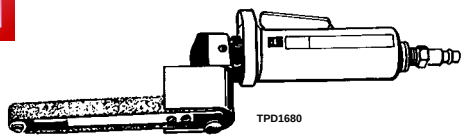

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Form P6958
Edition 7
May, 1999

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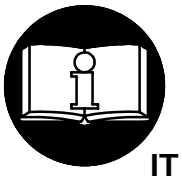
P

OPERATION AND MAINTENANCE MANUAL FOR SERIES CA ANGLE BELT SANDERS

NOTICE

Series CA Angle Belt Sanders are designed for work in the metal fabricating industry and foundry applications. These small Angle Belt Sanders are very efficient at grinding weld bead, slag and parting lines while leaving a fine finish.
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 5/16" (8 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.**
- **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 accessories 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.**
- **Whenever the Angle Head is installed or repositioned, the Throttle Lever must be positioned so that reaction torque will not tend to retain the throttle in the "ON" position.**
- **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.

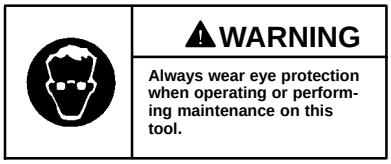
Printed in U.S.A.

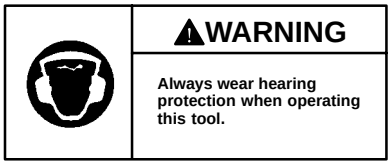
INGERSOLL-RAND®
PROFESSIONAL TOOLS

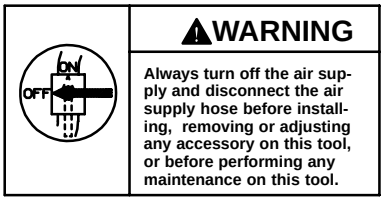
WARNING LABEL IDENTIFICATION

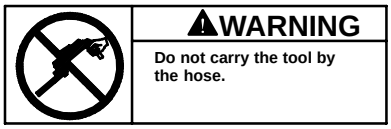
⚠ WARNING

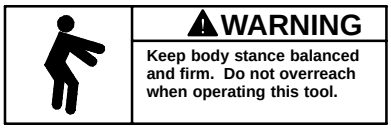
FAILURE TO OBSERVE THE FOLLOWING WARNINGS COULD RESULT IN INJURY.

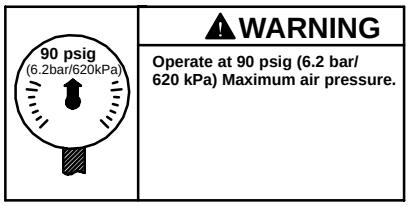












SANDER SPECIFIC WARNINGS

- **Do not use this tool if actual free speed exceeds the nameplate rpm.**
- **Before mounting a sanding belt, after any tool repair or whenever a Sander is issued for use, check free speed of the tool with a tachometer to make certain its actual speed at 90 psig (6.2 bar/620 kPa) does not exceed rpm stamped or printed on the nameplate. Sanders in use on the job must be similarly checked at least once each shift.**
- **Always use the recommended Ingersoll–Rand Guard furnished with the Sander.**
- **Series CA120 Angle Belt Sanders have a free speed of 12 000 rpm and a belt speed of 2 700 sfpm while Series CA200 Angle Belt Sanders have a free speed of 20 000 rpm and a belt speed of 4 500 sfpm, when operated at 90 psig (6.2 bar/620 kPa) air pressure. Operation at higher air pressure will result in excessive speed.**
- **Do not operate a Belt Sander with the Cover removed.**

ADJUSTMENTS

—— INSTALLING A SANDING BELT ——

When installing a new sanding belt, proceed as follows:

1. **For 18" models,** slide the Cover rearward toward the handle of the Sander until it is free. It may require a light rap on the front edge of the Cover to disengage it from its locking points.
2. Compress the Idler Wheel and slip the old belt off the drive Sleeve. Release the pressure on the Idler Wheel and remove the belt.
3. Position a new belt on the Idler Wheel.
4. Compress the Idler Wheel with the belt and slip the opposite end of the belt onto the Drive Sleeve around the Spindle Cap. Release the pressure on the Idler Wheel.
5. **For 18" models,** align the Cover with the Guard and slide it forward toward the Idler Wheel until it snaps into position and stays there.
6. Operate the Sander at low speed to determine if the new Belt is tracking properly. If the Belt fails to track properly, realign the Clevis by tightening or loosening one or both of the Clevis Mounting Screws.

PLACING TOOL IN SERVICE

TOOL OPERATION

Sand using any portion of the exposed Sanding Belt. For best results, sand on that portion of the Belt being pulled by the Drive Wheel.

LUBRICATION

Ingersoll–Rand No. 10
Ingersoll–Rand No. 50
Ingersoll–Rand No. 63
Ingersoll–Rand No. 67
Ingersoll–Rand No. 68
Ingersoll–Rand No. 77

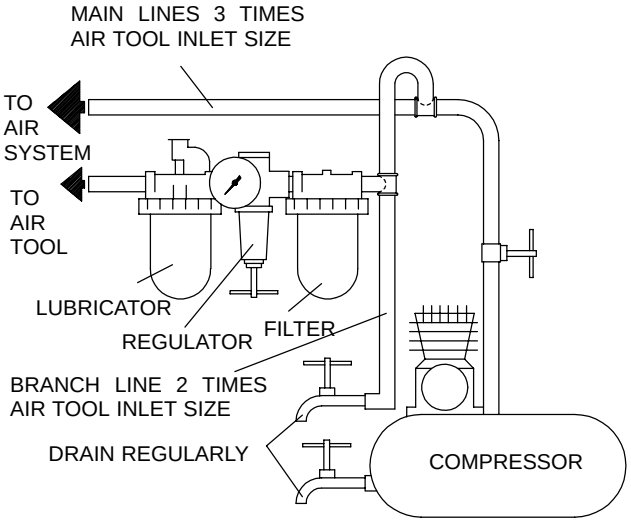
Always use an air line lubricator with these tools.
We recommend the following Filter–Lubricator–Regulator Unit:

USA – No. C28–04–FKG0–28

After each two hours of operation, if an air line lubricator is not used, inject 1/2 to 1 cc of Ingersoll–Rand No. 10 Oil into the Air Inlet.
After each eight hours of operation, inject approximately 1 cc of Ingersoll–Rand No. 67 or Ingersoll–Rand No. 77 Grease into the Angle Head Grease Fitting. **Excessive lubrication will cause grease to work out around the Arbor.**

CAUTION

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



(Dwg. TPD905–1)

HOW TO ORDER SERIES CA ANGLE BELT SANDERS

Model	Arbor Speed rpm	Belt Speed sfpm
ANGLE BELT SANDERS WITH 12” x 1/2” BELT		
CA200RS812 (Rear Exhaust)	20,000	4,500
CA120RS812 (Rear Exhaust)	12,000	2,700
ANGLE BELT SANDERS WITH 18” x 1/4” BELT		
CA200RS418 (Rear Exhaust)	20,000	4,500
CA120RS418 (Rear Exhaust)	12,000	2,700
ANGLE BELT SANDERS WITH 18” x 1/2” BELT		
CA200RS818 (Rear Exhaust)	20,000	4,500
CA120RS818 (Rear Exhaust)	12,000	2,700

NOTICE

Any model listed can be changed to a front exhaust tool by reversing the Flow Ring and aligning the indicator marks with the letter "F" on the Housing. To order a front exhaust tool from the factory, substitute the letter "F" for the letter "R" in the model number. Example: CA200RA812 Rear Exhaust Model becomes CA200FS812 Front Exhaust Model.

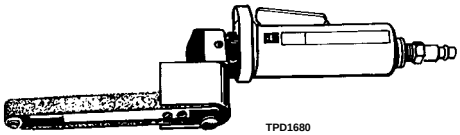
HOW TO ORDER CUSTOM MODELS

1. To order a tool with a Locking Lever, select the desired model and add and "L" to the end of the existing number. **Example:** CA200RS812**L**

   NOTICE

   Anytime a tool is ordered with a Low–Profile Concentric Flange, it will come equipped with a Locking Lever from the factory.

2. To order a tool with a Low–Profile Concentric Flange, select the desired rear exhaust model and add a "C" to the end of the existing number. Concentric Flanges are not available for front exhaust models.
   Example: CA200RS812**C**



F

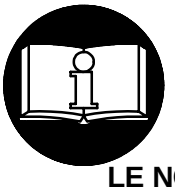
MANUEL D'EXPLOITATION ET D'ENTRETIEN DES PONCEUSES D'ANGLE À BANDE DE LA SÉRIE CA

NOTE

Les ponçeuses d'angle à bande de la Série CA sont destinées aux applications de tôlerie et de fonderie. Ces petites ponceuses à bande sont particulièrement bien adaptées au polissage des cordons de soudure, du laitier et des jointures de moulage et laissent une très bonne finition.

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 SÉCURITÉ SONT JOINTES.
LIRE CE MANUEL AVANT D'UTILISER L'OUTIL.
L'EMPLOYEUR EST TENU DE 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 la sécurité, les performances optimales et la durabilité maximale des pièces, cet outil doit être connecté à une alimentation d'air comprimé de 6,2 bar (620 kPa) maximum à l'entrée, avec un flexible de 8 mm de diamètre intérieur.**
- **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. 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 de l'extrémité rotative de l'outil.**
- **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 des accessoires de l'outil peut continuer pendant un certain temps 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.**
- **A chaque fois que le renvoi d'angle est installé ou repositionné, le levier de commande doit être positionné de manière à ce que le couple de réaction n'ait pas tendance à maintenir le levier de commande en position "MARCHE".**
- **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.

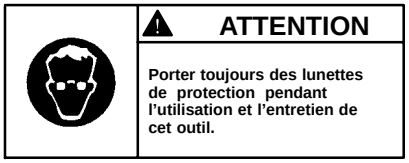
Imprimé aux É.U.

INGERSOLL-RAND®
PROFESSIONAL TOOLS

SIGNIFICATION DES ÉTIQUETTES D'AVERTISSEMENT

⚠ ATTENTION

LE NON RESPECT DES AVERTISSEMENTS SUIVANTS PEUT CAUSER DES BLESSURES.



⚠ ATTENTION

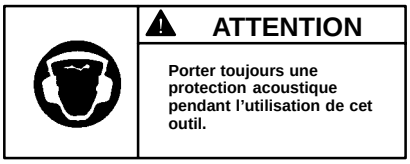
Porter toujours des lunettes de protection pendant l'utilisation et l'entretien de cet outil.

⚠ ATTENTION

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

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

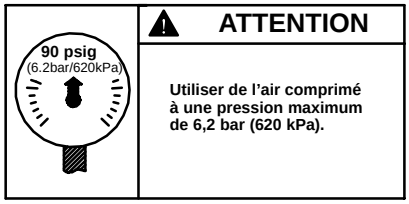


⚠ ATTENTION

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

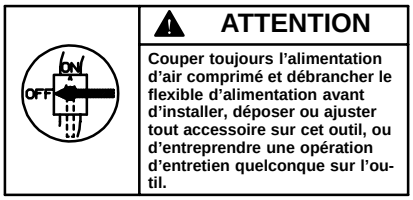
⚠ ATTENTION

Ne pas transporter l'outil par son flexible.



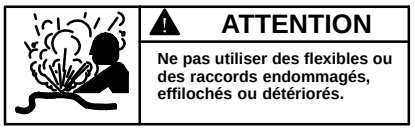
⚠ ATTENTION

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



⚠ 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

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

AVERTISSEMENTS SPÉCIFIQUES AUX PONCEUSES

- **Ne pas utiliser cet outil si la vitesse à vide réelle dépasse celle indiquée sur la plaque signalétique.**
- **Avant de monter une bande de ponçage, après toute réparation de l'outil ou chaque fois que la ponceuse est sortie du magasin, vérifier la vitesse à vide de l'outil avec un compte–tours pour s'assurer qu'à une pression d'alimentation de 6,2 bar (620 kPa), elle ne dépasse pas celle poinçonnée ou imprimée sur la plaque signalétique. Les ponceuses sorties sur chantier doivent être vérifiées de la même façon au moins une fois par poste.**
- **Utiliser toujours la ponceuse équipée du carter de protection recommandé par Ingersoll–Rand.**
- **Les ponceuses d'angle à bande de la série CA120 ont une vitesse à vide de 12 000 tr/mn et une vitesse de bande de 2 700 sfpm, tandis que les ponceuses d'angle à bande de la série CA200 ont une vitesse à vide de 20 000 tr/mn et une vitesse de bande de 4 500 sfpm, lorsqu'alimentées à une pression d'air de 6,2 bar/620 kPa. L'exploitation à une pression d'air supérieure produira une vitesse excessive.**
- **Ne jamais exploiter la ponceuse lorsque le couvercle est déposé.**

RÉGLAGES

— MONTAGE DE LA BANDE ABRASIVE —

Pour installer une nouvelle bande abrasive, procécer comme suit :

1. **Pour les modèles de 18"**, glisser le couvercle vers l'arrière en direction de la poignée, jusqu'à ce qu'il soit libre. Un léger coup sur le devant du couvercle pourra être nécessaire pour le désengager de ses points de verrouillage.
2. Comprimer la roue libre et faire glisser l'ancienne bande du manchon d'entraînement. Relâcher la pression sur la roue libre et déposer la bande.
3. Placer une bande neuve sur la roue libre.
4. Comprimer la roue libre et la bande et faire glisser l'extrémité opposée de la bande sur le manchon d'entraînement autour du chapeau de broche. Relâcher la pression sur la roue libre.
5. **Pour les modèles de 18"**, aligner le couvercle et le carter de protection et glisser le couvercle vers la roue libre jusqu'à ce qu'il s'engage en position.
6. Faire tourner la ponceuse à basse vitesse pour vérifier l'alignement correct de la bande. Si la bande n'est pas alignée, ajuster la chape en serrant ou en desserrant une ou les deux vis de montage de chape.

MISE EN SERVICE DE L'OUTIL

EXPLOITATION DE L'OUTIL

Poncer en utilisant n'importe quelle section exposée de la bande de ponçage. Pour obtenir les meilleurs résultats, utiliser la partie de la bande tractée par la roue d'entraînement.

LUBRIFICATION

Ingersoll–Rand No. 10 **Ingersoll–Rand No. 67**
Ingersoll–Rand No. 50 **Ingersoll–Rand No. 68**
Ingersoll–Rand No. 63 **Ingersoll–Rand No. 77**

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

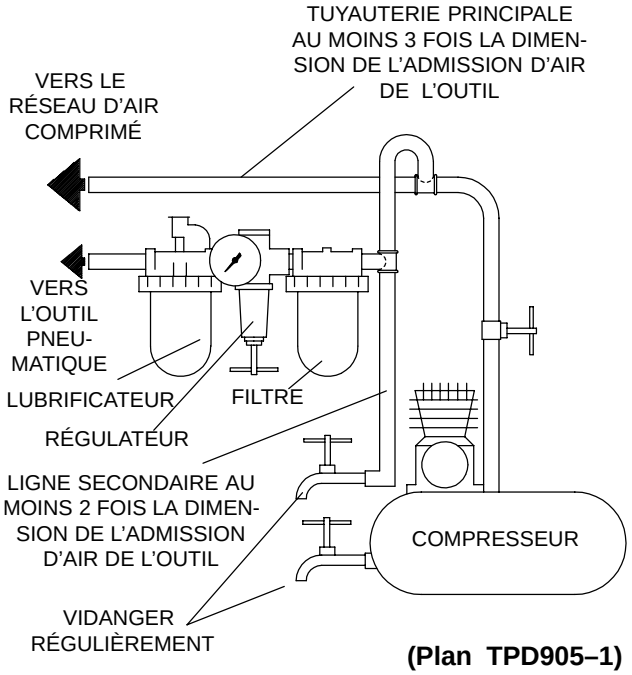
USA – No. C28–04–FKG0–28

Toutes les deux heures de fonctionnement, si un lubrificateur de ligne n'est pas utilisé, injecter 1/2 à 1 cm^3 d'huile Ingersoll–Rand No. 10 dans le raccord d'admission.

Toutes les huit heures de fonctionnement, injecter 1 cm^3 de graisse Ingersoll–Rand No. 67 ou No. 77 dans le raccord de graissage du renvoi d'angle. **Tout graissage excessif causera l'extrusion de la graisse autour de l'arbre.**

AVERTISSEMENT

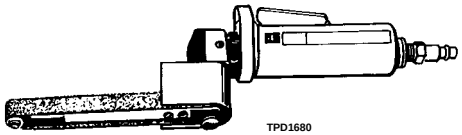
Ne pas marquer les codes d'identification client sur les surfaces non métalliques de cet outil. De telles actions pourraient affecter les performances de l'outil.



(Plan TPD905–1)

SPÉCIFICATIONS

Modèle	Dimension de la Bande	Vitesse d'arbre	Vitesse de la bande
	pouces (mm)	tr/mn	sfpm
CA120RS812ML	12 x 1/2 (305 x 13)	12.000	2.700
CA120RS418ML	18 x 1/4 (457 x 6)	12.000	2.700
CA120RS818ML	18 x 12 (457 x 13)	12.000	2.700
CA200RS812ML	12 x 1/2 (305 x 13)	20.000	4.500
CA200RS418ML	18 x 1/4 (457 x 6)	20.000	4.500
CA200RS818ML	18 x 12 (457 x 13)	20.000	4.500



E

MANUAL DE USO Y MANTENIMIENTO PARA LIJADORAS DE CORREA ANGULARES DE LA SERIE CA

NOTA

Las lijadoras de correa de la serie CA están diseñadas para trabajos en la industria de fabricación de productos metálicos y en aplicaciones de fundición. Estas pequeñas lijadoras de correa angulares resultan muy eficaces para amolar cordones de soldadura, líneas de rebabas y escoria, obteniendo un acabado fino.
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 INFORMACIÓN IMPORTANTE DE SEGURIDAD.
LEA ESTE MANUAL ANTES DE UTILIZAR LA HERRAMIENTA.
ES RESPONSABILIDAD DE LA EMPRESA ASEGURARSE DE QUE EL OPERARIO ESTÉ AL TANTO DE LA INFORMACIÓN QUE CONTIENE ESTE MANUAL.
EL HACER CASO OMISO DE LOS AVISOS SIGUIENTES PODRÍA 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 mayor seguridad, rendimiento óptimo y larga vida útil de las piezas, utilice esta herramienta a una presión de aire máxima de 90 psig (6,2 bar/620 kPa) con una manguera de suministro de aire con diámetro interno de 8 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 racores dañados, desgastados o deteriorados.**
- **Asegúrese de que todos los racores y mangueras sean del tamaño correcto y estén bien apretados. El Esq. TPD905–1 muestra una disposición característica de las tuberías.**
- **Use siempre aire limpio y seco a una presión máxima de 90 psig (6,2 bar/620 kPa). El polvo, los gases corrosivos y el exceso de humedad pueden 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.**

UTILIZACIÓN DE LA HERRAMIENTA

- **Lleve siempre protección ocular cuando utilice esta herramienta o realice operaciones de mantenimiento en la misma.**
- **Lleve siempre protección para los oídos cuando utilice esta herramienta.**
- **Mantenga las manos, la ropa suelta y el cabello largo alejados del extremo giratorio de la herramienta.**
- **Anticipe y esté atento a los cambios repentinos en el movimiento durante la puesta en marcha y utilización de toda herramienta motorizada.**
- **Mantenga una postura del cuerpo equilibrada y firme. No estire demasiado los brazos al manejar la herramienta. Pueden darse elevados pares de reacción a la presión de aire recomendada, e incluso a presiones inferiores.**
- **Los accesorios de la herramienta podrían seguir girando brevemente después de haberse soltado la palanca de mando.**
- **Las herramientas neumáticas 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.**
- **Utilice únicamente los accesorios Ingersoll–Rand recomendados.**
- **Cuando se instale o reposicione la cabeza angular, la palanca de mando deberá colocarse de forma que la reacción de par no tienda a retener el mando en la posición de "ON" (ACCIONAMIENTO).**
- **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 puede 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 se deben encomendar a personal debidamente cualificado y autorizado. Consulte con el centro de servicio autorizado Ingersoll–Rand más próximo.**

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

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ETIQUETAS DE AVISO

⚠ AVISO

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

⚠ ADVERTENCIA

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

⚠ ADVERTENCIA

Usar siempre protección para los oídos al manejar esta herramienta.

⚠ 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

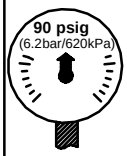
No coger la herramienta por la manguera para levantarla.

⚠ 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).

AVISOS ESPECÍFICOS SOBRE LAS LIJADORAS

- **No use esta herramienta si la velocidad en vacío real excede la indicada en la placa de identificación.**
- **Antes de montar una correa de lijado, después cualquier reparación de la herramienta o al poner en servicio una lijadora, compruebe con un tacómetro la velocidad en vacío de la herramienta para asegurarse de que su velocidad real a 90 psig (6.2 bar/620 kPa) no exceda la velocidad estampada o impresa en la placa de identificación. Las lijadoras que están en uso también se deberán revisar al menos una vez en cada turno de trabajo.**
- **Use siempre el protector recomendado por Ingersoll–Rand y suministrado con la lijadora.**
- **Las lijadoras de correa de la serie CA120 tienen una velocidad en vacío de 12000 rpm y una velocidad periférica de correa de 2700 pies/min., mientras que las lijadoras de correa angulares de la serie CA200 tienen una velocidad en vacío de 20000 rpm y una velocidad periférica de correa de 4500 pies/min., cuando se operan a una presión de aire de 90 psig (6.2 bar/620 kPa). Su utilización a una presión superior producirá un exceso de velocidad.**
- **No utilice la lijadora de correa sin la cubierta.**

AJUSTES

-INSTALACIÓN DE UNA CORREA DE LIJADO

Para instalar una correa de lijado nueva, proceda como sigue:

1. **Para modelos de 18 pulg.,** deslice la cubierta hacia atrás, hacia la empuñadura de la lijadora, hasta que quede suelta. Puede que sea necesario golpear ligeramente el extremo delantero de la cubierta para soltarla de los puntos de cierre.
2. Comprima la rueda intermedia y deslice la correa antigua fuera del manguito de accionamiento. Libere la presión de la rueda intermedia y saque la correa.
3. Coloque una correa nueva en la rueda intermedia.
4. Comprima la rueda intermedia con la correa y deslice el extremo opuesto de dicha correa sobre el manguito de accionamiento, alrededor de la tapa del husillo. Libere la presión sobre la rueda intermedia.
5. **Para modelos de 18 pulg.,** alinee la cubierta con el protector y deslícela hacia delante, hacia la rueda intermedia, hasta que salte a su posición y se quede allí.
6. Utilice la lijadora a baja velocidad para ver si la correa nueva funciona con normalidad. Si la correa no funciona debidamente, vuelva a alinear la horquilla apretando o aflojando para ello uno de los tornillos de montaje de la horquilla o ambos.

PARA PONER LA HERRAMIENTA EN SERVICIO

FUNCIONAMIENTO DE LA HERRAMIENTA

Proceda al lijado utilizando para ello cualquier parte de la correa de lijado que quede expuesta. Para obtener unos resultados óptimos, lije utilizando la parte de la correa de la que tira la muela de accionamiento.

LUBRICACIÓN

Ingersoll–Rand Nº 10
Ingersoll–Rand Nº 50
Ingersoll–Rand Nº 63

Ingersoll–Rand Nº 67
Ingersoll–Rand Nº 68
Ingersoll–Rand Nº 77

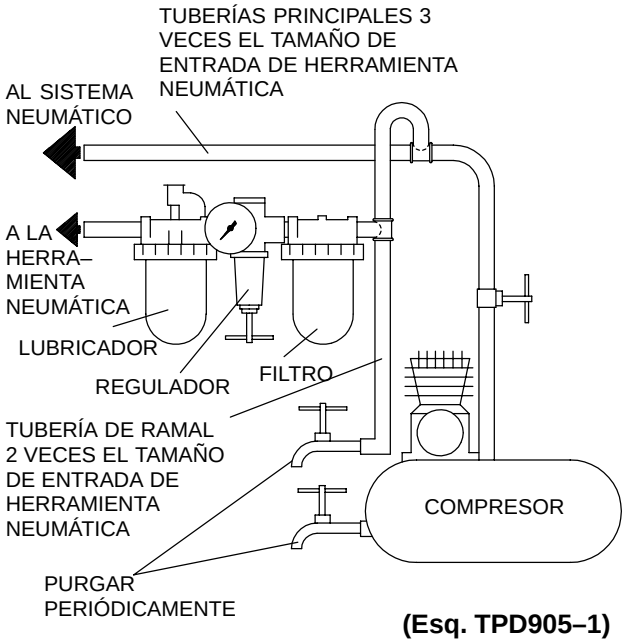
Utilice siempre un lubricador de aire comprimido con estas herramientas. Recomendamos utilizar el siguiente conjunto de filtro–lubricador–regulador:

USA – Nº C28–04–FKG0–28

Después de cada dos horas de funcionamiento, si no se usa un lubricador de línea de aire comprimido, inyecte 1/2 – 1 cc de aceite Ingersoll–Rand Nº 10 en la admisión de aire.
Después de cada ocho horas de uso, inyecte aproximadamente 1 cc de grasa Ingersoll–Rand Nº 67 o 77 en el engrasador situado en la cabeza angular. **Un exceso de lubricación causará que caiga grasa en el eje.**

PRECAUCIÓN

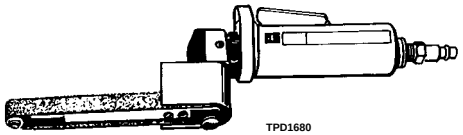
No marque ninguna superficie no metálica de esta herramienta con los códigos de identificación de cliente. Tal acción podría afectar al rendimiento de la herramienta.



(Esq. TPD905–1)

ESPECIFICACIONES

Modelo	Tamaño de la correa	Velocidad del eje	Velocidad periférica de la correa
	pulg. (mm)	rpm	pies/min.
CA120RS812ML	12 x 1/2 (305 x 13)	20.000	4.500
CA120RS418ML	12 x 1/2 (305 x 13)	12.000	2.700
CA120RS818ML	18 x 1/4 (457 x 6)	20.000	4.500
CA200RS812ML	18 x 1/4 (457 x 6)	12.000	2.700
CA200RS418ML	18 x 12 (457 x 13)	20.000	4.500
CA200RS818ML	18 x 12 (457 x 13)	12.000	2.700



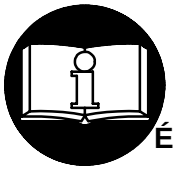
P

MANUAL DE FUNCIONAMENTO E MANUTENÇÃO PARA LIXADORES COM CORREIA EM ÂNGULO SÉRIES CA

AVISO

Os Lixadores com Correia em Ângulo Séries CA são concebidos para aplicações de trabalho em indústria e fundição de metais. Estes pequenos Lixadores são muito eficientes em esmerilar cordões de solda, e linhas de separação e madeira, deixando um fino acabamento.

A Ingersoll–Rand não é responsável por modificações, feitas pelo cliente em ferramentas, nas quais a Ingersoll–Rand não tenha sido consultada.



⚠ ADVERTÊNCIA

INFORMAÇÃO DE SEGURANÇA IMPORTANTE EM ANEXO.
LEIA ESTE MANUAL ANTES DE OPERAR A FERRAMENTA.
É DA RESPONSABILIDADE DO EMPREGADOR COLOCAR A INFORMAÇÃO DESTE MANUAL NAS MÃOS DO OPERADOR.
O NÃO CUMPRIMENTO DAS SEGUINTES ADVERTÊNCIAS PODE RESULTAR EM FERIMENTOS.

COLOCANDO A FERRAMENTA EM FUNCIONAMENTO

- **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, máximo desempenho e máxima durabilidade das peças, opere esta ferramenta com uma pressão de ar máxima de 6,2 bar/620 kPa (90 psig) na entrada da mangueira de alimentação de ar com diâmetro interno de 8 mm (5/16”).**
- **Desligue sempre a alimentação de ar e desconecte a mangueira de alimentação de ar antes de instalar, remover ou ajustar qualquer acessório nesta ferramenta, ou antes de executar qualquer serviço de manutenção nesta ferramenta.**
- **Não use mangueiras de ar ou adaptadores danificados, gastos ou deteriorados.**
- **Certifique–se de que todas as mangueiras e adaptadores sejam do tamanho correcto e estejam apertados com firmeza. Veja o Desenho TPD905–1 para um arranjo típico de tubagem.**
- **Use sempre ar seco e limpo com pressão máxima de 90 psig. Pó, fumos corrosivos e/ou humidade excessiva podem arruinar o motor de uma ferramenta pneumática.**
- **Não lubrifique as ferramentas com líquidos inflamáveis ou voláteis tais como querosene, diesel ou combustível de jactos.**
- **Não remova nenhum rótulo. Reponha qualquer rótulo danificado.**

USANDO A FERRAMENTA

- **Use sempre óculos de protecção quando estiver operando ou executando serviço de manutenção nesta ferramenta.**
- **Use sempre protecção contra ruído ao operar esta ferramenta.**
- **Mantenha as mãos, partes do vestuário soltas e cabelos compridos afastados da extremidade em rotação.**
- **Antecipe e esteja alerta a mudanças repentinas no movimento quando ligar e operar qualquer ferramenta motorizada.**
- **Mantenha a posição do corpo equilibrada e firme. Não exagere quando operar esta ferramenta. Torques de reacção elevados podem ocorrer na ou abaixo da pressão de ar recomendada.**
- **Os acessórios da ferramenta podem continuar a impactar brevemente após a pressão ter sido aliviada.**
- **Ferramentas accionadas pneumáticamente podem vibrar em uso. Vibração, movimentos repetitivos ou posições desconfortáveis podem ser prejudiciais às mãos e aos braços. Pare de usar a ferramenta caso ocorra algum desconforto, sensação de formigueiro ou dor. Procure assistência médica antes de retornar ao trabalho.**
- **Use acessórios recomendados pela Ingersoll–Rand.**
- **Quando quer que o Cabeçote em Ângulo seja instalado ou reposto, a Válvula Reguladora de Presão deve ser posicionada de modo que um torque de reacção não tenderá a reter o curso na posição “LIGADA”.**
- **Esta Ferramenta não foi concebida para trabalhos em atmosferas explosivas.**
- **Esta Ferramenta não está isolada contra choques eléctricos.**

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.

Envie Todos os Comunicados Para o Distribuidor ou Escritório da Ingersoll–Rand Mais Próximo.

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IDENTIFICAÇÃO DO RÓTULO DE ADVERTÊNCIA

⚠ ADVERTÊNCIA

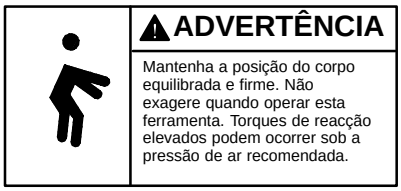
O NÃO CUMPRIMENTO DAS SEGUINTES ADVERTÊNCIAS PODE RESULTAR EM FERIMENTOS.

⚠ ADVERTÊNCIA

Use sempre óculos de protecção quando estiver operando ou executando algum serviço de manutenção nesta ferramenta.

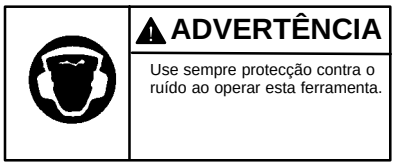
⚠ ADVERTÊNCIA

Ferramentas accionadas pneumáticamente podem vibrar em uso. Vibração, movimentos repetitivos ou posições desconfortáveis podem ser prejudiciais às mãos e aos braços. Pare de usar a ferramenta caso ocorra algum desconforto, sensação de formigueiro ou dor. Procure assistência médica antes de retornar ao trabalho.



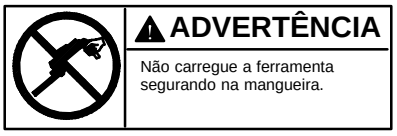
⚠ ADVERTÊNCIA

Mantenha a posição do corpo equilibrada e firme. Não exagere quando operar esta ferramenta. Torques de reacção elevados podem ocorrer sob a pressão de ar recomendada.



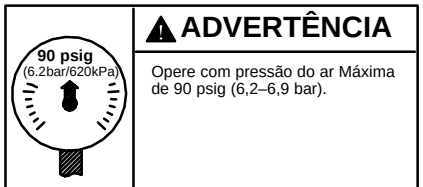
⚠ ADVERTÊNCIA

Use sempre protecção contra o ruído ao operar esta ferramenta.



⚠ ADVERTÊNCIA

Não carregue a ferramenta segurando na mangueira.

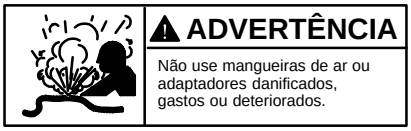


⚠ ADVERTÊNCIA

Opere com pressão do ar Máxima de 90 psig (6,2–6,9 bar).

⚠ ADVERTÊNCIA

Desligue sempre a alimentação de ar e desconecte a mangueira de alimentação de ar antes de instalar, remover ou ajustar qualquer acessório nesta ferramenta, ou antes de executar algum serviço de manutenção nesta ferramenta.



⚠ ADVERTÊNCIA

Não use mangueiras de ar ou adaptadores danificados, gastos ou deteriorados.

ADVERTÊNCIAS ESPECÍFICAS SOBRE O LIXADOR

- **Não use esta ferramenta se a velocidade livre total exceder a rpm indicada na placa de identificação.**
- **Antes de montar a correia de lixamento, depois de qualquer reparação de ferramenta ou quando se pretende que um Lixador seja colocado em funcionamento, verifique a velocidade livre do Lixador com um tacómetro para se certificar de que a sua velocidade real a 6,2 bar/620kPa (90 psig) não exceda a rpm selada ou impressa na placa de identificação. Os Lixadores em funcionamento devem ser similarmente verificados pelo menos uma vez em cada turno**.
- **Use sempre o Protector do Disco da Ingersoll–Rand fornecido com o Lixador.**
- **Os Lixadores em Ângulo Séries CA120 têm uma velocidade livre de 12 000 rpm e uma velocidade de correia de 2 700 sfpm enquanto os das Séries CA200 têm velocidade livre de 20 000 rpm e uma velocidade da correia de 4500 sfpm, quando operados sob uma pressão de ar igual a 6,2 bar/620 kPa (90 psig). Operação sob pressões de ar mais elevadas resultará em velocidade excessiva.**
- **Nao opere o lixador com correia com a capa removida.**

AJUSTES

INSTALANDO UMA CORREIA DE LIXAMENTO

Quando uma correia de lixamento nova for instalada proceda da seguinte maneira:

1. **Para modelos com 18”,** deslize a Capa para trás em direção ao punho do Lixador até libertá–la. Pode ser necessário uma leve pancada na extremidade frontal da capa para livrá–lo dos seus pontos de travamento.
2. Comprima o Disco Falso e retire a correia velha para fora da Camisa de comando. Alivie a pressão no Disco Falso e remova a correia.
3. Posicione a correia nova no Disco Falso.
4. Comprima o Disco Falso com a correia e coloque a extremidade oposta da correia na Camisa de Comando ao redor do Tampo do Fuso. Alivie a pressão no Disco Falso.
5. **Para modelos com 18”,** alinhe a Capa com o Protector e deslize para frente em direção do Disco Falso até que ele prenda na posição e lá permaneça.
6. Opere o Lixador com velocidade baixa para verificar se a nova Correia está propriamente colocada. Se a Correia não correr no trilho de maneira apropriada, realinhe o Olhal ao apertar ou afrouxar um ou ambos Parafusos de Montagem do Olhal.

COLOCANDO A FERRAMENTA EM FUNCIONAMENTO

OPERAÇÃO DA FERRAMENTA

Lixe usando qualquer porção da Correia de Lixamento exposta. Para resultados melhores, lixe naquela porção da Correia sendo puxada pelo Disco de Comando.

LUBRIFICAÇÃO

Ingersoll–Rand No. 10
Ingersoll–Rand No. 50
Ingersoll–Rand No. 63

Ingersoll–Rand No. 67
Ingersoll–Rand No. 68
Ingersoll–Rand No. 77

Use sempre um lubrificador de ar de linha com estas ferramentas. Nós recomendamos a seguinte Unidade Filtro–Lubrificador–Regulador:

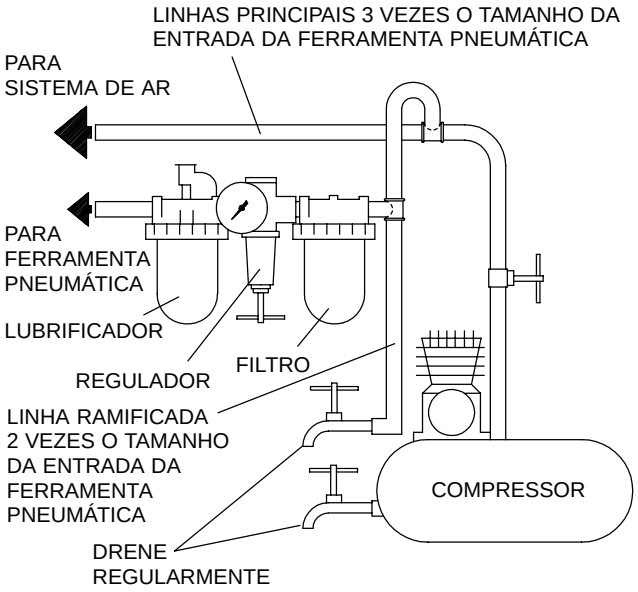
USA – No. C28–04–FKG0–28

Depois de cada duas horas de operação, se um lubrificador de ar de linha não estiver sendo usado, injecte de 1/2 a 1 cc de Óleo Ingersoll–Rand No. 10 na Entrada de Ar.

Depois de cada oito horas de operação, injecte cerca de 1 cc de Massa Ingersoll–Rand No 67 ou Ingersoll–Rand No 77 no Adaptador de Massa do Cabeçote em Ângulo. **Lubrificação excessiva poderá fazer com que a graxa de espalhe em volta da Árvore de Montagem.**

CUIDADO

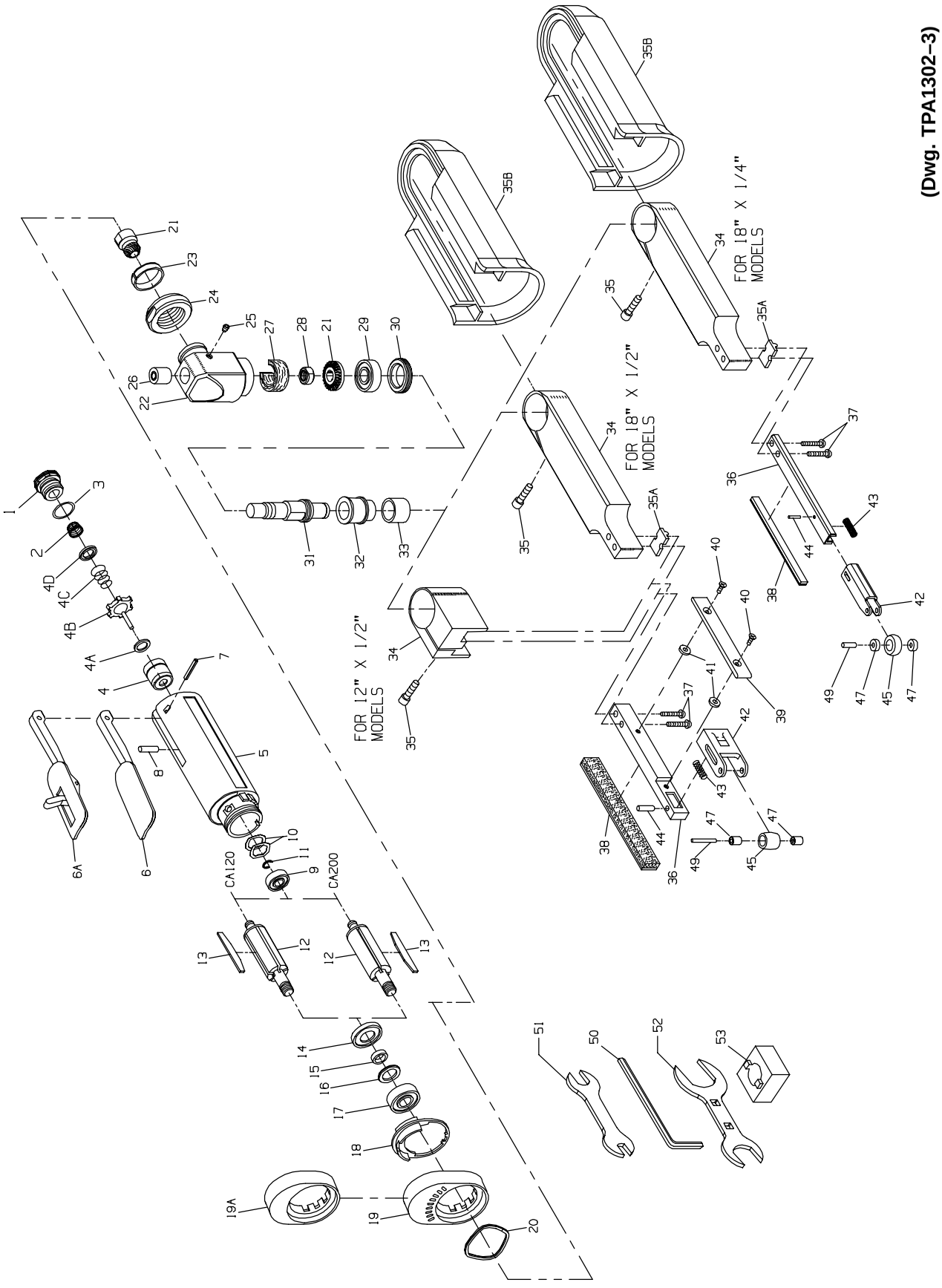
Não marque as superfícies não metálicas desta ferramenta com códigos de identificação do cliente. Tais acções podem afectar o desempenho da ferramenta.



(Desenho TPD905–1)

ESPECIFICAÇÕES

Modelo	Tamanho da Correia	Velocidade da Árvore	Velocidada da Correia
	mm (pol.)	rpm	sfpm
CA120RS812ML	305 x 13 (12 x 1/2)	12.000	2.700
CA120RS418ML	305 x 13 (12 x 1/2)	12.000	2.700
CA120RS818ML	457 x 6 (18 x 1/4)	12.000	2.700
CA200RS812ML	457 x 6 (18 x 1/4)	20.000	4.500
CA200RS418ML	457 x 13 (18 x 1/2)	20.000	4.500
CA200RS818ML	457 x 13 (18 x 1/2)	20.000	4.500



(Dwg. TPA1302–3)

		PART NUMBER FOR ORDERING	
	1	Inlet Assembly	LG1–A465A
	2	Inlet Screen	R1602–61
•	3	Inlet Seal	85H–167
		Throttle Valve Kit	LG1–K300
	4	Throttle Valve Cartridge Case	LG1–300A
	4A	Throttle Valve Seat	LG1–303
	4B	Throttle Valve	AG210–302
	4C	Throttle Valve Spring	7L–51
	4D	Throttle Valve Spring Seat	LG1–592
	5	Motor Housing	LG1–40
	6	Throttle Lever	LG1–273
	6A	Locking Throttle Lever Assembly	
		(for Models ending in L or C)	LG1–A400
	*	Lever Lock	LG1–402
	*	Lock Spring	LG1–405
	*	Lock Pin	5UT–757
	7	Throttle Lever Pin	61H–120
	8	Throttle Valve Plunger	LG1–191
	9	Rear Rotor Bearing	DG230–22
•	10	Rear Rotor Bearing Spacer (2)	DG20–278
•	11	Rear Rotor Bearing Retainer	LG1–118
	12	Rotor	
		for CA120 (5 vane slots)	LG1–53–5
		for CA200 (3 vane slots)	LG1–53–3
•	13	Vane Packet (set of 5 Vanes)	LG1–42–5
	14	Front End Plate	LG1–11
	15	Front End Plate Spacer	DG10–65–5
•	16	Front Seal Cup	LG1–32

		PART NUMBER FOR ORDERING	
	17	Front Rotor Bearing	LG1–24
	18	Flow Ring	
		for CA120 (brown)	LG1–103–1
		for CA200 (red)	LG1–103–3
	19	High Profile Flange	LG1–23
#	19A	Low Profile Concentric Flange	
		(for all models ending in C)	LG1R–23
	20	Flange Clamp	LG1–29
	21	Bevel Pinion and Bevel Gear	
		(sold only as a matched set)	
		for CA120	LA1–A552–2.0S
		for CA200	LA1–A552–1.5A
	22	Angle Housing Assembly	LA1–A550S
	23	Clamp Spacer	LA1–46
	24	Clamp Nut	LG1–27
	25	Grease Fitting	D0F9–879
	26	Upper Arbor Bearing	AG210–693
+	27	Wick	
		for CA120	LA1–560
		for CA200	LA–561
	28	Bevel Gear Nut	AG210–578A
	29	Lower Arbor Bearing	AG210–24
	30	Arbor Bearing Cap	AG210–531
	31	Arbor	AG210–4–G4
	*	Warning Label	
		for models ending in –EU	EU–99
		for all other models	LG1–99

* 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.

⚠ WARNING

 # Always install a Locking Throttle Lever Assembly (6A) on a tool with a Low Profile Concentric Flange (19A). Installing a Concentric Flange on a tool without a Locking Throttle Lever will allow the tool to continue running if the tool is dropped or set down on the standard non–locking Throttle Lever (6).

\+ The LA1–A550S Angle Housing Assembly is furnished with two Wicks. Use Wick (LA1–561) **with** the notch on CA200 models.

		PART NUMBER FOR ORDERING
*	Nameplate	
	for CA120 models ending in –EU.	LA112–EU–301
	for all other CA120 models	LA112–301
	for CA200 models ending in –EU.	LA120–EU–301
	for all other CA200 models	LA120–301
	Belt Sander Assembly	
	for 12” x 1/2” models	LG1–A350–812
	for 18” x 1/2” models	LG1–A350–818
	for 18” x 1/4” models	LG1–A350–418
32	Spindle Cap	LG1–362
33	Drive Sleeve	LG1–358
34	Guard	
	for 12” models	LG1–357
	for 18” models	LG1–901
35	Guard Clamp Screw	SRA010A1–68
35A	Alignment Block (for 18” models only)	LG1–902
35B	Cover (for 18” models only)	LG1–900
36	Clevis Assembly	
	for 12” x 1/2” and 18” x 1/2” models	LG1–A351A
	for 18” x 1/4” models	LG1–A351–18–1/4
*	Belt Speed Label	LA1–98
37	Clevis Mounting Screw (2)	
	for 12” x 1/2” and 18” x 1/4” models	LG1–634
	for 18” x 1/2” models	LG1–903
38	Belt Pad	
	for 12” x 1/2” and 18” x 1/2” models	LG1–363
	for 18” x 1/4” models	LG1–364

		PART NUMBER FOR ORDERING
39	Belt Plate (for 12” x 1/2” and 18” x 1/2” models only)	LG1–360
40	Belt Plate Retaining Screw (for 12” x 1/2” and 18” x 1/2” models only) (2)	40–25–74–5
41	Belt Plate Spacer (for 12” x 1/2” and 18” x 1/2” models only) (2)	LG1–361A
42	Yoke	
	for 12” x 1/2” and 18” x 1/2” models	LG1–354A
	for 18” x 1/4” models	LG1–354–18–1/4
43	Yoke Spring	LG1–355
44	Yoke Retaining Pin	
	for 12” x 1/2” and 18” x 1/2” models	D92–152
	for 18” x 1/4” models	9DF5846–667
45	Idler Wheel Assembly	
	for 12” x 1/2” and 18” x 1/2” models	LG1–A352A
	for 18” x 1/4” models	LG1–A352–18–1/4
47	Idler Wheel Bearing (2)	
	for 12” x 1/2” and 18” x 1/2” models	7AH–500
	for 18” x 1/4” models	LG1–365
49	Idler Wheel Shaft	
	for 12” x 1/2” and 18” x 1/2” models	R31–121
	for 18” x 1/4” models	LG1–366
50	Guard Clamp Screw Wrench (5/32” hex)	4U–478

* Not illustrated.

		PART NUMBER FOR ORDERING			PART NUMBER FOR ORDERING
*	Sanding Belt Pack (includes 10 belts)		51	Collet Body Wrench (7/16” x 11/16”)	DG20–69A
	for 12” x 1/2” models		52	Clamp Nut Wrench	LA2–253
	60 Grit	LG1–SB812–60–10	53	Arbor Bearing Cap Wrench	AG210–29
	80 Grit	LG1–SB812–80–10	*	Variable Speed Control Assembly	
	100 Grit	LG1–SB812–100–10		(with piped away exhaust)	LG1–A1015
	for 18” x 1/2” models		*	Piped Away Exhaust Kit	LG1–K284
	60 Grit	LG1–SB818–60–10			
	80 Grit	LG1–SB818–80–10			
	100 Grit	LG1–SB818–100–10			
	for 18” x 1/4” models				
	60 Grit	LG1–SB418–60–10			
	80 Grit	LG1–SB418–80–10			
	100 Grit	LG1–SB418–100–10			

* Not illustrated.

MAINTENANCE SECTION

⚠ 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.

DISASSEMBLY

General Instructions

1. Do not disassemble the tool any further than necessary to replace or repair damaged parts.
2. When grasping a tool or part in a vise, always use the surface of the part or tool and help prevent distortion. This is particularly true of threaded members and housings.
3. Do not remove any part which is a press fit in or on a subassembly unless the removal of that part is necessary for repairs or replacement.
4. Do not disassemble the tool unless you have a complete set of new gaskets and O–rings for replacement.
5. Do not press any needle bearing from a part unless you have a new needle bearing on hand for installation. Needle bearings are always damaged during the removal process.

Disassembly of the Sanding Arm

1. **For 18" models,** slide the Cover (35B) rearward toward the handle of the Sander until it is free. It may require a light rap on the front edge of the Cover to disengage it from its locking points.
2. Using the Guard Clamp Screw Wrench (50), loosen the Guard Clamp Screw (35) and remove the Guard (34) and assembled sanding arm from the Angle Housing (22).
3. Using a screwdriver, remove the two Clevis Mounting Screws (37) and separate the Clevis (36) from the Guard.
4. **For 12" x 1/2" and 18" x 1/2" models,** use a screwdriver, to remove the two Belt Plate Retaining Screws (40), two Belt Plate Spacers (41) and the Belt Plate (39).
5. If the Belt Pad (38) must be replaced, peel the Pad from the side of the Clevis or Yoke (42) and scrape the surfaces clean.
6. To separate the Yoke from the Clevis, press the Yoke Retaining Pin (44) out of the Yoke and Clevis with an arbor press.

⚠ WARNING

Be careful not to allow the compression of the Yoke Spring (43) to expel the Yoke or Clevis in an unsafe manner when the pressing plug is withdrawn from the Yoke.

7. Press the Idler Wheel Shaft (49) out of the Yoke and Idler Wheel (45).
8. The Idler Wheel contains an Idler Wheel Bearing (47) at each end. Simultaneously press both Bearings out of the Wheel.

Disassembly of the Angle Head

1. Grasp the tool in leather–covered or copper–covered vise jaws with the Spindle Cap (32) upward. Using the Collet Body Wrench (50) on the flats of the Arbor (31), unscrew the Spindle Cap. If the Drive Sleeve (33) needs replacement, cut the old one from the Spindle Cap.
2. Using the Arbor Bearing Cap Wrench (53), unscrew and remove the Arbor Bearing Cap (30). This is a **left–hand** thread. Rotate the Cap Wrench **clockwise** to remove the Cap.
3. Using the Clamp Nut Wrench (52), loosen the Clamp Nut (24) and pull the Angle Housing Assembly (22) away from the Motor Housing (5). This is a **left–hand** thread. Rotate the Nut Wrench **clockwise** to loosen the Nut.

NOTICE

Do not allow the Angle Head to rotate when separating it from the Motor. Components may fall from the Angle Head.

4. Grasp the Arbor and pull the assembled Arbor out of the Angle Head. If the Wick (27) needs replacement, pull it out of the Angle Housing.
5. If the Upper Arbor Bearing (26) needs replacement, place the Angle Head on the table of an arbor press, arbor end down, and press the Bearing out of the Angle Head.

6. Grasp the Arbor in leather–covered or copper–covered vise jaws with the collet end downward. Using an adjustable wrench, unscrew and remove the Bevel Gear Nut (28) and lift the Bevel Gear off the Arbor.
7. If the Lower Arbor Bearing (29) must be replaced, use a piece of tubing to support the Bearing on the table of an arbor press and press the Arbor from the Bearing.

Disassembly of the Motor

1. Pull the Flange (19) and Flow Ring (18) off the front of the Motor Housing (5).
2. Grasp the Bevel Pinion (21) and pull the assembled motor out of the Motor Housing. Remove the two Rear Rotor Bearing Spacers (10) from the bottom of the Housing.
3. Remove the Vanes (13) from the Rotor (12).
4. Grasp the Rotor in leather–covered or copper–covered vise jaws with the Bevel Pinion upward. Using a 1/2" wrench, unscrew and remove the Bevel Pinion (21).
5. If the Front Rotor Bearing (17) must be replaced, support the Front End Plate (14) between two blocks on the table of an arbor press. Place the blocks as close to the body of the Rotor as possible and press the Rotor from the Bearing and End Plate. Remove the Front End Plate Spacer (15) and Front Seal Assembly (16) from the hub of the Rotor.
6. If the Rear Rotor Bearing (9) must be replaced, use snap ring pliers to remove the Rear Rotor Bearing Retainer (11) and then remove the two Rear Rotor Bearing Spacers (10).
7. Using a bearing puller, pull the Rear Rotor Bearing off the hub of the Rotor.

Disassembly of the Inlet and Throttle

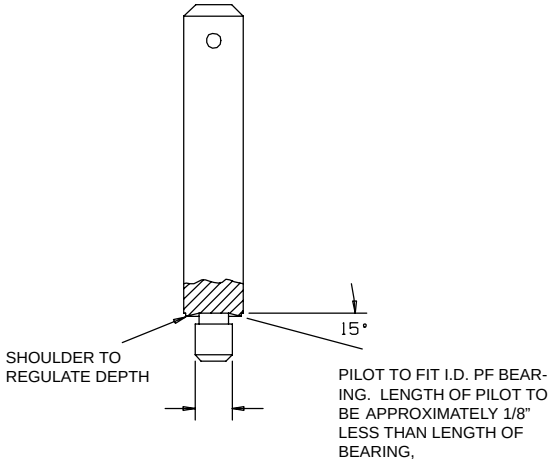
1. Using a 3/4" wrench, unscrew and remove the Inlet Assembly (1).
2. Remove the Inlet Seal (3) and Inlet Screen (2) from the Inlet.
3. Remove the Throttle Valve Spring Seat (4D), Throttle Valve Spring (4C) and Throttle Valve (4B) from the Motor Housing.
4. If the Throttle Valve Seat (4A) must be replaced, insert a hooked tool through the central opening of the Seat and, catching the underside of the Seat, pull it from the Housing.
5. If the Throttle Valve Cartridge Case (4) must be replaced, insert two hooked tools through the central opening of the Case approximately 180 degrees apart and, catching the underside of the Case, pull it from the Housing.
6. Press the Throttle Lever Pin (7) from the Housing and remove the Throttle Lever (6). Remove the Throttle Valve Plunger (8).

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 not to damage threads or distort housings.
4. Always clean every part and wipe every part with a thin film of the recommended oil before installation.
5. Check every bearing for roughness. If an open bearing must be cleaned, wash it thoroughly in a clean, suitable cleaning solution and dry with a clean cloth. **Sealed or shielded bearings should not be cleaned**. Work grease into every open bearing before installation.
6. Apply a film of O–ring lubricant to every O–ring before installation.
7. Unless otherwise noted, always press on the stamped end of a needle bearing when installing a needle bearing into a recess. Use a bearing inserting tool similar to the one shown in Dwg. TPD786.

NEEDLE BEARING INSERTING TOOL



(Dwg. TPD786)

Assembly of the Throttle and Inlet

1. Insert the Throttle Valve Plunger (8) into the Motor Housing (5).
2. Position the Throttle Lever (6) on the Motor Housing and using an arbor press, press the Throttle Lever Pin (7) into the Housing and Lever. The Lever will retain the Plunger in the Housing.
3. If the Throttle Valve Cartridge Case (4) was removed, lubricate the outside and the throttle stem end of the Case with O–ring lubricant. Using a wooden dowel, push the Case, open end trailing, into the Motor Housing.
4. If the Throttle Valve Seat (4A) was removed, use a wooden dowel with a flat end to push the Seat into the Case.
5. Push the small end of the Throttle Valve Spring (4C) onto the end of the Throttle Valve (4B) with the short stem until the Spring snaps into position around the hub and remains there. Install the dish end of the Throttle Valve Spring Seat (4D) onto the large end of the Throttle Valve Spring.
6. Holding the Housing with the Lever downward, make sure the Plunger is out of the way and insert the assembled Valve, long stem end leading, into the Cartridge Case.
7. Push the Inlet Screen (2), closed end leading, into the Inlet Assembly (1). After moistening the Inlet Seal (3) with O–ring lubricant and being careful not to nick the Seal on the threads of the Inlet, install the Seal on the Inlet.
8. Thread the Inlet Assembly into the Housing and tighten it between 13 to 15 ft–lb (17.6 to 20.3 Nm) torque.

Assembly of the Motor

1. If the Rear Rotor Bearing (9) was removed, stand the Rotor (12) upright on the table of an arbor press with the threaded end downward. Place the threaded rotor hub into a hole of a drilled block so that the Rotor rests against the large rotor body. Press the Rear Rotor Bearing onto the hub of the Rotor.

NOTICE

Press the Rotor Bearing onto the shaft with the shielded side of the Bearing against the rear end plate.

2. Install the Rear Rotor Bearing Retainer (11) in the groove on the hub of the Rotor.
3. Place the Front End Plate Spacer (15) onto the threaded hub of the Rotor and install the Front End Plate (14) around the Spacer, counterbored end trailing. Press the Front Seal Assembly (16), felt end trailing, onto the Spacer until the trailing end is flush with the Spacer. Lubricate the felt with Ingersoll–Rand No. 50 Oil.
4. Stand the Rotor on the table of an arbor press with the threaded end upward and press the Front Rotor Bearing (17) onto the hub of the Rotor.

NOTICE

The Front Rotor Bearing is a double flush ground bearing and must be installed in a specific manner. The end of the Bearing with a black stain or hash marks must be away from the Spacer.

5. Grasp the assembled Rotor in leather–covered or copper–covered vise jaws with the threaded rotor hub upward.
6. Thread the Bevel Pinion (21) onto the Rotor and using a torque wrench, tighten the Bevel Pinion between 9 and 10 ft–lb (12.2 and 13.6 Nm) torque.
7. Inject approximately 0.7 cc of Ingersoll–Rand No. 68 Grease into the small recess at the bottom of the motor housing bore. Drop the two Rear Rotor Bearing Spacers (10) into the bottom of the motor housing bore.
8. Wipe each Vane (13) with a light film of oil and insert a Vane into each vane slot in the Rotor.
9. Grasp the Bevel Pinion and insert the assembled Rotor into the Motor Housing (5).
10. Assemble the Flow Ring (18) with the Flange (19) before installing the Flange on the housing. Mate the Flow Ring to the end of the Flange without perforations. The positioning of the flow Ring is dictated by the desired exhaust. To set the tool exhaust, proceed as follows:
    a. **For front exhaust tools**, align the notched projection on the edge of the Flow Ring with the letter “F” on the Housing.
    b. **For rear exhaust tools,** align the notched projection on the edge of the Flow Ring with the letter “R” on the Housing.
11. Install the assembled Flange, Flow Ring leading, onto the front of the Motor Housing.

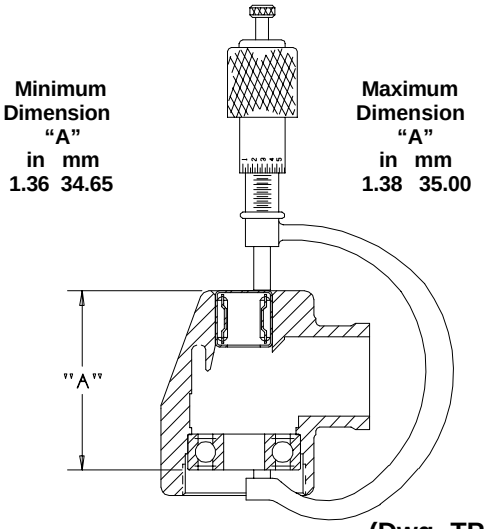
Assembly of the Angle Head

1. If the Upper Arbor Bearing (26) was removed and a new Bearing must be installed, proceed as follows:
    a. Support the machined face of the Angle Head (22) on the table of an arbor press with the upper arbor bearing bore upward.
    b. Press a new Upper Arbor Bearing into the bore, flush with the top of the Angle Housing.

NOTICE

Always press on the stamped or closed end of the Bearing.

2. If the Lower Arbor Bearing (29) is being installed, it is necessary to note the identification marks on the Lower Arbor Bearing. The side of the Bearing having black stains or black hash marks on the side of the inner and outer races is opposite the flush ground side.
3. Using your hand, push the Lower Arbor Bearing, **flush ground side inward,** into the recess at the machined end of the Angle Head.
4. Using a 2" micrometer, take a measurement from the inner ring of the Lower Arbor Bearing to the stamped or closed end of the Upper Arbor Bearing. See Dwg. TPD687.



(Dwg. TPD687)

5. Additional pressing of the Upper Arbor Bearing may be required to finally attain the correct dimension as indicated in the table above.
6. Remove the Lower Arbor Bearing.

NOTICE

In the following step, make certain any shims included with the Lower Arbor Bearing are installed onto the Arbor between the Bevel Gear (21) and the Bearing.

7. Using a sleeve that contacts the inner ring of the Lower Arbor Bearing, press the Bearing, **flush ground side of the Bearing trailing** onto the Arbor (31).
8. Slide the Bevel Gear, geared face trailing, onto the small threaded end of the Arbor, aligning the integral keys of the gear with the slotted keyways in the Arbor.

NOTICE

The Bevel Gear and Bevel Pinion are specially matched sets. Replace these parts only as a matched set.

9. Thoroughly clean the small threads on the Arbor above the Bevel Gear and the threads in the Bevel Gear Nut (28).
10. Apply a thin coat of Permalock HM118* to the threads of the Bevel Gear Nut and the Nut threads on the Arbor. Thread the Bevel Gear Nut onto the Arbor to retain the Bevel Gear and tighten the Nut to 10 to 12 ft–lb (13.5 to 16.2 Nm) torque. Grease the Bevel Gear with 1.5 cc of Ingersoll–Rand No. 67 Grease.
11. Form the Wick (27) into a horseshoe shape and insert it into the Angle Head. Push the Wick into the opening until it is compressed approximately 0.030" below the bevel gear bore. Soak the Wick with approximately 1.5 cc of Ingersoll–Rand No. 63 Oil. **Do no substitute any other oil.**
12. Carefully grasp the assembled motor in leather– covered or copper–covered vise jaws with the Throttle Lever downward.
13. Install the motor Clamp Nut (24), threaded end trailing, onto the motor end of the Angle Head. Spread the Clamp Spacer (23) and install it on the motor end of the Angle Head against the Clamp Nut.
14. Position the output end of the Angle Head upward and opposite with the Throttle Lever and thread the Clamp Nut onto the Motor Housing. Using the Clamp Nut Wrench (52), tighten the Nut to 20 to 25 ft–lb (27 to 34 Nm) torque. This is a **left–hand** thread, turn **counterclockwise** to tighten.
15. Insert the assembled Arbor into the Angle Head, bevel gear end first, making sure the teeth on the Bevel Gear and Pinion mesh. Rotate the Arbor manually to determine that they are rotating smoothly.
16. Thoroughly clean the internal threads of the Angle Head and the threads on the Arbor Bearing Cap (30).
17. Carefully apply a uniform coat of Vibra–Tite VC3 No. 205 ** to both sets of threads and allow the compound to cure for 10 to 20 minutes.
18. Using the Arbor Bearing Cap Wrench (53), install the Arbor Bearing Cap and tighten to 12 to 15 ft–lb (16.2 to 20.3 Nm) torque. The Bearing Cap has a **left–hand** thread: turn **counterclockwise** to install.

* Product of National Starch and Chemical Corporation.
** Product of N.D. Industries.

19. If the Drive Sleeve (33) is being replaced, slide a new Sleeve onto the Spindle Cap (32) until it is captured between the two outer lipped edges.
20. Using the Collet Body Wrench (50) to hold the Arbor, install the Spindle Cap onto the Arbor.

Assembly of the Sanding Arm

NOTICE

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

1. If the Idler Wheel Bearings (47) were removed, press one Bearing into the Idler Wheel (45) until it is flush with the edge of the Wheel. Invert the Wheel. Press the remaining Bearing into the Wheel until it is flush with the edge of the Wheel.

NOTICE

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

2. Position the assembled Idler Wheel between the two ears of the Yoke (42) and press the Idler Wheel Shaft through the Yoke and assembled Idler Wheel.
3. **For 12" x 1/2" and 18" x 1/2" models,** place the Yoke Spring (43) into the hole in the end of the Clevis (36) and position the assembled Yoke over the Spring at the end of the Clevis. Make certain the slots in the Yoke align with the pin hole in the Clevis. Compress the Spring with the Yoke and press the Yoke Retaining Pin (44) through the Clevis and Yoke.
   For 18" x 1/4" models, place the Yoke Spring (43) inside the end of the Yoke opposite the Idler Wheel until it stops against the tab. Position the Clevis (36) to slide into the Yoke making certain the Spring enters the slot in the end of the Clevis. Make certain the slot in the Yoke aligns with the pin hole in the Clevis. Compress the Spring with the Yoke and press the Yoke Retaining Pin (44) through the Clevis and Yoke.
4. **For 12" x 1/2" and 18" x 1/2" models**, insert one of the Belt Plate Retaining Screws (40) through one of the holes in the Belt Plate (39). Install one of the Belt Plate Spacers (41) on the Screw and start the Screw into the Clevis at the guard end. Insert the remaining Screw into the hole in the Plate at the yoke end and install the remaining Spacer on that Screw between the Plate and Clevis. Tighten both Screws hand tight with a screwdriver.
5. If the Belt Pad (38) is being replaced, peel the protective tape off the Pad and place the adhesive side of the Pad against the side of the Clevis opposite the Belt Plate.
6. **For 12" models**, using a screwdriver, attach the Clevis to the Guard (34) with the two Clevis Mounting Screws (37). Tighten the Screws between 8 and 10 in–lb. (0.9 and 1.1 Nm) torque.
   For 18" models, position the Alignment Block (35A) between the Clevis and the Guard (34) and secure it in position by attaching the Clevis to the Guard with the two Clevis Mounting Screws (37). Tighten the Screws between 8 and 10 in–lb. (0.9 and 1.1 Nm) torque.
7. Position the Guard (34) on the Angle Head (22) and secure it by tightening the Guard Clamp Screw (35) between 2 and 3 ft–lb (2.7 and 4.0 Nm) torque.
8. Install a new sanding belt over the Spindle Cap and around the Idler Wheel.
9. **For 18" models**, align the Cover (35B) with the Guard and slide it forward toward the Idler Wheel until it snaps into position and stays there.
10. Operate ths Sander at low speed to determine if the new belt is tracking properly. If the belt fails to track properly, realign the Clevis by tightening or loosening one or both of the Clevis Mounting Screws.

TROUBLESHOOTING GUIDE

Trouble	Probable Cause	Solution
Low power or low free speed	Insufficient air pressure	Check air line pressure at the Inlet of the tool. It must be 90 psig (6.2 bar/620 kPa).
	Clogged muffler elements	Disassemble the tool and agitate the bare Motor Housing and Flange in a clean, suitable cleaning solution. If the elements cannot be cleaned, replace the Motor Housing and/or the Flange.
	Plugged Inlet Screen	Clean the Inlet Screen in a clean, suitable, cleaning solution or replace the Screen.
	Worn or broken Vanes	Install a **complete** set of new Vanes.
	Loose Clamp Nut	Tighten the Nut to 20 to 25 ft–lb (27 to 34 Nm) torque.
	Worn or broken Motor Housing	Replace the Motor Housing.
	Internal air leakage in the Motor Housing indicated by high air consumption/low speed or air leaking out the front and rear exhaust simultaneously.	Replace the Motor Housing.
	Grit buildup under the Throttle Lever restricting full Throttle Valve Plunger movement.	Remove the Throttle Lever and clean the groove in the Motor Housing.
	Bent stem on Throttle Valve	Replace the Throttle Valve
	Front Seal Cup dragging against the shield of the Front Rotor Bearing	Reposition or replace the Front Seal Cup.
Scoring	Worn Front End Plate Spacer or Front End Plate	Install a new Front End Plate Spacer and Front End Plate.
	Worn Front Rotor Bearing	Install a new Front Rotor Bearing.
Sanding Belt not tracking	Worn Idler parts	Install a new Idler Wheel Assembly
	Misalignment	Adjust the Clevis Mounting Screws
	Sanding on push side of Clevis	Sand on pull side of the Clevis.

TROUBLESHOOTING GUIDE

Trouble	Probable Cause	Solution
Leaky Throttle Valve	Dirt accumulation on Throttle Valve or Valve Seat	Disassemble, inspect and clean parts.
	Worn Throttle Valve or Valve Seat	Replace the Throttle Valve and/or Throttle Valve Seat.
Exhausts at wrong location	Incorrect orientation of the Flow Ring	Reverse the face of the Flow Ring against the Motor Housing.
Front Rotor Bearing runs hot	Incorrect installation of the Front Seal Cup	Reposition the Front Seal Cup flush with the face of the Front End Plate Spacer.
	Front End Plate Spacer rubbing the bore of the Front End Plate	Replace the Front End Plate and Front End Plate Spacer combination.
	Incorrect Front Rotor Bearing installation orientation	If a black stain or black hashmarks are not visible on the face of the Bearing when it is assembled with the End Plate and Rotor, the Bearing is backwards. If possible, remove the Bearing and install it correctly or replace the Bearing.
Slow tool idle	Bent or leaky Throttle Valve	Replace the Throttle Valve.
Air leakage around Flow Ring	Damaged, mutilated or missing Flange Clamp	Replace the Flange Clamp.
	Damaged Flow Ring	Replace the Flow Ring
Rough operation/vibration	Improper lubrication or dirt build-up	Disassemble the tool and clean in a clean, suitable, cleaning solution. Assemble the tool and inject 3 cc of the recommended oil into the Inlet and run the Sander long enough to coat the internal parts with the oil.
	Worn or broken Rear Rotor Bearing or Front Rotor Bearing	Replace the worn or broken Bearings. Examine the Front End Plate, Front End Plate Spacer, Front Seal Cup and Rear Rotor Bearing Spacers and replace any damaged parts. If the rear end plate is damaged, replace the Rotor.
	Worn or broken Upper Arbor Bearing or Lower Arbor Bearing	Replace the worn or broken Bearing.
	Worn or broken Bevel Gear or Bevel Pinion	Examine the Bevel Gear and Bevel Pinion. If either is worn or damaged, replace both the Gear and Pinion because they are a matched set and must not be used separately.

NOTICE

SAVE THESE INSTRUCTIONS. DO NOT DESTROY.