TREGASKISS® ATLAS™ ROBOTIC THRUARM MIG TORCH

OWNER'S MANUAL

July 2025 | **OM-ATLAS 1.0**
Robotic, Air-Cooled, MIG (GMAW) Welding Torch

bernardtregaskiss.com/TechnicalSupport
1-855-MIGWELD (644-9353)
(US & Canada)

TREGASKISS

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), fax 1-708-946-6726, or email at cs@itwmig.com. Our trained Customer Service Team 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, 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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FOR EUROPEAN COMMUNITY (CE MARKED) PRODUCTS

Tregaskiss®, 2570, North Talbot Road, Oldcastle, Ontario, NOR 1L0 declares that the product(s) identified in this declaration conforms to the essential requirements and provisions of the stated Council Directive(s) and Standard(s).

Product/Apparatus Identification:

Product	Stock Number
Tregaskiss® Atlas™ Robotic ThruArm MIG Torch	TAXXXXXXXXX

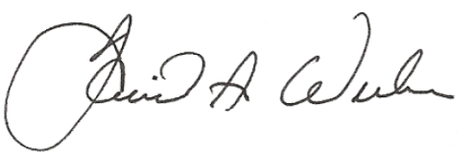
Council Directives and Commission Regulations:

- 2014/35/EU Low voltage
- 2011/65/EU and amendment 2015/863 Restriction of the use of certain hazardous substances in electrical and electronic equipment

Standards:

- EN IEC 60974-7:2019 Arc welding equipment – Part 7: Torches
- EN IEC 63000:2018 Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

Signatory:



July 8, 2025

David A. Werba
MANAGER, PRODUCT DESIGN COMPLIANCE

DATE OF DECLARATION

DECLARATION OF CONFORMITY
FOR UNITED KINGDOM (UKCA MARKED) PRODUCTS

Tregaskiss®, 2570, North Talbot Road, Oldcastle, Ontario, NOR 1L0 declares that the product(s) identified in this declaration conforms to the essential requirements and provisions of the stated Council Directive(s) and Standard(s).

Product/Apparatus Identification:

Product	Stock Number
Tregaskiss® Atlas™ Robotic ThruArm MIG Torch	TAXXXXXXXX (Configurable #)

Regulations:

- S.I. 2016/1101 Electrical Equipment (Safety) Regulations 2016
- S.I. 2012/3032 Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations

Standards:

- EN IEC 60974-7:2019 Arc welding equipment – Part 7: Torches
- EN IEC 63000:2018 Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

Signatory:

David A. Werba
MANAGER, PRODUCT DESIGN COMPLIANCE

July 8, 2025
DATE OF DECLARATION

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.

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.

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. 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
- Replace worn, damaged, or cracked guns or cables.
- Turn off welding power source before changing contact tip or gun parts.
- Keep all covers and handle securely in place.

FUMES AND GASES can be hazardous

- Keep your head out of the fumes.
- Ventilate area or use breathing device.
- The recommended way to determine adequate ventilation is to sample for the composition and quantity of fumes and gases to which personnel are exposed.
- Read and understand the Safety Data Sheets (SDSs) and the manufacturer's instructions for adhesives, coatings, cleaners, consumables, coolants, degreasers, fluxes, and metals.

MOVING PARTS can injure.

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

WELDING can cause fire or explosion.

- Do not weld near flammable material.
- Do not weld on containers that have held combustibles, or on closed containers such as tanks, drums, or pipes unless they are properly prepared according to AWS F4.1 and AWS A6.0 (see Safety Standards).
- Watch for fire; keep extinguisher nearby.
- Read and understand the Safety Data Sheets (SDSs) and the manufacturer's instructions for adhesives, coatings, cleaners, consumables, coolants, degreasers, fluxes, and metals.

BUILDUP OF GAS can injure or kill.

- Shut off compressed gas supply when not in use.
- Always ventilate confined spaces or use approved air-supplied respirator.

ARC RAYS can burn eyes and skin.

Arc rays from the welding process produce intense visible and invisible (ultraviolet and infrared) rays that can burn eyes and skin. Sparks fly off from the weld.

- Wear an approved welding helmet fitted with a proper shade of filter lenses to protect your face and eyes from arc rays and sparks when welding or watching (see ANSI Z49.1 and Z87.1 listed in Safety Standards).

- Wear approved safety glasses with side shields under your helmet.
- Use protective screens or barriers to protect others from flash, glare and sparks; warn others not to watch the arc.
- Wear body protection made from leather or flame- resistant clothing (FRC). Body protection includes oil-free clothing such as leather gloves, heavy shirt, cuffless trousers, high shoes, and a cap.

HOT PARTS can burn.

- Allow gun to cool before touching.
- Do not touch hot metal.
- Protect hot metal from contact by others.
-

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.

WELDING WIRE can injure.

- Keep hands and body away from gun tip when trigger is pressed.

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 PROP 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.

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

Safe Handling of Compressed Gases in Cylinders, CGA Pamphlet P-1 from Compressed Gas Association. Website: www.cganet.com

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

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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1.5 EFM 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 peutdonner la mort ou des blessures graves. Les dangers possiblessont montrés par les symboles joints ou sont expliquésdans le texte.

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

Indique des instructions spécifiques.

Ce groupe de symbols veut dire Avertissement! Attention! DANGER DE CHOC ELECTRIQUE, PIECES EN MOUVEMENT, et PIECES CHAUDES. Reportez vous aux symboles et aux directives ci-dessous 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 corres- pondantes 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 ELECTRIQUE 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.
- Remplacer les pistolets ou câbles de soudage qui sont endommagés, usés ou craquelés.
- 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 FUMÉES ET LES GAZ peuvent être dangereux.

- Garder la tête hors des fumées.
- Aérer la zone de travail ou porter un appareil respiratoire. Pour déterminer la bonne ventilation, il est recommandé de procéder à un prélèvement pour la composition et la quantité de fumées et de gaz auxquels est exposé le personnel.
- Lire et comprendre les fiches de données de sécurité et les instructions du fabricant concernant les adhésifs, les revêtements, les nettoyants, les consommables, les produits de refroidissement, les dégraisseurs, les flux et les métaux.

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.

Les SOUDAGE peut provoquer un incendie ou une explosion.

- Ne pas souder à proximité de matériaux inflammables
- Ne pas effectuer le soudage sur des conteneurs fermés tels que des réservoirs, tambours, ou conduites, à moins qu'ils n'aient été préparés correctement conformément à AWS F4.1 et AWS A6.0 (voir les Normes de Sécurité).
- Prendre garde aux incendies et toujours avoir un extincteur à proximité
- Lire et comprendre les fiches de données de sécurité et les instructions du fabricant concernant les adhésifs, les revêtements, les nettoyants, les consommables, les produits de refroidissement, les dégraisseurs, les flux et les métaux.

L'ACCUMULATION DE GAZ risquent de provoquer des blessures ou même la mort.

- Fermer l'alimentation du gaz comprimé en cas de non utilisation.
- Veiller toujours à bien aérer les espaces confinés ou se servir d'un respirateur d'adduction d'air homologué.

LE RAYONNEMENT DE L'ARC peut brûler les yeux et la peau.

Le rayonnement de l'arc du procédé de soudage génère des rayons visibles et invisibles intenses (ultraviolets et infrarouges) susceptibles de provoquer des brûlures dans les yeux et sur la peau. Des étincelles sont projetées pendant le soudage.

- Porter un casque de soudage approuvé muni de verres filtrants approprié pour protéger visage et yeux pendant le soudage (voir ANSI Z49.1 et Z87.1 énuméré dans les normes de sécurité).
- Porter des lunettes de sécurité avec écrans latéraux même sous votre casque.
- Avoir recours à des écrans protecteurs ou à des rideaux pour protéger les autres contre les rayonnements les éblouissements et les étincelles; prévenir toute personne sur les lieux de ne pas regarder l'arc.
- Porter une protection corporelle en cuir ou des vêtements ignifu- ges (FRC). La protection du corps comporte des vêtements sans huile, comme des gants de cuir, une chemise solide, des panta- lons sans revers, des chaussures hautes et une casquette.

LES PIÈCES CHAUDES peuvent provoquer des brûlures.

- Laisser refroidir le pistolet avant de le toucher.
- Ne pas toucher d'objets métalliques chauds.
- Abriter les objets métalliques contre tout contact par les personnes à proximité

Le BRUIT peut endommager l'ouie.

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.

LES FILS DE SOUDAGE peuvent provoquer des blessures

- Éloigner les mains et le corps de la buse du pistolet après avoir appuyé sur la gâchette.

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.

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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, podríaresultar en muerte o lesión grave. Los peligros posiblesse muestran en los símbolos adjuntos, o se explican en eltexto.

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. 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 instruc- ciones relacionadas para evitar el peligro. La información de seguridad dada abajo es solamente un resumen de la in- formación más completa de seguridad que se encuentra en los estandares de seguridad, y la fuente de alimentación pa- ra 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.
- Reemplace antorchas o cables desgastados, dañados o rotos.
- 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.

HUMO y GASES pueden ser peligrosos.

- Mantenga su cabeza fuera del humo.
- Ventile el lugar o use un aparato para respirar. El método recomendado para determinar la ventilación adecuada es tomar muestras de la composición y cantidad de humos y gases a los que está expuesto el personal.
- Lea y entienda las Hojas de datos del material (SDS) y las instrucciones del fabricante relacionadas con los adhesivos, metales, consumibles, recubrimientos, limpiadores, refrigerantes, desengrasadores, fundentes y metales.

Las PIEZAS MÓVILES pueden provocar lesiones.

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

EL SOLDAR puede causar fuego o explosión.

- No suelde cerca de material inflamable
- No suelde en recipientes que han contenido combustibles, ni en recipientes cerrados como tanques, tambores o tuberías, a menos que estén preparados correctamente de acuerdo con la norma AWS F4.1 y AWS A6.0 (vea las normas de seguridad).
- Siempre mire que no haya fuego y mantenga un extinguidor de fuego cerca.
- Lea y entienda las Hojas de datos del material (SDS) y las instrucciones del fabricante relacionadas con los adhesivos, metales, consumibles, recubrimientos, limpiadores, refrigerantes, desengrasadores, fundentes y metales.

EL AMONTONAMIENTO DE GAS puede enfermarle o matarle.

- Cierre el suministro de gas comprimido cuando no lo use.
- Siempre dé ventilación a espacios cerrados o use un respirador aprobado que reemplaza el aire.

LOS RAYOS DEL ARCO pueden quemar sus ojos y piel.

Los rayos del arco de un proceso de suelda producen un calor intenso y rayos ultravioletas fuertes que pueden quemar los ojos y la piel. Las chispas se escapan de la soldadura.

- Use una careta para soldar aprobada equipada con un filtro de protección apropiado para proteger su cara y ojos de los rayos del arco y de las chispas mientras esté soldando o mirando. (véase los estándares de seguridad ANSI Z49.1 y Z87.1).
- Use anteojos de seguridad aprobados que tengan protecciónlateral.
- Use pantallas de protección o barreras para proteger a otros del destello, reflejos y chispas, alerte a otros que no miren el arco.
- Use protección para el cuerpo hecha de cuero o de prendas resis- tentes a las llamas (FRC). Entre la protección para el cuerpo se in- cluye la ropa sin aceite, como guantes de cuero, una camisa gruesa, pantalones sin vuelta, calzado alto y una gorra.

PARTES CALIENTES puedan causar quemaduras severas.

- Permita que la antorcha se enfríe antes de tocarla.
- No toque metal caliente.
- Proteja a otros del contacto con el metal caliente.

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.

El ALAMBRE de SOLDAR puede causarle heridas.

- Mantenga las manos y el cuerpo lejos del tubo de contacto de la antorcha cuando se haya presionado el gatillo.

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.safetyequipment.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.

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

Safe Handling of Compressed Gases in Cylinders, CGA Pamphlet P-1 from Compressed Gas Association. Website: www.cganet.com.

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

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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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. Di ponga 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 so dadura, 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

Bernard® and 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 Bernard and 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 Bernard and Tregaskiss by claimant, warranty coverage will be determined by Bernard and 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 Bernard and 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 Bernard and Tregaskiss or contemplated under the Product documentation; or (3) Products which have not been operated, maintained, and repaired pursuant to Product documentation provided by Bernard and Tregaskiss. Purchaser shall pay Bernard and Tregaskiss for all warranty claim costs incurred by Bernard and Tregaskiss (including inspection, labor, parts, testing, scrap and freight) due to warranty claims submitted by Purchaser which are not covered by Bernard and Tregaskiss' warranty.**

- Bernard® BTB and S-Gun™ Semi-Automatic Air-Cooled MIG Guns: **1 year**; *Lifetime warranty on straight handles,*
- *straight handle switches, and rear strain relief*
- Bernard® Clean Air E™ Fume Extraction MIG Guns: **180 days**
- Bernard® Clean Air™ Fume Extraction MIG Guns: **90 days** on gun cable assembly; **30 days** on hose and hose components, adapters, front end parts and accessories
- 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**
- Bernard® IronPro™ and DuraFlux™ Self -Shielded MIG Guns: **1 year**
- Tregaskiss® Robotic MIG Guns and Components: **1 year**
- Tregaskiss® Automatic MIG Guns: **1 year**
- Tregaskiss® Reamer: **1 year**
  - 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® Robotic Peripheral (Clutch, Sprayer, Wire Cutter, Arms): **1 year**
- Tregaskiss® Low-Stress Robotic Unicables (LSR Unicables): **6 months**

Service Warranty

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

Limitation of Liability and Remedies

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

SECTION 5 — SPECIFICATIONS

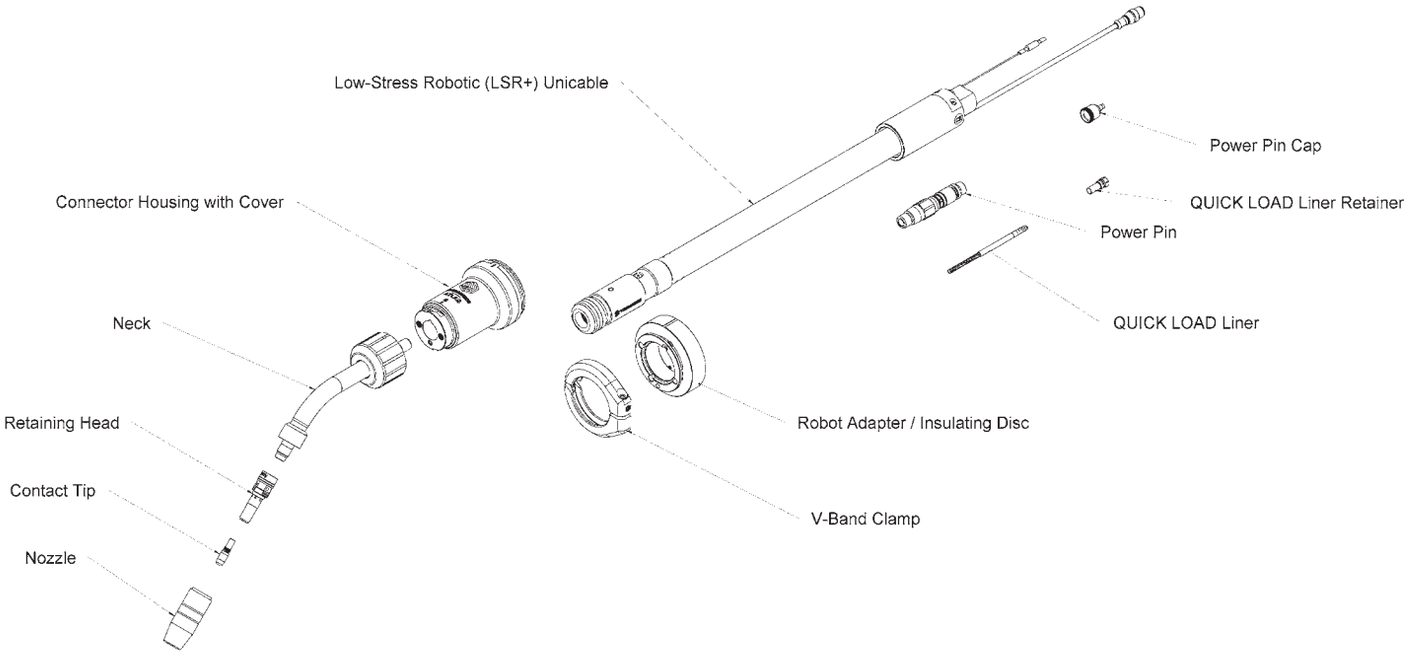
5.1 SYSTEM COMPONENTS

Robotic MIG Torch for GMAW Welding

Duty Cycle	Amperage	Shielding Gas	MIG Electrodes	Rating of Control
100%	350 Amps	Ar-CO2mixed	0.030" to 1/16" (0.8-1.6 mm)	141 V

Cable length ranges from 0810mm-3250mm

For complete parts list, please see Section 9-1 — Parts List on page 24.



5.2 THROUGH-ARM ROBOTIC ARTICULATION LIMITS FOR LSR+ UNICABLES

Axis	Articulation Limit
5	+/- 90°
4+6	+/- 270°

NOTE: Any articulation beyond these limits is considered abuse of the cable and will accelerate LSR+ unicable wear.

SECTION 6 — INSTALLATION FOR ALL ROBOTS

6.1 INSTALLING TORCH TO ROBOT

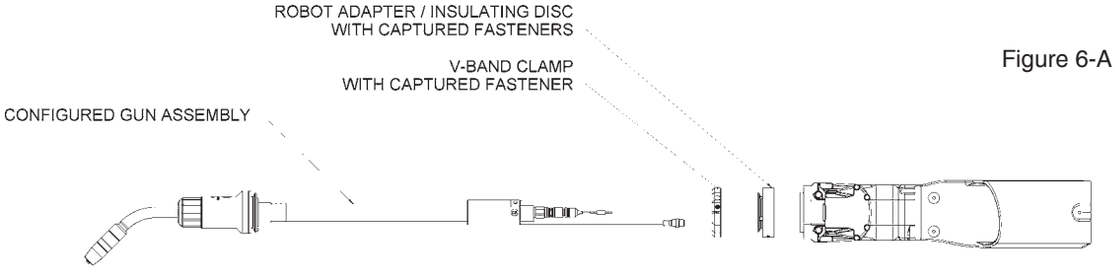


Figure 6-A

NOTE: Position the robot with the wrist and top axis 180 degrees parallel to each other to properly complete the torch installation. Loosen feeder adjustment bolts so the feeder slides freely.

1. Aligning the pin on the back of the disc with the corresponding hole in the robot face, install the robot adapter / insulating disc using the 4x captured fasteners in the disc.
2. Ensure the disc is properly seated on the robot mounting face and that there is a uniform space between the back of the disc and the robot casting. See Figure 6-B.
3. Fasten the 4x SHCS bolts in the disc to the robot mounting face. Torque to 45 in-lbs, in the pattern outlined in Figure 6-C.

NOTE: Dowel pin will be pressed into the disc prior to shipping.

4. Take the fully configured torch assembly and pass it through the ‘wrist’ (disc, robot wrist and arm). Cut the tape retaining the TMM plug and align the welding wire with the inlet before installing the power pin into the wire feeder. Tighten the appropriate mechanism to secure the pin into the wire feeder.
5. Align the dowel pin on the Connector Housing to the corresponding dowel hole on the disc and press them together by hand. Using one half of the V-Band Clamp, capture the mating tapers of the connector housing and disc from below. Fold the other half of the clamp over the connector housing and fasten the captured SHCS in the clamp. Torque 75 in-lbs.
6. If not using the Predictive Maintenance feature of the LSR+ Unicable, secure the M12 cordset at the end of the unicable so that it doesn’t get in the way of robot movement. i.e. tape the cable to the outer diameter of the unicable prior to installing into the wire feeder.

Figure 6-B

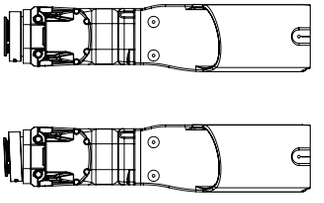
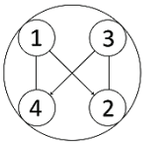
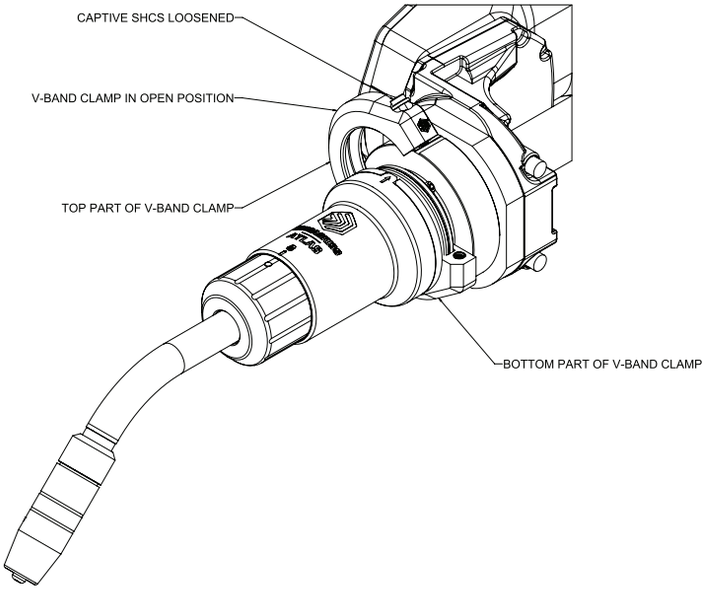


Figure 6-C





6.2 INSTALLING THE POWER PIN

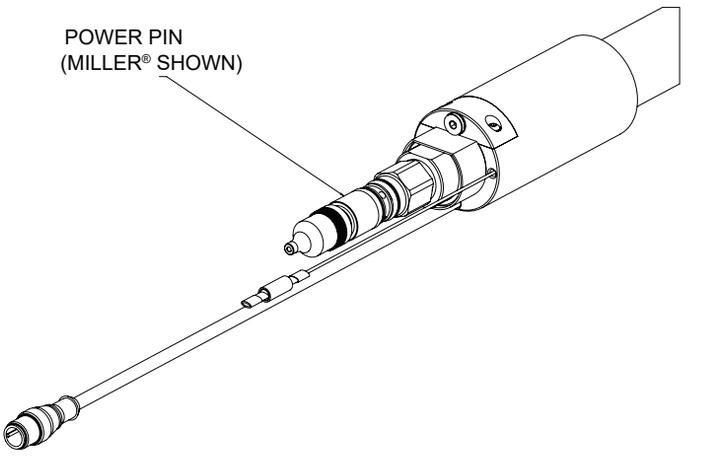
A. STANDARD POWER PINS

NOTE: Power pins incorporate a taper to seat and lock the pin to the cable adapter. Make sure the power pin is tightened to the cable adapter with a wrench to ensure the connection is secure and will not come loose.

NOTE: The power pin will be pre-installed and torqued to specification on configured guns from the factory.

1. Thread the power pin into the cable adapter of the LSR+ Unicable.
2. Tighten the power pin using a 7/8" (23mm) wrench on the cable adapter and a 5/8" (16mm) or 3/4" (19mm) wrench on the power pin itself.
3. Torque 18 ft-lbs.

Figure 6-D

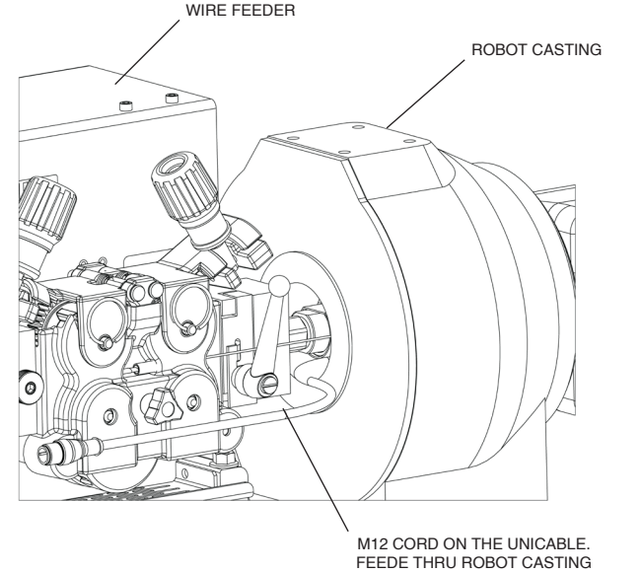


6-3 INSTALLING THE TORCH MAINTENANCE MODULE (TMM)

NOTE: All torches come TMM-ready, however the TMM itself is sold separately. These instructions may not apply to your application.

1. When installing the torch, please ensure the M12 TMM con nector that comes from the back of the torch is accessible outside the robot's casting. If it is trapped in the upper arm, please remove the cable and manipulate it through the arm properly.
2. The M12 connector on the torch can be wired directly to the TMM, or an extension can be used. Either way, install the torch side wiring into the TMM receptacle labelled "TORCH CABLE."

NOTE: It is suggested that the TMM module be placed in a position where the LEDs can be viewed easily. It can be mounted using the mounting tabs on either side of the TMM (M5 bolts or zip ties).



3. Install another M12 cable into the receptacle labeled “PLC”. This cable will be routed back to a distribution block, panel of the PLC or the Robot Controller.
4. If applicable, land the wires in the PLC according to the pinout diagram on the TMM (the sticker between the two receptacles). 24VDC constant power is needed to power the TMM, and the signal from the torch will be sent as a 24 VDC signal.
5. When the TMM is powered correctly, the green LED on the front face will illuminate and stay on as long as the 24 VDC constant power is present.
6. The red LED will illuminate when the cable has reached a critical temperature and continued, prolonged use will result in product failure. Inspect and if necessary, replace the LSR+ Unicable within seven days of the red LED illuminating.

Figure 6-E

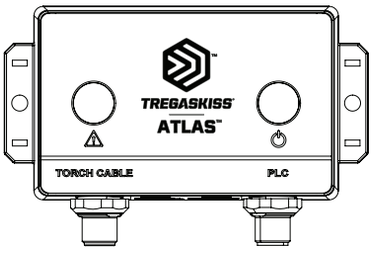
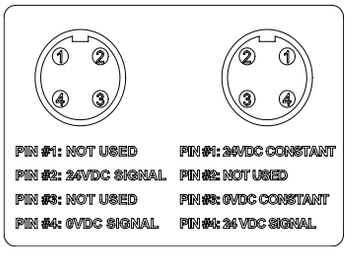
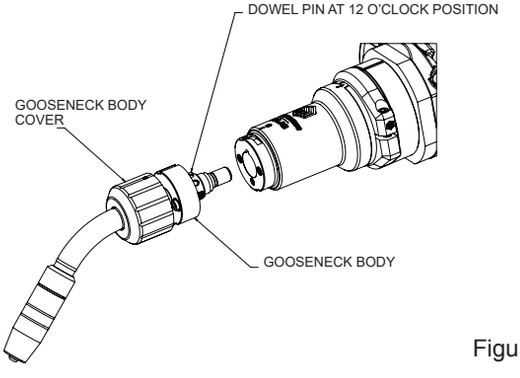


Figure 6-F



6-4 INSTALLING THE NECK

Figure 6-G



1. Align the top dowel pin on the gooseneck body to the 12 o’clock position. This dowel pin is used as a guide when inserting the neck into the connector housing.
2. Slide the neck into the connector housing until the gooseneck body is fully seated against the front face of the connector housing.
3. Once fully seated, tighten the 2x SHCS (clockwise) using a 4mm Allen wrench. Torque 50 in-lbs.
4. Install the gooseneck body cover by aligning the dowel pins to the grooves on the gooseneck body and sliding it over top of the gooseneck body. Turn approximately 1/8” of a turn clock wise until a “click” is felt. Confirm that the alignment marks on the gooseneck body cover and the connector cover are aligned.

Figure 6-H

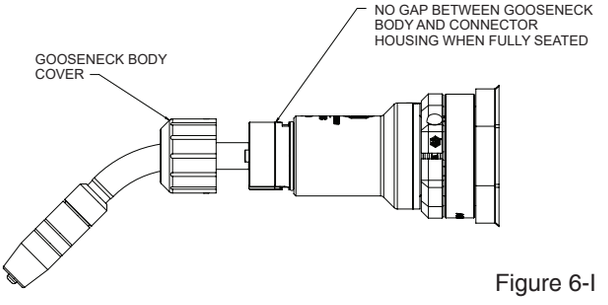
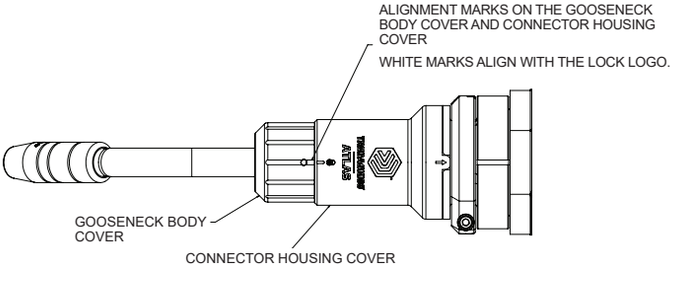


Figure 6-I



6-5 INSTALLING THE QUICK LOAD® LINER

1. Insert brass end of the QUICK LOAD Liner into the liner retainer until firmly seated.
2. Insert non-brass end of the QUICK LOAD Liner into back of the torch and push through until it emerges from the front of the torch and the liner retainer makes contact with the power pin.
3. Thread the QUICK LOAD Liner Retainer into the power pin. Torque to 30 in-lbs (3.5 Nm).
4. Push liner back into front of torch and hold in place.
5. Trim liner to a 1/2” (12.7mm) stick out.
6. Remove any burrs that may obstruct wire feed.

NOTE: All future QUICK LOAD Liner installations will take place at the front of the torch (See Section 7-2 Changing the Liner on page 17).

Figure 6-J

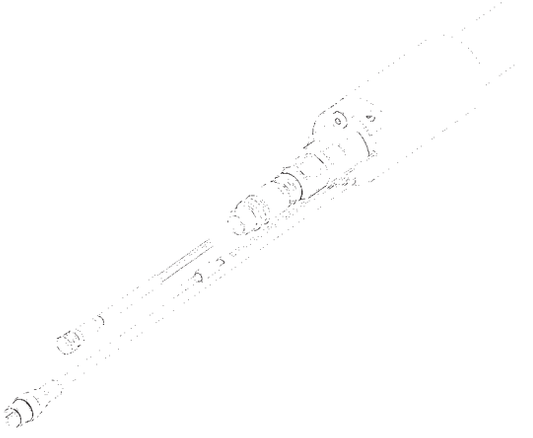
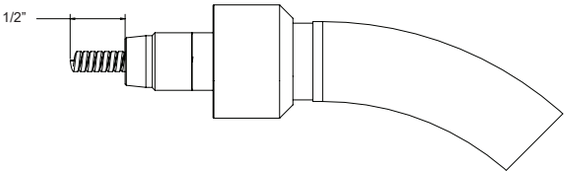


Figure 6-K



6-6 INSTALLING TORCH TO WIRE FEEDER

1. Ensure that the bolts clamping the feeder to the bracket on the robot are loosened.
2. Install power pin on the rear of the unicable into the feeder.
3. Slide the feeder toward the front of the robot. This will create a necessary curve in the cable to allow for proper operation.

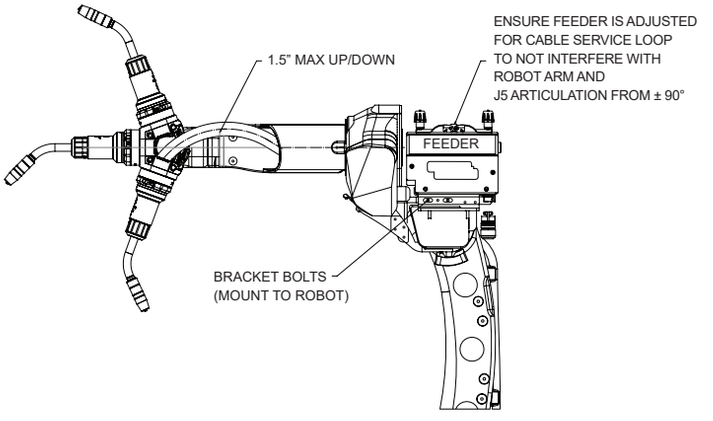
REMINDER: The robot’s top axis must be at 180 degrees during installation.

4. Articulate J5 and allow cable to push / pull feeder into a neutral position.

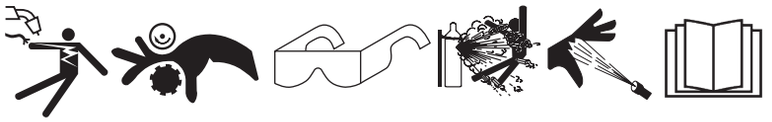
NOTE: The feeder should be pressed forward far enough that the centerline of the unicable should bow up or down by no more than 1.5” and its highest point should not interfere with the robot casting / through-arm cover.

5. When J5 articulation has been verified, tighten feeder bracket bolts to manufacturer’s recommendations to ensure that feeder remains in the proper position.

Figure 6-L



6-7 INSTALLING AIR BLAST



1. All Tregaskiss® Atlas™ LSR+ Unicables can add Air Blast from the factory. Purchase the Air Blast Kit part# UA-ABKIT (Air fitting and 15’ of tubing).
2. Remove the LSR+ Unicable from the feeder. Pull the cable out through the arm of the robot so that the back end of the cable is easily accessible.
3. Remove the Air Blast Plug at the end of the cable using a 3mm Allen wrench.
4. Install air line fitting, part# UA-015, into the end of the cable where the plug was using a 3mm Allen wrench.
   Torque to 8 in-lbs.
5. Connect the supplied airline to the airline fitting and reinstall the cable into the wire feeder. Route the airline to the air supply solenoid (sold separately).

Figure 6-M

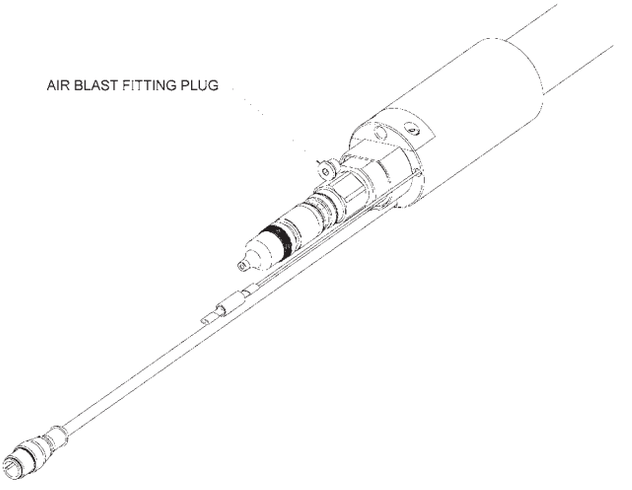
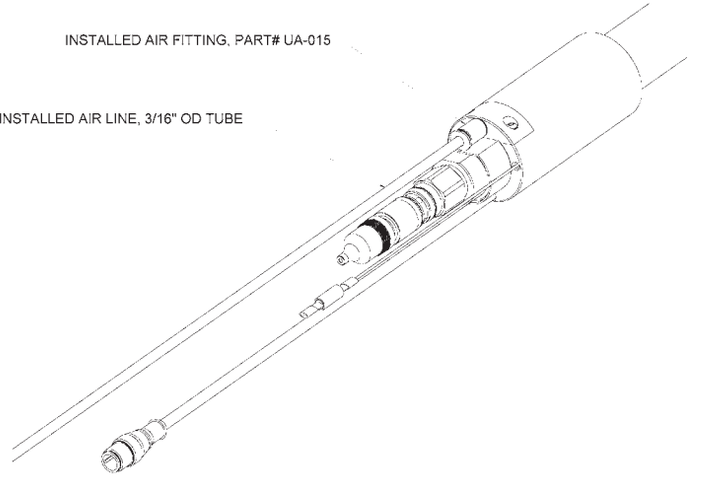


Figure 6-N



SECTION 7 — REPLACEMENT OF PARTS

7-1 CHANGING CONSUMABLES

IMPORTANT NOTE: Be sure all consumables are tightened properly and fully seated before welding to prevent overheating.

Figure 7-A

A. CHANGING THE NOZZLE

1. Pull slip-on nozzles off with a twisting motion.
2. When installing the nozzle, ensure that it is fully seated.

B. CHANGING THE CONTACT TIP

1. Thread the contact tip into the retaining head / diffuser.
2. Torque to 30 in-lbs (3.5 Nm).

C. CHANGING THE RETAINING HEAD / DIFFUSER

1. Thread the retaining head / diffuser onto neck with a 5/8” (16mm) wrench.
2. Torque to 80 in-lbs (9 Nm).

IMPORTANT: DO NOT use pliers to remove or tighten the heavy duty retaining head / diffuser or scoring may result.

7-2 REPLACING THE LINER

A. Changing QUICK LOAD® Liner

NOTE: Ensure power supply is off before proceeding.

1. Remove consumables (nozzle, contact tip and retaining head / diffuser) (See 7-1 Changing Consumables on page 17).
2. Remove existing QUICK LOAD Liner by pulling it out from the neck.
3. Insert the new QUICK LOAD Liner through the neck using the welding wire as a guide. Short strokes will prevent kinking.
4. Once the liner stops feeding, give it an extra push until it bottoms out in the liner retainer in the power pin to ensure it is inserted completely. **NOTE:** Be careful not to kink the liner.
5. Push liner back into torch and hold in place. Using liner gauge, trim liner to a 1/2” stick-out. HELPFUL HINT: Before cutting the liner with wire inside, mark the liner using the gauge and then pull the liner out beyond the end of the welding wire; then cut the liner and push it back into place securely. This will help with feeding the wire through the contact tip afterward.
6. Remove any burr that may obstruct wire feed.
7. Reinstall front-end consumables onto neck.

Figure 7-B

Figure 7-C

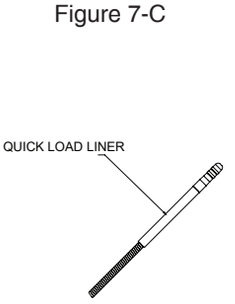
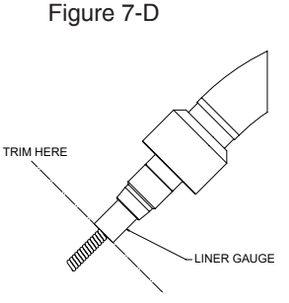
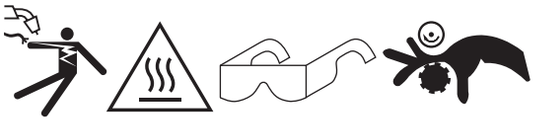


Figure 7-D



7-3 REPLACING THE NECK



1. Remove the neck body cover by turning approximately 1/8th of a turn counterclockwise. Pull back and slide the cover down the neck to the neck insulator.
2. Using a 4mm Allen wrench, loosen the two SHCS located in the neck body.

NOTE: The SHCS are captured in the neck body and have springs behind the heads of the bolts. Unthread only until the SHCS are no longer threaded into the connector housing.

3. Cut the weld wire and pull the neck away from the connector housing until it is completely removed from the torch.
4. Before installing a new neck, remove any protective covers that may be on the ends of the copper. Find the alignment pin guide on the neck body and align it with the groove in the connector housing (located at the 12 o'clock position).
5. Slide the neck into the connector housing until the rear face of the neck body and the front face of the connector housing meet. There should be no gap between the two parts.
6. Torque the 2x Neck SHCS to 50 in-lbs.
7. Slide the neck cover up onto the neck body, aligning the dowel pins in the neck cover with the outside grooves on the neck body. Once pressed against the connector cover, turn the neck cover approximately 1/8th of a turn clockwise to lock the neck cover on. The white lines on the neck cover will align with the white line on the connector cover.

NOTE: If the neck cover does not want to turn clockwise that 1/8th of a turn to the "LOCKED" position, the Neck SHCS are not fully torqued down. Re-check the SHCS to ensure they are torqued to 50 in-lbs.

Figure 7-E

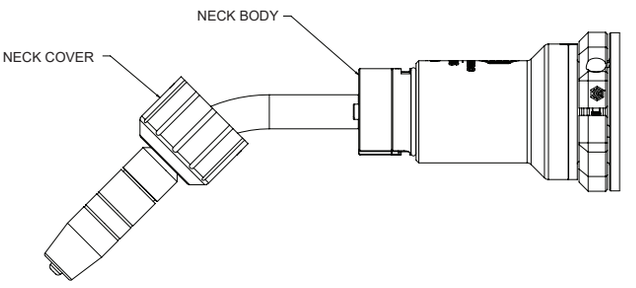


Figure 7-F

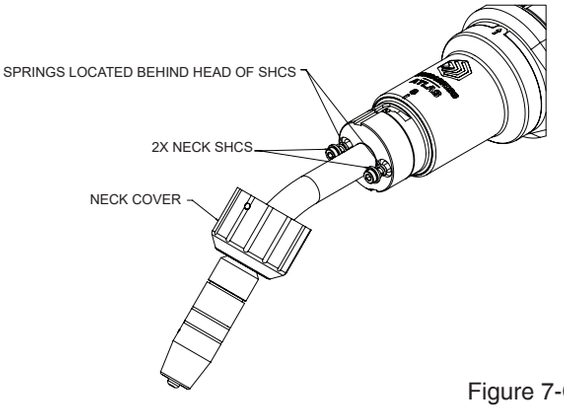


Figure 7-G

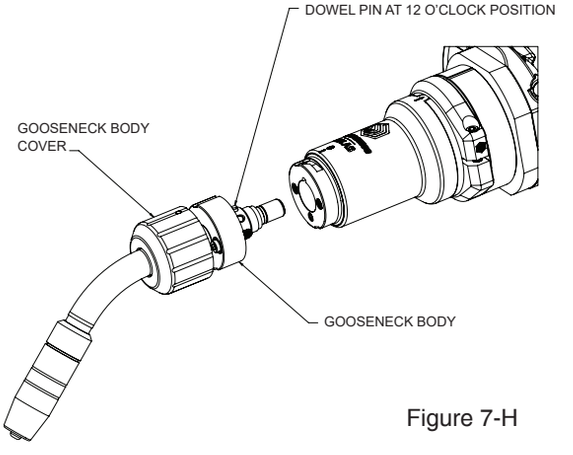
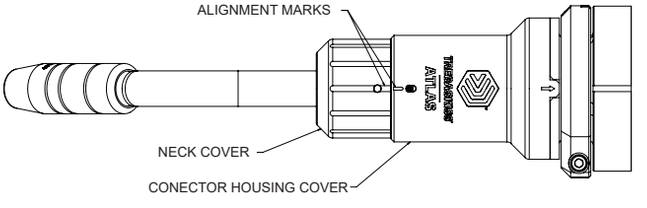
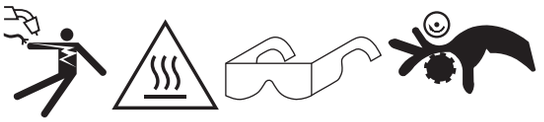


Figure 7-H



7-4 REPLACING THE CONNECTOR HOUSING



1. Remove the consumables from the neck of the torch. (Section 7-1)
2. Remove the neck. (Section 7-3)
3. Remove the connector housing cover by pulling it forward towards the front of the connector housing. Remove it fully and place it off to the side.
4. The two cam levers must be opened to release the unicable from the connector housing. Using a pair of Welpers or a 3mm Allen wrench, slide the tool under the back edge of the cam lever. Pry upwards on the top cam lever until it is fully open. Repeat the same procedure for the bottom cam lever.

NOTE: The LSR+ Unicable can remain on the robot for this procedure. There is no need to remove it completely, all that is needed is to open the cam levers.

5. Loosen the 1x captive SHCS in the V-Band Clamp that attaches the connector housing to the robot adapter (insulating disc).

NOTE: This SHCS is captured in the V-Band Clamp and should not be fully removed from the clamp.

6. Open the top half of the V-Band Clamp and then pull the bottom half off. Be sure to have one hand on the connector housing as it may drop once the clamp is removed. The connector housing can now be removed from the robot adapter (Insulating Disc).
7. When replacing the connector housing, ensure that the dowel pin on the connector housing lines up with the dowel hole in the robot adapter (insulating disc). Slide the unicable into the connector housing, but do not close the cam levers.
8. Install the V-Band Clamp by sliding one half of the clamp onto the tapers of the connector housing and the clamp. Close the other half of the clamp and tighten the 1x SHCS to 75 in-lbs.

NOTE: The orientation of the V-Band Clamp is not critical to the operation of the torch. Ensure that the edge of the clamp doesn't interfere with any tooling as it is welding. The clamp can be rotated by loosening the 1x SHCS slightly until it can rotate. Tighten it when the desired position is reached.

Figure 7-I

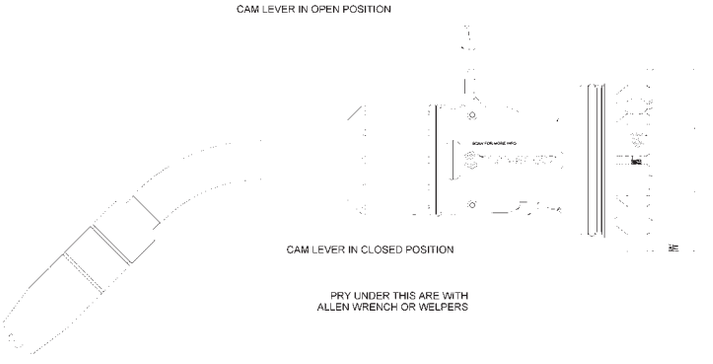


Figure 7-J

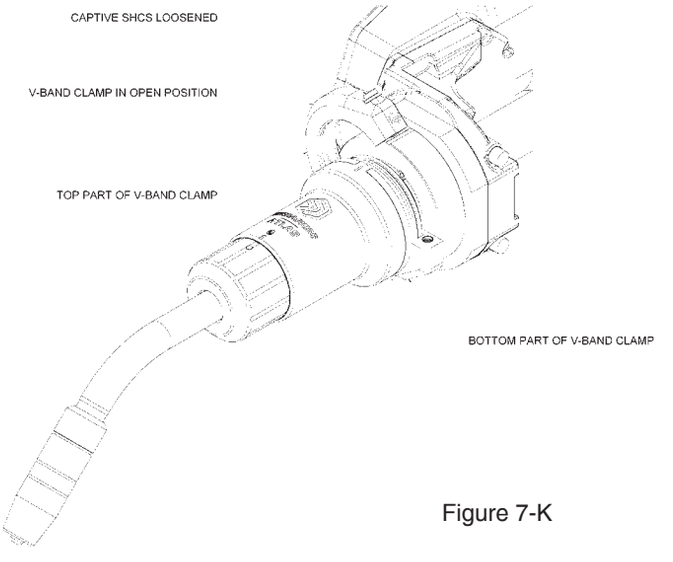
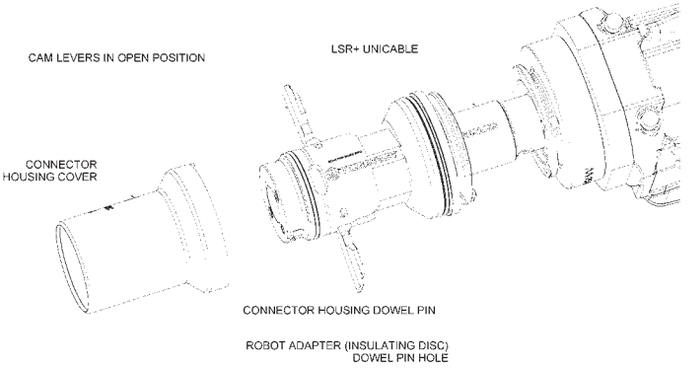
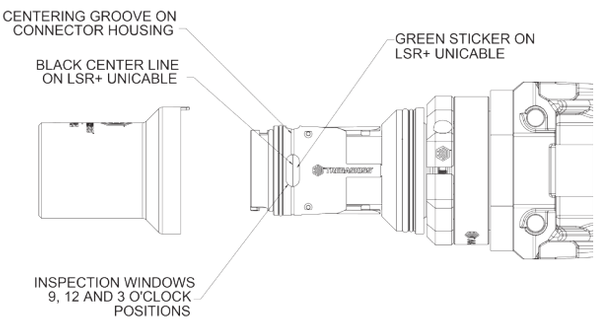


Figure 7-K



9. Push the unicable forward into the connector housing until there is green visible in the 3x inspection windows on the connector housing, located at 9, 12, and 3 o'clock. Close the cam levers until they sit flush with the connector housing.
10. Confirm that the black line on the green sticker is centered in the grooves in the middle of the inspection windows.
11. Slide the connector housing cover back onto the connector housing, keeping the "tooth" on the cover in line with the corresponding notch on the connector housing. When they are aligned, push the cover into position until an audible "Click" is heard.
12. Reinstall the neck and consumables.

Figure 7-L



7-5 REPLACING THE ROBOT ADAPTER (INSULATING DISC)

1. Remove the Consumables, Neck and Connector Housing as outlined in previous sections.

NOTE: The LSR+ Unicable can remain on the robot for this procedure. There is no need to remove it, as the robot adapter will be installed over top of the unicable.

2. Once the connector housing is removed, there will be SHCSs sunken into counterbores on the robot adapter (insulating disc). Loosen these SHCSs.

NOTE: These SHCSs are captured and should not be fully removed from the robot adapter. Only unthread until the threads are disengaged from the robot wrist.

3. Clean the robot wrist face to ensure no debris remains on the face when installing the replacement adapter. Ensure the locating dowel pin hole on the robot wrist is clear of debris.
4. Align the groove on the O.D. of the robot adapter (insulating disc) with the 12 o'clock position on the robot wrist. The dowel pin on the disc should align with the dowel pin hole on the robot wrist.
5. Install the captured SHCSs finger tight and then tighten in the shown pattern. Torque 25 in-lbs. (See Figure 7-N)
6. Reinstall the Connector Housing, Unicable, Neck and Consumables as outlined in previous sections.

Figure 7-M

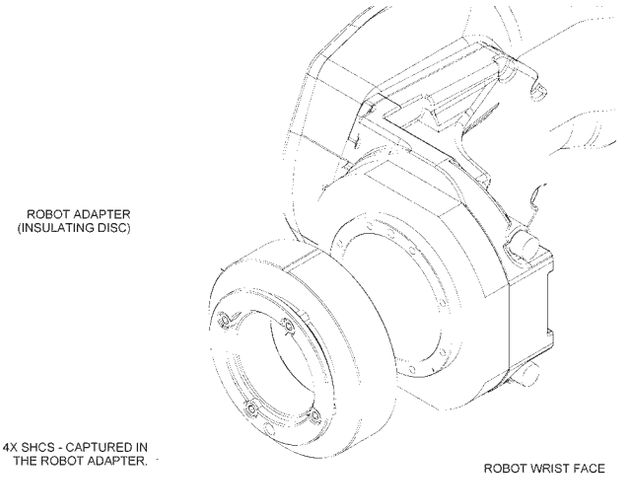
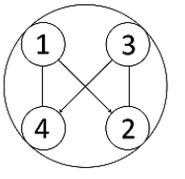


Figure 7-N



7-6 REPLACING THE LSR+ UNICABLE

1.Remove the Consumables from the torch. If using the QUICK LOAD Liner, remove the liner from the torch. If not using the QUICK LOAD Liner, the liner can be removed in later steps.

2. Remove the Connector Housing Cover by pulling it off the torch in the direction of the neck.

NOTE: There is no need to remove the Neck to replace the Unicable.

3. Open the Cam Levers using a pair of Welpers or a 3mm Allen wrench, slide the tool under the back edge of the cam lever. Pry upwards on the top cam lever until it is fully open. Repeat the same procedure for the bottom cam lever.

4. When the Cam Levers are opened, the LSR+ Unicable can be removed through the rear of the robot wrist by pulling it back and slightly bending it to get it clear from the robot casting.

5. Remove the power pin from the wire feeder and remove the unicable from the robot assembly.
NOTE: Reference Section 6-2 Installing the Power Pin

6. Install the Power Pin into the new replacement LSR+ Unicable and if using QLL (which comes standard, unless otherwise specified) install the Liner Retainer. If using the rear load liner, install through the power pin and leave the liner full length.

NOTE: The best robot wrist position to install the LSR+ Unicable is bent downwards at approximately 45°. This will make it easier for the cable to fit into the wrist of the robot and into the torch assembly.

7. Slide the Unicable (Power Pin end) through the robot arm window towards the wire feeder. Secure the Power Pin into the wire feeder.

8. If using a rear load liner, bend the unicable upwards and put the liner through the wrist and into the back end of the neck copper before installing the cable through the robot wrist. Ensure the liner does not prevent the cable from being installed into the robot's wrist or torch connector.

9. For both QUICK LOAD and rear load liners, bend the unicable upwards until it can be inserted into the back of the robot wrist.

NOTE: Ensure that the cam levers remain in the open position while inserting the unicable into the connector housing.

10. Push the unicable into the connector housing until green can be viewed inside the inspection windows. Close the Cam Levers to the locked position, confirming that the black center line is in the middle of the inspection windows and reinstall the Connector Housing Cover.

11. Install the QUICK LOAD liner if using it. Trim the liner to the correct length (See Section 7-2)

12. Reinstall the consumables.

Figure 7-O

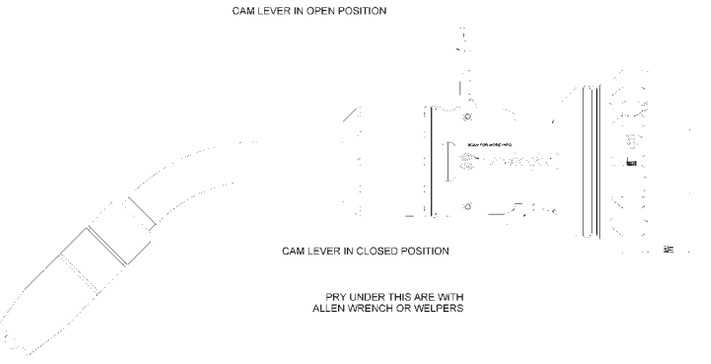


Figure 7-P

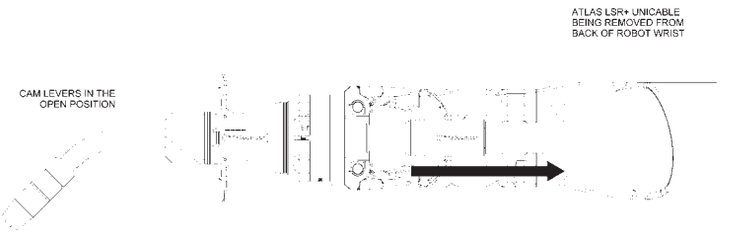
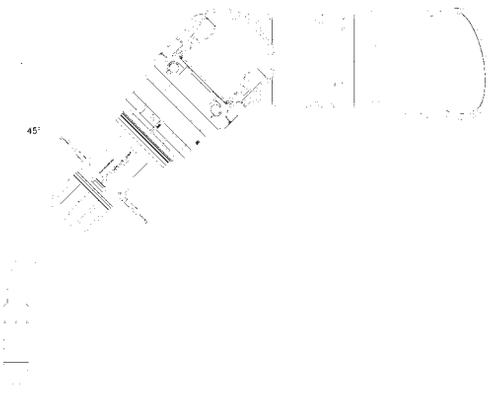
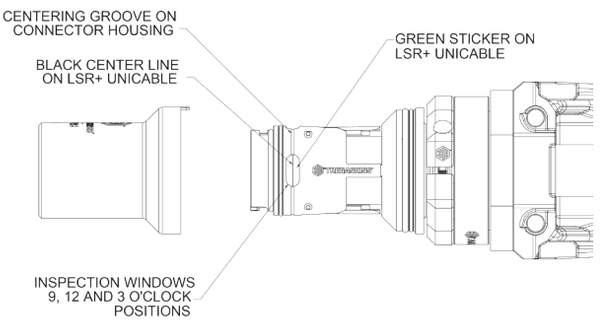


Figure 7-Q



9. Push the unicable forward into the connector housing until there is green visible in the 3x inspection windows on the connector housing, located at 9, 12, and 3 o'clock. Close the cam levers until they sit flush with the connector housing.
10. Confirm that the black line on the green sticker is centered in the grooves in the middle of the inspection windows.
11. Slide the connector housing cover back onto the connector housing, keeping the "tooth" on the cover in line with the corresponding notch on the connector housing. When they are aligned, push the cover into position until an audible "Click" is heard.
12. Reinstall the neck and consumables.

Figure 7-L



7-5 REPLACING THE ROBOT ADAPTER (INSULATING DISC)

1. Remove the Consumables, Neck and Connector Housing as outlined in previous sections.

NOTE: The LSR+ Unicable can remain on the robot for this procedure. There is no need to remove it, as the robot adapter will be installed over top of the unicable.

2. Once the connector housing is removed, there will be SHCSs sunken into counterbores on the robot adapter (insulating disc). Loosen these SHCSs.

NOTE: These SHCSs are captured and should not be fully removed from the robot adapter. Only unthread until the threads are disengaged from the robot wrist.

3. Clean the robot wrist face to ensure no debris remains on the face when installing the replacement adapter. Ensure the locating dowel pin hole on the robot wrist is clear of debris.
4. Align the groove on the O.D. of the robot adapter (insulating disc) with the 12 o'clock position on the robot wrist. The dowel pin on the disc should align with the dowel pin hole on the robot wrist.
5. Install the captured SHCSs finger tight and then tighten in the shown pattern. Torque 25 in-lbs. (See Figure 7-N)
6. Reinstall the Connector Housing, Unicable, Neck and Consumables as outlined in previous sections.

Figure 7-M

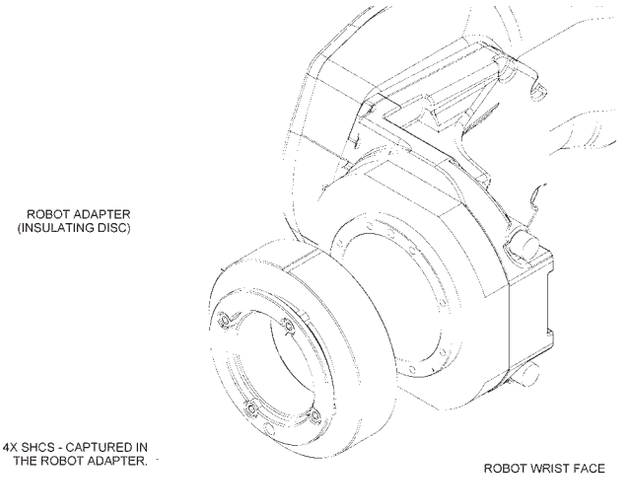
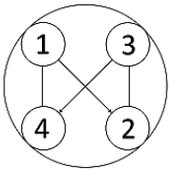


Figure 7-N



7-6 REPLACING THE LSR+ UNICABLE

1.Remove the Consumables from the torch. If using the QUICK LOAD Liner, remove the liner from the torch. If not using the QUICK LOAD Liner, the liner can be removed in later steps.

2. Remove the Connector Housing Cover by pulling it off the torch in the direction of the neck.

NOTE: There is no need to remove the Neck to replace the Unicable.

3. Open the Cam Levers using a pair of Welpers or a 3mm Allen wrench, slide the tool under the back edge of the cam lever. Pry upwards on the top cam lever until it is fully open. Repeat the same procedure for the bottom cam lever.

4. When the Cam Levers are opened, the LSR+ Unicable can be removed through the rear of the robot wrist by pulling it back and slightly bending it to get it clear from the robot casting.

5. Remove the power pin from the wire feeder and remove the unicable from the robot assembly.
NOTE: Reference Section 6-2 Installing the Power Pin

6. Install the Power Pin into the new replacement LSR+ Unicable and if using QLL (which comes standard, unless otherwise specified) install the Liner Retainer. If using the rear load liner, install through the power pin and leave the liner full length.

NOTE: The best robot wrist position to install the LSR+ Unicable is bent downwards at approximately 45°. This will make it easier for the cable to fit into the wrist of the robot and into the torch assembly.

7. Slide the Unicable (Power Pin end) through the robot arm window towards the wire feeder. Secure the Power Pin into the wire feeder.

8. If using a rear load liner, bend the unicable upwards and put the liner through the wrist and into the back end of the neck copper before installing the cable through the robot wrist. Ensure the liner does not prevent the cable from being installed into the robot's wrist or torch connector.

9. For both QUICK LOAD and rear load liners, bend the unicable upwards until it can be inserted into the back of the robot wrist.

NOTE: Ensure that the cam levers remain in the open position while inserting the unicable into the connector housing.

10. Push the unicable into the connector housing until green can be viewed inside the inspection windows. Close the Cam Levers to the locked position, confirming that the black center line is in the middle of the inspection windows and reinstall the Connector Housing Cover.

11. Install the QUICK LOAD liner if using it. Trim the liner to the correct length (See Section 7-2)

12. Reinstall the consumables.

Figure 7-O

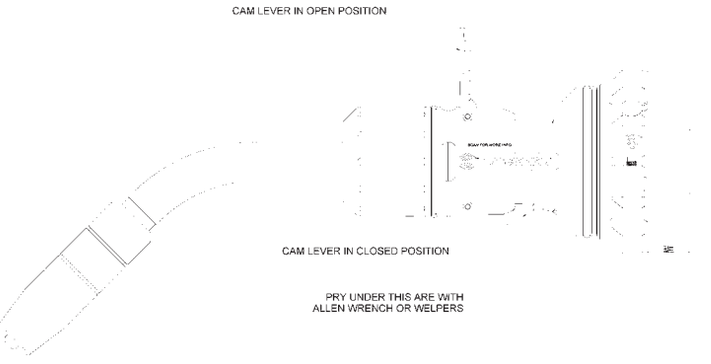


Figure 7-P

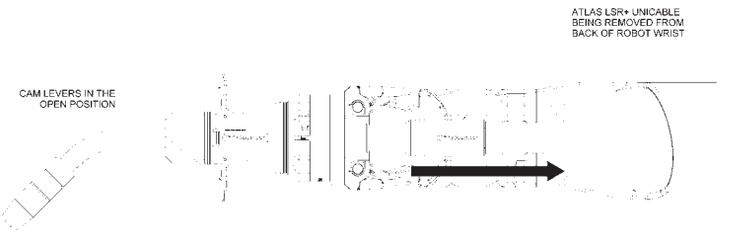
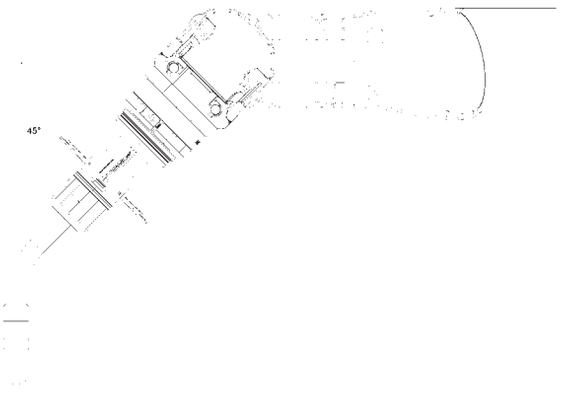


Figure 7-Q



SECTION 8 — TECHNICAL DATA

8-1 CENTER OF MASS COORDINATES – 22 DEGREE NECKS

Figure 8-A

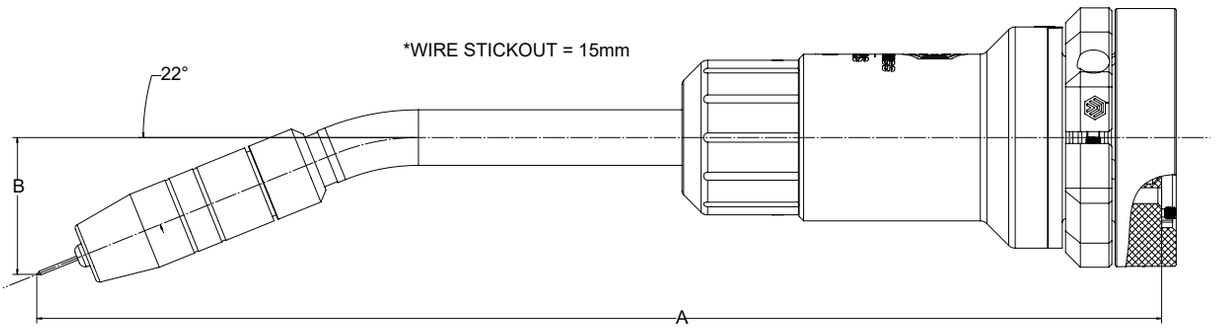
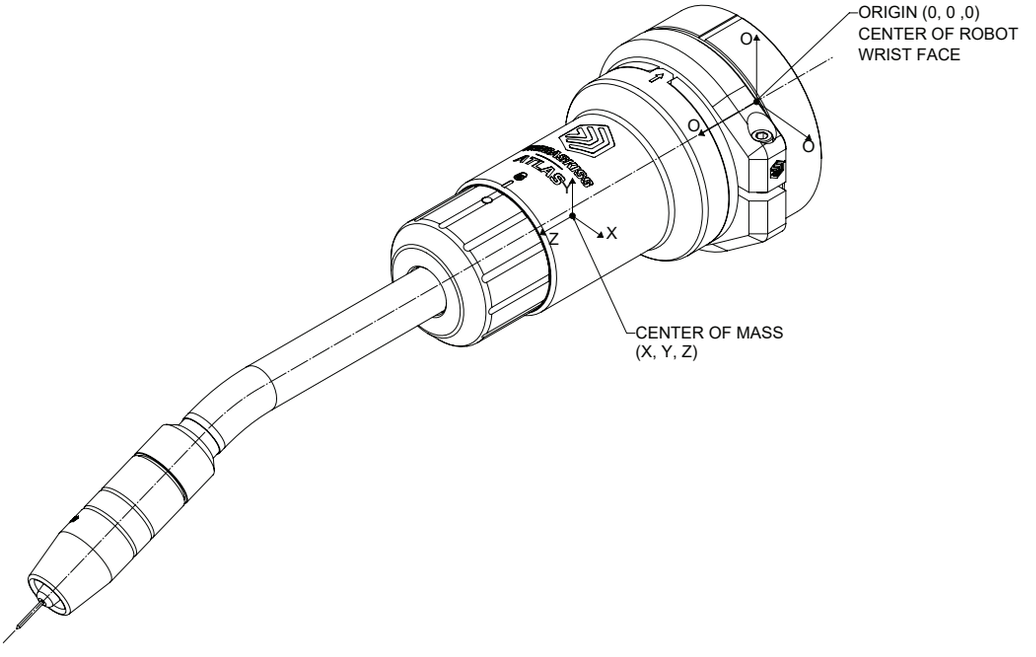


Figure 8-B



SOLID MOUNT — 22 DEGREE						
NECK	**A (mm)**	**B (mm)**	**X (mm)**	**Y (mm)**	**Z (mm)**	**WEIGHT (kg)**
GA248-047-22	386	47	0.08	-2.69	122.41	1.99
GA277-047-22	415	47	0.08	-2.62	129.73	2.04
GA323-047-22	461	47	0.07	-2.53	142.01	2.12
GA436-047-22	574	47	0.07	-2.32	175.20	2.30

8-2 CENTER OF MASS COORDINATES – 45 DEGREE NECKS

Figure 8-C

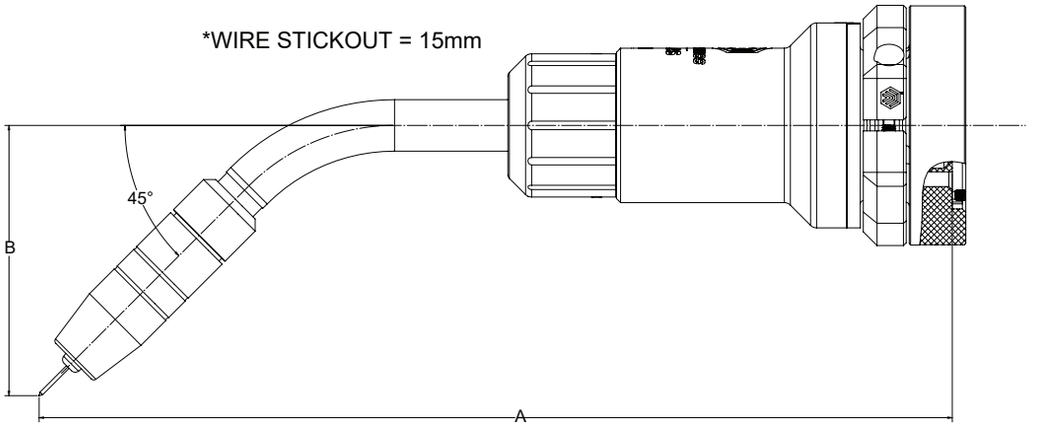
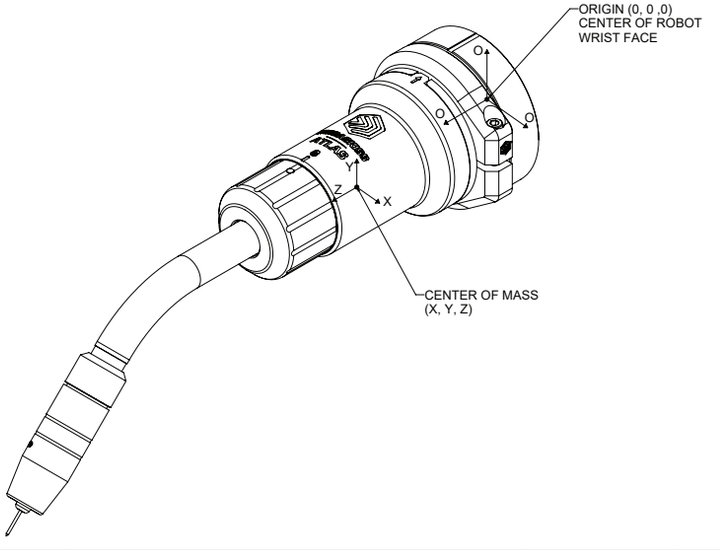


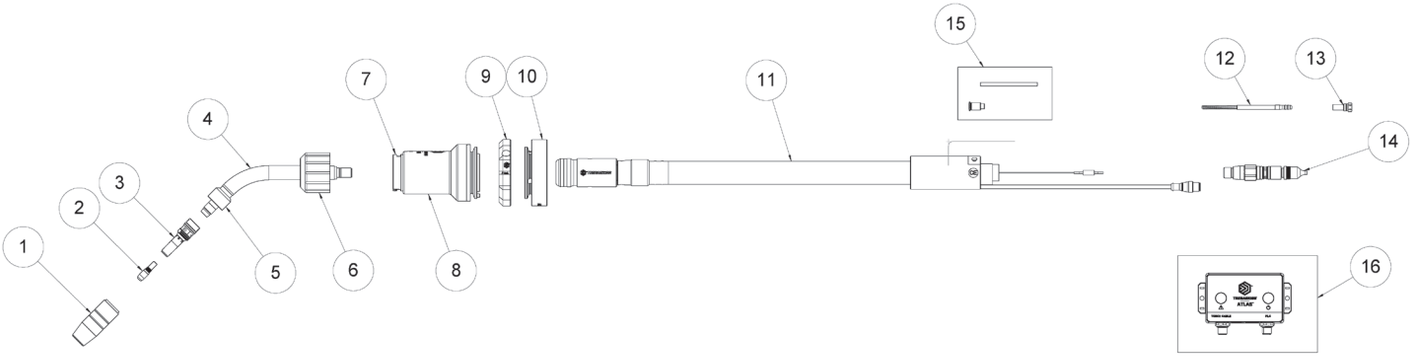
Figure 8-D



SOLID MOUNT — 45 DEGREE						
NECK	**A (mm)**	**B (mm)**	**X (mm)**	**Y (mm)**	**Z (mm)**	**WEIGHT (kg)**
GA200-100-45	338	100	0.08	-6.70	115.53	1.97
GA229-100-45	367	100	0.08	-6.54	122.66	2.02
GA247-120-45	385	120	0.08	-9.29	128.29	2.06
GA267-100-45	405	100	0.08	-6.34	132.51	2.08
GA275-100-45	413	100	0.07	-6.30	134.6 6	2.09
GA302-120-45	440	120	0.07	-8.90	143.31	2.15
GA322-120-45	460	120	0.07	-8.77	149.03	2.19
GA378-120-45	516	120	0.07	-8.41	165.71	2.28

SECTION 9 — PARTS LIST

9-1 AIR-COOLED SYSTEM

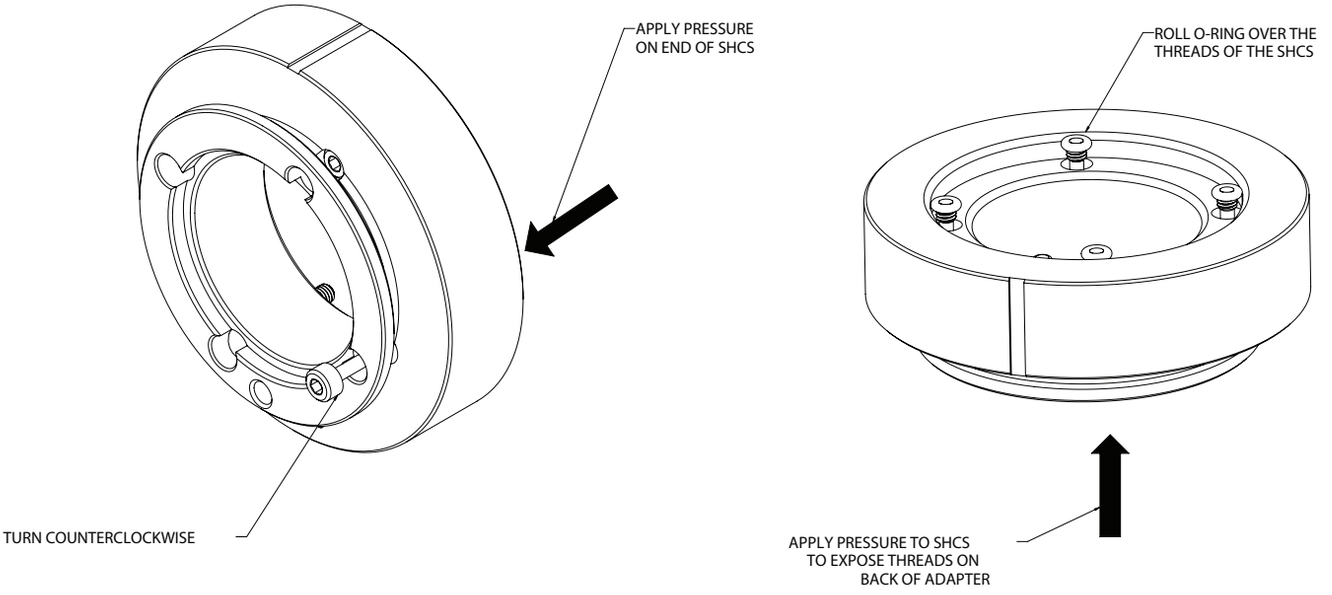


ITEM	PART NUMBER	DESCRIPTION
1	SEE SP-TA4	Nozzle
2	SEE SP-TA4	Contact Tip
3	SEE SP-TA4	Retainig Head/Diffuser
4	GAXXX-XXX-XX	Neck, Air-Cooled (See SP-TA4 for details)
5	4623R	Insulator, Neck, AccuLock
6	GA-012	Atlas Neck Body Cover
7	CHA-113	TA4 Connector Housing Assembly, 113mm Long
8	CHA-003	TA4 Connector Housing Cover
9	VCA	TA4 V-Brand Clamp
10	SEE SP-TA4	TA4 Adaptor, Air-Cooled
11	UA-XXX	ATLAS LSR+Unicable Assembly, 31"-128" (0.8-3.25 m) (See SP-TA4 for details)
12	SEE SP-TA4	Liner
13	SEE SP-TA4	QUICK LOAD Liner Retainer
14	SEE SP-TA4	Power Pin
15	UA-ABKIT	TA4 Air Blast Kit
16	TMM	Torch Maintenance Module
17	TMM-C	Torch Maintenance Module with Cables (Not Shown)

Scan to view the Atlas™ ThruArm Robotic MIG Torch Spec Sheet

9-2 ROBOT ADAPTER CAPTIVE SHCS MAINTENANCE KIT

Figure 9-A

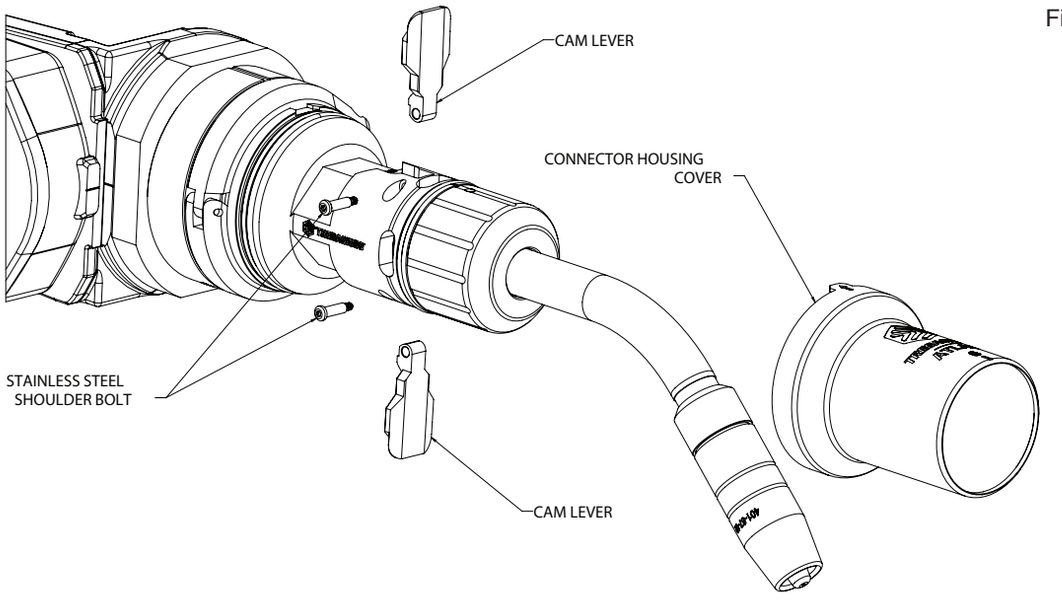


1. The Robot Adapter must be removed from the robot prior to installation of the maintenance kit, see Section 7-5 Replacing the Robot Adapter (Insulating Disc).
2. To remove the 4x Captive SHCS from the Robot Adapter, apply a small amount of pressure to the back end of the SHCS and then slowly rotate the SHCS counterclockwise.
3. The SHCS will begin to thread past the O-ring and it will become free from the adapter.
4. Discard the SHCSs and O-rings, the new maintenance kit will replace these.
5. To install the Captive SHCS, insert the SHCS into the corresponding counterbored hole (insert from the V-Band Clamp side).
6. Apply pressure to the head of the SHCS to seat it fully into the counterbore so that the threads are protruding out past the back of the adapter.
7. Take the O-ring and roll it over the threads of the SHCS until it is on the shank of the SHCS.
8. Repeat for every SHCS.

PART NUMBER	DESCRIPTION
AA-M4KIT	Replacement Captive SHCS Kit for Fanuc (iC & iD), Motoman (MA & AR), Kawasaki BA006N/L Robots
AA-M5KIT	Replacement Captive SHCS Kit for Panasonic
AA-M6KIT	Replacement Captive SHCS Kit for ABB (IRB 1600ID/1520ID), Kawasaki BA013N/L Robots
AA-M8KIT	Replacement Captive SHCS Kit for ABB (IRB 1660ID/2600ID)

9-3 CAM LEVER MAINTENANCE KIT

Figure 9-B



NOTE: The LSR+ Unicable, Gooseneck and Consumables can remain on the torch during the install of the Cam Lever Maintenance Kit.

1. Slide the Connector Housing Cover off the torch and place it aside.
2. Open both Cam Levers.
3. Using a 2.5mm Allen wrench, turn the stainless steel shoulder bolt counterclockwise.

NOTE: Apply pressure to the Allen wrench to ensure that the head of the bolt does not round off.

4. Repeat for the other Cam Lever.
5. Take the new Cam Lever with a new stainless steel shoulder bolt and position it into the slot for the lever, lining up the hole in the Cam Lever with the hole on the Connector Housing.
6. Torque the Shoulder Bolt to 8 in-lbs.
7. Repeat for the other Cam Lever.
8. Close the Cam Levers down and reinstall the Connector Housing Cover.

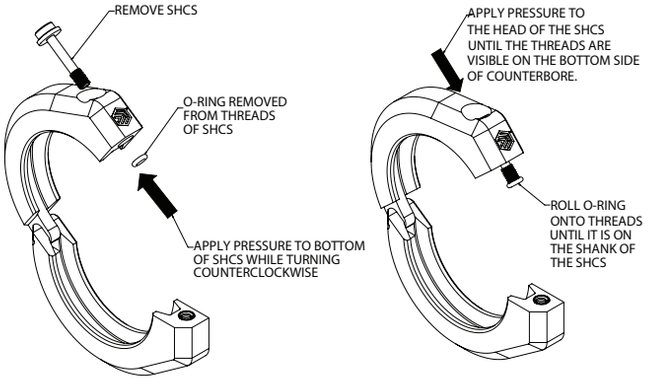
PART NUMBER	DESCRIPTION
CHA-LEVERKIT	Atlas™ Cam Lever Maintenance Kit

9-4 V-BAND CLAMP CAPTIVE SHCS MAINTENANCE KIT

NOTE: The torch can remain assembled for this step, all that is needed is to remove the V-Band Clamp.

1. Remove the V-Band Clamp from the torch by loosening the Captive SHCS and then opening the V-Band Clamp up and off the torch.
2. The torch will separate from the Robot Adapter (Insulating Disc) but will not fall off the robot, leave it there while replacing the V-Band Clamp Captive SHCS.
3. With the V-Band Clamp off the torch, apply pressure to the threaded end of the Captive SHCS while at the same time turning the SHCS counterclockwise. Unthread the SHCS until the O-ring falls off the threaded portion of the SHCS.
4. Install the new Captive SHCS into the counterbore on the V-Band Clamp and apply pressure to the head such that the threads are protruding through the hole.
5. Install the O-ring by rolling it over the threads of the SHCS until it slides freely on the shank of the SHCS.
6. Reinstall the V-Band Clamp onto the torch, torque the Captive SHCS to 50 in-lbs and confirm TCP of the robot.

Figure 9-C



PART NUMBER	DESCRIPTION
VCA-M5KIT	Atlas™ V-Band Clamp Maintenance Kit

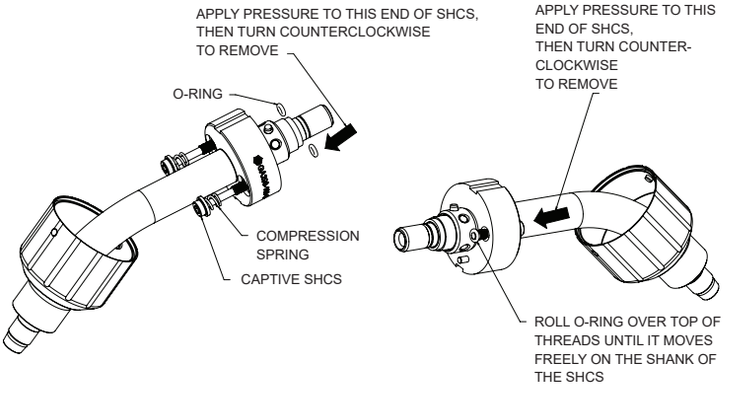
9-5 GOOSENECK CAPTIVE SHCS MAINTENANCE KIT

1. Remove the gooseneck from the torch, see Section 7-3 Replacing the Neck.
2. With the neck removed, apply pressure to the threaded end of the SHCS and turn the SHCS counterclockwise until the O-ring is removed from the threads. Repeat for the other SHCS.

NOTE: There are three parts that will become free; the SHCS, the compression spring and the O-ring.

3. Take the new SHCS and slide a new compression spring onto the shank of the SHCS. Insert it into the counterbore on the gooseneck body.
4. Apply a small amount of pressure to slightly compress the spring and ensure that the threads of the SHCS are fully visible on the backside of the counterbore.
5. With the pressure still applied to the SHCS, roll the O-ring over top of the threads of the SHCS until it moves freely on the shank of the SHCS.
6. Repeat the same procedure for the other Captive SHCS.
7. Reinstall the gooseneck onto the torch, see Section 7-3 Replacing the Neck.

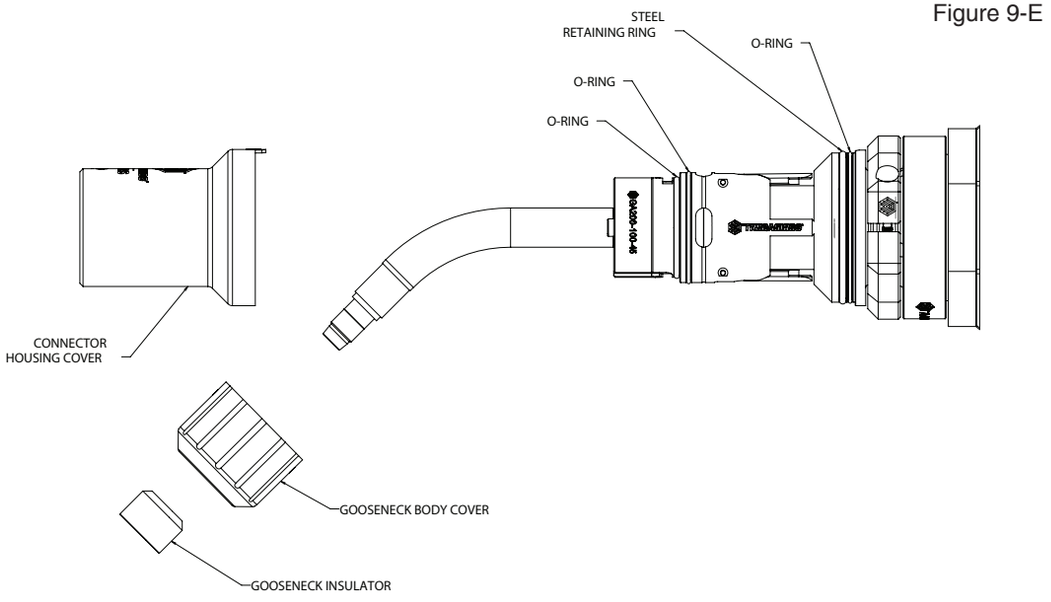
Figure 9-D



PART NUMBER	DESCRIPTION
GA-M5KIT	Atlas™ Gooseneck Captive SHCS Kit

9-6 CONNECTOR HOUSING O-RING MAINTENANCE KIT

Figure 9-E



1. Remove the consumables (Nozzle, Tip, Diffuser) from the torch.
2. Remove the Gooseneck Insulator from the gooseneck.
3. Unlock the Gooseneck Body Cover and slide it off the Gooseneck.
4. Remove the Connector Housing Cover from the torch.
5. Using an appropriate tool, either cut or peel off the old O-rings (x3) from the Connector Housing.
6. Using an expanding pair of Snap Ring pliers, find the gap on the steel retaining ring and expand the ring and slide it off the Connector Housing.
7. Clean all the grooves with a rag to ensure the grooves are free of debris.
8. Install the largest diameter O-ring first, then use the same expanding Snap Ring pliers during the removal, expand the steel retaining ring and slide it into the groove right beside the large O-ring.
9. Install the next largest O-ring on the front of the Connector Housing, right beside the Inspection Windows.
10. Install the red O-ring on the front of the Connector Housing where the Gooseneck Body Cover mates up.
11. Re-install the Connector Housing Cover, Gooseneck Body Cover, Gooseneck Insulator and Consumables.

PART NUMBER	DESCRIPTION
CHA-ORINGKIT	Atlas™ Connector Housing O-Ring Kit

SECTION 10 — TROUBLESHOOTING TABLE

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. Electrode does not feed.	1. Feeder relay. 2. Broken control lead. 3. Poor adaptor connection. 4. Improper / worn drive roll. 5. Drive roll tension misadjusted. 6. Burn back to contact tip. 7. Wrong size liner. 8. Buildup inside of liner.	1. Consult feeder manufacturer. 2. a. Test and connect spare control lead. b. Install new cable. 3. Test and replace leads and/or contact pins. 4. Replace drive roll. 5. Adjust tension at feeder. 6. See 'Contact tip burn back'. 7. Replace with correct size. 8. Replace liner or clean out with compressed air, check condition of electrode.
2. Contact tip burn back.	1. Improper voltage and/or wire feed speed. 2. Erratic wire feeding. 3. Improper tip stickout. 4. Improper electrode stickout. 5. Faulty ground	1. Adjust parameters. 2. See 'Erratic wire feeding'. 3. Adjust nozzle / tip relationship. 4. Adjust wire stickout. 5. Replace cables and/or connections.
3. Tip disengages from the gas diffuser.	1. Worn gas diffuser/retaining head. 2. Improper tip installation. 3. Extreme heat or duty cycle.	1. Replace tip and/or gas diffuser / retaining head. 2. Install as per Section 7-1 — Changing Consumables on page 16. 3. Replace with heavy duty consumables. See appropriate Spec Sheet for details
4. Short contact tip life.	1. Contact tip size 2. Electrode eroding contact tip. 3. Exceeding duty cycle.	1. Replace with proper size. 2. Inspect and/or change drive rolls. 3. Replace with properly rated Tregaskiss MIG Torch.
5. Erratic arc.	1. Worn contact tip. 2. Buildup inside of liner. 3. Wrong tip size. 4. Not enough bend in neck.	1. Replace contact tip. 2. Replace liner, check condition of electrode. 3. Replace with correct tip size. 4. Replace with 45° neck.
6. Erratic wire feeding.	1. Buildup inside of liner. 2. Wrong size liner. 3. Improper drive roll size. 4. Worn drive roll. 5. Improper guide tube relationship. 6. Improper wire guide diameter. 7. Gaps at liner junctions. 8. Feeder malfunction. 9. Worn contact tip.	1. Replace liner, check condition of electrode. 2. Replace with new liner of proper size. 3. Replace with proper size drive roll. 4. a. Replace with new drive roll. b. Repair worn drive roll. 5. a. Adjust / replace guide as close to drive rolls as possible. b. Eliminate all gaps in electrode path. 6. Replace with proper guide diameter. 7. a. Replace with new liner trimmed as per Section 7-1 — Changing Consumables on page 16. b. Replace guide tube / liner trimming as close to mating component as possible. 8. Consult feeder manufacturer. 9. Inspect and replace.*

7. Extreme spatter.	1. Improper machine parameters. 2. Improper tip installation. 3. Improper shielding gas coverage. 4. Contaminated wire or workpiece.	1. Adjust parameters. 2. Adjust nozzle / tip relationship. 3. a. Verify shielding gas coverage. b. Verify gas mixture. 4. Clean wire and workpiece.
8. Porosity in weld.	1. Insulator worn. 2. Gas diffuser damaged 3. Extreme heat or duty cycle. 4. Solenoid faulty. 5. No gas. 6. Flow improperly set. 7. Gas ports plugged. 8. Ruptured gas hose. 9. Control circuit loss. 10. Worn, cut or missing o-rings. 11. Loose fittings.	1. Replace nozzle / insulator. 2. Replace gas diffuser or o-rings. 3. Replace with heavy duty consumables. 4. Replace solenoid. 5. a. Install full tanks. b. Check supply. c. Check for hose leaks. 6. Adjust flow. 7. a. Clean or replace gas diffuser. b. Clean nozzle. 8. Repair or replace cable or line. 9. See 'Electrode does not feed'. 10. Replace o-rings. 11. Tighten gun and cable connections to specified torque. See Section 7 — Replacement of Parts on page 16.
9. Torch running hot.	1. Exceeding duty cycle. 2. Loose or poor power connection.	1. a. Replace with properly rated Tregaskiss MIG Torch. b. Decrease parameters to within torch rating. 2. a. Clean, tighten or replace cable grounding connection. b. Tighten torch and cable connections to specified torque. See Section 6-1 — Installing to Robot page 11.
10. Liner is discolored.	1. Short circuit to electrode. 2. Broken copper stranding in power cable.	1. Isolate electrode reel from feeder and drive block. Consult feeder manufacturer's manual. 2. Replace MIG torch.
11. Sporadic feeding of aluminum electrode.	1. Tip galling. 2. Synthetic liner melting. 3. Wire deformed by feeder rolls.	1. Inspect and replace the contact tip.* 2. a. Replace liner. b. Replace with composite liner. c. Replace the neck and jump liner. 3. Adjust drive rolls as per feeder manufacturer's manual.
12. Red LED is illuminated on TMM	1. There is a failure impending on the LSR+ Unicable. 2. Faulty TMM circuit board.	1. Replace the LSR+ Unicable during the next planned downtime event. 2. If it is confirmed that the LSR+ unicable does not have a failure impending, the TMM will need to be replaced.
13. TMM LEDs not operating	1. No power supplied to the TMM. 2. The green LED is burnt out. 3. The red LED is burnt out.	1. Check that 24VDC is being supplied to Pin #1 (BROWN WIRE). Check that 0 VDC is on Pin #3 (BLUE WIRE). 2. The LEDs are not replaceable. Replace TMM. 3. The LEDs are not replaceable. Replace TMM.

**In some cases with aluminum and mild steels, it may be necessary to use a contact tip with either a larger or smaller bore size*

NOTES

ADDITIONAL SUPPORT MATERIALS

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

Scan to view the Atlas™ ThruArm Robotic MIG Torch Owner's Manual

Scan to view the Atlas™ ThruArm Robotic MIG Torch Gun Spec Sheet

Scan to view the AccuLock™ R (Robotic) Consumables Spec Sheet

Scan to view the TOUGH LOCK® Consumables Spec Sheet

Scan to view the QUICK LOAD® Liner Spec Sheet

Scan to view the Bernard and Tregaskiss Product Catalog