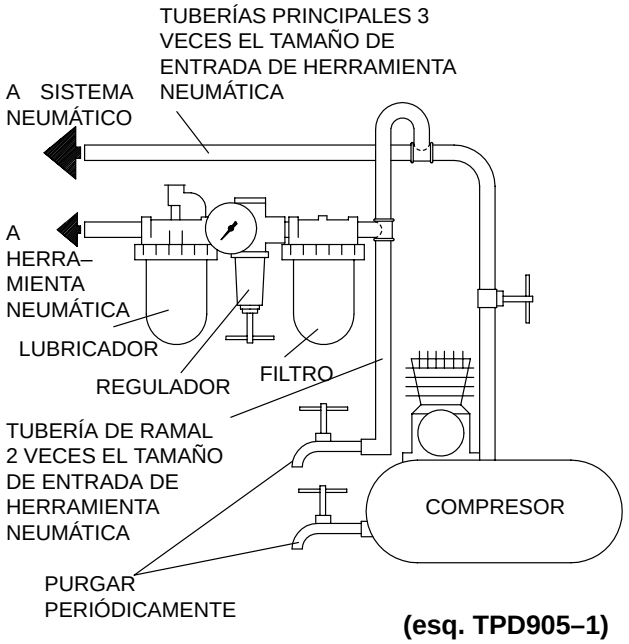
Ingersoll–Rand Nº 50

Ingersoll–Rand Nº 170

Utilice siempre un lubricador de aire comprimido con estas llaves de impacto. Recomendamos la siguiente unidad de Filtro–Lubricador–Regulador:

Para EE.UU. – Nº. C22–04–G00

Después de cada cuarenta y ocho horas de funcionamiento, o según indique la experiencia, inyecte unos 4 cc de Grasa Ingersoll–Rand Nº 170 en el Engrasador.



(esq. TPD905–1)

ESPECIFICACIONES

Modelo	Tipo de Empuñadura	Accionamiento	Impactos porminuto	Gama de par recomendada
		pulg.		**ft–lbs (Nm)**
2161P	pistola	3/4” cuadradillo	1.025	250–900 (339–1220)
2171P	pistola	1” cuadradillo	1.025	250–900 (339–1220)

INSTRUÇÕES PARA FERRAMENTAS DE PERCUSSÃO PARA SÉRIE 2161P E 2171P

P

AVISO

As Ferramentas de Percussão Série 2161P e 2171P são concebidas para utilização em trabalho de montagem ligeiro e em manutenção de maquinaria.

A Ingersoll–Rand não pode ser responsabilizada pela modificação de ferramentas para aplicações para as quais não tenha sido consultada.

⚠ ADVERTÊNCIA

IMPORTANTES INFORMAÇÕES DE SEGURANÇA EM ANEXO.
LEIA ESTE MANUAL ANTES DE OPERAR A FERRAMENTA.

É RESPONSABILIDADE DA ENTIDADE PATRONAL PÔR AS INFORMAÇÕES CONTIDAS NESTE MANUAL À DISPOSIÇÃO DOS UTILIZADORES.

A NÃO OBEDIÊNCIA ÀS ADVERTÊNCIAS SEGUINTES PODERÁ RESULTAR EM LESÕES PESSOAIS.

COLOCAÇÃO DA FERRAMENTA EM SERVIÇO

- **Sempre opere, inspeccione e mantenha esta ferramenta de acordo com o Código de Segurança do Instituto Americano de Padrões Nacionais para Ferramentas Pneumáticas Portáteis (ANSI B186.1).**
- **Para segurança, desempenho superior e durabilidade máxima das peças, opere esta ferramenta a uma pressão de ar máxima de 90 psig (6,2 bar/620 kPa) na admissão com uma mangueira de alimentação de ar com diâmetro interno de 1/2 pol. (13 mm).**
- **Desligue sempre a alimentação de ar e a mangueira de alimentação de ar antes de instalar, retirar ou ajustar qualquer acessório desta ferramenta, ou antes de fazer manutenção na mesma.**
- **Não utilize mangueiras de ar e acessórios danificados, puídos ou deteriorados.**
- **Certifique–se de que todas as mangueiras e acessórios são da dimensão correcta e que estão seguros firmemente. Consulte o Des. TPD905–1 para uma disposição de tubos típica.**
- **Utilize sempre ar limpo e seco a uma pressão máxima de 90 psig (6,2 bar/620 kPa). Poeira, fumos corrosivos e/ou humidade excessiva podem destruir o motor de uma ferramenta pneumática.**
- **Não lubrifique a ferramenta com líquidos inflamáveis ou voláteis como querosene, gasóleo ou combustível para jactos.**
- **Não retire nenhum rótulo. Substitua os rótulos danificados.**

UTILIZAÇÃO DA FERRAMENTA

- **Use sempre protecção para os olhos ao operar ou fazer manutenção nesta ferramenta.**
- **Use sempre protecção auricular ao operar esta ferramenta.**
- **Mantenha as mãos, roupas soltas e cabelos longos afastados da extremidade rotativa da ferramenta.**
- **Note a posição da alavanca de inversão antes de operar a ferramenta de forma a estar ciente da direcção de rotação ao operar o regulador.**
- **Esteja preparado e alerta para mudanças súbitas no movimento durante o arranque e o funcionamento de qualquer ferramenta mecânica.**
- **Mantenha o corpo numa posição equilibrada e firme. Não estique o corpo ao operar esta ferramenta. Podem ocorrer binários de reacção elevados à ou abaixo da pressão do ar recomendada.**
- **O veio da ferramenta pode continuar a rodar por um curto período de tempo depois de soltar o regulador.**
- **A ferramentas pneumáticas podem vibrar durante a utilização. Vibração, movimentos repetitivos ou posições desconfortáveis podem ser nocivos às suas mãos e braços. Pare de utilizar qualquer ferramenta se ocorrer desconforto, sensação de formigueiro ou dor. Procure assistência médica antes de reiniciar a utilização.**
- **Use os acessórios recomendados pela Ingersoll–Rand.**
- **Use apenas caixas e acessórios de percussão. Não use caixas e acessórios manuais (cromo).**
- **As chaves de percussão não são chaves dinamométricas. As ligações que precisem de um valor específico de binário devem ser verificadas com um dinamómetro após serem montadas com uma chave de percussão.**
- **Esta ferramenta não é concebida para funcionar em atmosferas explosivas.**
- **Esta ferramenta não é isolada contra choque eléctrico.**

AVISO

A utilização de qualquer peça sobresselente que não seja Ingersoll–Rand genuína pode resultar em riscos para a segurança, em desempenho reduzido da ferramenta e mais necessidade de manutenção, e pode invalidar todas as garantias.

As reparações só devem ser feitas por pessoal autorizado e com formação adequada. Consulte o Representante Autorizado Ingersoll–Rand mais próximo.

Envie toda a correspondência ao Escritório ou Distribuidor Ingersoll–Rand mais próximo.

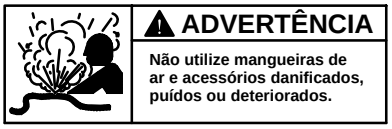
Impresso nos E.U.A.

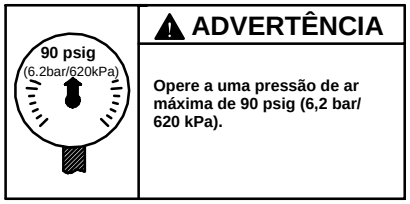
INGERSOLL-RAND®
PROFESSIONAL TOOLS

IDENTIFICAÇÃO DAS ETIQUETAS DE ADVERTÊNCIA

⚠ ADVERTÊNCIA

A NÃO OBEDIÊNCIA ÀS ADVERTÊNCIAS SEGUINTES PODERÁ RESULTAR EM LESÕES PESSOAIS.





COLOCAÇÃO DA FERRAMENTA EM SERVIÇO

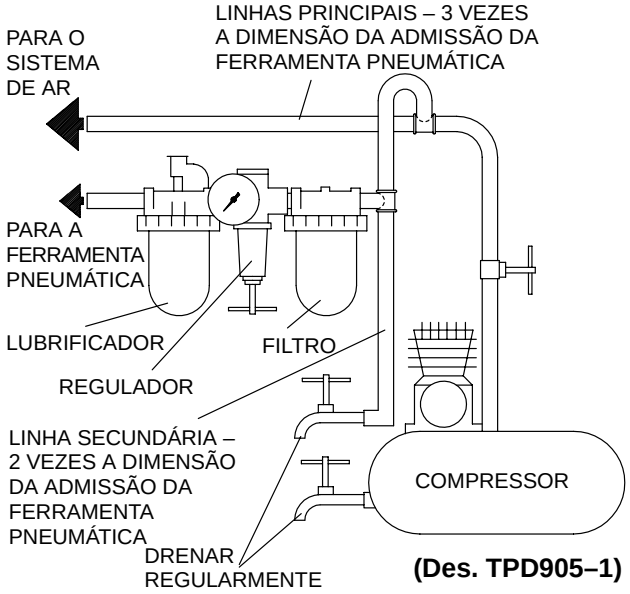
LUBRIFICAÇÃO

Ingersoll–Rand Nº 50 **Ingersoll–Rand Nº 170**

Utilize sempre um lubrificador de linha de ar com estas ferramentas.
Recomendamos a seguinte Unidade Filtro–Lubrificador–Regulador:

For USA – No. C22–04–G00

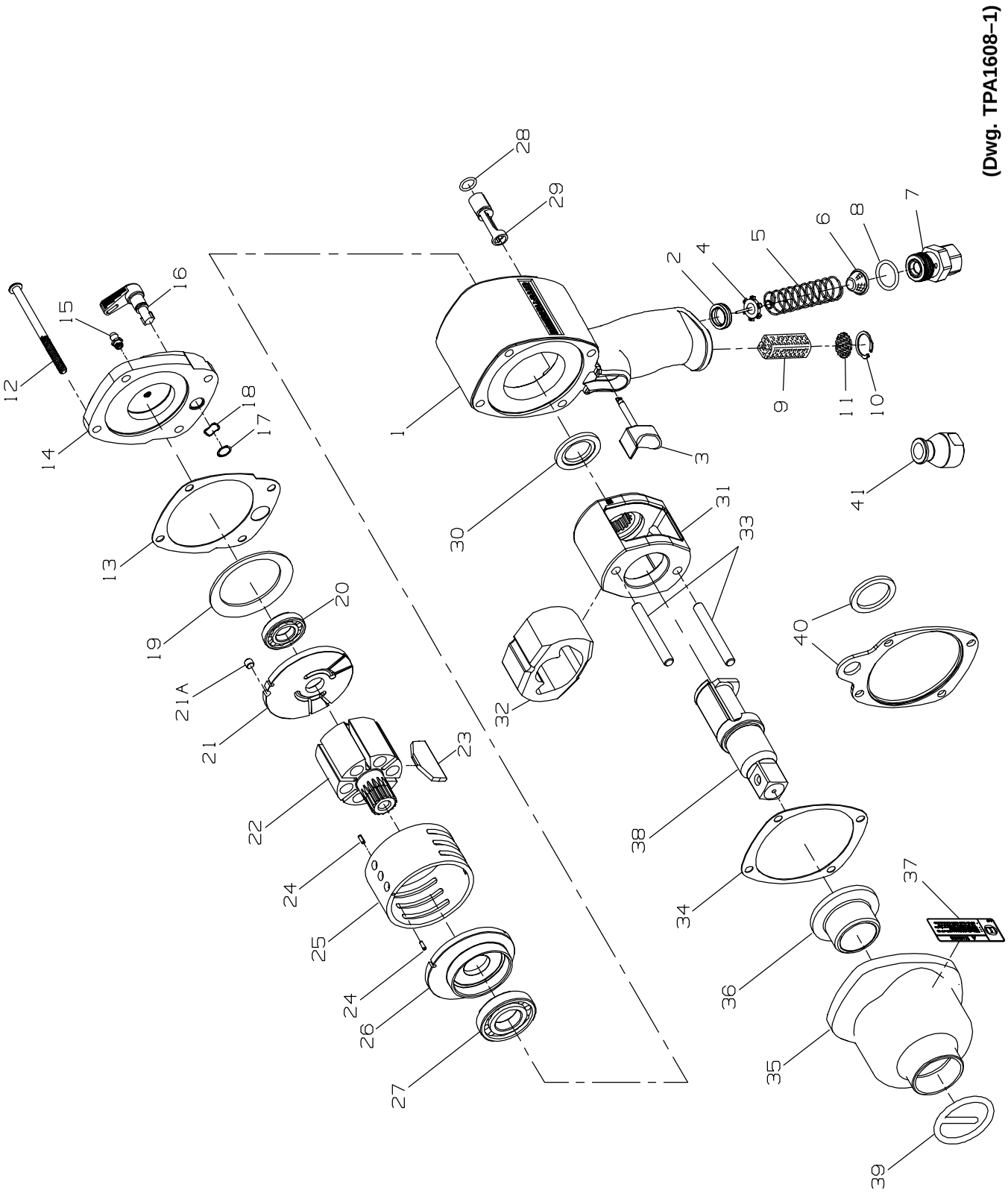
Após cada quarenta–e–oito horas de funcionamento, ou conforme a experiência indicar, injecte cerca de 4 cc de Massa Ingersoll–Rand Nº 170 no Copo de Massa.



(Des. TPD905–1)

ESPECIFICAÇÕES

Modelo	Tipo de Pega	Accionamento	Impactos por min.	Gama de Binário Recomendada
		pol.		**ft–lbs (Nm)**
2161P	pistola	acc. quadr. de 3/4 pol.	1.025	250–900 (339–1220)
2171P	pistola	acc. quadr. de 1 pol.	1.025	250–900 (339–1220)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		PART NUMBER FOR ORDERING
	Motor Housing Assembly	2161–A40
1	Motor Housing	2161–B40
2	Throttle Valve Seat	DG230–303
3	Trigger Assembly	2161–A93
4	Throttle Valve	2921–302
5	Throttle Valve Spring	2161–51
6	Air Strainer Screen	834–61
7	Inlet Bushing Assembly	2161–A465
8	Inlet Bushing O–ring	AF120–290
9	Muffler Element	202–311
10	Retaining Ring	2161–118
11	Exhaust Deflector	2161–23
12	Backcap Bolt (4)	2161–638
• 13	Backcap Gasket	2161–739
	Backcap Assembly	2161–A102
14	Backcap	2161–102
15	Grease Fitting	R1–188
16	Reverse Lever	2161–658
17	Reverse Lever Snap Ring	2161–28
18	Reverse Lever Spring	2161–278
19	Motor Clamp Washer	2161–207
20	Rear Rotor Bearing	4E–510
21	Rear End Plate	2161–12
21A	Locating Pin	2920–74
22	Rotor	2910B–53
• 23	Vane Packet (set of 6 Vanes)	2910–42–6
24	Cylinder Dowel (2)	JC3350–538

		PART NUMBER FOR ORDERING
25	Cylinder	2161–3
26	Front End Plate	2161–11
27	Front Rotor Bearing	834–24
• 28	Reverse Valve O–ring	023446
29	Reverse Valve	2161–329
30	Hammer Frame Washer	2161–706
31	Hammer Frame	2910–703A
32	Hammer	2161–724
33	Hammer Pin (2)	2910–704
• 34	Hammer Case Gasket	2161–36
35	Hammer Case Assembly	
	for 2161P and 2171P	2161–A727
	for 2161P–EU and 2171P–EU	2161–EU–A727
36	Hammer Case Bushing	2161–641
37	Warning Label	
	for 2161P and 2171P	WARNING–2–99
	for 2161P–EU and 2171P–EU	EU–99
38	Anvil	
	3/4” square drive	260–726
	1” square drive	1711B–826
39	Socket Retainer	
	for 3/4” square drive (2161P)	RR10034S
	for 1” square drive (2171P)	RR10015S
40	Hanger Kit	2161–366
41	Piped–Away Exhaust	2161–123
40	Hanger Kit	2161–366
41	Piped–Away Exhaust	2161–123

• To keep downtime to a minimum, it is desirable to have on hand certain repair parts. We recommend that you stock one (pair or set) of each part indicated by a bullet (•) for every four tools in service.

⚠ 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.

LUBRICATION

Each time a Series 2161P or 2171P 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. 100 Grease into the impact mechanism. Coat the Anvil (38) lightly with grease around the Hammer Case Bushing (36). Inject approximately 2 to 4 cc of grease into the Grease Fitting (15).
2. Use Ingersoll–Rand No. 50 Oil for lubricating the motor. Inject approximately 1 to 2 cc of oil into the air inlet before attaching the air hose.

DISASSEMBLY

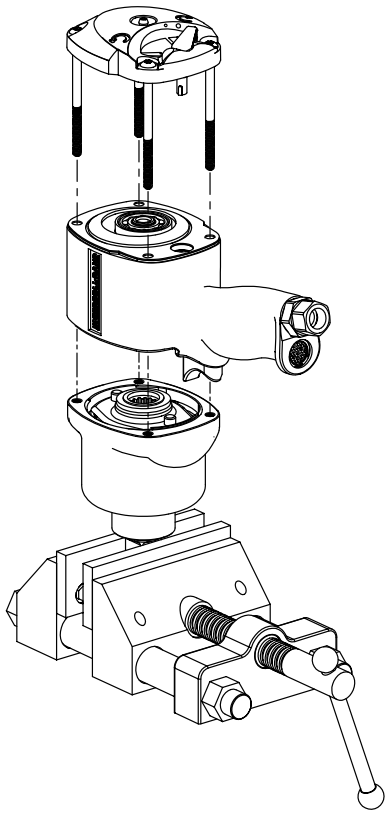
General Instructions

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

NOTICE

Before disassembling this tool, clamp the anvil drive in leather–covered or copper–covered vise jaws with the Backcap (14) pointing upward. See Drawing TPD1922.



(Dwg. TPD1922)

1. Using a Torx®* Number 27 drive wrench or bit, unscrew and remove the four Backcap Bolts (12).
2. Lift the assembled Motor Housing (1) off of the Hammer Case (35). 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 (34) 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 (30) 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 (33) do not drop out of the Hammer.
6. Lift the Hammer Case off of the Anvil (38). If it is unnecessary to disassemble the impact mechanism, set it aside intact.

* Registered trademark of Textron.

Disassembly of the Impact Mechanism

Disassemble the impact mechanism as follows:

1. Set the mechanism, driver end up, on the workbench. Using a felt tipped pen, mark one end of the Hammer "↑" with the arrow pointing upward.
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 Hammer out of engagement. Don't do this; merely rotate the Anvil until it comes up solid.

3. Hold the Hammer Frame firmly and, without disturbing the Hammer, gently lift the Anvil from the Hammer Frame.
4. With the Anvil removed, lift out the two Hammer Pins.

CAUTION

The Hammer is now free to slide from the Hammer Frame. Be careful not to drop it.

Disassembly of the Reverse Valve

1. Using a Torx® No. 27 drive wrench or bit, remove the four Backcap Bolts (12)
2. Lift the Backcap off of the rear of the Housing.
3. Discard the Backcap Gasket (13) and replace it with a new one when assembling the tool.
4. Use a hooked tool to remove the Reverse Valve (29) from the reverse valve bushing. Set the Reverse Valve aside on a clean bench.
5. Remove and discard the Reverse Valve O–ring (28). Replace it with a new one when assembling the Reverse Valve.
6. Use a flat, thin blade screwdriver to remove the Reverse Lever Retaining Ring (17) and Reverse Lever Spring (18) from the Reverse Lever (16).
7. Remove the Reverse Lever from the Backcap.

Disassembly of the Motor

1. Using a Torx® No. 27 drive wrench or bit, remove the four Backcap Bolts.
2. Remove the Backcap, Motor Clamp Washer (19) and Backcap Gasket from from the Housing and set them aside on a clean bench. Discard the Backcap Gasket and replace it with a new on when assembling the tool.
3. Lift the Housing from the Hammer Case. Place one hand over the rear of the Housing and turn the Housing over so that the assembled motor can slide and be guide out of the Housing.
4. Place the assembled motor on a clean bench with the rotor spline facing upward.
5. Remove the Front End Plate (26) and Cylinder (25).
6. Remove the Rotor (22) from the Rear End Plate (21).
7. Remove the Vanes from the Rotor.
8. Inspect all motor parts including the Front Rotor Bearing (27) and Rear Rotor Bearing (20) and replace all worn or damaged parts.

Disassembly of the Throttle Mechanism

1. Unscrew and remove the Air Inlet Bushing (7).
2. Remove the Screen (6), Throttle Valve Spring (5) and Throttle Valve (4).
3. If the Throttle Valve Seat (2) requires replacement, insert a hooked tool through the center of the Valve Seat. Catching the backside of the Seat with the hook, pull the Seat from the Housing.
4. Withdraw the Trigger Assembly (3) from the Housing.
5. Remove the Retaining Ring (10), Exhaust Deflector (11) and Muffler Element (9) from the Housing.

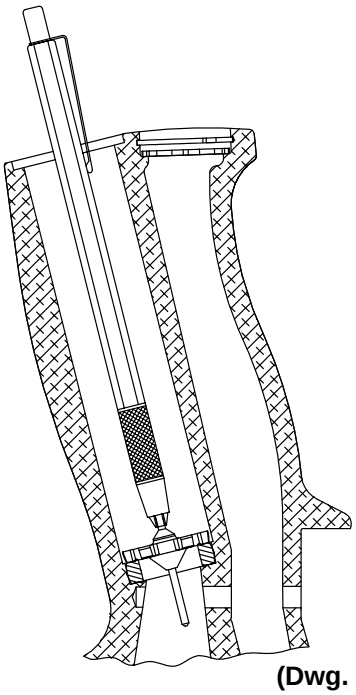
ASSEMBLY

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 leather–covered or copper–covered vise jaws. Take extra care with threaded parts or housings.
4. Always clean every part and wipe every part with a thin film of oil before installation.
5. Apply a film of O–ring lubricant to all O–rings before final assembly.
6. 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 Mechansism

1. Install a new Throttle Valve Seat (2) by pushing it into position in the Housing (1) with a 13/16" dowel.
2. Insert the short end of the stem of the Throttle Valve (4) into the jaws of an expanding–type mechanical pencil. Allow the jaws to retract around the stem to secure it.
3. Install the Throttle Valve on the Valve Seat. See Dwg. TPD1919.

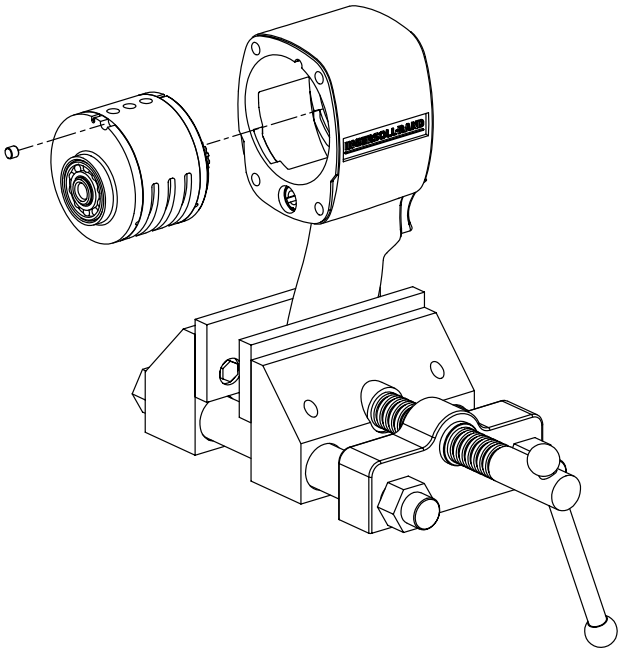


(Dwg. TPD1919)

4. As an alternate assembly procedure, drop the Throttle Valve, long stem first, into the inlet passage. If the throttle Valve does not sit squarely on the Throttle valve Seat, shake the Handle until it seats.
5. Install the Throttle Valve Spring (5), small end first, with the inside diameter of the small first coil around the hub of the Throttle Valve.
6. Coat the Inlet Bushing O–ring (8) with O–ring lubricant and install it on the Inlet Bushing (7).
7. Screw the Inlet bushing into the Housing until snug and tighten to 55–60 ft. lbs. (75–81 Nm) torque.
8. Wipe the stem of the Trigger Assembly (3) with light grease and insert the stem of the Trigger into the trigger bore in the Housing until it snaps into place on the Throttle Valve.

Assembly of the Motor

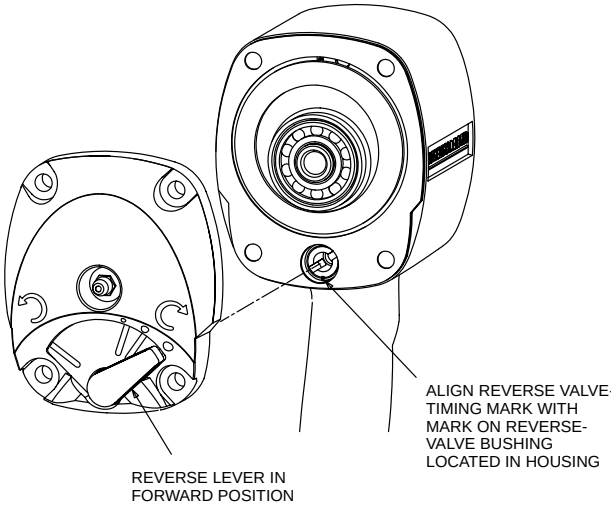
1. Pack the Front Rotor Bearing (27) and Rear Rotor Bearing (20) with the recommended grease. Install the Front Rotor Bearing in the Front End Plate (26) and the Rear Rotor Bearing in the Rear End Plate (21).
2. Slide the assembled Rear End Plate and Rear Rotor Bearing on the hub of the Rotor (22).
3. Set the assembled Rear End Plate and Rotor on a clean surface with the spline of the Rotor pointing upward.
4. Insert the Vanes (23) in the vane slots on the Rotor.
5. Install the Front and Rear Cylinder Dowels (24) in the Cylinder (25).
6. Slide the Cylinder over the the Rotor and Vanes making sure that the Rear Cylinder Dowel enters the notch in the in the outside diameter of the Rear End Plate.
7. 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.
8. 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 (21A) into Housing and Rear End Plate. See Dwg. TPD1923–1.



(Dwg. TPD1923–1)

Assembly of the Reverse Valve

1. Coat a new Reverse Valve O–ring (28) with O–ring lubricant and install it in the groove on the Reverse Valve (29).
2. Install the Reverse Valve in the reverse valve bushing with the slotted end trailing,making sure that the the index mark on the Reverse Valve is aligned with the index mark on the Bushing.
   See Dwg. TPD1912–1.



(Dwg. TPD1912–1)

NOTICE

The Reverse Valve must be installed and indexed with the bushing as directed in Step 2 and Dwg. TPD1912–1. Failure to do so will cause improper operation of the Reverse Valve.

3. Insert the Reverse Lever (16) through the rear of the Backcap (14).
4. Slide the Reverse Lever Spring (18) over the shaft of the Reverse Lever and secure the Spring and Reverse Lever by installing the the Reverse Lever Snap Ring (17) 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. TPD1912–1.

Assembly of the Impact Mechanism

1. Coat the Hammer (38) with a light film of Ingersoll–Rand No. 170 Grease.
2. Slide the Hammer into the Hammer Frame (36) exactly as it was when you marked it prior to disassembly.

NOTICE

In order to utilize both impacting surfaces on the Hammer and thus equalize the wear on each hammer jaw, the Hammer can be flipped over so that the arrow is pointing downward.

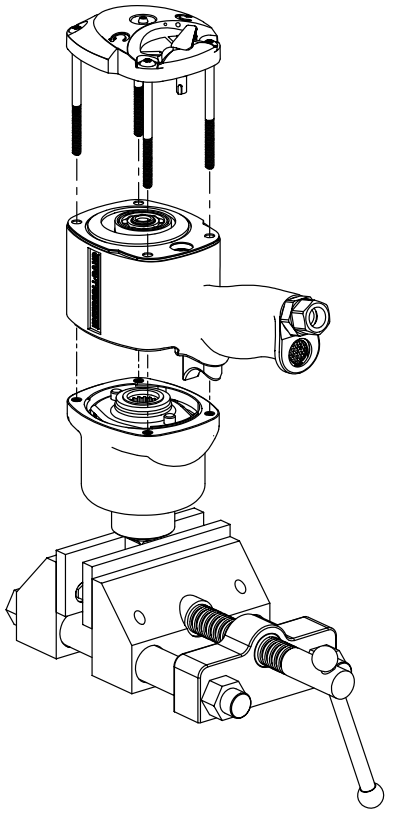
3. Replace the Hammer Pins (37).
4. Examine the base of the Anvil (39) and note its contour. While looking down through the Hammer Frame, swing the Hammer to its full extreme one way or another until you can match the contour of the Anvil. Enter the Anvil into the Hammer Frame and through the Hammer.

Assembly of the Anvil

1. Place the Hammer Frame Washer (30), hub side first, over the hub of the Rotor and against the Front Rotor Bearing.
2. Set the assembled impact mechanism down over the splined hub of the Rotor. If the impact mechanism was disassembled, refer to **Assembly of the Impact Mechanism.**
3. Position the new Hammer Case Gasket (34) on the Housing.
4. Work approximately 12 to 15 cc of Ingersoll–Rand No. 170 Grease into the impact mechanism.
5. Smear a thin film of Ingersoll–Rand No. 170 Grease on the inside surface of the Hammer Case Bushing (36) and place the Hammer Case (35) down over the Anvil and against the Motor Retainer.
6. Install the Backcap Bolts and using a No. 27 Torx® drive wrench or bit, tighten them to 10 to 12 ft–lb (13 to 16 Nm) torque.
7. Remove the Impactool from the vise and inject 2 to 4 cc of Ingersoll–Rand No. 170 Grease into the Grease Fitting (15).

Assembly of the Tool

1. Wipe a thin film of the recommended grease on the inside of the Hammer Case Bushing (36) and insert the assembled impact mechanism into the Hammer Case (35).
2. Secure the Hammer Case and impact mechanism by the anvil (square drive) end in leather–coverd or copper–covered vise jaws. See Dwg. TPD1922.



(Dwg. TPD1922)

3. Install a new Hammer Case Gasket (34) 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 (34) on the Housing.

4. Wipe a small amount of the recommended grease on the flat side of the Hammer Frame Washer (30) and place it on the splined face of the Hammer Frame (31) 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 Backcap Gasket (13) 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 (19) over the rear of the motor with the convex side up and matching the large outside diameter of the Rear End Plate.
8. Place the Backcap (14) over the back of the Housing making sure that the Reverse Valve Lever (16) 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.
9. Install the four Backcap Bolts and using a No. 27 Torx® drive wrench or bit, tighten to 10–12 ft–lbs (13–16 Nm) torque.

TROUBLESHOOTING GUIDE

Trouble	Probable Cause	Solution
Low power	Dirty Inlet Bushing or Air Strainer Screen and/or Exhaust Silencer	Using a clean, suitable, cleaning solution, in a well ventilated area, clean Air Strainer Screen, Inlet Bushing and Exhaust Silencer.
	Worn or broken Vanes	Replace the **complete** 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.
	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.
Motor will not run	Improper positioning of the Reverse Valve Lever or Reverse Valve	Make certain that the Reverse Valve Lever is in the the reverse position or one of the three forward positions. If the tool has been disassembled, refer to Dwg. TPD1912–1 for proper Reverse Valve and Reverse Lever orientation.
	Incorrect assembly of the motor.	Disassemble the motor, replace worn or broken parts and reassemble as instructed.
Tool will not impact	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 **Assembly of the Impact Mechanism.**

NOTICE

SAVE THESE INSTRUCTIONS. DO NOT DESTROY.