

## INSTRUCTIONS FOR MODEL IR-C2131 ULTRA DUTY AUTOMOTIVE IMPACT WRENCH

### NOTICE

Model IR-C2131 Impact Wrench is designed for use in general automotive repair, tire service and heavy duty fleet applications.

### ⚠ WARNING

**IMPORTANT SAFETY INFORMATION ENCLOSED - SAVE THESE INSTRUCTIONS  
READ AND UNDERSTAND THIS MANUAL BEFORE OPERATING THIS PRODUCT**



**IT IS YOUR RESPONSIBILITY TO MAKE THIS SAFETY INFORMATION  
AVAILABLE TO OTHERS THAT WILL OPERATE THIS PRODUCT**

**FAILURE TO OBSERVE THE FOLLOWING WARNINGS COULD  
RESULT IN INJURY**

### PLACING TOOL IN SERVICE

- Always install, operate, inspect and maintain this product in accordance with all applicable standards and regulations (local, state, country, federal, etc.).
- Always use clean, dry air at 90 psig (6.2 bar/620 kPa) maximum air pressure at the inlet. Higher pressure may result in hazardous situations including excessive speed, rupture, or incorrect output torque or force.
- Be sure all hoses and fittings are the correct size and are tightly secured. See Dwg. TPD905-2 for a typical piping arrangement.
- Ensure an accessible emergency shut off valve has been installed in the air supply line, and make others aware of its location.
- Do not use damaged, frayed or deteriorated air hoses and fittings.
- Keep clear of whipping air hoses. Shut off the compressed air before approaching a whipping 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 lubricate tools with flammable or volatile liquids such as kerosene, diesel or jet fuel. Use only recommended lubricants.
- Keep work area clean, uncluttered, ventilated and illuminated.
- 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.
- Always use Personal Protective Equipment appropriate to the tool used and material worked. This may include dust mask or other breathing apparatus, safety glasses, ear plugs, gloves, apron, safety shoes, hard hat and other equipment.
- This tool is not designed for working in explosive environments, including those caused by fumes and dust, or near flammable materials.
- This tool is not insulated against electric shock.
- Be aware of buried, hidden or other hazards in your work environment. Do not contact or damage cords, conduits, pipes or hoses that may contain electrical wires, explosive gases or harmful liquids.
- Prevent exposure and breathing of harmful dust and particles created by power tool use. Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:
  - lead from lead based paints,
  - crystalline silica from bricks and cement and other masonry products, and
  - arsenic and chromium from chemically treated lumber.
 Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

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**Using the Tool (Continued)**

- Keep others a safe distance from your work area, or ensure they use appropriate Personal Protective Equipment.
- Keep hands, loose clothing, long hair and jewelry away from working end of tool.
- Power 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.
- Keep body stance balanced and firm. Do not overreach when operating this tool. Anticipate and be alert for sudden changes in motion, reaction torques, or forces during start up and operation.
- Tool and/or accessories may briefly continue their motion after throttle is released.
- To avoid accidental starting - ensure tool is in "off" position before applying air pressure, avoid throttle when carrying, and release throttle with loss of air.
- Ensure work pieces are secure. Use clamps or vises to hold work piece whenever possible.
- Do not carry or drag the tool by the hose.
- Do not use power tools when tired, or under the influence of medication, drugs, or alcohol.
- Never use a damaged or malfunctioning tool or accessory.
- Do not modify the tool, safety devices, or accessories.
- Do not use this tool for purposes other than those recommended.
- Use accessories recommended by Ingersoll-Rand.
- Note the position of the reversing mechanism before operating the tool so as to be aware of the direction of rotation when operating the throttle.
- 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.
- Periodically check the drive end of the tool to make certain that the socket retainer functions correctly, and that sockets and drive ends are not excessively worn which may allow the socket to come off when rotating.

**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.

**WARNING SYMBOL IDENTIFICATION**

	<b>▲ WARNING</b>
	Always wear eye protection when operating or performing maintenance on this tool.

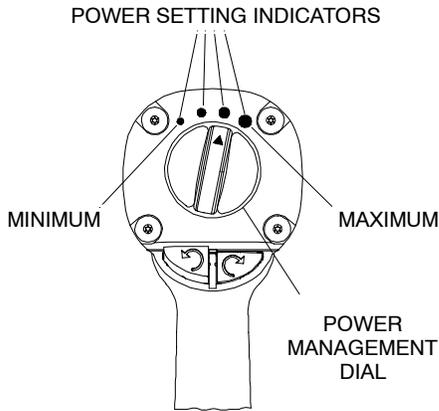
	<b>▲ WARNING</b>
	Read this manual before operating tool.

	<b>▲ WARNING</b>
	Always wear hearing protection when operating this tool.

**⚠ WARNING**

**Air wrenches are not torque control devices. Fasteners with specific torque requirements must be checked with suitable torque measuring devices after installation with an air wrench.**

**MODEL IR-C2131 POWER MANAGEMENT SYSTEM**



(Dwg. TPD1339)

Model IR-C2131 Impact Wrench incorporates a Power Management System that allows the operator to select four power output settings. These settings range from minimum power output through maximum power output in the forward direction only. The Air Wrench will always operate at maximum power output in the reverse direction, no matter what power output level is selected.

**⚠ WARNING**

**The four power setting indicators of increasing size on the rear of the housing indicate increasing power output levels, are for reference only and DO NOT denote a specific power output. The smallest power setting indicator designates minimum power output, the two middle power setting indicators denote medium power outputs and the largest power setting indicator denotes maximum power output. The power output can be further reduced in forward or reverse by using the variable throttle. Air supply systems which do not deliver adequate air pressure can affect power output at all settings.**

## SERVICING THE TOOL

### Lubrication



**Ingersoll-Rand No. 50**

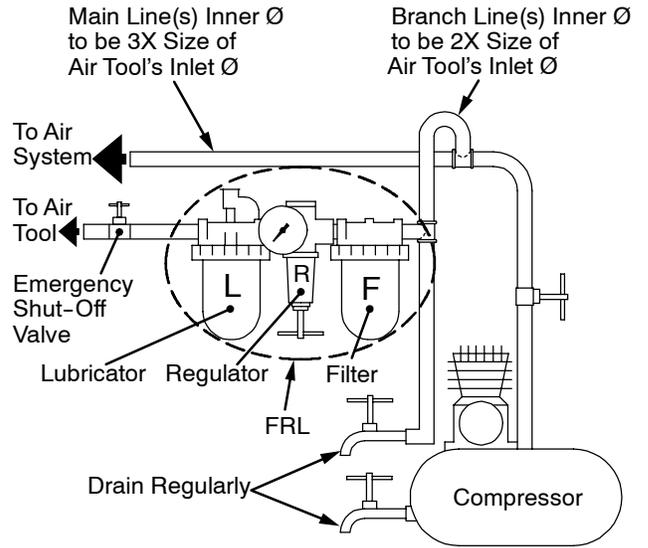


**Ingersoll-Rand No. 115-1LB** for routine external lubrication of the impact mechanism through the Hammer Case Grease Fitting.

Use **Ingersoll-Rand No. 105-1LB** or **Ingersoll-Rand 105-8LB** when disassembling and assembling the impact mechanism.

Always use an air line lubricator with these tools. We recommend the following Filter-Regulator-Lubricator (FRL) Unit:

For USA use Unit Number **C18-03-FKG0-28**  
 For International use Unit Number **C28-C3-FKG0**



(Dwg. TPD905-2)

### CAUTION

**Do not mark any nonmetallic surface on this tool with customer identification codes. Such actions could affect tool performance.**

## SPECIFICATIONS

Model	Type of Handle	Drive	Impacts per min.	Recommended Torque Range	
				Forward ft-lb (Nm)	Reverse ft-lb (Nm)
IR-C2131	pistol grip	1/2"	1,250	50-400 [450 Max.] (68-542 [610 Max.] )	550 [600 Max.] (746 [813 Max.] )

# MODE D'EMPLOI DE CLÉ À CHOC AUTOMOBILE SÉRIE EXTRA FORTE MODÈLE IR-C2131

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## NOTE

Le clé à choc Modèle IR-C2131 est destinée aux réparations automobiles générales, à l'entretien des pneus et aux applications de parc automobile nécessitant des couples élevés.

## ATTENTION



D'IMPORTANTES INFORMATIONS DE SÉCURITÉ SONT JOINTES -  
CONSERVEZ SOIGNEUSEMENT CES INSTRUCTIONS

LISEZ ET ASSIMILEZ CE MANUEL AVANT D'UTILISER CE PRODUIT

IL VOUS INCOMBE DE TRANSMETTRE CES INFORMATIONS DE SECURITE  
A TOUTES LES PERSONNES QUI UTILISERONT CE PRODUIT

LE NON RESPECT DES AVERTISSEMENTS SUIVANTS PEUT CAUSER DES BLESSURES

### MISE EN SERVICE DE L'OUTIL

- Installez, exploitez, inspectez et entretenez toujours ce produit conformément à toutes les normes et réglementations (locales, départementales, nationales, fédérales, etc.) en vigueur.
- Utilisez toujours de l'air sec et propre à une pression maximum de 90 psig (6,2 bar, 620kPa). Toute pression supérieure peut créer des situations dangereuses y compris une vitesse excessive, une rupture ou un couple ou effort de sortie incorrect.
- S'assurer que tous les flexibles et les raccords sont correctement dimensionnés et bien serrés. Voir Plan TPD905-2 pour un exemple type d'agencement des tuyauteries.
- Vérifiez qu'un robinet d'arrêt d'urgence accessible a bien été installé dans le circuit d'alimentation d'air et notifier son emplacement à tout le personnel.
- Ne pas utiliser des flexibles ou des raccords endommagés, effilochés ou détériorés.
- En cas de rupture ou d'éclatement du flexible d'air ne pas s'approcher. Couper le réseau d'air comprimé avant d'approcher du flexible d'air.
- 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 lubrifiez jamais les outils avec des liquides inflammables ou volatils tels que le kérosène, le gasoil ou le carburant d'aviation. Utilisez seulement les lubrifiants recommandés.
- Maintenez le lieu de travail propre, sans obstruction, aéré et bien éclairé.
- 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.
- Portez toujours les équipements de protection personnelle adaptés à l'outil utilisé et au matériau travaillé. Ces équipements peuvent être des masques anti-poussière ou autre appareil respiratoire, des lunettes de sécurité, des bouchons d'oreille, des gants, un tablier, des chaussures de sécurité, un casque et d'autres équipements.
- Cet outil n'est pas conçu pour fonctionner dans des atmosphères explosives, y compris celles créées par les vapeurs ou les poussières ou près de matériaux inflammables.
- Cet outil n'est pas isolé contre les chocs électriques.
- Soyez conscient des risques, cachés ou autres dans votre environnement de travail. N'entrez jamais en contact avec les câbles, les conduites, les tuyaux ou les flexibles qui pourraient contenir des câbles électriques, des gaz explosifs ou des liquides dangereux.
- Evitez toute exposition et respiration des poussières et particules nocives créées par l'emploi de l'outil pneumatique:  
Certaines poussières produites par les opérations de ponçage, sciage, meulage, perçage et autres activités de construction contiennent des produits chimiques qui sont reconnus comme pouvant causer le cancer, des infirmités de naissance ou d'autres risques à effets nocifs. Parmi ces produits chimiques on trouve:
  - le plomb des peintures à base de plomb,
  - les cristaux de silice contenus dans les briques, le ciment et d'autres produits de maçonnerie, et
  - l'arsenic et le chrome des bois traités chimiquement.Le risque présenté par l'exposition à ces poussières est fonction de la fréquence et du type de travail effectué. Pour réduire l'exposition à ces produits chimiques : travaillez dans une zone bien aérée, et utilisez les équipements de sécurité approuvés, tels que les masques à poussière qui sont spécialement conçus pour filtrer et arrêter les particules microscopiques.

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## Utilisation de l'outil (Continued)

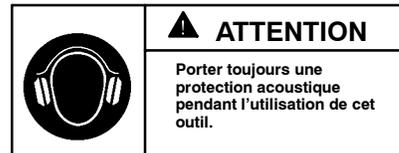
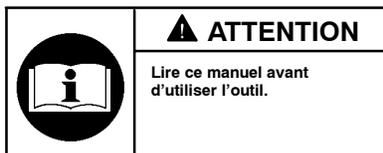
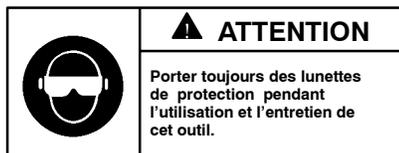
- Tenez les gens à une distance sûre de la zone de travail ou vérifiez qu'ils utilisent des équipements de protection personnelle appropriés.
- Gardez les mains, vêtements amples, cheveux longs et bijoux éloignés de l'extrémité rotative de l'outil.
- Les outils électriques peuvent vibrer pendant l'usage. Les vibrations, les mouvements répétitifs et les positions inconfortables peuvent causer des douleurs dans les mains et les bras. Cessez d'utiliser les outils en cas d'inconfort, de picotements ou de douleurs. Consultez un médecin avant de recommencer à utiliser l'outil.
- Garder une position équilibrée et ferme. Ne pas se pencher trop en avant pendant l'utilisation de cet outil. Anticiper et prendre garde aux changements soudains de mouvement, couples de réaction ou forces lors du démarrage et de l'exploitation.
- L'outil et/ou les accessoires peuvent continuer à tourner brièvement après le relâchement de la gâchette.
- Pour éviter toute mise en marche accidentelle - vérifiez que l'outil est à la position "arrêt" avant d'appliquer l'air comprimé, évitez de toucher la commande de mise en marche lorsque vous transportez l'outil et relâcher la commande lorsque la pression d'air chute.
- Vérifiez que les pièces à travailler sont fermement fixées. Utilisez des brides ou un étau pour retenir les pièces lorsque possible.
- Ne transportez pas l'outil par son flexible d'air comprimé.
- N'utilisez pas d'outils lorsque vous êtes fatigué ou sous l'influence de médicaments, de drogues ou d'alcool.
- N'utilisez jamais un outil ou accessoire endommagé ou de fonctionnement douteux.
- Ne modifiez jamais l'outil, les dispositifs de sécurité ou les accessoires.
- N'utilisez pas cet outil à des fins autres que celles recommandées.
- Utilisez les accessoires recommandés par Ingersoll-Rand.
- Notez la position du mécanisme d'inversion avant de mettre l'outil en marche de manière à savoir dans quel sens il va tourner lorsque la commande est actionnée.
- Utilisez seulement des douilles et accessoires pour clés à chocs sur cet outil. N'utilisez pas les douilles et accessoires de clés manuelles.
- Les clés à chocs ne sont pas des appareils 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.
- Inspecter périodiquement le côté entraînement de l'outil pour vérifier que l'arrêt de douille fonctionne correctement et que les douilles et les entraînements ne présentent pas d'usure excessive qui permettrait à la douille de tomber pendant la rotation.

### 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.

### SIGNIFICATION DES SYMBOLES D'AVERTISSEMENT

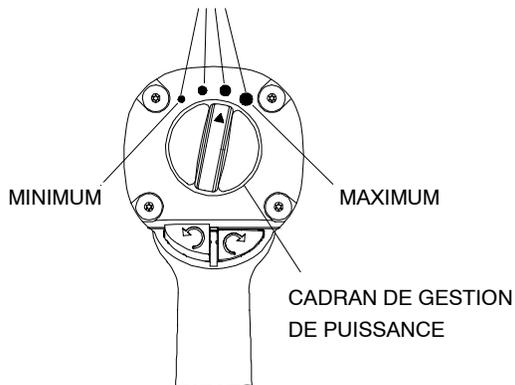


**ATTENTION**

Les clés pneumatiques ne sont pas des dispositifs de contrôle de couple. Les fixations ayant des exigences spécifiques de couple doivent être contrôlées avec des dispositifs dynamométriques appropriés après avoir été assemblées avec une clé pneumatique.

**SYSTÈME DE GESTION DE PUISSANCE  
MODÈLE IR-C2131**

INDICATEURS DE RÉGLAGE DE PUISSANCE



(Plan TPD1339)

Le clés à chocs Modèle IR-C2131 est équipées d'un système de gestion de puissance qui permet à l'opérateur de sélectionner quatre réglages de puissance. Ces réglages vont de la puissance minimum à la puissance maximum en marche avant seulement. La clé pneumatique fonctionnera toujours à la puissance maximum en desserrage, quel que soit le niveau de puissance sélectionné.

**ATTENTION**

Les quatre indicateurs de réglage de puissance de taille croissante sur l'arrière du corps indiquent les niveaux croissants de puissance à titre de référence seulement, et NE DÉNOTE PAS une puissance spécifique. Le plus petit indicateur de puissance indique la puissance minimum, les deux indicateurs du centre indiquent des puissances moyennes, et le plus gros indicateur indique la puissance maximum.

La puissance peut être encore plus réduite en serrage ou desserrage à l'aide de la commande variable de mise en marche. Les circuits d'air comprimé ne fournissant pas une pression d'air adéquate peuvent affecter la puissance fournie à toutes les positions de réglage.

Lubrification



Ingersoll-Rand No. 50



**Ingersoll-Rand No. 115-1LB** pour une lubrification extérieure normale du mécanisme de chocs par l'intermédiaire du raccord de graissage du carter de marteau.

**Ingersoll-Rand No. 105-1LB ou Ingersoll-Rand No. 105-8LB** pour le démontage et l'assemblage du mécanisme de chocs.

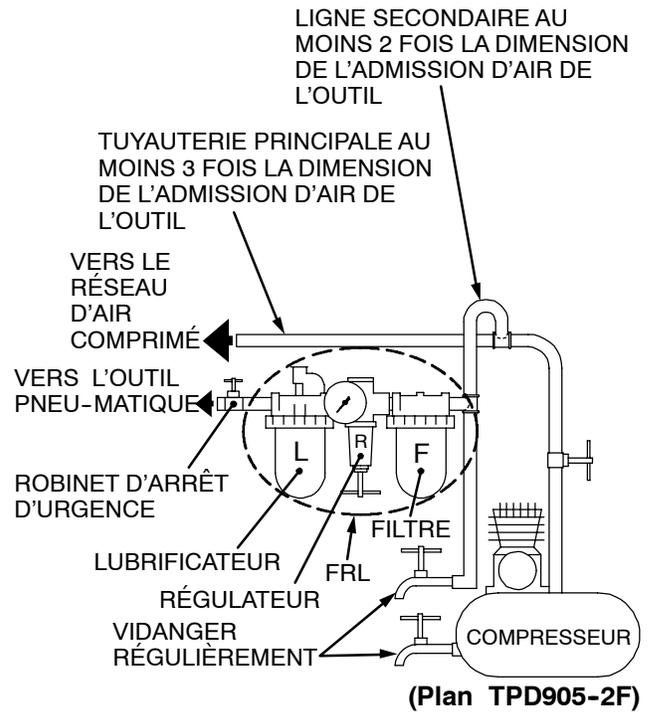
Utiliser toujours un lubrificateur avec ces outils. Nous recommandons l'emploi du filtre-régulateur-lubrificateur suivant:

É.U. - No. C18-03-FKG0-28

International - No. C28-C3-FKG0

**AVERTISSEMENT**

Do not mark any nonmetallic surface on this tool with customer identification codes. Such actions could affect tool performance.



SPÉCIFICATIONS

Modèle	Type de Poignée	Entraînement	Coups par minute	Gamme de couples recommandée	
				Marche avant ft-lb (Nm)	Marche arrière ft-lb (Nm)
IR-C2131	poignée pistolet	1/2"	1.250	50-400 [450 max.] (68-542 [610 max.] )	550 (600 max.) (746 [813 max.] )

**INSTRUCCIONES PARA LLAVES DE IMPACTO  
PARA AUTOMOCIÓN DE SERVICIO ULTRA PESADO  
MODELO IR-C2131**

E

**NOTA**

La llaves de impacto modelo IR-C2131 está diseñada para su utilización en reparaciones generales de automóviles, revisión de neumáticos y aplicaciones de servicio pesado en flotas de vehículos.

**⚠ AVISO**

**SE ADJUNTA INFORMACIÓN IMPORTANTE DE SEGURIDAD -  
GUARDE ESTAS INSTRUCCIONES**

**LEA ESTE MANUAL Y ASEGÚRESE DE COMPRENDERLO  
BIEN ANTES DE UTILIZAR ESTE APARATO**

**ES SU RESPONSABILIDAD PONER ESTA INFORMACIÓN DE SEGURIDAD  
A DISPOSICIÓN DE QUIENES VAYAN A UTILIZAR EL APARATO**

**EL HACER CASO OMISO DE LOS AVISOS SIGUIENTES  
PODRÍA OCASIONAR LESIONES**



**PARA PONER LA HERRAMIENTA EN SERVICIO**

- Instale, utilice, inspeccione y mantenga siempre este aparato de acuerdo con todas las normas locales y nacionales que sean de aplicación.
- Use siempre aire limpio y seco a una presión máxima de 90 psig (6,2 bar/620 kPa) en la admisión. Una presión superior puede redundar en situaciones peligrosas, entre ellas una velocidad excesiva, rotura, o un par o una fuerza de salida incorrectos.
- Asegúrese de que todas las mangueras y accesorios sean del tamaño correcto y estén bien apretados. Vea Esq. TPD905-2 para un típico arreglo de tuberías.
- Cerciórese de que se haya instalado una válvula de corte de emergencia en la línea de suministro de aire y notifique a los demás de su ubicación.
- No utilizar mangueras de aire y accesorios dañados, desgastados ni deteriorados.
- Manténgase apartado de toda manguera de aire que esté dando latigazos. Apague el compresor de aire antes de acercarse a una manguera de aire que esté dando latigazos.
- Manténgase apartado de toda manguera de aire que esté dando latigazos. Apague el compresor de aire antes de acercarse a una manguera de aire que esté dando latigazos.
- No lubrique las herramientas con líquidos inflamables o volátiles tales como queroseno, gasoil o combustible para motores a reacción. Use únicamente los lubricantes recomendados.
- Mantenga la zona de trabajo limpia, despejada, ventilada e iluminada.
- No saque ninguna etiqueta. Sustituya toda etiqueta dañada.

**USO DE LA HERRAMIENTA**

- Use siempre protección ocular cuando maneje, o realice operaciones de mantenimiento en esta herramienta.
- Use siempre protección para los oídos cuando maneje esta herramienta.
- Utilice siempre el equipo de protección individual que corresponda a la herramienta en uso y al material con el que se trabaja. Ello puede incluir una mascarilla contra el polvo u otro aparato de respiración, gafas de seguridad, tapones de oído, guantes, delantal, zapatos de seguridad, casco y otros artículos.
- Esta herramienta no está diseñada para su utilización en ambientes explosivos, incluidos los que son provocados por la presencia de vapores y polvo, o cerca de materiales inflamables.
- Esta herramienta no está aislada contra descargas eléctricas.
- Tenga en cuenta los peligros enterrados, ocultos o de otro tipo en el entorno de trabajo. Tenga cuidado de no hacer contacto con, ni dañar, cables, conductos, tuberías ni mangueras que puedan contener hilos eléctricos, gases explosivos o líquidos nocivos.
- Evite respirar el polvo y partículas nocivos que se producen al utilizar la herramienta, así como exponerse a ellos:
  - Ciertos tipos de polvo que se producen al lijar, serruchar, rectificar o taladrar y durante otras actividades de la construcción contienen sustancias químicas que son conocidos como causantes de cáncer, defectos de nacimiento y otros daños reproductivos. Algunos ejemplos de estas sustancias químicas:
    - el plomo de las pinturas con base de plomo,
    - la sílice cristalina de ladrillos y hormigón y otros productos asociados con la albañilería,
    - y
    - el arsénico y el cromo que produce la madera sometida a tratamientos químicos.



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## Utilización de la Herramienta (Continued)

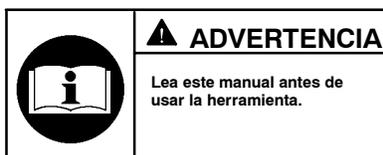
- Mantenga a los demás a una distancia segura de la zona de trabajo, o asegúrese de que utilicen el correspondiente equipo de protección individual.
- Mantenga las manos, la ropa suelta, el cabello largo y las alhajas apartados del extremo de trabajo de la herramienta.
- Las herramientas eléctricas pueden vibrar durante el uso. La vibración, los movimientos repetitivos o las posiciones incómodas pueden dañarle los brazos y manos. En caso de incomodidad, sensación de hormigueo o dolor, deje de usar la herramienta. Consulte con el médico antes de volver a utilizarla.
- Mantenga una postura del cuerpo equilibrada y firme. No estire demasiado los brazos al manejar la herramienta. Anticipe y esté atento a los cambios repentinos en el movimiento, pares de reacción u otras fuerzas durante la puesta en marcha y utilización.
- El movimiento de la herramienta y/o los accesorios puede prolongarse brevemente después de soltarse el mando.
- Para evitar el arranque imprevisto de la herramienta, verifique que esté en la posición de desconexión “off” antes de aplicarle aire a presión, evite tocar el mando al transportarla y suelte el mando mientras se descarga el aire.
- Asegúrese de que las piezas a trabajar estén bien sujetas. Siempre que sea posible, utilice mordazas o un tornillo de banco para sostener la pieza.
- No lleve ni arrastre la herramienta sujetándola por la manguera.
- No utilice herramientas eléctricas cuando esté cansado o bajo la influencia de medicamentos, drogas o alcohol.
- No utilice nunca una herramienta o un accesorio dañado o que no funcione correctamente.
- No modifique la herramienta, los dispositivos de seguridad ni los accesorios.
- No utilice esta herramienta para otros fines que no sean los recomendados.
- Utilice únicamente los accesorios Ingersoll-Rand recomendados.
- Tome nota de la posición del mecanismo inversor antes de hacer funcionar la herramienta para tener en cuenta el sentido de rotación al accionar el mando.
- Utilice únicamente bocas y accesorios para llave de impacto con esta herramienta. No utilice bocas ni accesorios 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.
- Revise periódicamente el extremo de accionamiento de la herramienta para asegurarse de que el retenedor de bocas funcione correctamente y que las bocas y los extremos de accionamiento no presenten un desgaste excesivo que pueda permitir que la boca se salga al girar.

### 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.

## IDENTIFICACIÓN DE SÍMBOLOS DE AVISO

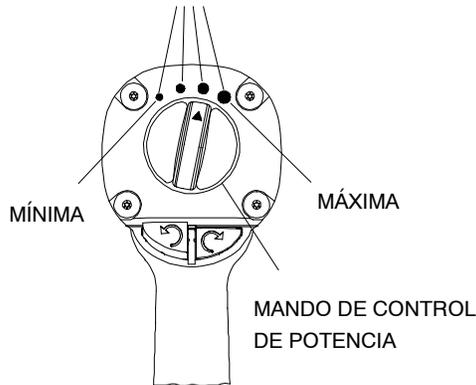


**⚠ AVISO**

Las llaves neumáticas no son dispositivos de control de par. Las fijaciones que exijan un par de apriete específico se deberán comprobar con un dispositivo apropiado de medición de par después de haberlas apretado con una llave neumática.

**SISTEMA DE CONTROL DE POTENCIA  
MODELO IR-C2131**

INDICADORES DE AJUSTE DE POTENCIA



(Esq. TPD1339)

La llaves de impacto modelo IR-C2131 tienen incorporado un sistema de control de potencia que permite al operario seleccionar entre cuatro ajustes de potencia. Estos ajustes van desde potencia mínima hasta potencia máxima en el sentido de giro a derechas solamente. La llave neumática siempre funcionará con la máxima potencia en el sentido inverso, cualquiera que sea el nivel de potencia seleccionado.

**⚠ AVISO**

Los cuatro indicadores de potencia de creciente tamaño situados en la parte posterior de la carcasa indican niveles crecientes de potencia y sirven solamente de referencia; **NO** indican una potencia específica. El indicador de potencia más pequeño señala la potencia mínima, los dos indicadores de potencia intermedios señalan potencias intermedias y el indicador más grande representa la máxima potencia. La potencia puede reducirse aun más con accionamiento a derechas o a izquierdas mediante el gatillo de mando. Los sistemas de aire comprimido que no suministren aire a la presión apropiada pueden afectar la potencia en todos los ajustes.

**PARA PONER LA HERRAMIENTA EN SERVICIO**

**Lubricación**



**Ingersoll-Rand No. 50**



**Ingersoll-Rand N° 115-1LB** para lubricación externa periódica del mecanismo impulsor a través del engrasador de la carcasa de mazas.

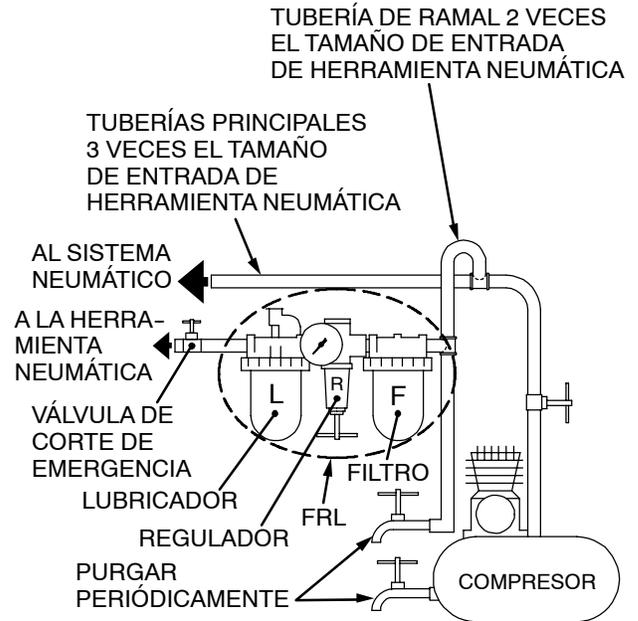
Utilice **Ingersoll-Rand N° 105-1LB o 105-8LB** al montar y desmontar el mecanismo de impacto.

Utilice siempre un lubricante de aire comprimido con esta herramienta. Recomendamos utilizar el siguiente conjunto de filtro-regulador-lubricador:

**Para EE.UU. - N° C18-03-FKG0-28**  
**Internacional C28-C3-FKG0**

**PRECAUCIÓN**

No marque ninguna superficie no metálica de esta herramienta con los códigos de identificación del cliente. Tal acción podría afectar al rendimiento de la herramienta.



**(Esq. TPD905-2E)**

**ESPECIFICACIONES**

Modelo	Tipo de empuñadura	Accionamiento	Impactos por minuto	Gama de par recomendada	
				Hacia delante ft-lb (Nm)	Inversa ft-lb (Nm)
IR-C2131	Empuñadura de pistola	1/2 pulg.	1.250	50-400 pulg. [450 Máx.] (68-542 pulg. [610 Máx.])	550 [600 Máx.] (746 [813 Máx.])

**INSTRUÇÕES PARA  
CHAVES DE PERCUSSÃO PARA AUTOMÓVEIS  
PARA TRABALHO ULTRA PESADO MODELO IR-C2131**

P

**AVISO**

As Chaves de Percussão Para Automóveis Modelo IR-C2131 são concebidas para utilização em reparações gerais de automóveis, manutenção de pneus e aplicações de trabalho pesado de frota de automóveis.

**⚠ ADVERTÊNCIA**

**INFORMAÇÃO DE SEGURANÇA IMPORTANTE EM ANEXO - GUARDE ESTAS INSTRUÇÕES**

**LEIA E COMPREENDA ESTE MANUAL ANTES DE OPERAR ESTE PRODUTO**



**É SUA RESPONSABILIDADE PÔR ESTAS INFORMAÇÕES DE SEGURANÇA À  
DISPOSIÇÃO DAS OUTRAS PESSOAS QUE IRÃO OPERAR ESTE PRODUTO**

**O NÃO CUMPRIMENTO DAS SEGUINTE ADVERTÊNCIAS PODE  
RESULTAR EM FERIMENTOS**

**COLOCANDO A FERRAMENTA EM FUNCIONAMENTO**

- Instale, opere, inspecione e faça manutenção neste produto sempre de acordo com todas as normas e regulamentos aplicáveis (locais, estatais, federais, nacionais etc.).
- Utilize sempre ar limpo e seco a uma pressão máxima de 6,2 bar na admissão. Pressão mais alta pode resultar em situações perigosas incluindo velocidade excessiva, ruptura ou binário ou força de saída incorrectos.
- Certifique-se de que todas as mangueiras e acessórios são da dimensão correcta e que estão seguros firmemente. Consulte o Des. TPD905-2 para uma disposição de tubos típica.
- Certifique-se de que foi instalada uma válvula de isolamento de emergência acessível na linha de alimentação de ar e informe os outros sobre a sua localização.
- Não utilize mangueiras de ar e acessórios danificados, puidos ou deteriorados.
- Mantenha-se afastado de mangueiras de ar a chicotear. Desligue o compressor antes de se aproximar de uma mangueira de ar a chicotear.
- 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 lubrifique a ferramenta com líquidos inflamáveis ou voláteis como querosene, gasóleo ou combustível para jactos. Utilize apenas os lubrificantes especificados.
- Mantenha a área de trabalho limpa, em ordem, ventilada e bem iluminada.
- Não retire nenhum rótulo. Substitua os rótulos danificados.

**USANDO A FERRAMENTA**

- Use sempre protecção para os olhos ao operar ou fazer manutenção nesta ferramenta.
  - Use sempre protecção auricular ao operar esta ferramenta.
  - Utilize sempre equipamento de protecção pessoal apropriado para a ferramenta utilizada e o material de trabalho. Isso pode incluir máscara contra a poeira ou outro aparelho de respiração, óculos de segurança, auriculares, luvas, avental, calçado de segurança, capacete e outro equipamento.
  - Esta ferramenta não é concebida para trabalhar em ambientes explosivos, incluindo os provocados por vapores e poeira ou perto de materiais inflamáveis.
  - Esta ferramenta não é isolada contra choque eléctrico.
  - Tenha em conta a possível presença de perigos enterrados, ocultos e outros no seu ambiente de trabalho. Não contacte ou danifique cabos, condutas, tubos ou mangueiras que possam conter fios eléctricos, gases explosivos ou líquidos perigosos.
  - Evite expor-se e respirar as poeiras e partículas nocivas criadas pela utilização de ferramentas motorizadas:
    - Algumas poeiras criadas por operações motorizadas de lixar, serrar, rectificar, perfurar e outras actividades de construção contêm produtos químicos conhecidos por causarem cancro, malformações congénitas e terem efeitos nocivos na reprodução. Alguns exemplos desses produtos químicos são:
      - chumbo de tintas à base de chumbo,
      - sílica cristalina de tijolos e cimento e outros produtos de alvenaria e
      - arsénico e crómio de madeira tratada quimicamente
- Os riscos dessas exposições varia, dependendo de com que frequência faz esse tipo de trabalho. Para reduzir a sua exposição a esses produtos químicos: trabalhe numa área bem ventilada e com equipamento de segurança aprovado, como as máscaras contra a poeira que são especialmente projectadas para filtrar partículas microscópicas.

Envie toda a correspondência ao Escritório ou Distribuidor Ingersoll-Rand mais próximo.  
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BY INGERSOLL-RAND

## Usando A Ferramenta (Continued)

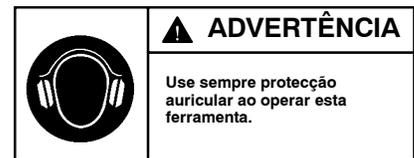
- Mantenha terceiros a uma distância segura da sua área de trabalho ou certifique-se de que os mesmos estão a usar equipamento de protecção pessoal.
- Mantenha as mãos, roupas soltas, cabelos longos e jóias afastados da extremidade de trabalho da ferramenta.
- As ferramentas mecânicas podem vibrar durante a utilização. Vibração, movimentos repetitivos ou posições desconfortáveis podem ser nocivos às suas mãos e braços. Pare de utilizar qualquer ferramenta se sentir desconforto, sensação de formigueiro ou dor. Procure assistência médica antes de reiniciar a utilização.
- Mantenha o corpo numa posição equilibrada e firme. Não estique o corpo ao operar esta ferramenta. Esteja preparado e alerta para mudanças súbitas no movimento, binários ou forças de reacção durante o arranque e o funcionamento.
- A ferramenta e/ou acessórios podem continuar o movimento por um curto período depois que o regulador é libertado.
- Para evitar o arranque acidental, certifique-se de que a ferramenta está na posição desligada (“off”) antes de aplicar pressão de ar, evite apertar o regulador ao transportar a ferramenta e liberte o regulador durante a perda de ar.
- Certifique-se de que as peças de trabalho estão seguras. Sempre que possível, utilize grampos ou tornos para fixar a peça de trabalho.
- Não transporte ou arraste a ferramenta pela mangueira.
- Não utilize ferramentas mecânicas quando estiver cansado ou sob a influência de drogas, álcool ou medicamentos.
- Nunca utilize uma ferramenta ou acessório avariado ou a funcionar mal.
- Não modifique a ferramenta, os dispositivos de segurança ou os acessórios.
- Não utilize esta ferramenta para fins diferentes dos recomendados.
- Use os acessórios recomendados pela Ingersoll-Rand.
- Note a posição do mecanismo de inversão antes de operar a ferramenta de forma a estar ciente da direcção de rotação ao operar o regulador.
- Use apenas caixas e acessórios de chave de percussão nesta ferramenta de percussão. Não use caixas ou acessórios manuais(cromo).
- Ferramentas Pneumáticas de impacto não são chaves dinamométricas de torque. As conexões que requerem um torque específico devem ser verificadas com um torquímetro depois de adaptadas a uma chave dinamométrica de impacto.
- Periodicamente, examine a extremidade de accionamento da ferramenta para assegurar que o retentor de caixa funciona correctamente e que as extremidades de accionamento não estão excessivamente desgastadas, o que pode permitir que a caixa se solte durante a rotação.

### AVISO

O uso de peças de substituição que não sejam genuinamente da Ingersoll-Rand podem resultar em riscos de segurança, diminuição do desempenho da ferramenta, aumento da necessidade de manutenção e pode invalidar todas as garantias.

As reparações devem ser feitas somente por pessoal treinado autorizado. Consulte o Centro de Serviços da Ingersoll-Rand mais próximo.

### IDENTIFICAÇÃO DO SÍMBOLO DE AVISO

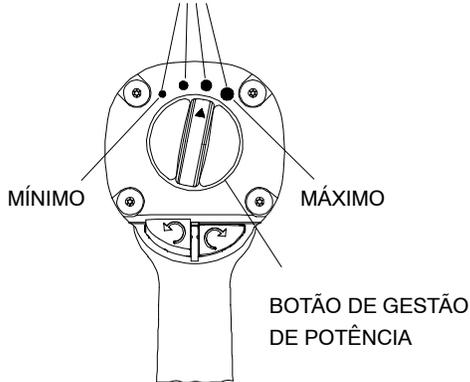


**⚠ ADVERTÊNCIA**

As chaves pneumáticas não são dispositivos de controlo de binário. Os fixadores com requisitos específicos de binário têm que ser verificados com dispositivos de medição de binário adequados após a instalação com uma chave pneumática.

**SISTEMA DE GESTÃO DE POTÊNCIA  
MODELO IR-C2131**

INDICADORES DE AJUSTE DE POTÊNCIA



(Des. TPD1339)

As Chaves de Percussão Modelo IR-C2131 incorporam um Sistema de Gestão de Potência que permite ao operador seleccionar quatro ajustes de potência. Estes ajustes vão de potência mínima até potência máxima apenas na direcção de avanço. A Chave Pneumática funcionará sempre à potência máxima na direcção de inversão, independentemente do nível de potência seleccionado.

**⚠ ADVERTÊNCIA**

Os quatro indicadores de ajuste de potência de tamanho crescente nas costas da carcaça indicam níveis crescentes de potência, são apenas para referência e NÃO indicam uma potência específica. O indicador de ajuste mais pequeno denota potência mínima, os dois indicadores de ajuste intermédios denotam potências médias e o maior indicador de ajuste de potência denota potência máxima.

A potência pode ser reduzida ainda mais na direcção de avanço ou de inversão utilizando o regulador variável. Sistemas de alimentação de ar que não proporcionam pressão de ar adequada podem afectar a potência em todos os ajustes.

**Lubrificação**



**Ingersoll-Rand No. 50**



**Ingersoll-Rand Nº 115-1LB** para lubrificação externa rotineira do mecanismo de percussão através do Copo de Massa da Caixa do Martelo.

**Ingersoll-Rand Nº 105-1LB ou Ingersoll-Rand Nº 105-8LB** ao desmontar e montar o mecanismo de percussão.

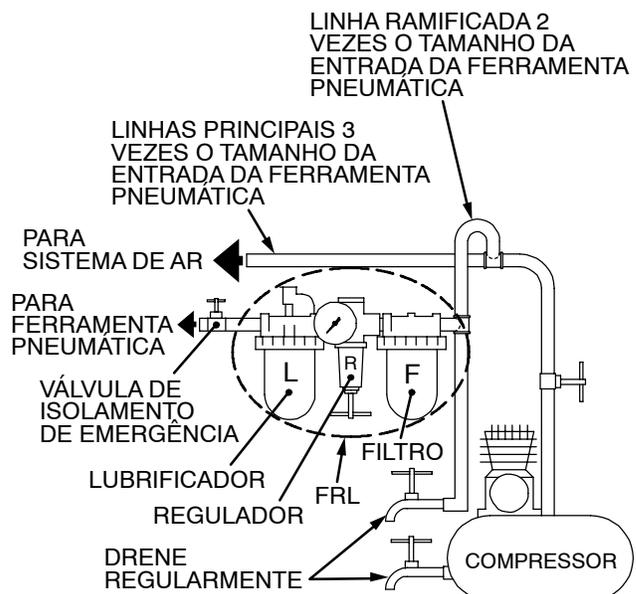
Utilize sempre um lubrificador de linha de ar com estas ferramentas. Recomendamos a seguinte Unidade Filtro-Regulador-Lubrificador:

**Para EUA - Nº. C18-03-FKG0-28**

**Para Internacional - Nº. C28-C3-FKG0**

**CUIDADO**

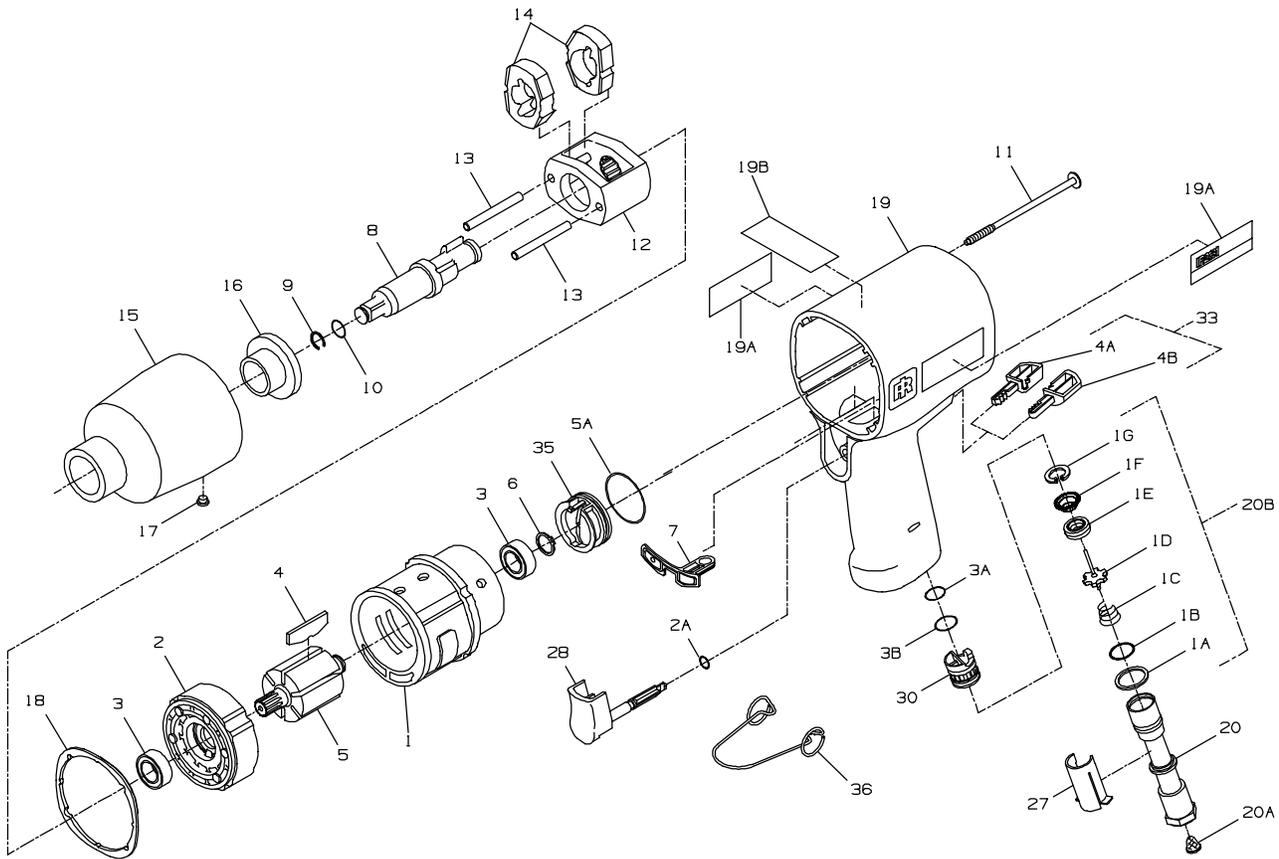
Não marque nenhuma superfície não metálica desta ferramenta com códigos de identificação do cliente. Isto poderia afectar o desempenho da ferramenta.



**(Desenho TPD905-2P)**

**ESPECIFICAÇÕES**

Modelo	Tipo de Pega	Accionamento	Impactos por min.	Gama de Binário Recomendada	
				Dir. de Avanço ft-lb (Nm)	Dir. Inversa ft-lb (Nm)
IR-C2131	pistola	1/2 pol	1.250	50-400 [Máx. 450] (68-542 [Máx. 610])	550 [Máx. 600] (746 [Máx. 813])



(Dwg. TP1915)



**PART NUMBER FOR ORDERING**

1	Cylinder .....	2131-3A	14	Hammer (2) .....	2131A-724
2	Front End Plate .....	2131-11	15	Hammer Case Assembly .....	2131A-A727
3	Rotor Bearing (2) .....	2131-97	16	Hammer Case Bushing .....	2131A-941
• 4	Vane Pactet (set of 6 Vanes) (yellow) .....	2131-42A-6	17	Hammer Case Grease Fitting .....	D0F9-879
5	Rotor .....	2131-53	• 18	Hammer Case Gasket .....	C2131-36
6	Rear Rotor Bearing Retainer ...	2131-6	19	Housing Assembly .....	C2131-D40
• 7	Motor Gasket .....	2131-283	19A	Nameplate .....	C2131-301
8	Anvil Assembly (1/2" square drive) .....	231C-A626	19B	Warning Label	WARNING-2-99
• 9	Socket Retainer .....	231-425A	20	Inlet Bushing Assembly .....	2131-565
• 10	Socket Retainer O-ring ....	R1A-159	20A	Inlet Bushing Screen .....	5RA-61
11	Hammer Case Screw (4) .....	2131-638			
	Hammer Frame Assembly .....	2131-A703			
12	Hammer Frame .....	2131-703			
13	Hammer Frame Pin (2) ....	2131-704			

- 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.

**PART NUMBER FOR ORDERING**

		↓			↓
20B	Inlet Parts Kit . . . . .	2131-K303	4A	Forward Button . . . . .	-----
1A	Washer . . . . .	-----	4B	Reverse Button . . . . .	-----
1B	Inlet Bushing Seal . . . . .	-----	35	Power Management Assembly . . . . .	2131-A249
1C	Tilt Valve Spring . . . . .	-----	5A	Power Management	-----
1D	Tilt Valve . . . . .	-----		Dial Seal . . . . .	
1E	Tilt Valve Seat . . . . .	-----	36	Inlet Clip Removal Tool . . . . .	2131-322
1F	Tilt Valve Seat		*	Grease (1 lb) (for external	
	Support . . . . .	-----		lubrication of the impact	
1G	Tilt Valve Seat			mechanism) . . . . .	115-1LB
	Retainer . . . . .	-----	*	Grease (for lubrication when	
27	Inlet Retainer Clip . . . . .	2131-57		disassembling and assembling	
• 28	Trigger Assembly . . . . .	2131-A93		the impact mechanism)	
2A	Trigger O-ring . . . . .	-----		1 lb . . . . .	105-1LB
30	Reverse Valve Assembly . . . . .	2131-A329		8 lb . . . . .	105-8LB
3A	Reverse Valve O-ring		*	Grease Gun . . . . .	R000A2-228
	(top) . . . . .	-----			
3B	Reverse Valve O-ring				
	(bottom) (blue) . . . . .	-----			
33	Button Kit . . . . .	C2131-K75			

\* Not illustrated.

- 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.

---

**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 vise jaws to protect the surface of the part and help prevent distortion. This is particularly true of threaded members and housings.

**NOTICE**

**Always use leather-covered vise jaws when clamping the handle in a vise. Leather will conform to the shape of the handle and allow the tool to be held securely. To prevent damage to the exhaust diffuser, never clamp only the bottom of the handle.**

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.

**Disassembly of the Impact Wrench**

1. Clamp the handle of the impact wrench in a vise with leather-covered jaws with the square driver positioned horizontally.

**NOTICE**

**Avoid excessive clamping pressure which can damage the Housing and can cause difficulty when removing the parts.**

2. Unscrew and remove the four Hammer Case Screws (11).
3. While lightly tapping on the end of the Anvil (8) with a plastic hammer, lift off the Hammer Case (15) and Hammer Case Gasket (18).

**NOTICE**

**The Front End Plate (2) might come off during the removal of the Hammer Case. Make sure that it does not drop on the floor or strike a hard or metallic surface since it might be damaged.**

4. Grasp the Hammer Frame (12) and carefully lift off the entire impact mechanism, making certain not to drop the two Hammer Pins (13).

**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 certain relationship. Using a felt-tipped pen, mark the top “T↑” hammer and the bottom hammer “B↑” with the arrows pointing upward. Mark both Hammers on the 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. Don't 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 while 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.

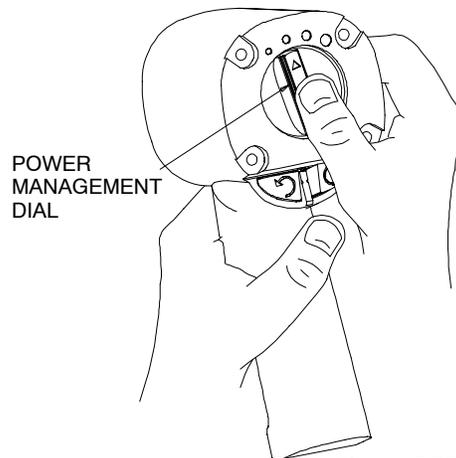
**NOTICE**

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

**Disassembly of the Motor****NOTICE**

**When pulling, disassembling or assembling the motor, we recommend replacement of the Motor Gasket (7).**

1. Remove the Motor Assembly from the Housing (19) by pushing on Power Management Dial (35) from the back of the Housing. Refer to Dwg. TPD1322.



**(Dwg. TPD1322)**

**NOTICE**

**If the Motor Assembly cannot be removed from the Housing by pushing, tap the Power Management Dial lightly until the Motor Assembly is free.**

- Remove the Silencer (6A) from the top of the Cylinder (1). Remove the Power Management Dial from the rear of the Cylinder (1). Remove the Power Management Dial Seal (5A) if it needs to be replaced.
- Remove the Front End Plate (2) from the Cylinder by tapping the splined end of the Rotor (5) with a plastic hammer. If the Front End Plate does not come loose, secure a center punch in a vise with the point angled downward and outward from the vise. Grasp the Cylinder and Front End Plate in one hand and position the hole in the end of the Rotor against the punch.

**NOTICE**

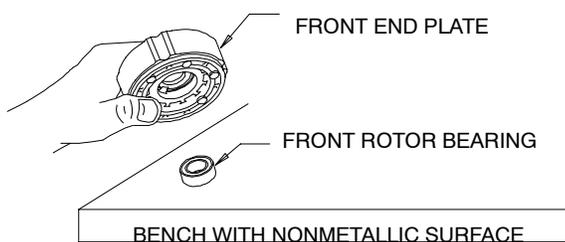
**Be careful not to drop the Cylinder since it can be damaged by hitting a hard surface.**

Using the other hand, tap the punch with a hammer while pressing the Rotor against the punch. After a few taps, the Front End Plate will slide off of the Cylinder.

**NOTICE**

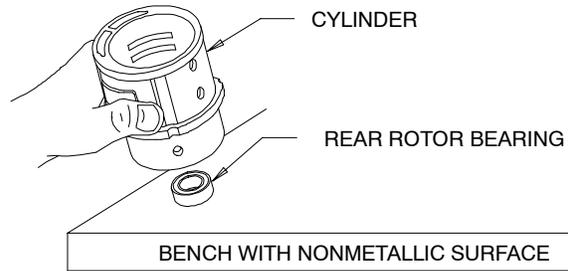
**To prevent damage to the Cylinder, do not tap or strike Cylinder on a hard or metallic surface when removing the Rotor Bearings (3).**

To remove the Front Rotor Bearing, hold the Front End Plate with Front Rotor Bearing down and tap the Front End Plate on a flat, nonmetallic surface such as a work bench. This will loosen the Front Rotor Bearing so that it will drop out of the Front End Plate. Refer to Dwg. TPD1323.



**(Dwg. TPD1323)**

- Remove the Rear Rotor Bearing Retainer(6) from the rear of the Rotor (5). The Rotor can now be removed from the Cylinder. Remove the Vanes (4) from the Rotor if they need to be replaced.



**(Dwg. TPD1324)**

- To remove the Rear Rotor Bearing, hold the Cylinder with the Rear Rotor Bearing down and tap the Cylinder on a flat, nonmetallic surface such as a work bench. This will loosen the Rear Rotor Bearing so that it will drop out of the Cylinder. Refer to Dwg. TPD1324.
- Working from the rear of the Housing, push out the Motor Gasket (7).

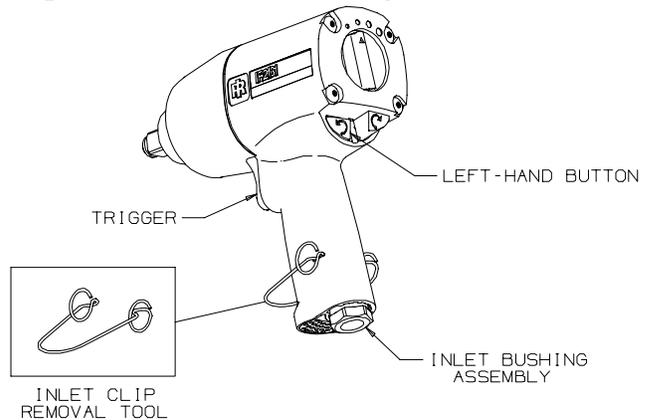
**NOTICE**

**When removing the Motor Gasket, do not use a screwdriver or any other sharp object which could damage the Gasket and/or Housing.**

**Disassembly of the Throttle Mechanism**

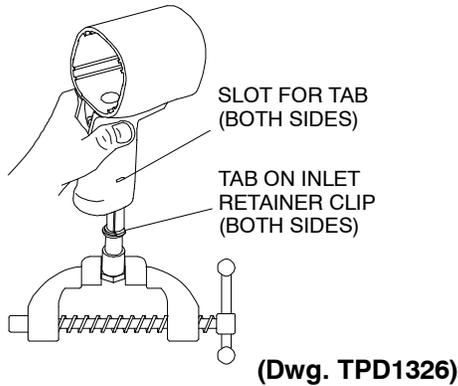
**NOTICE**

**For ease of disassembly, we recommend using the Inlet Clip Removal Tool (36). See Dwg. TPD1681.**

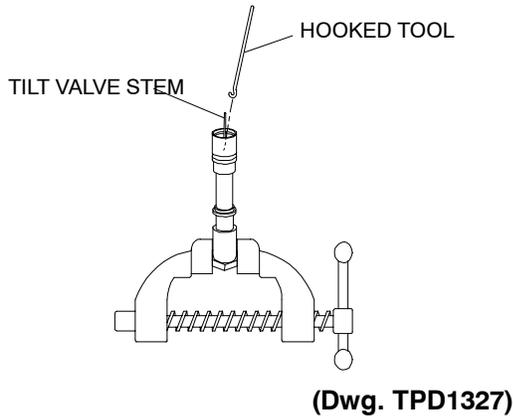


**(Dwg. TPD1681)**

- Secure the Inlet Bushing in a vise. Press in both tabs of the Inlet Retainer Clip (27) and pull upward on the Housing (19). This will allow the Inlet Bushing to come free from the Handle of the Housing. Refer to Dwg. TPD1326.
- Pull the Trigger (28) from the front of the Housing and remove the Trigger O-ring (2A).



3. With the Inlet Bushing still in the vise, remove the Tilt Valve Seat Retainer (1G) and Tilt Valve Seat Support (1F). Use a hooked tool with no sharp edges to remove the Tilt Valve Seat (1E) from the Inlet Bushing. Refer to Dwg. TPD1327.



4. Remove the Tilt Valve (1D) and Tilt Valve Spring (1C) if damaged.
5. Remove the Inlet Bushing Seal (1B) and Inlet Retainer Clip (27) if damaged. Remove Washer (1A).

**NOTICE**

**Do not remove the Inlet Bushing Screen (20A) from the Inlet Bushing unless it is damaged. Clean the Inlet Bushing Screen by using a suitable cleaning solution in a well ventilated area.**

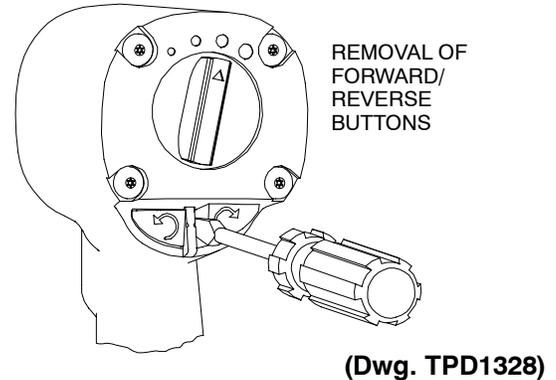
**Disassembly of the Reverse Valve Mechanism**

**NOTICE**

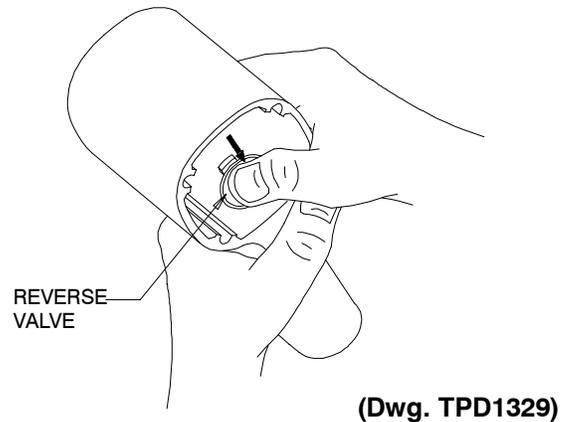
**The Reverse Valve Assembly cannot be removed without first removing the Forward and Reverse Buttons (4A) and (4B). Therefore, it is important that the procedure below be followed exactly.**

1. Notice the notches on either side of the partition. These notches indicate the correct location for insertion of a thin-bladed screwdriver used for removing the Forward and Reverse Buttons. Insert the screwdriver between the partition and the Button

which is fully extended. **Gently** pry against the Button to disengage the detent so that the Button can be removed. After the Button is removed, reach inside the Housing and rotate the Reverse Valve to extend the remaining Button. Repeat the above procedure for the remaining Button. Refer to Dwg. TPD1328.



2. Insert thumb into the front of the Housing and push **down** on the Reverse Valve so that it can be removed through the bottom of the handle. Refer to Dwg. TPD1329.



**NOTICE**

**Do not try to remove the Reverse Valve by pushing upward. It can only be removed by pushing it downward and out of the bottom of the handle. If the Reverse Valve does not come free, tap the bottom of the handle lightly with a rubber hammer until it drops out.**

3. Remove the Top Reverse Valve O-ring (3A) and the Bottom Reverse Valve O-ring (3B) from the Reverse Valve.

**ASSEMBLY**

**General Instructions**

1. Whenever grasping a tool or part in a vise, always use leather-covered vise jaws to protect the surface of the part and help prevent distortion. This is particularly true of threaded members and housings.

**NOTICE**

Always use leather-covered vise jaws when clamping the handle in a vise. Leather will conform to the shape of the handle and allow the tool to be held securely. To prevent damage to the exhaust diffuser, never clamp only the bottom of the handle.

- Always clean every part and wipe every part with a thin film of oil before installation.

**NOTICE**

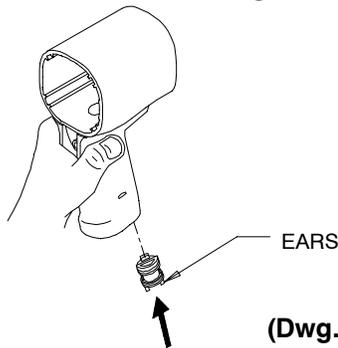
Do not remove grease from the impact mechanism or Hammer Case (15). If the impact mechanism has not been disassembled, inject Ingersoll-Rand No. 115-1LB Grease through the Hammer Case Grease Fitting (17).

When disassembling and assembling the impact mechanism, remove all grease from the impact mechanism and Hammer Case and lubricate the impact mechanism and Hammer Case Bushing (16) with Ingersoll-Rand No. 105-1LB Grease or Ingersoll-Rand No. 105-8LB Grease.

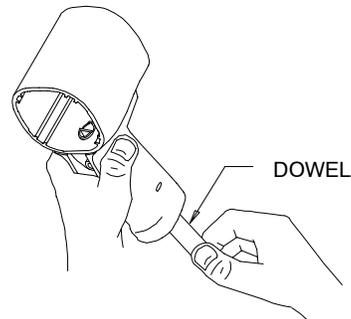
- Apply a film of o-ring lubricant to all O-rings before final assembly.

**Assembly of the Reverse Valve Mechanism**

- Install the Bottom Reverse Valve O-ring (3B) (color-coded blue) and the Top Reverse Valve bring (3A) on the Reverse Valve (30).
- Insert the Reverse Valve in the bottom of the handle making sure that two ears on the Reverse Valve are facing downward. Refer to Dwg. TPD1330.



Use a wooden dowel to push the Reverse Valve up through the handle **until the top of the Reverse Valve is flush with or slightly above the bottom of the motor bore in the Housing (19)**. Refer to Dwg. TPD1331.

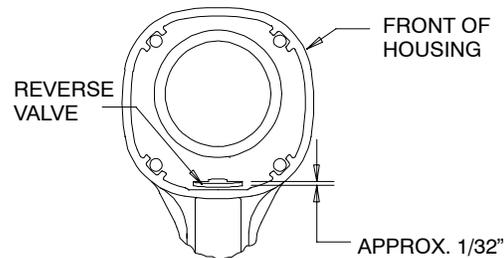


(Dwg. TPD1331)

**NOTICE**

If the Reverse Valve is pushed up too far and becomes wedged, it will have to be pushed back down through the the handle and re-inserted from the bottom of the handle. The Reverse Valve cannot be removed by pushing it up through the handle and into the motor bore. If the Reverse Valve must be removed and re-installed, make sure that the Top and Bottom Reverse Valve O-rings have not been rolled off and are in their proper positions on the Reverse Valve.

- When the Reverse Valve has been installed, rotate the Reverse Valve so that the tab on the Reverse Valve is at the rear of the Housing. Refer to Dwg. TPD1332.



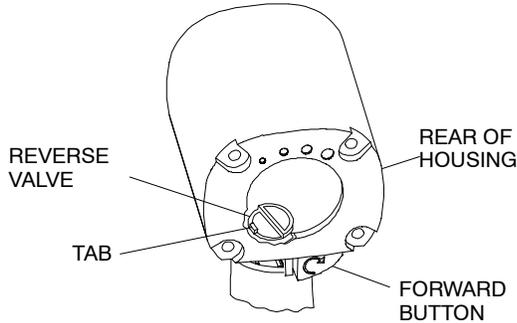
(Dwg. TPD1332)

**NOTICE**

If the orientation of the Reverse Valve is not correct (tab facing the the rear of the Housing), the Trigger (28) and the Forward and Reverse Buttons (4A) and (4B) cannot be installed.

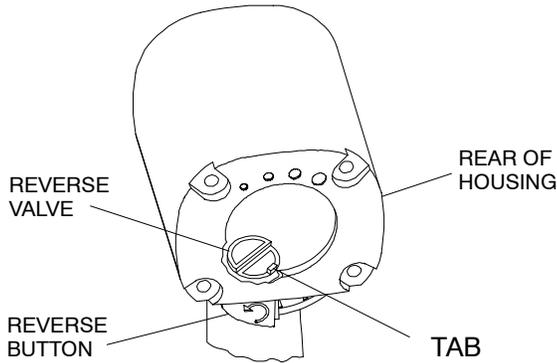
- Install the Trigger O-ring (2A) on the Trigger. Insert the Trigger Assembly in the front of the Housing.
- Rotate the Reverse Valve in either direction until an ear comes up against the Trigger.

- Look through the Housing from the **rear**. If the tab on the Reverse Valve has been rotated to the **left**, install the **right** Button in the Housing. When one Button has been installed, push the Button in. This will rotate the Reverse Valve so that the other Button can be installed. Refer to Dwg. TPD1333.



(Dwg. TPD1333)

**If the tab on the reverse Valve has been rotated to the right, install the left Button. Refer to Dwg. TPD1334.**



(Dwg. TPD1334)

**NOTICE**

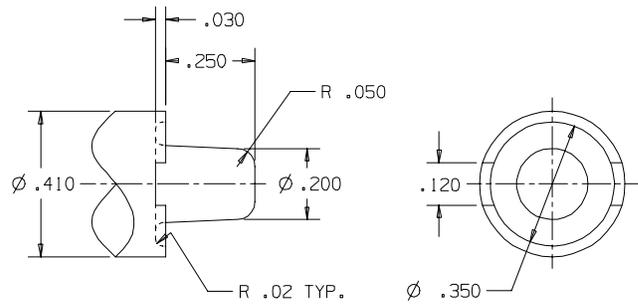
**If the Forward/Reverse Buttons will not install easily, move the Reverse Valve slightly higher in the handle to provide better alignment with the Buttons.**

- After the Forward/Reverse Buttons have been installed, remove the Trigger before proceeding with installation of the throttle mechanism.

**Assembly of Throttle Mechanism**

- Using an Inlet Bushing Screen Installation Tool, install the Inlet Bushing Screen (20A), screened end first, in the bottom (hex end) of the Inlet Bushing (20). Insert the rounded end of the tool in the cone formed by the screen and tap the end of the tool to secure the rim of the screen in the Bushing. Refer to Dwg. TPD1473.

**Inlet Bushing Screen Installation Tool**



(Dwg. TPD1473)

- Install the Washer (1A), Inlet Retainer Clip (27), Inlet Bushing Seal (1B), Tilt Valve Spring (1C), Tilt Valve (1D) Tilt Valve Seat (1E) and Tilt Valve Seat Support (1F).

**⚠ WARNING**

**The Tilt Valve Seat Retainer (1G) must be properly installed in the groove in the Inlet Bushing (20). To check for correct installation of the Retainer, insert a pin into one of the holes in the Retainer and rotate the Retainer. A correctly installed Retainer will rotate freely but with some resistance in the groove of the Inlet Bushing. An incorrectly installed Retainer will pop out of the Inlet Bushing when the Retainer is rotated.**

**⚠ WARNING**

**Do not use compressed air to check installation of the Tilt Valve Seat Retainer or Inlet Bushing Screen unless the entire Inlet Bushing Assembly is installed in the tool with the Hammer Case installed and properly secured to the Motor Housing. Failure to do so could result in injury. Install the Tilt Valve Seat Retainer.**

**NOTICE**

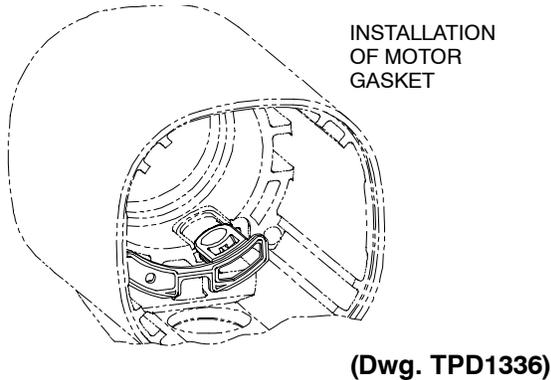
**When re-installing the Inlet Bushing Assembly (20), pull the Trigger (28) outward and make sure that the Reverse Button (4B) is depressed before snapping the Inlet Bushing Assembly back into the Housing.**

- Install the Inlet Bushing Assembly by pushing it into the hole in the Housing until you see and hear the tabs on Inlet Retainer Clip snap into place through the slots in Housing handle.

**NOTICE**

**The Reverse Button (left) (4B) must be pushed in before the Trigger can be installed. Otherwise, the Trigger will be damaged during installation.**

4. Install the Trigger by pushing it into the handle until a click is heard indicating that it is properly engaged.



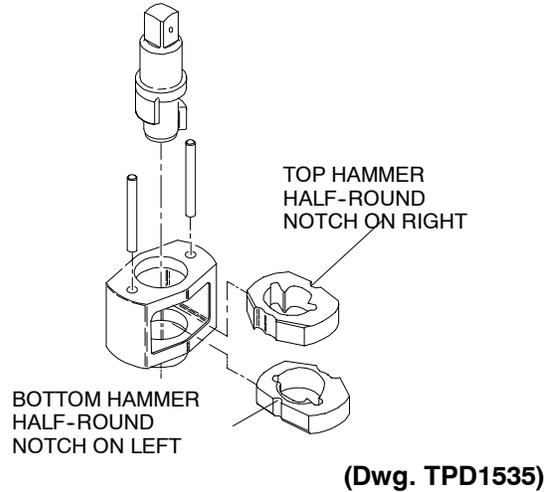
**Assembly of the Motor**

**NOTICE**

**When disassembling, assembling or pulling the Motor, we recommend replacement of the Motor Gasket (7).**

1. Install the Motor Gasket in the Housing making sure that the grooves in the tab of the Motor Gasket fit around ridge in the Housing. Refer to Dwg. TPD1336.
2. Install the Rear Rotor Bearing (3) into the rear of the Cylinder (1).
3. Install the Rotor in the Cylinder and secure with the Rear Rotor Bearing Retainer (6).
4. Install Vanes (4) in the slots in the Rotor (5).
5. Install the Front Rotor Bearing (3) into the Front End Plate (2). Install the Front End Plate on the Cylinder by pressing on the inner race of the front Rotor Bearing until the Bearing is seated on the Rotor Shaft.
6. Install the Power Management Dial Seal (5A) on the Power Management Dial (35) and install the Dial in the end of the Cylinder.
7. Clean the Silencer (6A) using a suitable cleaning solution in a well-ventilated area. Position the Silencer over the top of the Cylinder and insert the Motor Assembly into the Housing (19), Power Management Dial end first.

**Assembly of the Impact Mechanism**



1. Coat the Hammers (14) with a light film of No. Ingersoll-Rand 105-1LB Grease or Ingersoll-Rand No. 105-8LB Grease.
2. Heavily coat the jaws of the Anvil (8) with Ingersoll-Rand No. 105-1LB Grease or Ingersoll-Rand No. 105-8LB Grease.
3. Replace the Hammers in the Hammer Frame (12) 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.**

4. Replace the Hammer Pins (13).
5. Examine the base of the Anvil (8) 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. Refer to Dwg. TPD1535.

**Assembly of the Air Wrench**

1. Position the Motor Housing (19) in leather-covered vise jaws with the splined shaft of the Rotor in a horizontal position.

## MAINTENANCE SECTION

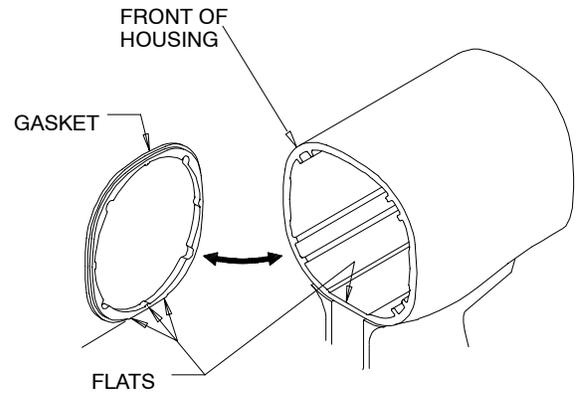
2. Place the assembled impact mechanism down onto the splined hub of the Rotor.
3. Position the Hammer Case Gasket (18) against the face of the Motor Housing.

### NOTICE

**Be sure that the flat on the bottom of the Hammer Case Gasket is installed in the corresponding flat in the Housing. If the Hammer Case Gasket is not installed correctly, the Air Wrench will not function properly.**

Refer to Dwg. TPD1335-1.

4. Apply a thin film of Ingersoll-Rand No. 105-1LB Grease or Ingersoll-Rand 105-8LB Grease on inside surface of the Hammer Case Bushing (16), and place the Hammer Case (15) down over the Anvil and against the Motor Housing.



(Dwg. TPD1335-1)

5. Install the Hammer Case Screws (11) and tighten them to 25 in-lb (2.8 Nm) torque.

## MAINTENANCE SECTION

### TROUBLESHOOTING GUIDE

Trouble	Probable Cause	Solution
Low power	Dry Motor	<b>Daily</b> , inject 3 cc of Ingersoll-Rand No. 50 Oil into the inlet and run the tool to lubricate the motor.
	Inadequate air supply	Install proper air supply and connection. Refer to Dwg. TPD905-1 and Dwg. TPD1674-1 on Page 3.
	Dirty Inlet bushing Screen	Using a clean, suitable, cleaning solution in a well ventilated area, clean the Inlet Bushing Screen.
	Worn or broken Vanes	Replace a <b>complete</b> set of Vanes
	Worn or broken Cylinder and/or scored End Plates	Examine Cylinder. Check outside and ends for wear or damage and inside for scored or wavy bore. Replace Cylinder if any of these conditions exist. Replace End Plates if they are scored.
	Dirty motor parts.	Disassemble the Tool and clean in a clean, suitable, cleaning solution in a well ventilated area. Assemble the Tool and inject 3 cc of the recommended oil into Inlet and run Tool to lubricate internal parts.
	Damaged Reverse Valve	Replace Reverse Valve. Refer to <b>Installation of Reverse Valve</b> .
Motor will not run	Incorrect assembly of motor	Disassemble motor and replace worn or broken parts and reassemble. Refer to <b>Assembly of the Motor</b> .
	Insufficient lubricant in impact mechanism.	Lubricate impact mechanism through Hammer Case Grease Fitting using the recommended grease.
Tool will not impact	Broken or worn impact mechanism parts	Remove Hammer Case Assembly and examine impact mechanism parts. Replace any worn or broken parts.
	Impact mechanism not assembled correctly.	Refer to <b>Assembly of Impact Mechanism</b> .

#### NOTICE

**SAVE THESE INSTRUCTIONS. DO NOT DESTROY.**

**When the life of the tool has expired, it is recommended that the tool be disassembled, degreased and parts be separated by material so that they can be recycled.**



