



Tube & Fitting Squaring Machine

Model TFS



	TUBE & PIPE		
	SQUARING MACHINES		
Mod. TFS	Ser.No.	<input type="text"/>	<input type="text"/>
E.H. WACHS COMPANIES 600 Knightsbridge Pkwy., Lincolnshire, IL 60069			

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TUBE & FITTING SQUARING MACHINE TFS

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TUBE & FITTING SQUARING MACHINE TFS

SECTION I

TFS STANDARD EQUIPMENT



- TFS with drive motor and cord
- Required Operating Hand Tools
- 1 Tool bit
- Operating Instruction Manual
- Storage Case
- ** Head and Tool disk

TUBE & FITTING SQUARING MACHINE TFS

SECTION II

SAFETY INSTRUCTIONS



Read the Following thoroughly before proceeding

Since 1883, EHWachs has built a reputation for quality and a commitment to consumer satisfaction. In accordance with this, Wachs must take on the added responsibility of doing our best to assure the safest use of our equipment.

We have assembled a list of safety reminders to aid in creating the safest possible working environment. We recommend that the precautionary steps listed there be closely observed.

1. **READ THE OPERATING MANUAL!!**

Reading the setup and operating instructions prior to beginning the setup procedures can save valuable time and help prevent injury to operators or damage to machines.

2. **INSPECT MACHINE & ACCESSORIES!**

Prior to machine setup physically inspect the machine and it's accessories. Look for worn tool slides, loose bolts or nuts, lubricant leakage, excessive rust, etc. A properly maintained machine can greatly decrease the chances for injury.

3. **ALWAYS READ PLACARDS & LABELS!**

All placards, labels and stickers must be clearly legible and in good condition. Replacement labels can be purchased from the manufacturer.

4. **KEEP CLEAR OF ROTATING PARTS!**

Keep hands, arms and fingers clear of all rotating or moving parts. Always turn machine off before attempting any adjustments requiring contact with the machine or it's accessories.

5. **SECURE LOOSE CLOTHING & JEWELRY!**

Loose fitting clothing, jewelry; long, unbound hair can get caught in the rotating parts on machines. By keeping these things secure or removing them you can greatly reduce the chance for injury.


6. **KEEP WORK AREA CLEAR!**

Be sure to keep the work area free of clutter and nonessential materials. Only allow those personnel directly associated with the work being performed to have access to the area if possible.

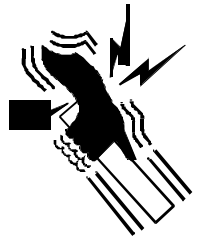
ALWAYSWEAR PROTECTIVE EQUIPMENT:

	WARNING Impact resistant eye protection must be worn while operating or working near this tool.
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For additional information on eye and face protection, refer to federal OSHA regulations, 29 Code of Federal Regulations, Section 1019.133., Eye and Face Protection and American National Standards Institute, ANSI Z87.1, Occupational and Educational Eye and Face Protection. Z87.1 is available from the American National Standards Institute, Inc., 1430 Broadway, New York, NY 10018

	CAUTION Personal hearing protection is required at all times when operating or working near this tool.
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Hearing protectors are required in high noise areas, 85dBA or greater. The operation of other tools and equipment in the area, reflective surfaces, process noises and resonant structures can substantially contribute to and increase the noise level in the area. For additional information on hearing protection, refer to federal OSHA regulations , 29 Code of Federal Regulations, section 1910.95, Occupational Noise Exposure and ANSI S12.6 Hearing Protectors.

	CAUTION Some individuals are susceptible to disorders of the hands and arms when exposed to tasks which involve repetitive motions and/or vibration. Disorders such as Carpal Tunnel Syndrome and Tendonitis can be caused or aggravated by repetitious, forceful exertions of the hands and arms.
<ul style="list-style-type: none">• Use minimum hand grip force.• Keep wrists straight• Avoid prolonged, continuous vibration exposure• Avoid repeated bending of wrists and hands.• Keep arms and hands warm and dry.	

SICHERHEITSVORSCHRIFTEN

D

Seit 1883 hat EH Wachs seinen Ruf für Qualität und Zufriedenstellung seiner Kunden aufgebaut. Wachs übernimmt demgemäß die zusätzliche Verantwortung, sein Bestes zu tun, einen möglichst sicheren Umgang mit seiner Ausrüstung zu gewährleisten, und hat daher eine Liste von Sicherheits-Gedächtnisstützen zusammengestellt, die den Kunden in der Erschaffung einer möglichst sicheren Arbeitsumgebung zu unterstützen. Wir empfehlen, die aufgeführten Vorsichtsmaßnahmen genau zu beachten.



BITTENACHFOLGENDESSORGFÄLTIGVORDEMFORTFAHRENDURCHLESEN!

1. DIE BETRIEBSANLEITUNG LESEN!

Bedienungsleute können wertvolle Zeit einsparen und Verletzungen und Beschädigungen der Maschine vermeiden, wenn Sie die Aufbau- und Betriebsanleitungen vor dem Aufbau durchlesen.

2. MASCHINE UND ZUSATZGERÄTE ÜBERPRÜFEN!

Vor dem Aufbau der Maschine sollte diese und die Zusatzgeräte physisch überprüft werden. Prüfen Sie, ob abgenutzte Werkzeugschlitzen, lockere Bolzen und Schraubenmütter, Schmiermittelabgänge, übermäßiger Rost, usw. bestehen. Mit einer ordnungsgemäß gewarteten Maschine kann die Wahrscheinlichkeit eines Unfalls stark verringert werden.

3. IMMER INFORMATIONEN UND ETIKETTEN LESEN!

Alle Informationen, Etiketten und Aufkleber müssen gut lesbar und in gutem Zustand sein. Vom Hersteller können Ersatzetiketten angefordert werden.

4. BLEIBEN SIE ROTIERENDEN TEILEN FERN!

Die Hände, Arme und Finger sollten von allen sich drehenden Teilen ferngehalten werden. Vor der Durchführung von Nachstellungen, die Sie in Berührung mit der Maschine oder deren Zusatzgeräte bringen, die die Maschine stets abschalten!

5. WEIßE KLEIDUNG UND SCHMUCK BEFESTIGEN!

Weite Kleidung, Schmuck und lange, nicht gelöste Haar können in den rotierenden Teilen der Maschine hängenbleiben. Die Wahrscheinlichkeit einer Verletzung kann stark herabgesetzt werden, wenn Sie diese Dinge befestigen bzw. abnehmen.

6. ARBEITSBEREICH FREIHALTEN!

Stets darauf achten, daß sich keine unnötigen Materialien, usw. im Arbeitsbereich befinden. Nur dem direkt mit der zu leistenden Arbeit in Zusammenhang stehenden Personal Zugang zum Arbeitsbereich gestatten!

STETS SCHUTZAUSRÜSTUNG TRAGEN!

	WARNUNG! Schlagbiegefestige Augenschutzbrillen müssen stets bei Betrieb dieses Werkzeugs oder in der Nähe dieses Werkzeugs getragen werden.
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	ACHTUNG! Ein Ohrschutz muß stets bei Betrieb dieses Werkzeugs oder in der Nähe dieses Werkzeugs getragen werden.
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	ACHTUNG! Manche Personen leiden an Funktionsstörungen der Hände und Arme, wenn sie sich dauernd wiederholende Aufgaben auszuführen haben, die andauernde Bewegungen und/oder Schwingungen mit sich führen. Funktionsstörungen, wie beispielsweise Handwurzels- und Sehnenentzündungen, können durch eine sich wiederholende und mit viel Kraft ausgeübte Anwendung der Hände und Arme entweder hervorgerufen oder verschlimmert werden.
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CONSIGNE DE SÉCURITÉ

F

Depuis 1883, la société EH Wachs a bâti sa réputation sur la qualité de ses produits et son engagement à satisfaire la clientèle. Conformément à ces principes, Wachs se doit également d'être aussi responsable pour faire de son mieux afin d'assurer l'utilisation la plus sûre de son matériel. Nous avons réuni une liste de rappels de sécurité pour aider à créer un cadre de travail aussi sûr que possible. Nous vous recommandons d'observer scrupuleusement les vérifications préalables indiquées ci-dessous.



Lisez ce qui suit avant d'aller plus avant

1. LIRE LE MANUEL D'UTILISATION !!

En lisant les instructions de réglage et de fonctionnement avant de commencer les procédures de réglage, vous pourrez économiser un temps précieux et vous éviterez aux machinistes de se blesser et d'abîmer les machines.

2. INSPECTER LA MACHINE ET LES ACCESSOIRES !

Avant de régler la machine, inspectez-la à l'œil nu ainsi que ses accessoires. Recherchez les outils couillants usagés, les boulons ou les écrous desserrés, les fuites de lubrifiant, les dépôts de rouille excessifs, etc. Avec une maintenance adéquate, vous diminuerez sensiblement les risques d'accidents.

3. LIRE SYSTÉMATIQUEMENT LES AFFICHES ET ÉTIQUETTES !

Toutes les affiches, étiquettes et autocollants doivent être parfaitement lisibles et en bon état. Vous pouvez acheter de nouvelles étiquettes auprès du fabricant.

4. SE TENIR À DISTANCE DES PIÈCES ROTATIVES !

Tenez vos mains, bras et doigts éloignés de toutes pièces rotatives ou mobiles. Arrêtez toujours la machine avant de tenter de procéder au moindre réglage nécessitant un contact avec la machine ou ses accessoires.

5. PRENDRE GARDE AUX VÊTEMENTS AMPLES ET AUX BIJOUX !

Les vêtements amples, les bijoux, et les cheveux longs qui ne sont pas attachés peuvent être pris dans les pièces rotatives des machines. Enlevez ou attachez ce qui gêne de façon à réduire au maximum les risques d'accident.

6. CONSERVER UNE AIRE DE TRAVAIL DÉGAGÉE !

Ayez bien soin d'enlever les débris et les matériaux qui ne sont pas indispensables. N'autorisez que la présence des employés chargés du travail en cours d'exécution pour dégager au mieux l'aire de travail.

PORTER TOUJOURS UN ÉQUIPEMENT DE PROTECTION

	AVERTISSEMENT Protégez vos yeux avec des lunettes de sécurité antichoc lorsque cet outil est en marche ou si vous travaillez à proximité.
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	ATTENTION Il est absolument indispensable de vous protéger contre les oreilles lorsque cet outil est en marche ou si vous travaillez à proximité.
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	ATTENTION Certaines personnes sont particulièrement sujettes aux troubles articulaires des mains et des bras lorsqu'elles sont soumises à des tâches nécessitant des gestes très répétitifs ou/et lorsqu'elles sont exposées à des vibrations. Le syndrome du canal carpien et les tendinites peuvent résulter ou être aggravés par des efforts rigoureux des bras et des mains.
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INSTRUCCIONES DE SEGURIDAD

E

Desde 1883, EH Wachs ha ido forjando una reputación de calidad y compromiso hacia la satisfacción del cliente. De acuerdo con esto, Wachs debe aceptar la responsabilidad adicional de hacer todo lo posible para asegurar el uso seguro de nuestros equipos. Hemos reunido una lista de recordatorios de seguridad para ayudarle a crear el ambiente de trabajo más seguro posible. Recomendamos se observen cuidadosamente los pasos de precaución enumerados en la misma.



Lea lo siguiente detenidamente antes de proceder

1. ¡ LEA EL MANUAL DE OPERACIONES!!

La lectura de las instrucciones de instalación y operación antes de comenzar los procedimientos de instalación puede ahorrarle tiempo valioso y ayudarle a evitar daños a operarios o daño a las máquinas.

2. ¡ INSPECCION LA MAQUINA Y LOS ACCESORIOS!

Antes de la instalación de la máquina inspeccione físicamente la máquina y sus accesorios. Busque muescas de herramientas usadas, pernos o tuercas flojas, fugas de lubricante, excesiva corrosión, etc. Una máquina mantenida adecuadamente puede disminuir grandemente las ocasiones de daños.

3. ¡ LEA SIEMPRE LOS LETREROS Y ETIQUETAS!

Todos los letreros, etiquetas y adhesivos deben ser claramente legibles y estar en buenas condiciones. Pueden comprarse etiquetas de repuesto del fabricante.

4. ¡ MANTENGASE ALEJADO DE PIEZAS GIRATORIAS!

Mantenga las manos, brazos y dedos alejados de todas las piezas rotatorias o en movimiento. Desconecte siempre la máquina antes de intentar ninguna ajuste que requiera entrar en contacto con la máquina o sus accesorios.

5. ¡ ASEGURE LA ROPA SUELTA Y JOYERÍA!

La ropa suelta, joyería, pelo largo y sin atar pueden engancharse en las partes rotatorias de las máquinas. Usted puede reducir grandemente las oportunidades de un accidente asegurando estas cosas o despojándose de ellas.

6. ¡ MANTENGA LIMPIA EL AREA DE TRABAJO!

Asegúrese de mantener el área de trabajo libre de obstáculos y materiales no esenciales. Si es posible permita solamente el acceso al área a aquellas personas directamente asociadas con el trabajo que se está realizando.

USE SIEMPRE EQUIPO PROTECTOR:

	AVISO Debe usarse protección ocular resistente al impacto mientras se opere o trabaje cerca de esta herramienta.
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	PRECAUCION e requiere en todo momento protección auditiva personal cuando opere o trabaje cerca de esta herramienta.
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	PRECAUCION Algunos individuos son susceptibles a desórdenes de brazos y manos cuando son sometidos a tareas que llevan consigo movimientos altamente repetitivos y/o vibración. Desórdenes tales como el síndrome del túnel carpiano y ten-donitis pueden ser causados o agravados por esfuerzos repetitivos y energéticos de las manos y brazos.
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INDICAZIONI PER LA SICUREZZA D'USO

I

Fin dal 1883, la EH Wachs si è guadagnata una reputazione per quanto riguarda qualità e impegno nella soddisfazione dei clienti. In questa ottica, alla Wachs dobbiamo anche assumerci la responsabilità di fare del nostro meglio per garantire la massima sicurezza d'uso dei nostri apparecchi. Abbiamo preparato un elenco di avvisi di sicurezza come ausilio nel creare il più sicuro ambiente di lavoro possibile. Raccomandiamo di seguire attentamente le precauzioni elencate.



Leggere attentamente quanto segue prima di proseguire.

INDOSSARE SEMPRE INDUMENTI PROTETTIVI:

1. LEGGERE IL MANUALE D'USO!!

Leggere le istruzioni per la messa a punto e l'uso prima di iniziare la messa a punto per risparmiare tempo prezioso e prevenire lesioni e danni al macchinario.

2. CONTROLLARE LA MACCHINA E GLI ACCESSORI!

Prima di mettere a punto la macchina, controllare sia la macchina che gli accessori. Verificare che le slitte portautensili non siano consumate, che i bulloni e i dadi non siano allentati, che non vi siano perdite di lubrificante, ruggine eccessiva, ecc. Una macchina ben mantenuta può ridurre notevolmente le possibilità di danni.

3. LEGGERE SEMPRE TARGHETTE ED ETICHETTE!

Tutte le targhette, le etichette e gli adesivi devono essere chiaramente leggibili e in buone condizioni. Si possono acquistare etichette di ricambio presso il produttore.

4. NON AVVICINARSI A PARTI IN MOVIMENTO!

Tenere mani, braccia e dita ben lontane da tutte le parti in movimento. Spegner sempre la macchina prima di effettuare regolazioni che richiedono il contatto con la macchina o i suoi accessori.

5. FISSARE INDUMENTI E GIOIELLERIA!

Indumenti larghi, gioielli pendenti o lunghi; capelli lunghi sciolti possono rimanere incastrati nelle parti rotanti sulle macchine. Fissandoli o rimuovendoli si può ridurre notevolmente il rischio di lesioni.

6. MANTENERE L'AREA DI LAVORO SGOMBRA!

Mantenere l'area di lavoro sgombra da materiale non essenziale. Se possibile, consentire l'accesso solamente al personale direttamente interessato nel lavoro svolto.

	ATTENZIONE Indossare occhiali di sicurezza resistenti all'urto durante l'uso di questo strumento o quando si lavora in sua prossimità.
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	AVVERTENZA Indossare sempre protezione auricolare durante l'uso di questo strumento o quando si lavora in sua prossimità.
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	AVVERTENZA Alcuni individui possono soffrire disturbi alle mani e alle braccia nell'esecuzione di mansioni che comportino movimenti altamente ripetitivi e/o vibrazione. Disturbi quali la sindrome del tunnel carpale e tendiniti possono essere causati o aggravati da sforzi ripetuti delle mani e delle braccia.
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ANVISNING I SIKKERHED

DK

Siden 1883 har EH Wachs haft ry for deres kvalitet og varetagelse af kundtilfredshed og vil også gøre vort bedste for at sikre, at vore maskiner benyttes på en sikker og forsvarlig måde.

Vi har lavet en liste over påmindelser, der skal bidrage til at skabe det sikrest mulige arbejdsmiljø. Vi anbefaler, at sikkerhedsforanstaltningerne på listen omhyggeligt overholdes.



Læs følgende grundigt, inden der foretages andet

1. LÆS BRUGSANVISNINGEN!!

Hvis man læser anvisningerne i klargøring og drift, inden man begynder at gøre maskinen klar, kan man spare tid og forhindre person- og maskinskade.

2. INSPICÉR MASKINE OG Udstyr!

Inden maskinen gøres klar, skal man inspicere maskinen og udstyret. Se efter slide fittings, løse bolte og møtrikker, olie-lækager, rust osv. Når maskinen holdes i god stand, er der langt mindre risiko for personskade.

3. LÆS ALTID SKILTE OG ETIKETTER!

Alle skilte og etiketter skal være letlæselige og i god stand. Nye skilte og etiketter fås hos forhandleren.

4. HOLD AFSTAND TIL BEVÆGELIGE DELE!

Hold hænder, arme og fingre væk fra alle roterende og bevægelige dele. Man skal altid slukke for maskinen, inden man påbegynder justering, hvor man kommer i kontakt med maskinen eller udstyret.

5. BRUG IKKE LØSTHÆNGENDE TØJ OG SMYKKER!

Løst-hængende tøj, smykker og langt, løst-hængende hår kan blive fanget i maskinens bevægelige dele. Man kan i høj grad nedsætte risikoen for personskade ved ikke at bruge løst-hængende tøj og smykker og ved at samle langt hår oppe på hovedet.

6. HOLD ARBEJDSSTEDET RYDDET!

Arbejdsstedet skal holdes ryddeligt og fri for materialer, der ikke hører til. Uvedkommende personer bør ikke have adgang til arbejdsstedet, hvis det er muligt.

BRUG ALTID BESKYTTELSESDUSTYR:

	ADVARSEL Man skal bruge slag-resistente sikkerhedsbriller, når man arbejder med eller i nærheden af denne maskine.
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	FORSIGTIG Man skal altid bruge hørevern, når man arbejder med eller i nærheden af denne maskine.
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	FORSIGTIG Nogle mennesker er disponeret for lidelser i hænder og arme, når de udsættes for opgaver, der involverer stærkt repetitiv bevægelse og/eller vibration. Sygdomme, såsom karpal-tunnelsyndrom og ten-dinitis, kan forårsages eller forværes af repetitiv, kraftig brug af hænder og arme.
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	FORSIGTIG Hold dig på afstand af roterende dele under drift. Hold hænder og arme mindst 60 cm væk fra bevægelige dele, undtagen ved start og stands fling.
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	FORSIGTIG Handsker er ikke en form for beskyttelse. Gå ikke med handsker, mens maskinen betjenes. Spåner og findelt materiale, som udvikles under drift, skal bortskaffes på forsvarlig måde. Dette skal gøres ved brug af en fejebakke og en kost, for at undgå påvirkning af hænderne.
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ΟΔΗΓΙΕΣ ΑΣΦΑΛΕΙΑΣ

GR

Από το 1883, η EH Wachs έχει δημιουργήσει μια φήμη ποιότητας και δέσμευσης στην ικανοποίηση του πελάτη. Συνεπώς, η Wachs πρέπει να αναλάβει την πρόθετη υποχρέωση να κάνουμε το καλύτερο για να εξασφαλίσουμε την ασφαλέστερη χρήση του εξοπλισμού μας.

Έχουμε καταρτίσει έναν κατάλογο υπομνήσεων ασφαλείας που βοηθούν στη δημιουργία του ασφαλέστερου δυνατού χώρου εργασίας. Συνιστούμε την πιστή εφαρμογή των προληπτικών μέτρων που αναγράφονται παρακάτω.



Πριν προχωρήσετε διαβάστε όλες τις παρακάτω υποδείξεις

1. ΔΙΑΒΑΣΤΕ ΤΟ ΒΙΒΛΙΟ ΟΔΗΓΙΩΝ!

Η ανάγνωση των οδηγιών εγκατάστασης και χειρισμού πριν αρχίσετε τις διαδικασίες εγκατάστασης μπορούν να σας εξοικονομήσουν πολύτιμο χρόνο και να βοηθήσουν στην αποτροπή τραυματισμού των χειριστών ή βλάβης των μηχανών.

2. ΕΠΙΘΕΩΡΗΣΤΕ ΤΗ ΜΗΧΑΝΗ ΑΙ ΤΑ ΕΞΑΡΤΗΜΑΤΑ!

Πριν από την εγκατάσταση της μηχανής επιθεωρήστε τη φυσική κατάσταση της μηχανής και των εξαρτημάτων. ελέγξτε για τυχόν φθορά στις γλίστρες των εργαλείων, λασκαρισμένα μπουλόνια ή παξιμάδια, διαρροή λιπαντικού, υπερβολική σκουριά κτλ. Η μηχανή που συντηρείται κανονικά μπορεί να μειώσει σημαντικά τις πιθανότητες τραυματισμού.

3. ΠΑΝΤΑ ΔΙΑΒΑΣΤΕ ΤΙΣ ΠΙΝΑΚΙΔΕΣ & ΤΙΣ ΕΤΙ ΕΤΕΣ!

Όλες οι πινακίδες, ετικέτες και αυτοκόλλητα πρέπει να διαβάζονται καθαρά και να βρίσκονται σε καλή κατάσταση. Εφεδρικές ετικέτες μπορείτε να αγοράσετε από τον κατασκευαστή.

4. ΑΠΟΜΑ ΡΥΝΘΕΙΤΕ ΑΠΟ ΤΑ ΠΕΡΙΣΤΡΕΦΟΜΕΝΑ ΕΞΑΡΤΗΜΑΤΑ!

ραφήστε χέρια, βραχίονες και δάχτυλα μακριά από όλα τα περιστρεφόμενα ή κινούμενα εξαρτήματα. Πάντοτε σβήνετε τη μηχανή πριν επιχειρήσετε οποιαδήποτε ρύθμιση που απαιτεί επαφή με τη μηχανή ή τα εξαρτήματά της.

5. ΜΑΖΕΨΤΕ ΤΑ ΛΥΤΑ ΡΟΥΧΑ & ΟΣΜΗΜΑΤΑ!

Τα ρούχα που δεν έχουν καλή εφαρμογή, τα κοσμήματα, τα μακριά, αυτά μαλλιά μπορεί να πιαστούν στα περιστρεφόμενα εξαρτήματα της μηχανής. Στερεώνοντας ή βγάζοντας τα μπορείτε να μειώσετε σημαντικά την πιθανότητα τραυματισμού.

6. ΔΙΑΤΗΡΕΙΤΕ ΕΛΕΥΘΕΡΟ ΤΟ ΧΩΡΟ ΕΡΓΑΣΙΑΣ!

Φροντίστε να διατηρείτε το χώρο εργασίας ελεύθερο από ακαταστασία και επισυώδη υλικά. Επιτρέπετε την είσοδο μόνο στους έχοντας άμεση σχέση με την εκτελούμενη εργασία αν είναι δυνατό.

ΝΑ ΦΟΡΑΤΕ ΠΑΝΤΟΤΕ ΠΡΟΣΤΑΣΕΙΣ ΑΙ ΕΙΔΗ:

	ΠΡΟΕΙΔΟΠΟΙΗΣΗ Να φοράτε ειδή προστασίας των ματιών κατά της πρόσκρουσης όταν χειρίζεστε ή εργάζεστε κοντά στο εργαλείο αυτό.
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	ΠΡΟΣΟΧΗ Χρειάζεται πάντοτε ατομική προστασία των αυτιών όταν χειρίζεστε ή εργάζεστε κοντά στο εργαλείο αυτό.
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	ΠΡΟΣΟΧΗ Μερικά άτομα είναι ευαίσθητα στις διαταραχές των χεριών και των βραχιόνων όταν εκθέτονται σε εργασίες που συνεπάγονται εξαιρετικά επαναληπτικές κινήσεις και/ή κραδασμούς. Οι διαταραχές όπως το σύνδρομο καρπικής σήραγγας και η τενοντίτιδα μπορεί να προκληθούν ή να επιδεινωθούν από τις επαναληπτικές, ισχυρές εκτάσεις των χεριών και των βραχιόνων.
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TUBE & FITTING SQUARING MACHINE TFS

SECTION III

EC Declaration of Conformity

Name and address of manufacturer (if different) E.H. Wachs Company
100 Shepard St.
Wheeling, Il. 60090 USA

Distributed in the EC by:
Business address:

We declare that the machine described below conforms with the EHSR of the machinery directive 89/392/EEC and amendments 91/368/EEC, 93/44/EEC and 93/68/EEC

Machine Title Tube and Fitting Squaring Machines

Model Number TSE / FSE 18-000-01 thru 18-000-08
TFS 19-000-01 thru 19-000-26

Machine Description Portable machinery to face / square tube &
pipe ends for weld preparation

Serial Number _____

Harmonized Standards Used EN 50144, EN 55014, HD 400, EN 292, EN
292-2, EN 294, EN 394

Other Safety Standards Used PR: EN 982, PR: EN 983, 10/95
PR: EN 792-1, PR: EN 1050

Name of person authorized to sign on behalf of the E.H. Wachs Companies Rodger P. Soeldner

Position Vice President / CFO

Signature 

Date July 20, 1997

TUBE & FITTING SQUARING MACHINE TFS

SECTION IV

TFS SPECIFICATIONS

The **TFS** is a Portable Electric Tool for Square, Burr-Free End Preparation of Tubes, Tube Fittings, Elbows, Ferrules and Thin Wall Pipe. Prep 1/2" (12 mm) through 4 1/2" (114 mm) O.D. up to .120" (3 mm) Wall Thickness in Seconds. Ideal for High Purity Tube Fabrication Particularly Where Automatic Welding is Used.

- **Interchangeable Machining "Heads"** minimizes radial clearance and maximizes cutting range; benefits of two machines in one.

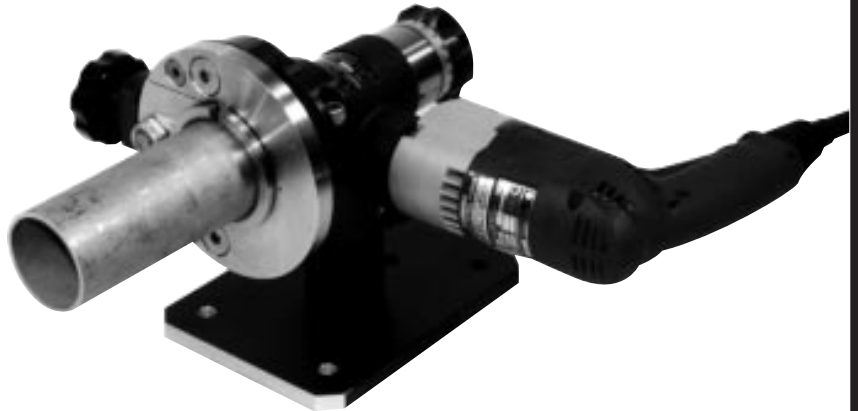
- **"Micrometer Index Gauge"** for precise machining to exact length and increased tool life.

- **"180° CutterWindow"** provides a clear view of cutting operation and easy tool bit change out.

- **Unique all "Stainless Steel Clamping System"** centers and squares automatically on as little as 1" (25 mm) perch length without tube deformation.

- **"Bench Mount System"** quickly converts to a hand held machine for in-line applications.

- **"Exclusive Tool Bit Grind"** channels chips away from tube I.D. to protect electro-polished surfaces.



Total Capacity:	1/2" thru 4 1/2" O.D.
Function:	Burr-free squaring/facing
Materials:	Stainless steel/High alloy
Wall Thickness:	.030" thru .120"
Clamping System:	Stainless steel shoes with hand
Retractable Vise Feed	
System:	Manual advance with index gauge
Drive Motors:	Milwaukee or Metabo, 110 volt or 220 volt
Axial Feed:	.400" max
Weight:	19 lbs. (without shoe sets)
Finish:	Hard anodized and Stainless steel
2 1/2" Head capacity:	1/2" thru 2 1/2"
4 1/2" Head capacity:	2-7/8" thru 4 1/2" (optional adapter shoe to recieve 1/2" thru 2 1/2" shoe sets)

Machine Model	Average Sound Level (Decibels)	Maximum Sound Level (Decibels)
TFS 2.5 & 4.5	80dBA	90dBA

TUBE & FITTING SQUARING MACHINE TFS

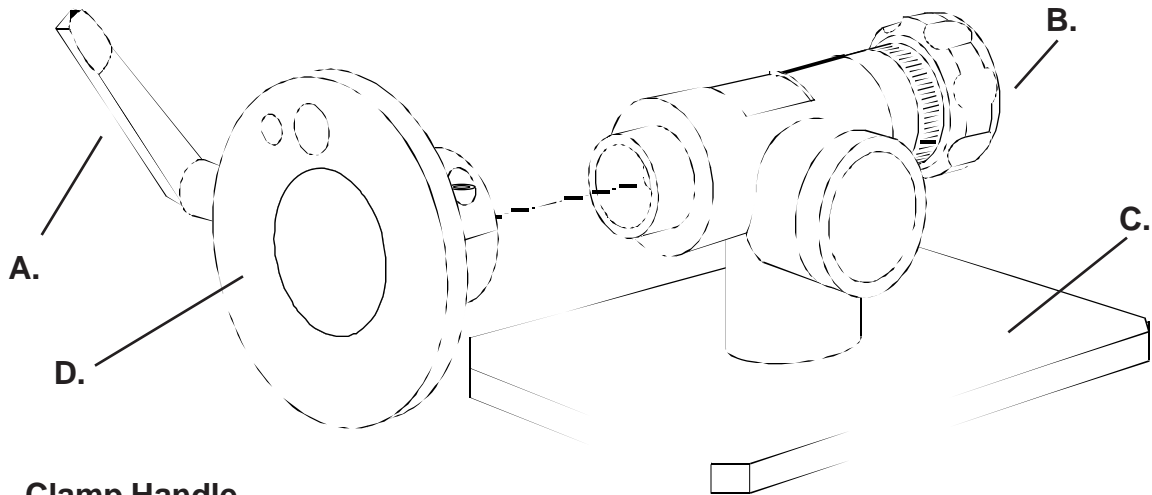
SECTION V

SET UP & OPERATING INSTRUCTIONS

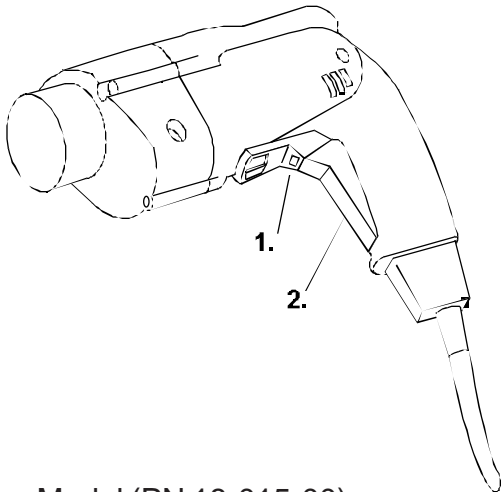
TUBE & FITTING SQUARING MACHINE TFS

SECTION V

TFS SETUP & OPERATING PROCEDURES

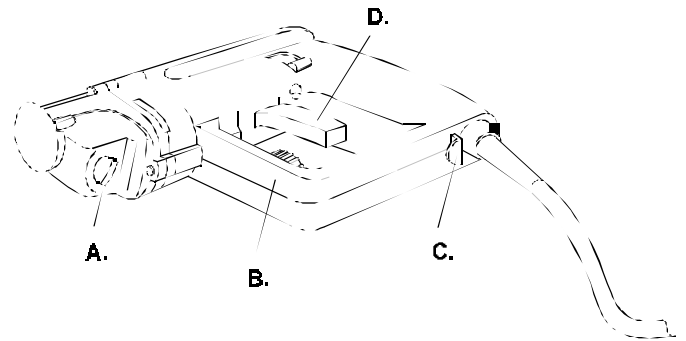


- A. Clamp Handle
- B. Feed Knob
- C. Base Stand
- D. Clamp Head Assembly 2.5"/4.5"
Clamp Head.



Milwaukee Model (PN 18-015-00)

- 1. **THROTTLE LOCK**-Lock "ON" mechanism for motor trigger.
- 2. **THROTTLE**- Squeeze trigger to release throttle lock.



Metabo Model (PN 20-031-00)

- A. **SPEED RANGE SELECTOR**-Dial in chosen motor speed.
- B. **DIAL SPEED CONTROLLER**
- C. **THROTTLE LOCK**- lock "ON" mechanism for motor.
- D. **THROTTLE TRIGGER**- Squeeze to release throttle lock.

NOTE: Please refer to your Operator Manual for further details regarding the operation of your Milwaukee or Metabo drill.

TUBE & FITTING SQUARING MACHINE TFS₁

SECTION V

TFS SETUP & OPERATING PROCEDURES (CONT.)

A. Head and Tool Disc Selection & Mounting

1. Select size of head and disc.

<u>Small Head</u>	<u>Large Head</u>
½" to 2½"	2-7/8" to 4½"
2. Clean and inspect mounting areas on head and rim for debris or damage.

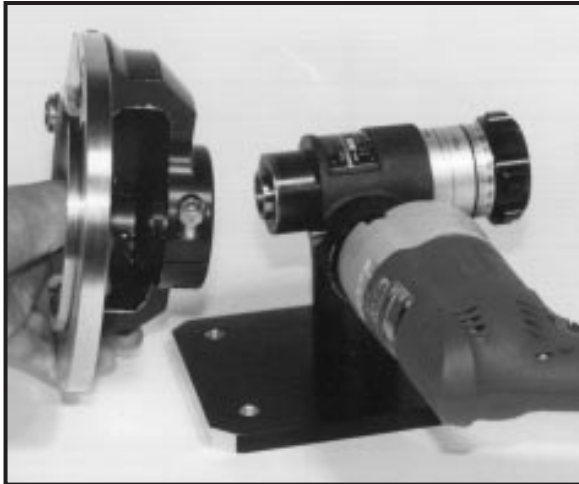


Figure 1

3. Slide head over drive, position head over indexing pin. Tension bolt with hand tool (Figure 1).

NOTE: 3 mounting locations of head to allow set up as either right hand, left hand or overhead viewing.

4. Place tool disc into drive shaft. Align drive pins; tension bolt through tool disc with hand tool (Figure 2).



Figure 2

B. Shoe Selection & Installation

1. Select shoe set by referencing selection chart.



Figure 3

2. Open vise by turning clamping handle (Figure 3).



Figure 4

3. Place jaw halves into vise. Snap over detent pins. (Figure 4)

TUBE & FITTING SQUARING MACHINE TFS

SECTION V

TFS SETUP & OPERATING PROCEDURES (CONT.)

C. Tube & Pipe Clamping

1. Place work into vise. (Do not damage tool bit if it is installed.)



Figure 5

2. Using clamping handle, (rotate clockwise) to tension work piece. (Figure 5)
3. Remove work from machine. Rotate clamping handle counter clockwise.

D. Tool Bit Installation



CAUTION: Unplug machine from power source before installing or changing tool bits.

1. Place tool bit into tool disc slot. Position for work diameter (Figure 6).
2. Tension screws with 1/8" Allen key.



Figure 6

E. TFS Drive Motors

1. Motors for TFS: Milwaukee and Metabo. Milwaukee has variable speed trigger. The Metabo has variable speed trigger with lock on, dial speed control; electronic load sensing.

F. Machining Instructions



CAUTION: Keep hands clear of cutting tool during operation.

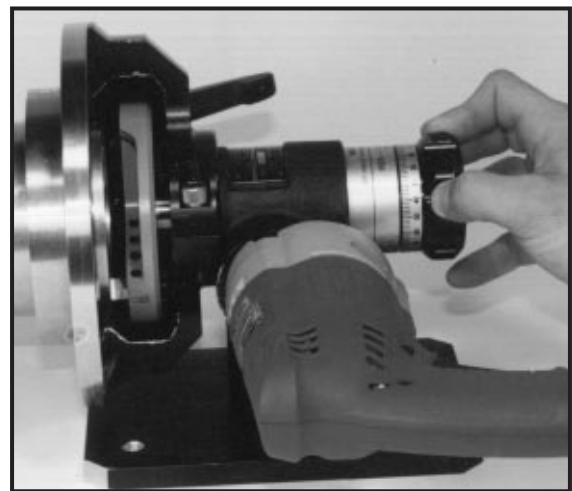
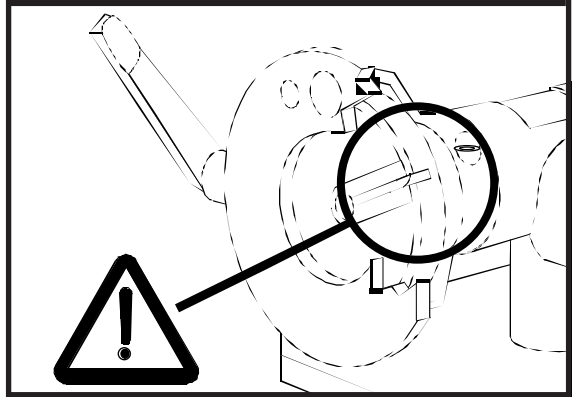


Figure 7

1. Begin rotation. Squeeze trigger to obtain desired speed.
2. Feed system operated by rotating feed knob. (Figure 7) Index marks on feed knob tell how much tool has advanced.

TUBE & FITTING SQUARING MACHINE TFS

SECTION V TFS SETUP & OPERATING PROCEDURES (CONT.)

G. Metabo Motor Speed Settings Recommended Drill Speed

DIA.	150	200	250	300	350	400	450	500
1"								
2"								
3"								
4"								

H. Bench Stand Removal & Setup

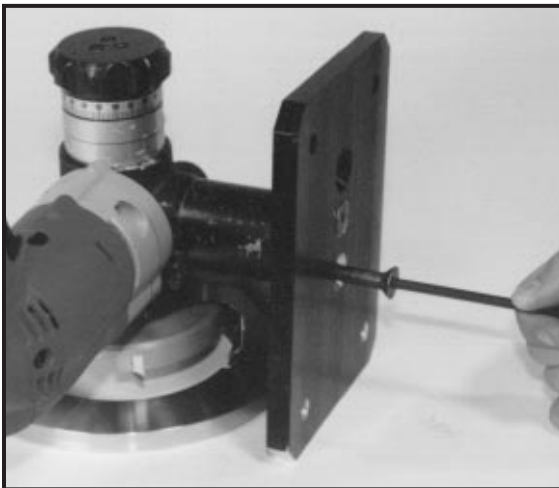


Figure 8

TFS bench stand can be removed. Loosen two FHCS on stand base plate. To reinstall, place stand off tube on drive system. Stack base plate on top. Install two FHCS (Figure 8).

I. Machining Tips

1. For precision machined lengths leave motor off. Rotate feed knob until tool touches end of work. Note location on index gauge. Retract feed knob. Add required measurement to observed number on feed knob. With power on, monitor index gauge. Length accuracy: to $\pm .002$ ".
2. Be careful of cutting edge of tool bit. Edge is sharp and can be damaged.
3. Check tool bit often. If work edge develops burr, tool bit may be worn.
4. Keep consistent pressure on feed knob.
5. To break off long chips, retract feed knob for a moment and return to feeding.



CAUTION: Metal residue created by blade is very sharp. Use caution when handling.

6. "Chatter" can be controlled by changing feed rate of tool. Increasing feed and reducing speed will solve this problem.

SECTION VI

TFS MAINTENANCE



CAUTION: Unplug machine from power source before performing any service.

TFS maintenance requires only cleaning and inspection for damage and wear. Periodically check power cord for damage.

TUBE & FITTING SQUARING MACHINE TFS

SECTION VII

OPERATIONAL CHARTS & GRAPHS

TUBE & FITTING SQUARING MACHINE TFS

SECTION VII

TFS OPERATIONAL CHARTS & GRAPHS

TFS SHOE SELECTION CHART

2½" HEAD SHOE SIZES		
Shoe Size	Part No.	Tube/Pipe O.D.
1/2" O.D.	19-070-05	1/2" tube
3/4" O.D.	19-070-07	3/4" tube
1.0" O.D.	19-070-10	1" tube
1.315" O.D.	19-070-20	1" pipe
1.5" O.D.	19-070-30	1½" tube
1.66" O.D.	19-070-40	1¼" pipe
1.9" O.D.	19-070-50	1½" pipe
2.0" O.D.	19-070-60	2" tube
2.38" O.D.	19-070-70	2" pipe
2.5" O.D.	19-070-80	2½" tube

4½" HEAD SHOE SIZES		
Shoe Size	Part No.	Tube/Pipe O.D.
2.88" O.D.	19-071-10	2½" pipe
3.0" O.D.	19-071-30	3" pipe
3.5" O.D.	19-071-20	3" tube
4.0" O.D.	19-071-40	3½" pipe / 4" tube
4.5" O.D.	19-071-50	4" pipe

TOOLING SELECTION CHART

Part No.	Work Material	Finish	Packaged as:
18-701-00	300 Stainless Steel	Uncoated	Individual
18-701-01	300 Stainless Steel	Zirconium Nitrite	Box of 10 pcs.
18-701-02	300 Stainless Steel	Titanium Nitrite	Box of 10 pcs.
18-701-03	300 Stainless Steel	Uncoated	Box of 10 pcs.
18-701-04	*Exotic hard Material*	Uncoated	Individual

* Exotic Hard Material: Inconel, Hastelloy, etc. ** Custom Tool Bits Available as special Order

TUBE & FITTING SQUARING MACHINE TFS

SECTION VIII

TFS TROUBLE SHOOTING

Trouble	Possible Cause	Remedy
Machine Won't Run	Power Unit Not Connected	Check Power Cord & Connection
Work Piece Shifts Under Cutting Load	Loose Shoe Clamp	Check Tension on Shoe Clamp Handle
Poor Workpiece End Quality	Dull or Chipped Tool Bit	Replace Tool Bit
Machine Chatters During Cut	RPM Speed of Tool Head is Set Too Fast or Feed Rate is too light	Refer to Section on Machining Tips

TUBE & FITTING SQUARING MACHINE TFS

SECTION IX

PARTS LISTS & EXPLODED VIEW DRAWINGS

Drive Assembly

Ref	Part No.	Qty	Description
1	90-170-58	1	SHCS 3/8-24 x 7/8"
2	19-012-00	1	Bearing, Needle
3	19-024-00	1	Seal
4	19-022-00	1	Bearing, Sleeve
5	19-002-00	1	Housing, Gear
6	90-046-01	4	Pin, Dowel, 3/16" x 7/16"
7	18-022-00	1	Nut, 1/4-20 Allen
8	19-025-00	1	Seal
9	19-008-00	1	Shaft, Worm
10	90-028-01	2	Plug, 1/8" pipe
11	90-150-08	1	SHCS, SS 1/4-20 x 7/8"
12	19-015-00	1	Bearing, Needle
13	19-087-00	1	O-Ring
14	19-011-00	1	Bearing Cover
15	90-000-53	4	SHCS 4-40 x 3/8"
16	19-028-00	1	Key, 1/8" sq. x 1-1/2"
17	19-007-01	1	Shaft, Spindle
18	19-009-00	1	Gear, Worm
19	19-020-00	1	Bearing, Ball
20	19-026-00	1	Ring, Retaining
21	19-016-00	2	Washer, Thrust
22	53-101-00	1	Bearing, Needle Thrust
23	19-014-00	1	O-Ring
24	19-004-00	1	Housing, Feed
25	19-010-04	1	Label, Pointer
26	19-005-00	1	Ring, Feed
27	18-018-00	1	Bearing, Flange
28	19-017-00	1	Washer, Thrust
29	19-030-00	1	Washer, 3/8" Locking Bellville
30	19-029-00	1	Nut, Nylok
31	19-006-00	1	Screw, Feed
32	19-019-00	1	Washer, Thrust
33	19-021-00	1	Bearing, Ball (control)
34	19-027-00	1	Ring, Retaining
35	19-003-00	1	Knob, Feed
36	90-120-05	3	SHCS, SS 8-32 x 1/2"
37	19-010-00	1	Label, Feed
37	19-010-02	1	Label, Feed Metric

Head Assembly

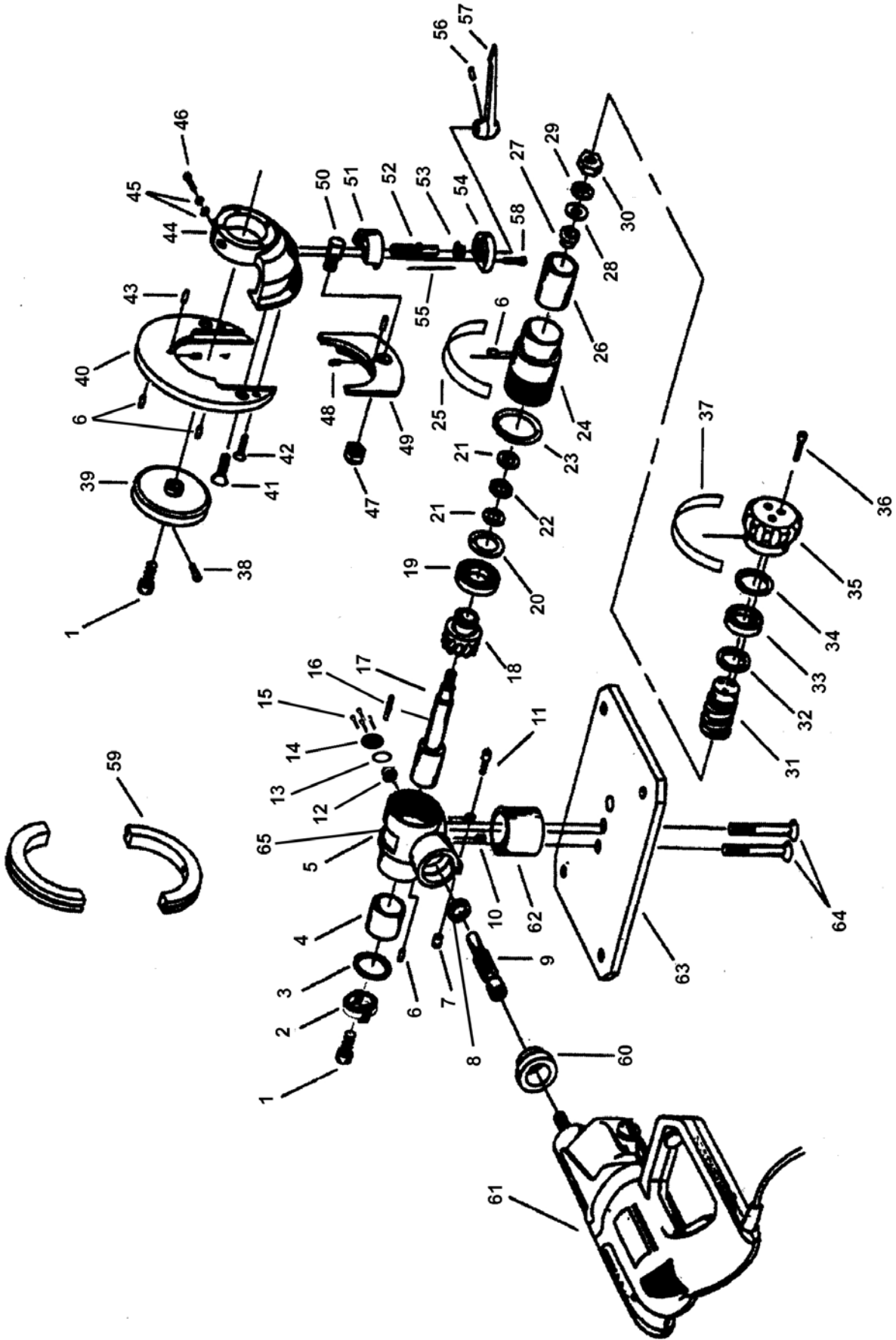
Ref	Part No.	Qty	Description
	19-410-00		2-1/2" Head
39	19-046-00	1	Disk, Cutter
40	19-042-00	1	Ring
44	19-040-00	1	Body, 2-1/2" Chuck
49	19-044-00	1	Slide
	19-411-00		4-1/2" Head
39	19-047-00	1	Disk, Cutter
40	19-043-00	1	Ring
44	19-041-00	1	Body, 4-1/2" Chuck
49	19-045-00	1	Slide
			Common Parts
1	90-170-58	1	SHCS 3/8-24 x 7/8"
38	90-054-04	4	SSS 1/4-20 x 3/8"
41	90-193-12	2	FHCS, SS 1/2-13 x 1-1/4"
42	90-163-10	2	FHCS, SS 5/16-18 x 1"
43	90-006-54	2	Pin, Roll 5/64" x 7/16"
45	90-075-54	2	Washer, An 3/8"
46	90-170-12	1	SHCS, SS 3/8-16 x 1-1/4"
47	19-062-00	1	Nut, Nylok
48	19-054-00	2	Pin, Shoe Retaining
50	19-053-00	1	Nut, Chuck Adjustment
51	19-050-00	1	Housing, Adjusting Screw
52	19-052-00	1	Screw, Chuck Adjustment
53	19-061-00	1	Bearing, Flange
54	19-051-00	1	Cover, Chuck
55	90-046-12	1	Pin, Dowel 3/16" x 1-1/4"
56	90-046-57	1	Pin, Roll 3/16" x 3/4"
57	19-055-00	1	Lever, Chuck Adjustment
58	90-150-15	3	SHCS, SS 1/4-20 x 1-1/2"

Shoe Assembly

Ref	Part No.	Qty	Description
59			Shoe, Clamping
			2-1/2" Head
	19-070-05	1	1/2"
	19-070-07	1	3/4"
	19-070-10	1	1.0"
	19-070-20	1	1.315" (1" pipe)
	19-070-30	1	1.5"
	19-070-40	1	1.66" (1-1/4" pipe)
	19-070-50	1	1.9" (1-1/2" pipe)
	19-070-60	1	2.0"
	19-070-70	1	2.38" (2" pipe)
	19-070-80	1	2.5"
			4-1/2" Head
	19-071-01	1	Shoe Adapter (Not shown)
	19-071-10	1	2.88" (2-1/2" pipe)
	19-071-20	1	3.0"
	19-071-30	1	3.5" (3" pipe)
	19-071-40	1	4.0" (3-1/2" pipe)
	19-071-50	1	4.5" (4" pipe)

Motor Variations

Ref	Part No.	Qty	Description
	19-401-00		
61	18-015-00	1	Motor 110 V (Milwaukee)
62	19-035-00	1	Support, Stand
63	18-035-00	1	Base, Stand
64	90-073-35	2	FHCS 3/8-16 x 3-1/2"
65	19-036-00	1	Plate, Identification
	19-402-00		
60	19-034-00	1	Adapter
61	30-031-00	1	Motor 110 V (Metabo)
62	19-035-00	1	Support, Stand
63	18-035-00	1	Base, Stand
64	90-073-35	2	FHCS 3/8-16 x 3-1/2"
65	19-036-00	1	Plate, Identification
	19-421-00		
61	18-040-00	1	Motor 220 V (Milwaukee)
62	19-035-00	1	Support, Stand
63	18-035-00	1	Base, Stand
64	90-073-35	2	FHCS 3/8-16 x 3-1/2"
65	19-036-00	1	Plate, Identification
	19-422-00		
60	19-034-00	1	Adapter
61	30-031-01	1	Motor 220 V (Metabo)
62	19-035-00	1	Support, Stand
63	18-035-00	1	Base, Stand
64	90-073-35	2	FHCS 3/8-16 x 3-1/2"
65	19-036-00	1	Plate, Identification



To place an order or to get more detailed information on any E.H. Wachs products, call us at:
1-800-323-8185.

ORDERING REPLACEMENT PARTS

Please use parts list provided in manual. Have part description and part number of required replacement part or parts to help expedite order and insure proper parts are being ordered.

REPAIR INFORMATION

Please call E.H. Wachs Company prior to returning any equipment for repair. We will advise you of shipping and handling. Please enclose with equipment to be repaired your name, address, phone number and a brief description of problem or work to be done or estimated.

All repair work done at our plant will be estimated and the customer advised of cost and time required to complete repair.

WARRANTY INFORMATION

Enclosed with the manual is a warranty card. Please fill out the registration card and return to E.H. Wachs. Retain the owners registration record and warranty card for your information.

RETURN GOODS ADDRESS

E.H. Wachs Company
600 Knightsbridge Parkway
Lincolnshire, IL 60069



Call or Write:

E.H. Wachs Company
600 Knightsbridge Parkway
Lincolnshire, IL 60069

847-537-8800

FAX: 847-520-1147 • 847-520-1168

Toll-Free: 1-800-323-8185

	TUBE & PIPE		
	CUT-OFF MACHINES		
Mod. TFS	Ser.No.	<input type="text"/>	<input type="text"/>
Enter Your Machines Serial Number Here For Proper Record Keeping and Ordering Reference.			