

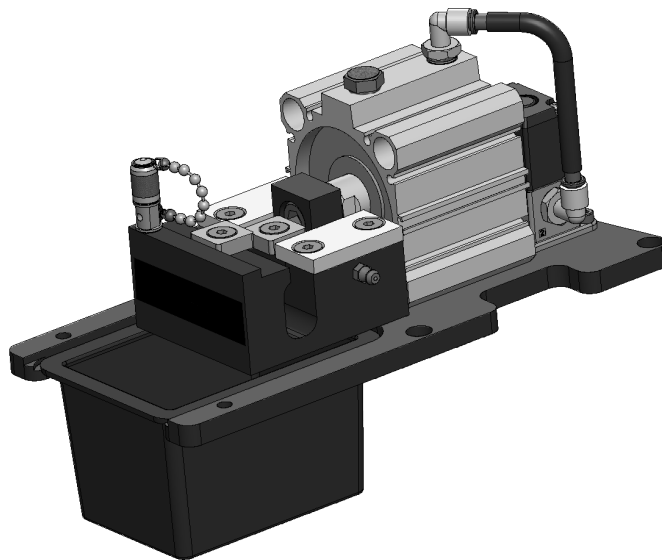
TOUGH GUN® Wire Cutter

OWNER'S MANUAL

October 2024

OM-WC4-1.2

Robotic, MIG (GMAW) Welding Peripheral



bernardtregaskiss.com/TechnicalSupport
1-855-MIGWELD (644-9353)(US & Canada)
+1-519-737-3000(International)

Thank You for Choosing Tregaskiss®

Thank you for selecting a Tregaskiss product. Before installing, compare the equipment received against the invoice to verify that the shipment is complete and undamaged. It is the responsibility of the purchaser to file all claims of damage or loss that may have occurred during transit with the carrier.

The owner's manual contains general information, instructions and maintenance to help better maintain your MIG gun or peripheral. Please read, understand and follow all safety precautions.

While every precaution has been taken to assure the accuracy of this owner's manual, Tregaskiss assumes no responsibility for errors or omissions. Tregaskiss assumes no liability for damages resulting from the use of information contained herein. The information presented in this owner's manual is accurate to the best of our knowledge at the time of printing. Please reference bernardtregaskiss.com for updated material.

For customer support and special applications, please call the Tregaskiss Customer Service Department at 1-855-MIGWELD (644-9353) (US & Canada) or +1-519-737-3000 (International), fax 1-519-737-1530, or email at cs@itwmig.com. Our trained Customer Service Team is available between 8:00 a.m. and 5:30 p.m. EST, and will answer your product application or repair questions.

Tregaskiss manufactures premium robotic MIG (GMAW) welding guns, peripherals and consumables. For more information on other premium Tregaskiss products, contact your local Tregaskiss distributor or visit us on the web at bernardtregaskiss.com.

Subject to Change – The information presented in this manual is accurate to the best of our knowledge at the time of printing. Please visit bernardtregaskiss.com for the most up-to-date information.

Additional Material – For additional support materials such as spec sheets, troubleshooting information, how-to guides and videos, animations, online configurators and much more, please visit bernardtregaskiss.com.

Scan this QR Code with your smart phone for immediate access to bernardtregaskiss.com/TechnicalSupport



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SECTION 1 — SAFETY PRECAUTIONS — READ BEFORE USING



Protect yourself and others from injury – read, follow, and save these important safety precautions and operating instructions.

1-1 Symbol Usage



DANGER! – Indicates a hazardous situation which, if not avoided, will result in death or serious injury. The possible hazards are shown in the adjoining symbols or explained in the text.



Indicates a hazardous situation which, if not avoided, could result in death or serious injury. The possible hazards are shown in the adjoining symbols or explained in the text.

NOTICE – Indicates statements not related to personal injury.

 – Indicates special instructions.

This group of symbols means Warning! Watch Out!, ELECTRIC SHOCK, MOVING PARTS, and HOT PARTS hazards.



TOUGH GUN® TT4 Reamer safety label definitions:



Warning! CUT & CRUSH Keep hands clear of all moving parts.



Warning! ROTATING CUTTER Keeps hands clear. Disconnect power before servicing.



Warning! AUTOMATIC START Equipment starts automatically. Disconnect power before servicing or opening access door.



DISCONNECT POWER before servicing.



CONSULT YOUR SERVICE MANUAL before servicing.

Consult symbols and related instructions below for necessary actions to avoid the hazards.

1-2 Arc Welding Hazards



The symbols shown below are used throughout this manual to call attention to and identify possible hazards. When you see the symbol, watch out, and follow the related instructions to avoid the hazard. The safety information given below is only a summary of the more complete safety information found in section 1-4 Principal Safety Standards on page 3, and in welding power source Owner's Manual. Read and follow all Safety Standards.



Only qualified persons should install, operate, maintain, and repair this equipment. A qualified person is defined as one who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training and experience, has successfully demonstrated ability to solve or resolve problems relating to the subject matter, the work, or the project and has received safety training to recognize and avoid the hazards involved.



During operation, keep everybody, especially children, away.

ELECTRIC SHOCK can kill.

- Always wear dry insulating gloves.
- Insulate yourself from work and ground.
- Do not touch live electrode or electrical parts.
- Turn off welding power source before changing contact tip or gun parts.
- Keep all covers and handle securely in place.



MOVING PARTS can injure.

- Keep away from moving parts.
- Keep away from pinch points such as drive rolls.



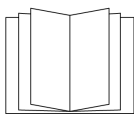
NOISE can damage hearing.

Noise from some processes or equipment can damage hearing.

- Check for noise level limits exceeding those specified by OSHA.
- Use approved ear plugs or ear muffs if noise level is high.
- Warn others nearby about noise hazard.



READ INSTRUCTIONS.



- Read and follow all labels and the Owner's Manual carefully before installing, operating, or servicing unit. Read the safety information at the beginning of the Manual and in each section.
- Use only genuine replacement parts from the manufacturer.
- Perform installation, maintenance, and service according to the Owner's Manuals, industry standards, and national, state, and local codes.

1-3 California Proposition 65 Warnings



WARNING: This product can expose you to chemicals including lead, which are known to the state of California to cause cancer and birth defects or other reproductive harm.

For more information, go to www.P65Warnings.ca.gov.

1-4 Principal Safety Standards

Safety in Welding, Cutting, and Allied Processes, American Welding Society standard ANSI Standard Z49.1. Website: www.aws.org.

Safe Practice For Occupational And Educational Eye And Face Protection, ANSI Standard Z87.1, from American National Standards Institute. Website: www.ansi.org.

Safe Practices for the Preparation of Containers and Piping for Welding and Cutting, American Welding Society Standard AWS F4.1. Website: www.aws.org.

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Safety in Welding, Cutting, and Allied Processes, CSA Standard W117.2 from Canadian Standards Association. Website: www.csagroup.org.

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OSHA, Occupational Safety and Health Standards for General Industry, Title 29, Code of Federal Regulations (CFR), Part 1910.177 Subpart N, Part 1910 Subpart Q, and Part 1926, Subpart J. Website: www.osha.gov.

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1-5 EMF Information

Electric current flowing through any conductor causes localized electric and magnetic fields (EMF). The current from arc welding (and allied processes including spot welding, gouging, plasma arc cutting, and induction heating operations) creates an EMF field around the welding circuit. EMF fields may interfere with some medical implants, e.g. Pacemakers. Protective measures for persons wearing medical implants have to be taken. For example, restrict access for passersby or conduct individual risk assessment for welders. All welders should use the following procedures in order to minimize exposure to EMF fields from the welding circuit:

1. Keep cables close together by twisting or taping them, or using a cable cover.
2. Do not place your body between welding cables. Arrange cables to one side and away from the operator.

3. Do not coil or drape cables around your body.
4. Keep head and trunk as far away from the equipment in the welding circuit as possible.
5. Connect work clamp to workpiece as close to the weld as possible.
6. Do not work next to, sit or lean on the welding power source.
7. Do not weld whilst carrying the welding power source wire feeder.

About Implanted Medical Devices:

Implanted Medical Device wearers should consult their doctor and the device manufacturer before performing or going near arc welding, spot welding, gouging, plasma arc cutting, or induction heating operations. If cleared by your doctor, then following the above procedures is recommended.

SECTION 2 — CONSIGNES DE SÉCURITÉ — LIRE AVANT UTILISATION



Pour écarter les risques de blessure pour vous-même et pour autrui — lire, appliquer et ranger en lieu sûr ces consignes relatives aux précautions de sécurité et au mode opératoire.

2-1 Symboles utilisés



DANGER! – Indique une situation dangereuse qui si on l'évite pas peut donner la mort ou des blessures graves. Les dangers possibles sont montrés par les symboles joints ou sont expliqués dans le texte.



Indique une situation dangereuse qui si on l'évite pas peut donner la mort ou des blessures graves. Les dangers possibles sont montrés par les symboles joints ou sont expliqués dans le texte.

AVIS – Indique des déclarations pas en relation avec des blessures personnelles.

 – Indique des instructions spécifiques.

Ce groupe de symboles veut dire Avertissement! Attention!, DANGER DE CHOC ELECTRIQUE, PIECES EN MOUVEMENT, et PIECES CHAUDES.



Définitions des étiquettes de sécurité de l'alésoir TOUGH GUN® TT4:



Avertissement! COUPER ET ÉCRASER Gardez les mains à l'écart de toutes les pièces mobiles.



Avertissement! COUPE ROTATIVE Gardez les mains dégagées. Débranchez l'alimentation avant l'entretien.



Avertissement! DÉMARRAGE AUTOMATIQUE L'équipement démarre automatiquement. Débranchez l'alimentation avant d'effectuer l'entretien ou d'ouvrir la porte d'accès.



DÉBRANCHEZ L'ALIMENTATION avant l'entretien.



CONSULTEZ VOTRE MANUEL D'ENTRETIEN avant l'entretien.

Reportez-vous aux symboles et aux directives cidessous afin de connaître les mesures à prendre pour éviter tout danger.

2-2 Dangers relatifs au soudage à l'arc



Les symboles donnés ci-après sont utilisés dans tout le manuel pour attirer l'attention sur les dangers possibles et pour indiquer le type de danger dont il s'agit. Quand on voit le symbole, prendre garde et suivre les directives correspondantes pour éviter le danger. Les consignes de sécurité présentées ci-après ne font que résumer l'information contenue dans les Normes de sécurité principales, et dans le Guide d'utilisation de la source de courant de soudage. Lire et suivre toutes les Normes de sécurité.



L'installation, l'utilisation, l'entretien et les réparations ne doivent être confiés qu'à des personnes qualifiées. Une personne qualifiée est définie comme celle qui, par la possession d'un diplôme reconnu, d'un certificat ou d'un statut professionnel, ou qui, par une connaissance, une formation et une expérience approfondies, a démontré avec succès sa capacité à résoudre les problèmes liés à la tâche, le travail ou le projet et a reçu une formation en sécurité afin de reconnaître et d'éviter les risques inhérents.



Au cours de l'utilisation, tenir toute personne à l'écart et plus particulièrement les enfants.

UN CHOC ÉLECTRIQUE peut tuer.



- Porter toujours des gants secs et isolants.
- S'isoler de la pièce et de la terre.
- Ne jamais toucher une électrode ou des pièces électriques sous tension.
- Mettre la soudeuse hors tension avant de remplacer un bec contact ou des pièces de pistolet.
- S'assurer que tous les couvercles et poignées sont fermement assujettis.

Les PIÈCES MOBILES peuvent causer des blessures.



- Ne pas s'approcher des organes mobiles.
- Ne pas s'approcher des points de coincement tels que des rouleaux de commande.

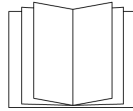
Le BRUIT peut endommager l'ouïe.

Le bruit des processus et des équipements peut affecter l'ouïe.



- Vérifier si les niveaux de bruit excèdent les limites spécifiées par l'OSHA.
- Utiliser des bouche-oreilles ou des serre-tête antibruit approuvés si le niveau de bruit est élevé.
- Avertir les personnes à proximité au sujet du danger inhérent au bruit.

LIRE LES INSTRUCTIONS.



- Lire et appliquer les instructions sur les étiquettes et le Mode d'emploi avant l'installation, l'utilisation ou l'entretien de l'appareil. Lire les informations de sécurité au début du manuel et dans chaque section.
- N'utiliser que les pièces de remplacement provenant du fabricant.
- Effectuer l'installation, l'entretien et toute intervention selon les manuels d'utilisateurs, les normes nationales, provinciales et de l'industrie, ainsi que les codes municipaux.

2-3 Proposition californienne 65 avertissements



AVERTISSEMENT – Ce produit peut vous exposer à des produits chimiques tels que le plomb, reconnus par l'État de Californie comme cancérigènes et sources de malformations ou d'autres troubles de la reproduction

Pour plus d'informations, consulter www.P65Warnings.ca.gov.

2-4 Principales normes de sécurité

Safety in Welding, Cutting, and Allied Processes, American Welding Society standard ANSI Standard Z49.1. Website: www.aws.org.

Safe Practice For Occupational And Educational Eye And Face Protection, ANSI Standard Z87.1, from American National Standards Institute. Website: www.ansi.org.

Safe Practices for the Preparation of Containers and Piping for Welding and Cutting, American Welding Society Standard AWS F4.1 from Global Engineering Documents. Website: www.aws.org.

National Electrical Code, NFPA Standard 70 from National Fire Protection Association. Website: www.nfpa.org.

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Standard for Fire Prevention During Welding, Cutting, and Other Hot Work, NFPA Standard 51B from National Fire Protection Association. Website: www.nfpa.org.

OSHA, Occupational Safety and Health Standards for General Industry, Title 29, Code of Federal Regulations (CFR), Part 1910.177 Subpart N, Part 1910 Subpart Q, and Part 1926, Subpart J. Website: www.osha.gov.

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2-5 Informations relatives aux CEM

Le courant électrique qui traverse tout conducteur génère des champs électromagnétiques (CEM) à certains endroits. Le courant issu d'un soudage à l'arc (et de procédés connexes, y compris le soudage par points, le gougeage, le découpage plasma et les opérations de chauffage par induction) crée un champ électromagnétique (CEM) autour du circuit de soudage. Les champs électromagnétiques produits peuvent causer interférence à certains implants médicaux, p. ex. les stimulateurs cardiaques. Des mesures de protection pour les porteurs d'implants médicaux doivent être prises: par exemple, des restrictions d'accès pour les passants ou une évaluation individuelle des risques pour les soudeurs. Tous les soudeurs doivent appliquer les procédures suivantes pour minimiser l'exposition aux CEM provenant du circuit de soudage:

1. Rassembler les câbles en les torsadant ou en les attachant avec du ruban adhésif ou avec une housse.
2. Ne pas se tenir au milieu des câbles de soudage. Disposer les câbles d'un côté et à distance de l'opérateur.

3. Ne pas courber et ne pas entourer les câbles autour de votre corps.
4. Maintenir la tête et le torse aussi loin que possible du matériel du circuit de soudage.
5. Connecter la pince sur la pièce aussi près que possible de la soudure.
6. Ne pas travailler à proximité d'une source de soudage, ni s'asseoir ou se pencher dessus.
7. Ne pas souder tout en portant la source de soudage ou le dévidoir.

En ce qui concerne les implants médicaux :

Les porteurs d'implants doivent d'abord consulter leur médecin avant de s'approcher des opérations de soudage à l'arc, de soudage par points, de gougeage, du coupage plasma ou de chauffage par induction. Si le médecin approuve, il est recommandé de suivre les procédures précédentes.

SECTION 3 — PRECAUCIONES DE SEGURIDAD — LEA ANTES DE USAR



Protéjase usted mismo y a otros contra lesiones — lea, cumpla y conserve estas importantes precauciones de seguridad e instrucciones de utilización.

3-1 Uso de símbolos



PELIGRO! — Indica una situación peligrosa que, si no se la evita, resultará en muerte o lesión grave. Los peligros posibles se muestran en los símbolos adjuntos o se explican en el texto.



Indica una situación peligrosa que, si no se la evita, podría resultar en muerte o lesión grave. Los peligros posibles se muestran en los símbolos adjuntos, o se explican en el texto.

AVISO — Indica precauciones no relacionadas a lesiones personales.

 — Indica instrucciones especiales.

Este grupo de símbolos significa ¡Advertencia!, ¡Cuidado! CHOQUE O DESCARGA ELÉCTRICA, PIEZAS QUE SE MUEVEN, y peligros de PARTES CALIENTES.



Definiciones de las etiquetas de seguridad del escariador TOUGH GUN® TT4:



Advertencia! CORTAR Y APLASTAR Mantenga las manos alejadas de todas las piezas móviles.



¡Advertencia! CORTADOR GIRATORIO Mantiene las manos despejadas. Desconecte la energía antes de dar servicio.



¡Advertencia! ARRANQUE AUTOMÁTICO El equipo arranca automáticamente. Desconecte la energía antes de dar servicio o abrir la puerta de acceso.



DESCONECTE LA CORRIENTE antes de dar servicio.



CONSULTE SU MANUAL DE SERVICIO antes de realizar el mantenimiento.

Consulte los símbolos y las instrucciones relacionadas que aparecen a continuación para ver las acciones necesarias para evitar estos peligros.

3-2 Peligros en soldadura de arco



Los símbolos mostrados abajo se usan en todo este manual para llamar la atención a e identificar los posibles peligros. Cuando vea el símbolo, preste atención y siga las instrucciones relacionadas para evitar el peligro. La información de seguridad dada abajo es solamente un resumen de la información más completa de seguridad que se encuentra en los estándares de seguridad, y la fuente de alimentación para soldadura del Manual del usuario. Lea y siga todas las normas de seguridad.



Solamente personal cualificado debe instalar, utilizar, mantener y reparar este equipo. La definición de personal cualificado es cualquier persona que, debido a que posee un título, un certificado o una posición profesional reconocida, o gracias a su gran conocimiento, capacitación y experiencia, haya demostrado con éxito la capacidad para solucionar o resolver problemas relacionados con el trabajo, el proyecto o el tema en cuestión, además de haber asistido a una capacitación en seguridad para reconocer y evitar los peligros que implica el proceso.



Durante su operación mantenga lejos a todos, especialmente a los niños.

UNA DESCARGA ELÉCTRICA puede matarlo.

- Siempre use guantes aislantes secos.
- Aíslese usted mismo del trabajo y la tierra.
- No toque electrodo eléctricamente vivo o partes eléctricamente vivas.
- Repare o reemplace aislamiento de la pistola o del cable que esté desgastado, dañado o agrietado.
- Apague la máquina de soldar antes de cambiar los tubos de contacto o piezas de la antorcha.
- Mantenga todas las tapas y asa bien seguras en sitio.



Las PIEZAS MÓVILES pueden provocar lesiones.

- Alejese de toda parte en movimiento.
- Alejese de todo punto que pellizque, tal como rodillos impulsados.



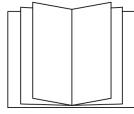
EL RUIDO puede trastornar su oído.

Ruido proveniente de algunos procesos o equipo puede dañar el oído.



- Chequee los límites del nivel del ruido si exceden aquellos especificados por OSHA.
- Use tapas para los oídos o cubiertas para los oídos si el nivel del ruido es demasiado alto.
- Advierta a otros que estén cerca acerca del peligro del ruido.

LEER INSTRUCCIONES.



- Lea y siga cuidadosamente las instrucciones contenidas en todas las etiquetas y en el Manual del usuario antes de instalar, utilizar o realizar tareas de mantenimiento en la unidad. Lea la información de seguridad incluida en la primera parte del manual y en cada sección.
- Utilice únicamente piezas de reemplazo legítimas del fabricante.
- Los trabajos de instalación y mantenimiento deben ser ejecutados de acuerdo con las instrucciones del manual del usuario, las normas del sector y los códigos nacionales, estatales y locales.

3-3 Advertencias de la Proposición 65 del estado de California



ADVERTENCIA: Este producto puede exponerlo a químicos, incluso plomo, que el estado de California conoce como causantes de cáncer, defectos de nacimiento u otros daños reproductivos.

Para obtener más información, acceda a www.P65Warnings.ca.gov.

3-4 Estándares principales de seguridad

Safety in Welding, Cutting, and Allied Processes, American Welding Society standard ANSI Standard Z49.1. Website: www.aws.org.

Safe Practice For Occupational And Educational Eye And Face Protection, ANSI Standard Z87.1, from American National Standards Institute. Website: www.ansi.org.

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OSHA, Occupational Safety and Health Standards for General Industry, Title 29, Code of Federal Regulations (CFR), Part 1910.177 Subpart N, Part 1910 Subpart Q, and Part 1926, Subpart J. Website: www.osha.gov.

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3-5 Información sobre los campos electromagnéticos (EMF)

La corriente que fluye a través de un conductor genera campos eléctricos y magnéticos (EMF) localizados. La corriente del arco de soldadura (y otras técnicas afines como la soldadura por puntos, el ranurado, el corte por plasma y el calentamiento por inducción) genera un campo EMF alrededor del circuito de soldadura. Los campos EMF pueden interferir con algunos dispositivos médicos implantados como, por ejemplo, los marcapasos. Por lo tanto, se deben tomar medidas de protección para las personas que utilizan estos implantes médicos. Por ejemplo, aplique restricciones al acceso de personas que pasan por las cercanías o realice evaluaciones de riesgo individuales para los soldadores. Todos los soldadores deben seguir los procedimientos que se indican a continuación con el objeto de minimizar la exposición a los campos EMF generados por el circuito de soldadura:

1. Mantenga los cables juntos retorciéndolos entre sí o uniéndolos mediante cintas o una cubierta para cables.
2. No ubique su cuerpo entre los cables de soldadura. Disponga los cables a un lado y apártelos del operario.

3. No enrolle ni cuelgue los cables sobre su cuerpo.
4. Mantenga la cabeza y el tronco tan apartados del equipo del circuito de soldadura como le sea posible.
5. Conecte la pinza de masa en la pieza lo más cerca posible de la soldadura.
6. No trabaje cerca de la fuente de alimentación para soldadura, ni se siente o recueste sobre ella.
7. No suelde mientras transporta la fuente de alimentación o el alimentador de alambre.

Acerca de los aparatos médicos implantados:

Las personas que usen aparatos médico implantados deben consultar con su médico y el fabricante del aparato antes de llevar a cabo o acercarse a soldadura de arco, soldadura de punto, ranurar, hacer corte por plasma, u operaciones de calentamiento por inducción. Si su doctor lo permite, entonces siga los procedimientos de arriba.

SECTION 4 — PRODUCT WARRANTY

4-1 Product Warranty

Limited Warranty

Tregaskiss' Products shall, from the date of original purchase (or, solely with respect to Low Stress Robotic Unicables packaged with any Tregaskiss® Robotic MIG Gun, from the date the product goes into production for its intended use) and for the period set forth below, be free from defects in material and workmanship. To obtain repair or replacement of any Product, the covered Product must be delivered, transportation pre-paid by Purchaser, to the address specified by Tregaskiss on its Returned Materials Authorization, with: (i) written proof of warranty coverage (e.g., Purchaser dated purchase order); (ii) serial number on product (if any); (iii) the Product's installed location within Purchaser's facility and usage of the Product; and (iv) written specification of any alleged defect(s). In the event the foregoing materials are not timely provided to Tregaskiss by claimant, warranty coverage will be determined by Tregaskiss, in its sole discretion. For the avoidance of doubt, the warranty period for any Product or part/component of any Product that is replaced or repaired by Tregaskiss under the foregoing warranty is not extended or renewed at the time of such replacement or repair. **The Warranty against defects does not apply to: (1) consumable components or ordinary wear items; (2) products which are improperly altered, modified, stored, installed, operated, handled, used or neglected or use of the Products with equipment, components or parts not specified or supplied by Tregaskiss or contemplated under the Product documentation; or (3) Products which have not been operated, maintained, and repaired pursuant to Product documentation provided by Tregaskiss. Purchaser shall pay Tregaskiss for all warranty claim costs incurred by Tregaskiss (including inspection, labor, parts, testing, scrap and freight) due to warranty claims submitted by Purchaser which are not covered by Tregaskiss' warranty.**

- Bernard® BTB Semi-Automatic Air-Cooled MIG Guns: **1 year**; *Lifetime warranty on straight handles, straight handle switches, and rear strain relief*
- Bernard® W-Gun™ and T-Gun™ Semi-Automatic Water-Cooled MIG Guns: **180 days**
- Bernard® TGX® Chassis and Bernard TGX Ready To Weld MIG Guns: **90 days**
- Tregaskiss® Robotic MIG Guns and Components: **1 year**
- Tregaskiss® Automatic MIG Guns: **1 year**
- Tregaskiss® TOUGH GUN® Reamer:
 - When factory-equipped with lubricator: **2 years** when factory-equipped with lubricator
 - When (i) factory-equipped with lubricator and (ii) used exclusively with Tregaskiss® TOUGH GARD® Anti-Spatter Liquid: **3 years** when both (i) and (ii)
- Tregaskiss® TOUGH GUN® Robotic Peripheral (Clutch, Sprayer, Wire Cutter, Arms): **1 year**
- Tregaskiss® Low-Stress Robotic Unicables (LSR+ Unicables): **6 months**

Service Warranty

Tregaskiss warrants the Services shall conform to any mutually agreed upon specifications or statements of work. Purchaser's sole remedy, and Tregaskiss's sole liability, for a breach of the foregoing warranty is for Tregaskiss, at its option, to re-perform the Services or credit Purchaser's account for such Services.

Limitation of Liability and Remedies

TREGASKISS WILL NOT BE LIABLE, AND PURCHASER WAIVES ALL CLAIMS AGAINST TREGASKISS FOR INDIRECT, INCIDENTAL, SPECIAL, PUNITIVE OR CONSEQUENTIAL DAMAGES, DOWN TIME, LOST PROFITS OR COMMERCIAL LOSSES, WHETHER OR NOT BASED UPON TREGASKISS' NEGLIGENCE OR BREACH OF WARRANTY OR STRICT LIABILITY IN TORT OR ANY OTHER CAUSE OF ACTION. IN NO EVENT WILL TREGASKISS' LIABILITY IN CONNECTION WITH THE AGREEMENT OR SALE OF TREGASKISS' PRODUCTS OR SERVICES EXCEED THE PURCHASE PRICE OF THE SPECIFIC PRODUCTS OR SERVICES AS TO WHICH THE CLAIM IS MADE.

SECTION 5 — SPECIFICATIONS

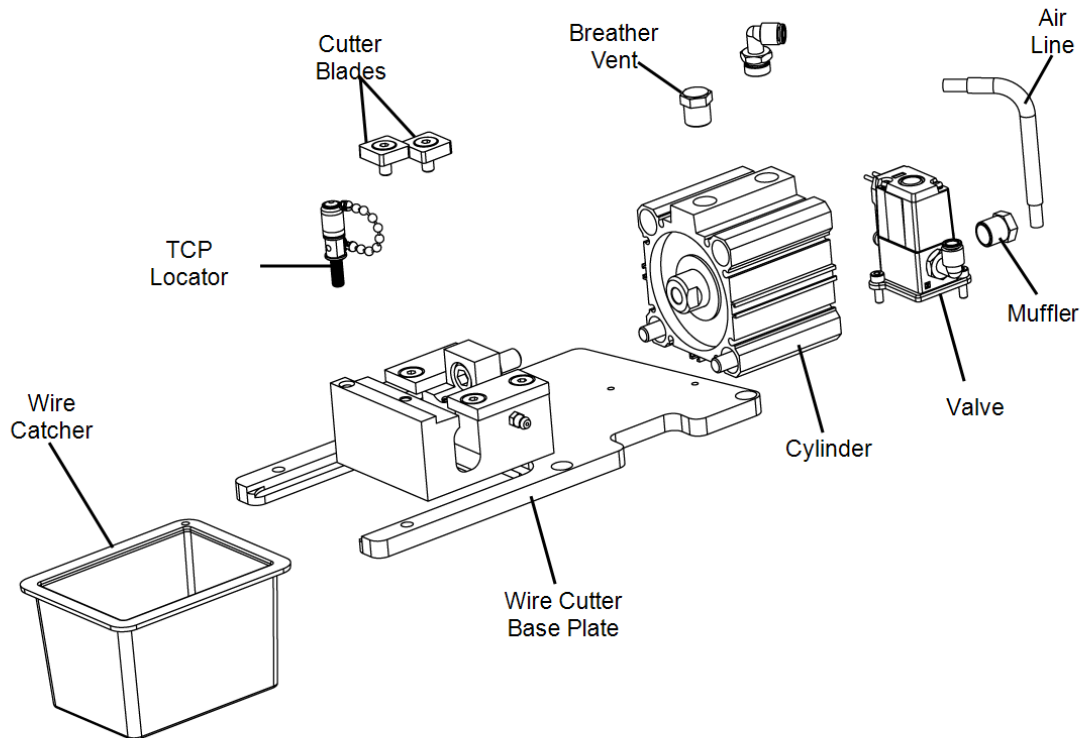
5-1 System Components

Robotic Peripheral for GMAW Welding

Power Requirements: 24 VDC

Air Supply: 80-100 psi

For complete parts list, please see Section 8 — Parts List on page 20.



SECTION 6 — INSTALLATION / SETUP

6-1 Installing Wire Cutter on TOUGH GUN® TT4 Reamer



WARNING: Ensure air and power supply is off and disconnected before proceeding. Please follow your facility's lockout / tagout procedures.

A. Mounting Wire Cutter

1. The wire cutter should be installed within the weld cell where it is clear of all tooling and convenient for the robot to access the unit. The base plate has been designed for mounting on top of the TOUGH GUN Reamer. Be sure to consider movable fixtures and the confines of the robot.
2. Attach the WC-400 wire cutter base to the top of the reamer, or other sturdy platform using the same three (3) M6x1.0x20 mm Socket Head Cap Screws (SHCS) that are securing the clamp housing cover onto the reamer. (see Figure 6-B)
3. If mounting a WC-100 wire cutter (old style) to the reamer, use three (3) M6x1.0x25 mm SHCS.
4. Thread the M12 connector into the 4-Pin receptacle labeled "Wire Cutter" located on the Setup Switch plate (see Figure 6-C)

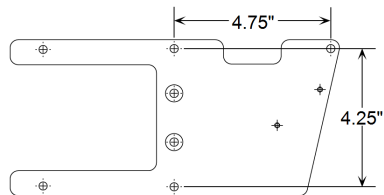


Figure 6-A

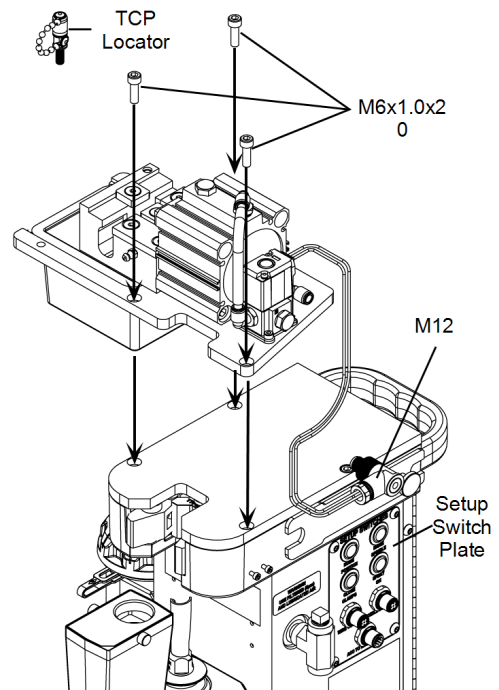


Figure 6-B

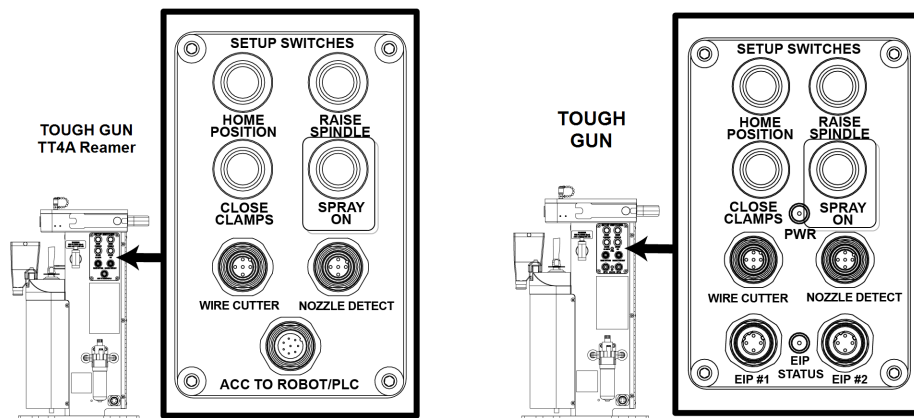
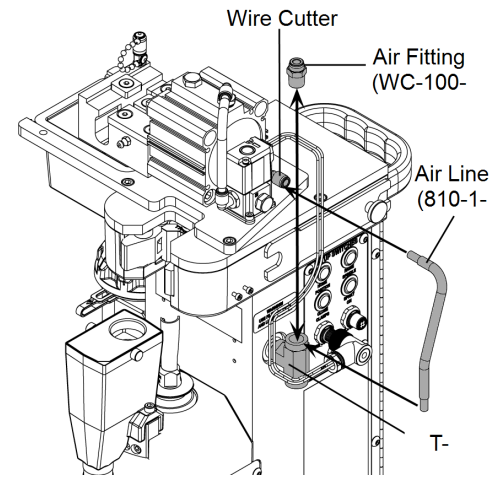


Figure 6-C

B. Connecting Air Supply

1. Use only dry filtered air.
IMPORTANT: When configured on a reamer or used as a stand alone unit, the wire cutter will utilize the reamer air supply of 80-100 psi (5.5 - 7.0 bar).
2. Remove the 1/4" NPT plug on the T-fitting located on the side of the reamer.
3. Install air fitting WC-100-28 onto the top of the T-fitting.
4. Install the supplied 810-1-2 air line from the wire cutter valve to the WC-100-28 air fitting.



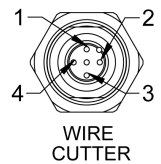
6-2 Wiring Interface Connections



WARNING: The following connection should only be performed by qualified technicians. Damage to equipment will occur if connections are incorrect.

To interface the wire cutter with the controller, two (2) electrical connections are required.

- Pin 2: WHITE LEAD - wire cutter signal
- Pin 3: BLUE LEAD - 0 VDC constant



WIRE CUTTER

PIN 1: BROWN - 24 VDC CONSTANT
 PIN 2: WHITE - WIRE CUTTER SIGNAL
 PIN 3: BLUE - 0 VDC CONSTANT
 PIN 4: BLACK - NOZZLE DETECT SIGNAL

6-3 Inversing Logic



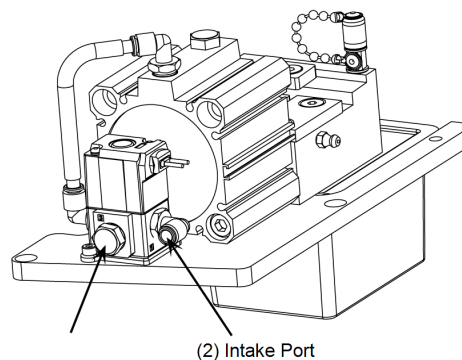
WARNING: Before start-up, ensure that all connections are correct or damage to the wire cutter may occur.

NOTE: The TOUGH GUN Wire Cutter is factory set for Sourcing mode. If you wish to change to Sinking mode, follow steps 1-3 below.

1. Remove the exhaust and intake fittings.
2. Place the exhaust fitting in the intake port (see (2) in Figure 6-E).
3. Place the air line fitting in the exhaust port (see (1) in Figure 6-E).

This change allows the solenoid valve to function as normally open. In this situation, as the input signal drops to zero voltage, the valve passage opens, charging the cylinder.

Figure 6-E



6-4 Positioning Gun



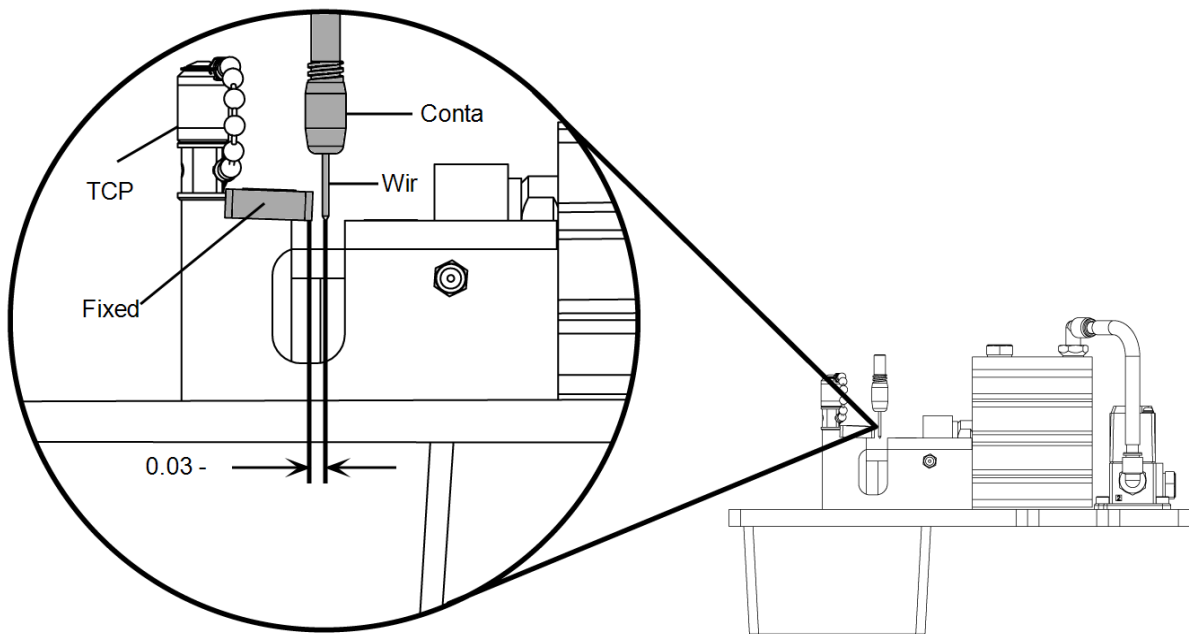
WARNING: Keep hands clear of fixed blade and TCP locator.

For best cutter performance, the MIG gun should be located so that the wire to be cut is 0.03"-0.06" away from the fixed blade.

The finished wire cut length is the vertical distance from the contact tip to the bottom of the fixed blade.

NOTE: Gun and nozzle not shown in diagram.

Figure 6-F



6-5 Programming Events Sequence



WARNING: Keep hands clear of fixed blade and TCP locator.

1. Program the robot to position the MIG gun at a right angle to the blades. Insert the gun to the proper depth and position the wire between wire cutter blades.
2. Jog the welding wire before cycle start is initiated. (See 6-4 Positioning Gun on page 15)
3. Cycle Start – Supply output signal from the robot controller/PLC. Pulse output for 0.5 seconds.
4. TOUGH GUN Wire Cutter will perform cutting operation.
5. Upon completion of the cutting operation, program the robot to extract the gun from the wire cutter and continue to weld.

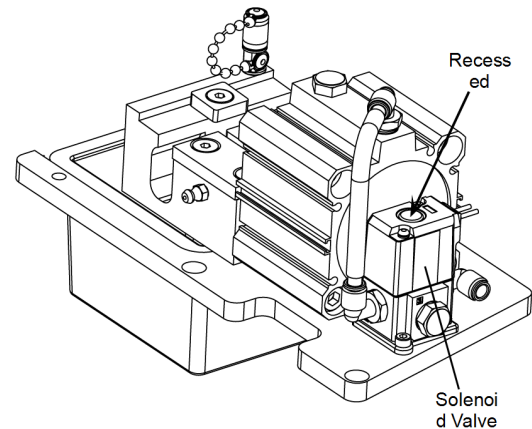
6-6 Manual Operation



WARNING: Keep hands clear of fixed blade and TCP locator.

Depress the recessed button located on the top of the solenoid valve.

Figure 6-G



SECTION 7 — MAINTENANCE

7-1 Replacing Wire Cutter Components



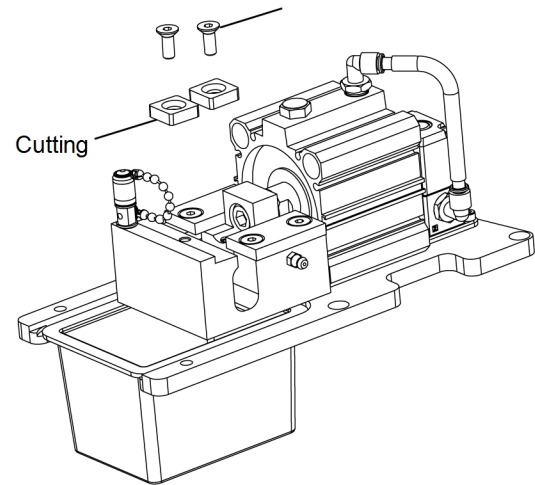
WARNING: Ensure power supply and compressed air is off and disconnected before proceeding. Please follow your facility's lockout / tagout procedures.

Figure 7-A

A. To Replace the Blade(s)

PRO TIP: the blades can be rotated and used on all 4 edges, then the blade can be flipped over and used on all 4 edges again before replacement is required.

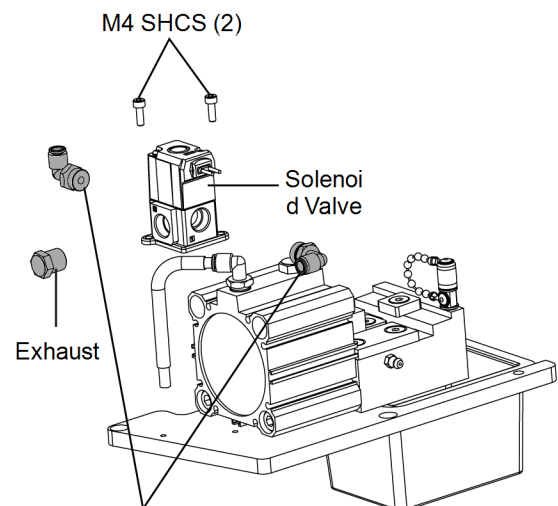
1. Remove the blades by removing two (2) M6 SCHCS.
2. Place the replacement blade back on the wire cutter and attach using the M6 SCHCS.
3. Manually cycle the cylinder forward to verify proper operation. (See 6-6 Manual Operation on page 16)



B. To Replace the Solenoid Valve

Figure 7-B

1. Remove the air fittings from the valve.
2. Remove the two (2) M4 SHCS attaching the valve to the base plate.
3. Install new valve in place, reattaching the M4 SHCS and air fittings.



C. To Replace the Cylinder

1. Remove the intake and exhaust fittings from the cylinder. (See Figure 7-C)
2. Remove both M6 SCHCS holding the fixed and moving blades. (See Figure 7-D)
3. Remove the M10 SHCS attaching the slide to the cylinder - see item 9 in Section 8 — Parts List on page 20. (See Figure 7-E)
4. Remove the two M4 SHCS attaching the solenoid valve to the base plate. (See Figure 7-F)
5. Remove the two M8 SHCS attaching the cylinder to the main body (See items 13 in Section 8 — Parts List on page 20). (See Figure 7-G)
6. Slide old cylinder out and slide new cylinder in. Reverse and repeat steps 1-5 to secure new cylinder.

Figure 7-C

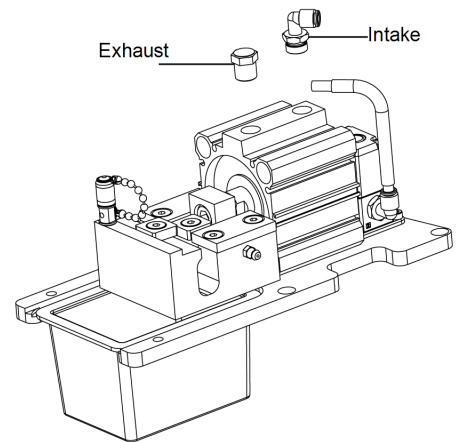


Figure 7-D

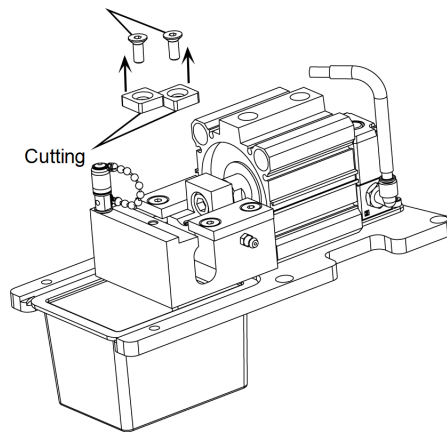


Figure 7-E

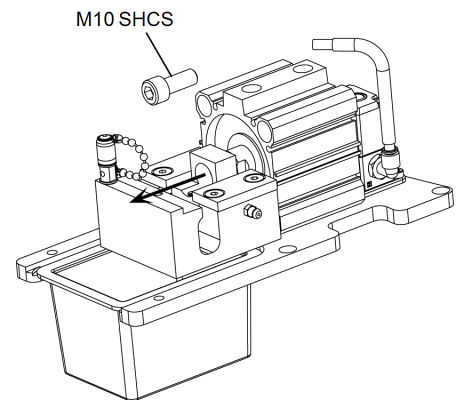


Figure 7-F

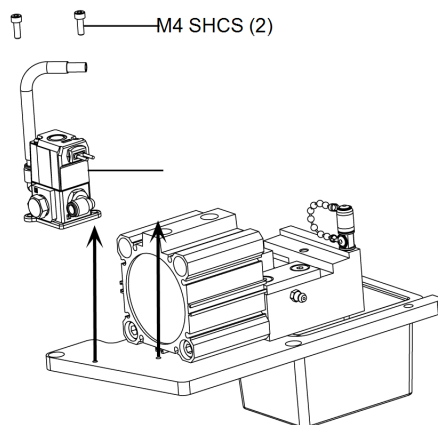
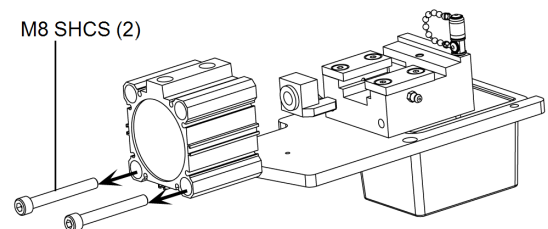


Figure 7-G

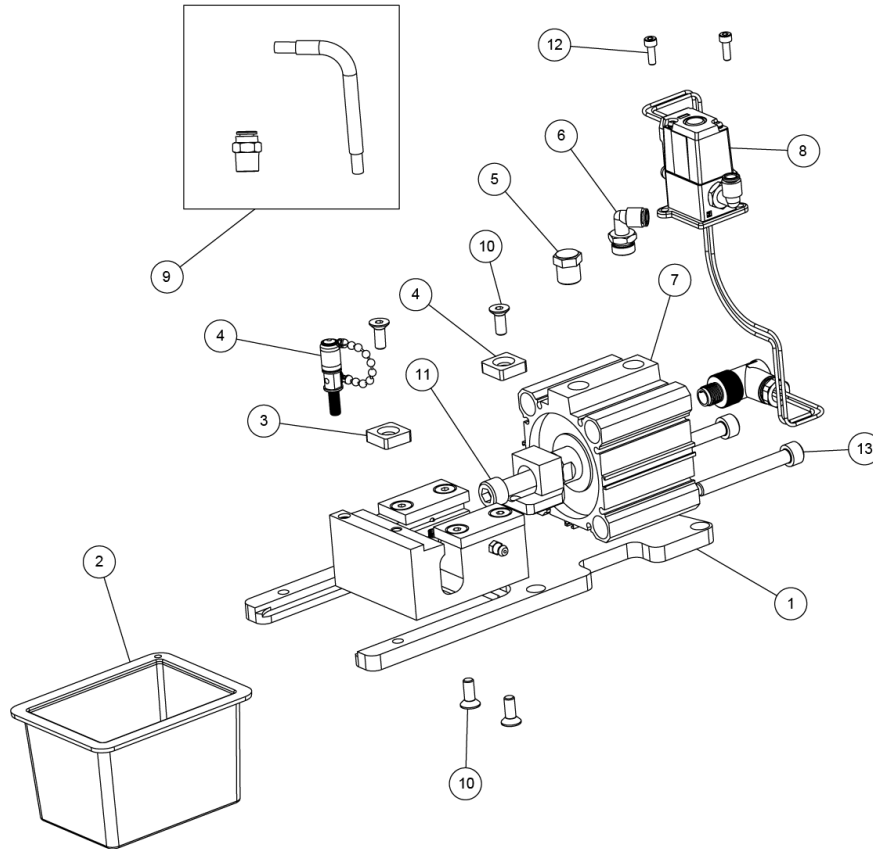


7-2 Scheduled Maintenance

The **TOUGH GUN Wire Cutter** will require a periodic maintenance program to ensure a reliable service life, as recommended below:

DAILY	
CHECK	The air lines and interface cable for leaks and fraying.
WEEKLY	
CHECK	The cutter blade. <i>The service life of the cutter blade is dependent on the type of application. In lighter duties, the blade may last indefinitely but should be inspected weekly for dullness, clogging and possible breakage.</i>
EMPTY	The wire catcher basket.
QUARTERLY	
LUBRICATE	The sliding surfaces by applying general purpose grease (NLGI Grade 1-2) through the grease fittings located on the sides of the main body.

SECTION 8 — PARTS LIST



ITEM	PART #	DESCRIPTION
1	WC-400-8	Wire cutter base plate
2	WC-100-20	Wire cutter basket - cast aluminum
3	WC-100-7	Wire cutter blade (Qty 2)
4	TT4-707-30	TT4 reamer TCP locator pin assembly
5	TR-2221	Breather vent (Qty 2)
6	TT3-2201	1/4" tubing, 90 degree elbow, uni-fit thread (Qty 3)
7	WC-100-31	Cylinder with magnet

ITEM	PART #	DESCRIPTION
8	WC-400-24	Wire cutter air valve
9	WC-400-30	Wire cutter installation kit
10	Non-sellable	SCHCS M6x1x16mm long - black oxide (Qty 8)
11	Non-sellable	SHCS M10x1.5x25mm long - black oxide
12	Non-sellable	SHCS M4x0.7x12mm long - black oxide
13	Non-sellable	SHCS M8x1.25x65mm long

ADDITIONAL SUPPORT MATERIALS

For additional support materials such as Spec Sheets, troubleshooting information, how-to guides and videos, animations, online configurators and much more, please visit bernardtregaskiss.com. Scan the QR Code with your smart phone for immediate access to bernardtregaskiss.com/TechnicalSupport.



Scan to view the TOUGH GUN® Wire Cutter Owner's Manual



Scan to view the TOUGH GUN® TT4A Reamer Owner's Manual



Scan to view the TOUGH GUN® TT4E Reamer Owner's Manual



Scan to view Tregaskiss® Product Spec Sheets



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