

PT-36 Cutting Data

- *SmartFlow*
- *ESP-150 & ESP-200*
- *ESP-1000, PCC - 90 / 91*



Cut Data Manual

**BE SURE THIS INFORMATION REACHES THE OPERATOR.
YOU CAN GET EXTRA COPIES THROUGH YOUR SUPPLIER.**

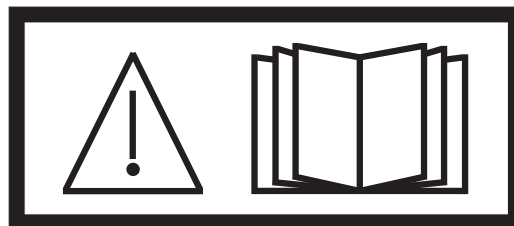
CAUTION

These INSTRUCTIONS are for experienced operators. If you are not fully familiar with the principles of operation and safe practices for arc welding and cutting equipment, we urge you to read our booklet, "Precautions and Safe Practices for Arc Welding, Cutting, and Gouging," Form 52-529. Do NOT permit untrained persons to install, operate, or maintain this equipment. Do NOT attempt to install or operate this equipment until you have read and fully understand these instructions. If you do not fully understand these instructions, contact your supplier for further information. Be sure to read the Safety Precautions before installing or operating this equipment.

USER RESPONSIBILITY

This equipment will perform in conformity with the description thereof contained in this manual and accompanying labels and/or inserts when installed, operated, maintained and repaired in accordance with the instructions provided. This equipment must be checked periodically. Malfunctioning or poorly maintained equipment should not be used. Parts that are broken, missing, worn, distorted or contaminated should be replaced immediately. Should such repair or replacement become necessary, the manufacturer recommends that a telephone or written request for service advice be made to the Authorized Distributor from whom it was purchased.

This equipment or any of its parts should not be altered without the prior written approval of the manufacturer. The user of this equipment shall have the sole responsibility for any malfunction which results from improper use, faulty maintenance, damage, improper repair or alteration by anyone other than the manufacturer or a service facility designated by the manufacturer.



READ AND UNDERSTAND THE INSTRUCTION MANUAL BEFORE INSTALLING OR OPERATING.

PROTECT YOURSELF AND OTHERS!

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1.0 Safety Precautions



WARNING: These Safety Precautions are for your protection. They summarize precautionary information from the references listed in Additional Safety Information section. Before performing any installation or operating procedures, be sure to read and follow the safety precautions listed below as well as all other manuals, material safety data sheets, labels, etc. Failure to observe Safety Precautions can result in injury or death.



PROTECT YOURSELF AND OTHERS -- Some welding, cutting, and gouging processes are noisy and require ear protection. The arc, like the sun, emits ultraviolet (UV) and other radiation and can injure skin and eyes. Hot metal can cause burns. Training in the proper use of the processes and equipment is essential to prevent accidents. Therefore:

1. Always wear safety glasses with side shields in any work area, even if welding helmets, face shields, and goggles are also required.
2. Use a face shield fitted with the correct filter and cover plates to protect your eyes, face, neck, and ears from sparks and rays of the arc when operating or observing operations. Warn bystanders not to watch the arc and not to expose themselves to the rays of the electric-arc or hot metal.
3. Wear flameproof gauntlet type gloves, heavy long-sleeve shirt, cuffless trousers, high-topped shoes, and a welding helmet or cap for hair protection, to protect against arc rays and hot sparks or hot metal. A flameproof apron may also be desirable as protection against radiated heat and sparks.
4. Hot sparks or metal can lodge in rolled up sleeves, trouser cuffs, or pockets. Sleeves and collars should be kept buttoned, and open pockets eliminated from the front of clothing.
5. Protect other personnel from arc rays and hot sparks with a suitable non-flammable partition or curtains.
6. Use goggles over safety glasses when chipping slag or grinding. Chipped slag may be hot and can fly far. Bystanders should also wear goggles over safety glasses.

1.1 Safety - English



FIRES AND EXPLOSIONS -- Heat from flames and arcs can start fires. Hot slag or sparks can also cause fires and explosions. Therefore:

1. Remove all combustible materials well away from the work area or cover the materials with a protective non-flammable covering. Combustible materials include wood, cloth, sawdust, liquid and gas fuels, solvents, paints and coatings, paper, etc.
2. Hot sparks or hot metal can fall through cracks or crevices in floors or wall openings and cause a hidden smoldering fire or fires on the floor below. Make certain that such openings are protected from hot sparks and metal."
3. Do not weld, cut or perform other hot work until the work piece has been completely cleaned so that there are no substances on the work piece which might produce flammable or toxic vapors. Do not do hot work on closed containers. They may explode.
4. Have fire extinguishing equipment handy for instant use, such as a garden hose, water pail, sand bucket, or portable fire extinguisher. Be sure you are trained in its use.
5. Do not use equipment beyond its ratings. For example, overloaded welding cable can overheat and create a fire hazard.
6. After completing operations, inspect the work area to make certain there are no hot sparks or hot metal which could cause a later fire. Use fire watchers when necessary.
7. For additional information, refer to NFPA Standard 51B, "Fire Prevention in Use of Cutting and Welding Processes", available from the National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.



ELECTRICAL SHOCK -- Contact with live electrical parts and ground can cause severe injury or death. DO NOT use AC welding current in damp areas, if movement is confined, or if there is danger of falling.

1. Be sure the power source frame (chassis) is connected to the ground system of the input power.
2. Connect the work piece to a good electrical ground.
3. Connect the work cable to the work piece. A poor or missing connection can expose you or others to a fatal shock.
4. Use well-maintained equipment. Replace worn or damaged cables.
5. Keep everything dry, including clothing, work area, cables, torch/electrode holder, and power source.
6. Make sure that all parts of your body are insulated from work and from ground.
7. Do not stand directly on metal or the earth while working in tight quarters or a damp area; stand on dry boards or an insulating platform and wear rubber-soled shoes.
8. Put on dry, hole-free gloves before turning on the power.
9. Turn off the power before removing your gloves.
10. Refer to ANSI/ASC Standard Z49.1 (listed on next page) for specific grounding recommendations. Do not mistake the work lead for a ground cable.



ELECTRIC AND MAGNETIC FIELDS — May be dangerous. Electric current flowing through any conductor causes localized Electric and Magnetic Fields (EMF). Welding and cutting current creates EMF around welding cables and welding machines. Therefore:

1. Welders having pacemakers should consult their physician before welding. EMF may interfere with some pacemakers.
2. Exposure to EMF may have other health effects which are unknown.

3. Welders should use the following procedures to minimize exposure to EMF:

- A. Route the electrode and work cables together. Secure them with tape when possible.
- B. Never coil the torch or work cable around your body.
- C. Do not place your body between the torch and work cables. Route cables on the same side of your body.
- D. Connect the work cable to the work piece as close as possible to the area being welded.
- E. Keep welding power source and cables as far away from your body as possible.

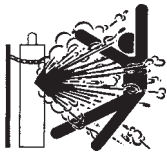


FUMES AND GASES -- Fumes and gases, can cause discomfort or harm, particularly in confined spaces. Do not breathe fumes and gases. Shielding gases can cause asphyxiation.

Therefore:

1. Always provide adequate ventilation in the work area by natural or mechanical means. Do not weld, cut, or gouge on materials such as galvanized steel, stainless steel, copper, zinc, lead, beryllium, or cadmium unless positive mechanical ventilation is provided. Do not breathe fumes from these materials.
2. Do not operate near degreasing and spraying operations. The heat or arc rays can react with chlorinated hydrocarbon vapors to form phosgene, a highly toxic gas, and other irritant gases.
3. If you develop momentary eye, nose, or throat irritation while operating, this is an indication that ventilation is not adequate. Stop work and take necessary steps to improve ventilation in the work area. Do not continue to operate if physical discomfort persists.
4. Refer to ANSI/ASC Standard Z49.1 (see listing below) for specific ventilation recommendations.

- 5. WARNING:** This product, when used for welding or cutting, produces fumes or gases which contain chemicals known to the State of California to cause birth defects and, in some cases, cancer. (California Health & Safety Code §25249.5 et seq.)



CYLINDER HANDLING -- Cylinders, if mishandled, can rupture and violently release gas. Sudden rupture of cylinder, valve, or relief device can injure or kill. Therefore:

1. Use the proper gas for the process and use the proper pressure reducing regulator designed to operate from the compressed gas cylinder. Do not use adaptors. Maintain hoses and fittings in good condition. Follow manufacturer's operating instructions for mounting regulator to a compressed gas cylinder.
 2. Always secure cylinders in an upright position by chain or strap to suitable hand trucks, undercarriages, benches, walls, post, or racks. Never secure cylinders to work tables or fixtures where they may become part of an electrical circuit.
 3. When not in use, keep cylinder valves closed. Have valve protection cap in place if regulator is not connected. Secure and move cylinders by using suitable hand trucks. Avoid rough handling of cylinders.
 4. Locate cylinders away from heat, sparks, and flames. Never strike an arc on a cylinder.
 5. For additional information, refer to CGA Standard P-1, "Precautions for Safe Handling of Compressed Gases in Cylinders", which is available from Compressed Gas Association, 1235 Jefferson Davis Highway, Arlington, VA 22202.
1. Always have qualified personnel perform the installation, troubleshooting, and maintenance work. Do not perform any electrical work unless you are qualified to perform such work.
 2. Before performing any maintenance work inside a power source, disconnect the power source from the incoming electrical power.
 3. Maintain cables, grounding wire, connections, power cord, and power supply in safe working order. Do not operate any equipment in faulty condition.
 4. Do not abuse any equipment or accessories. Keep equipment away from heat sources such as furnaces, wet conditions such as water puddles, oil or grease, corrosive atmospheres and inclement weather.
 5. Keep all safety devices and cabinet covers in position and in good repair.
 6. Use equipment only for its intended purpose. Do not modify it in any manner.



EQUIPMENT MAINTENANCE -- Faulty or improperly maintained equipment can cause injury or death. Therefore:



ADDITIONAL SAFETY INFORMATION -- For more information on safe practices for electric arc welding and cutting equipment, ask your supplier for a copy of "Precautions and Safe Practices for Arc Welding, Cutting and Gouging", Form 52-529.

The following publications, which are available from the American Welding Society, 550 N.W. LeJuene Road, Miami, FL 33126, are recommended to you:

1. ANSI/ASC Z49.1 - "Safety in Welding and Cutting"
2. AWS C5.1 - "Recommended Practices for Plasma Arc Welding"
3. AWS C5.2 - "Recommended Practices for Plasma Arc Cutting"
4. AWS C5.3 - "Recommended Practices for Air Carbon Arc Gouging and Cutting"

5. AWS C5.5 - "Recommended Practices for Gas Tungsten Arc Welding"
6. AWS C5.6 - "Recommended Practices for Gas Metal Arc Welding"
7. AWS SP - "Safe Practices" - Reprint, Welding Handbook.
8. ANSI/AWS F4.1, "Recommended Safe Practices for Welding and Cutting of Containers That Have Held Hazardous Substances."



MEANING OF SYMBOLS - As used throughout this manual: Means Attention! Be Alert! Your safety is involved.



Means immediate hazards which, if not avoided, will result in immediate, serious personal injury or loss of life.



Means potential hazards which could result in personal injury or loss of life.



Means hazards which could result in minor personal injury.

1.2 La seguridad - español



ADVERTENCIA: Estas Precauciones de Seguridad son para su protección. Ellas hacen resumen de información proveniente de las referencias listadas en la sección "Información Adicional Sobre La Seguridad". Antes de hacer cualquier instalación o procedimiento de operación, asegúrese de leer y seguir las precauciones de seguridad listadas a continuación así como también todo manual, hoja de datos de seguridad del material, calcomanías, etc. El no observar las Precauciones de Seguridad puede resultar en daño a la persona o muerte.



PROTEJASE USTED Y A LOS DEMAS-- Algunos procesos de soldadura, corte y ranurado son ruidosos y requieren protección para los oídos. El arco, como el sol, emite rayos ultravioleta (UV) y otras radiaciones que pueden dañar la piel y los ojos. El metal caliente causa quemaduras. EL entrenamiento en el uso propio de los equipos y sus procesos es esencial para prevenir accidentes. Por lo tanto:

1. Utilice gafas de seguridad con protección a los lados siempre que esté en el área de trabajo, aún cuando esté usando careta de soldar, protector para su cara u otro tipo de protección.
2. Use una careta que tenga el filtro correcto y lente para proteger sus ojos, cara, cuello, y oídos de las chispas y rayos del arco cuando se esté operando y observando las operaciones. Alerta a todas las personas cercanas de no mirar el arco y no exponerse a los rayos del arco eléctrico o el metal fundido.
3. Use guantes de cuero a prueba de fuego, camisa pesada de mangas largas, pantalón de ruedo liso, zapato alto al tobillo, y careta de soldar con capucha para el pelo, para proteger el cuerpo de los rayos y chispas calientes provenientes del metal fundido. En ocasiones un delantal a prueba de fuego es necesario para protegerse del calor radiado y las chispas.
4. Chispas y partículas de metal caliente puede alojarse en las mangas enrolladas de la camisa, el ruedo del pantalón o los bolsillos. Mangas y cuellos deberán mantenerse abotonados, bolsillos al frente de la camisa deberán ser cerrados o eliminados.
5. Proteja a otras personas de los rayos del arco y chispas calientes con una cortina adecuada no-flamable como división.
6. Use careta protectora además de sus gafas de seguridad cuando esté removiendo escoria o puliendo.

La escoria puede estar caliente y desprenderse con velocidad. Personas cercanas deberán usar gafas de seguridad y careta protectora.



FUEGO Y EXPLOSIONES -- El calor de las flamas y el arco pueden ocasionar fuegos. Escoria caliente y las chispas pueden causar fuegos y explosiones. Por lo tanto:

1. Remueva todo material combustible lejos del área de trabajo o cubra los materiales con una cobija a prueba de fuego. Materiales combustibles incluyen madera, ropa, líquidos y gases inflamables, solventes, pinturas, papel, etc.
2. Chispas y partículas de metal pueden introducirse en las grietas y agujeros de pisos y paredes causando fuegos escondidos en otros niveles o espacios. Asegúrese de que toda grieta y agujero esté cubierto para proteger lugares adyacentes contra fuegos.
3. No corte, suelde o haga cualquier otro trabajo relacionado hasta que la pieza de trabajo esté totalmente limpia y libre de sustancias que puedan producir gases inflamables o vapores tóxicos. No trabaje dentro o fuera de contenedores o tanques cerrados. Estos pueden explotar si contienen vapores inflamables.
4. Tenga siempre a la mano equipo extintor de fuego para uso instantáneo, como por ejemplo una manguera con agua, cubeta con agua, cubeta con arena, o extintor portátil. Asegúrese que usted esta entrenado para su uso.
5. No use el equipo fuera de su rango de operación. Por ejemplo, el calor causado por cable sobrecarga en los cables de soldar pueden ocasionar un fuego.
6. Después de terminar la operación del equipo, inspeccione el área de trabajo para cerciorarse de que las chispas o metal caliente ocasionen un fuego más tarde. Tenga personal asignado para vigilar si es necesario.
7. Para información adicional, haga referencia a la publicación NFPA Standard 51B, "Fire Prevention in Use of Cutting and Welding Processes", disponible a través de la National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.



CHOQUE ELECTRICO -- El contacto con las partes eléctricas energizadas y tierra puede causar daño severo o muerte. NO use soldadura de corriente alterna (AC) en áreas húmedas, de movimiento confinado en lugares estrechos o si hay posibilidad de caer al suelo.

1. Asegúrese de que el chasis de la fuente de poder esté conectado a tierra a través del sistema de electricidad primario.
2. Conecte la pieza de trabajo a un buen sistema de tierra física.
3. Conecte el cable de retorno a la pieza de trabajo. Cables y conductores expuestos o con malas conexiones pueden exponer al operador u otras personas a un choque eléctrico fatal.
4. Use el equipo solamente si está en buenas condiciones. Reemplaze cables rotos, dañados o con conductores expuestos.
5. Mantenga todo seco, incluyendo su ropa, el área de trabajo, los cables, antorchas, pinza del electrodo, y la fuente de poder.
6. Asegúrese que todas las partes de su cuerpo están insuladas de ambos, la pieza de trabajo y tierra.
7. No separe directamente sobre metal o tierra mientras trabaja en lugares estrechos o áreas húmedas; trabaje sobre un pedazo de madera seco o una plataforma insulada y use zapatos con suela de goma.
8. Use guantes secos y sin agujeros antes de energizar el equipo.
9. Apague el equipo antes de quitarse sus guantes.
10. Use como referencia la publicación ANSI/ASC Standard Z49.1 (listado en la próxima página) para recomendaciones específicas de como conectar el equipo a tierra. No confunda el cable de soldar a la pieza de trabajo con el cable a tierra.



CAMPOS ELECTRICOS Y MAGNETICOS - Son peligrosos. La corriente eléctrica fluye a través de cualquier conductor causando a nivel local Campos Eléctricos y Magnéticos (EMF). Las corrientes en el área de corte y soldadura, crean EMF alrededor de los cables de soldar y las maquinas. Por lo tanto:

1. Soldadores u Operadores que use marca-pasos para el corazón deberán consultar a su médico antes de soldar. El Campo Electromagnético (EMF) puede interferir con algunos marca-pasos.
2. Exponerse a campos electromagnéticos (EMF) puede causar otros efectos de salud aún desconocidos.

3. Los soldadores deberán usar los siguientes procedimientos para minimizar exponerse al EMF:

- A. Mantenga el electrodo y el cable a la pieza de trabajo juntos, hasta llegar a la pieza que usted quiere soldar. Asegúrelos uno junto al otro con cinta adhesiva cuando sea posible.
- B. Nunca envuelva los cables de soldar alrededor de su cuerpo.
- C. Nunca ubique su cuerpo entre la antorcha y el cable, a la pieza de trabajo. Mantenga los cables a un sólo lado de su cuerpo.
- D. Conecte el cable de trabajo a la pieza de trabajo lo más cercano posible al área de la soldadura.
- E. Mantenga la fuente de poder y los cables de soldar lo más lejos posible de su cuerpo.

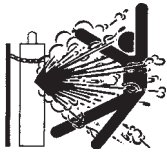


HUMO Y GASES -- El humo y los gases, pueden causar malestar o daño, particularmente en espacios sin ventilación. No inhale el humo o gases. El gas de protección puede causar falta de oxígeno.

Por lo tanto:

1. Siempre provea ventilación adecuada en el área de trabajo por medio natural o mecánico. No solde, corte, o ranure materiales con hierro galvanizado, acero inoxidable, cobre, zinc, plomo, berilio, o cadmio a menos que provea ventilación mecánica positiva. No respire los gases producidos por estos materiales.
2. No opere cerca de lugares donde se aplique sustancias químicas en aerosol. El calor de los rayos del arco pueden reaccionar con los vapores de hidrocarburo clorinado para formar un fosfógeno, o gas tóxico, y otros irritantes.
3. Si momentáneamente desarrolla irritación de ojos, nariz o garganta mientras está operando, es indicación de que la ventilación no es apropiada. Pare de trabajar y tome las medidas necesarias para mejorar la ventilación en el área de trabajo. No continúe operando si el malestar físico persiste.
4. Haga referencia a la publicación ANSI/ASC Standard Z49.1 (Vea la lista a continuación) para recomendaciones específicas en la ventilación.

5. ADVERTENCIA-- Este producto cuando se utiliza para soldaduras o cortes, produce humos o gases, los cuales contienen químicos conocidos por el Estado de California de causar defectos en el nacimiento, o en algunos casos, Cancer. (California Health & Safety Code §25249.5 et seq.)



MANEJO DE CILINDROS-- Los cilindros, si no son manejados correctamente, pueden romperse y liberar violentamente gases. Rotura repentina del cilindro, válvula, o válvula de escape puede causar daño o muerte. Por lo tanto:

1. Utilice el gas apropiado para el proceso y utilice un regulador diseñado para operar y reducir la presión del cilindro de gas. No utilice adaptadores. Mantenga las mangueras y las conexiones en buenas condiciones. Observe las instrucciones de operación del fabricante para montar el regulador en el cilindro de gas comprimido.
2. Asegure siempre los cilindros en posición vertical y amárrelos con una correa o cadena adecuada para asegurar el cilindro al carro, transportes, tabuleros, paredes, postes, o armazón. Nunca asegure los cilindros a la mesa de trabajo o las piezas que son parte del circuito de soldadura. Este puede ser parte del circuito eléctrico.
3. Cuando el cilindro no está en uso, mantenga la válvula del cilindro cerrada. Ponga el capote de protección sobre la válvula si el regulador no está conectado. Asegure y mueva los cilindros utilizando un carro o transporte adecuado. Evite el manejo brusco de los



MANTENIMIENTO DEL EQUIPO -- Equipo defectuoso o mal mantenido puede causar daño o muerte. Por lo tanto:

1. Siempre tenga personal cualificado para efectuar la instalación, diagnóstico, y mantenimiento del equipo. No ejecute ningún trabajo eléctrico a menos que usted esté cualificado para hacer el trabajo.
2. Antes de dar mantenimiento en el interior de la fuente de poder, desconecte la fuente de poder del suministro de electricidad primaria.
3. Mantenga los cables, cable a tierra, conexiones, cable primario, y cualquier otra fuente de poder en buen estado operacional. No opere ningún equipo en malas condiciones.
4. No abuse del equipo y sus accesorios. Mantenga el equipo lejos de cosas que generen calor como hornos, también lugares húmedos como charcos de agua, aceite o grasa, atmósferas corrosivas y las inclemencias del tiempo.
5. Mantenga todos los artículos de seguridad y coberturas del equipo en su posición y en buenas condiciones.
6. Use el equipo sólo para el propósito que fue diseñado. No modifique el equipo en ninguna manera.

INFORMACION ADICIONAL DE SEGURIDAD -- Para más información sobre las prácticas de seguridad de los equipos de arco eléctrico para soldar y cortar, pregunte a su proveedor por una copia de "Precautions and Safe Practices for Arc Welding, Cutting and Gouging-Form 52-529."



Las siguientes publicaciones, disponibles a través de la American Welding Society, 550 N.W. LeJuene Road, Miami, FL 33126, son recomendadas para usted:

1. ANSI/ASC Z49.1 - "Safety in Welding and Cutting"
2. AWS C5.1 - "Recommended Practices for Plasma Arc Welding"
3. AWS C5.2 - "Recommended Practices for Plasma Arc Cutting"
4. AWS C5.3 - "Recommended Practices for Air Carbon Arc Gouging and Cutting"



SIGNIFICADO DE LOS SIMBOLOS
--Según usted avanza en la lectura de este folleto: Los Símbolos Significan ¡Atención! ¡Esté Alerta! Se trata de su seguridad.



Significa riesgo inmediato que, de no ser evadido, puede resultar inmediatamente en serio daño personal o la muerte.



Significa el riesgo de un peligro potencial que puede resultar en serio daño personal o la muerte.



Significa el posible riesgo que puede resultar en menores daños a la persona.

1.3 La sûreté - français



AVERTISSEMENT : Ces règles de sécurité ont pour but d'assurer votre protection. Ils récapitulent les informations de précaution provenant des références dans la section des Informations de sécurité supplémentaires. Avant de procéder à l'installation ou d'utiliser l'unité, assurez-vous de lire et de suivre les précautions de sécurité ci-dessous, dans les manuels, les fiches d'information sur la sécurité du matériel et sur les étiquettes, etc. Tout défaut d'observer ces précautions de sécurité peut entraîner des blessures graves ou mortelles.



PROTÉGEZ-VOUS -- Les processus de soudage, de coupage et de gougeage produisent un niveau de bruit élevé et exige l'emploi d'une protection auditive. L'arc, tout comme le soleil, émet des rayons ultraviolets en plus d'autre rayons qui peuvent causer des blessures à la peau et les yeux. Le métal incandescent peut causer des brûlures. Une formation reliée à l'usage des processus et de l'équipement est essentielle pour prévenir les accidents. Par conséquent:

1. Portez des lunettes protectrices munies d'écrans latéraux lorsque vous êtes dans l'aire de travail, même si vous devez porter un casque de soudeur, un écran facial ou des lunettes étanches.
2. Portez un écran facial muni de verres filtrants et de plaques protectrices appropriées afin de protéger vos yeux, votre visage, votre cou et vos oreilles des étincelles et des rayons de l'arc lors d'une opération ou lorsque vous observez une opération. Avertissez les personnes se trouvant à proximité de ne pas regarder l'arc et de ne pas s'exposer aux rayons de l'arc électrique ou le métal incandescent.
3. Portez des gants ignifugés à crispin, une chemise épaisse à manches longues, des pantalons sans rebord et des chaussures montantes afin de vous protéger des rayons de l'arc, des étincelles et du métal incandescent, en plus d'un casque de soudeur ou casquette pour protéger vos cheveux. Il est également recommandé de porter un tablier ininflammable afin de vous protéger des étincelles et de la chaleur par rayonnement.
4. Les étincelles et les projections de métal incandescent risquent de se loger dans les manches retroussées, les rebords de pantalons ou les poches. Il est recommandé de garder boutonnés le col et les manches et de porter des vêtements sans poches en avant.
5. Protégez toute personne se trouvant à proximité des étincelles et des rayons de l'arc à l'aide d'un rideau ou d'une cloison ininflammable.
6. Portez des lunettes étanches par dessus vos lunettes de sécurité lors des opérations d'écaillage ou de meulage du laitier. Les écailles de laitier incandescent peuvent être projetées à des distances considérables. Les personnes se trouvant à proximité doivent également porter des lunettes étanches par dessus leur lunettes de sécurité.



INCENDIES ET EXPLOSIONS -- La chaleur provenant des flammes ou de l'arc peut provoquer un incendie. Le laitier incandescent ou les étincelles peuvent également provoquer un incendie ou une explosion. Par conséquent :

1. Éloignez suffisamment tous les matériaux combustibles de l'aire de travail et recouvrez les matériaux avec un revêtement protecteur ininflammable. Les matériaux combustibles incluent le bois, les vêtements, la sciure, le gaz et les liquides combustibles, les solvants, les peintures et les revêtements, le papier, etc.
2. Les étincelles et les projections de métal incandescent peuvent tomber dans les fissures dans les planchers ou dans les ouvertures des murs et déclencher un incendie couvant à l'étage inférieur. Assurez-vous que ces ouvertures sont bien protégées des étincelles et du métal incandescent.
3. N'exécutez pas de soudure, de coupe ou autre travail à chaud avant d'avoir complètement nettoyé la surface de la pièce à traiter de façon à ce qu'il n'ait aucune substance présente qui pourrait produire des vapeurs inflammables ou toxiques. N'exécutez pas de travail à chaud sur des contenants fermés car ces derniers pourraient exploser.
4. Assurez-vous qu'un équipement d'extinction d'incendie est disponible et prêt à servir, tel qu'un tuyau d'arrosage, un seau d'eau, un seau de sable ou un extincteur portatif. Assurez-vous d'être bien instruit par rapport à l'usage de cet équipement.
5. Assurez-vous de ne pas excéder la capacité de l'équipement. Par exemple, un câble de soudage surchargé peut surchauffer et provoquer un incendie.
6. Une fois les opérations terminées, inspectez l'aire de travail pour assurer qu'aucune étincelle ou projection de métal incandescent ne risque de provoquer un incendie ultérieurement. Employez des guetteurs d'incendie au besoin.
7. Pour obtenir des informations supplémentaires, consultez le NFPA Standard 51B, "Fire Prevention in Use of Cutting and Welding Processes", disponible au National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.



CHOC ÉLECTRIQUE -- Le contact avec des pièces électriques ou les pièces de mise à la terre sous tension peut causer des blessures graves ou mortelles. NE PAS utiliser un courant de soudage c.a. dans un endroit humide, en espace restreint ou si un danger de chute se pose.

1. Assurez-vous que le châssis de la source d'alimentation est branché au système de mise à la terre de l'alimentation d'entrée.
2. Branchez la pièce à traiter à une bonne mise de terre électrique.
3. Branchez le câble de masse à la pièce à traiter et assurez une bonne connexion afin d'éviter le risque de choc électrique mortel.
4. Utilisez toujours un équipement correctement entretenu. Remplacez les câbles usés ou endommagés.
5. Veillez à garder votre environnement sec, incluant les vêtements, l'aire de travail, les câbles, le porte-électrode/torche et la source d'alimentation.
6. Assurez-vous que tout votre corps est bien isolé de la pièce à traiter et des pièces de la mise à la terre.
7. Si vous devez effectuer votre travail dans un espace restreint ou humide, ne tenez vous pas directement sur le métal ou sur la terre; tenez-vous sur des planches sèches ou une plate-forme isolée et portez des chaussures à semelles de caoutchouc.
8. Avant de mettre l'équipement sous tension, isolez vos mains avec des gants secs et sans trous.
9. Mettez l'équipement hors tension avant d'enlever vos gants.
10. Consultez ANSI/ASC Standard Z49.1 (listé à la page suivante) pour des recommandations spécifiques concernant les procédures de mise à la terre. Ne pas confondre le câble de masse avec le câble de mise à la terre.



CHAMPS ÉLECTRIQUES ET MAGNÉTIQUES — comportent un risque de danger. Le courant électrique qui passe dans n'importe quel conducteur produit des champs électriques et magnétiques localisés. Le soudage et le courant de coupage créent des champs électriques et magnétiques autour des câbles de soudage et l'équipement. Par conséquent :

1. Un soudeur ayant un stimulateur cardiaque doit consulter son médecin avant d'entreprendre une opération de soudage. Les champs électriques et magnétiques peuvent causer des ennuis pour certains stimulateurs cardiaques.
2. L'exposition à des champs électriques et magnétiques peut avoir des effets néfastes inconnus pour la santé.

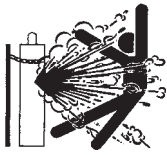
3. Les soudeurs doivent suivre les procédures suivantes pour minimiser l'exposition aux champs électriques et magnétiques :
 - A. Acheminez l'électrode et les câbles de masse ensemble. Fixez-les à l'aide d'une bande adhésive lorsque possible.
 - B. Ne jamais enrouler la torche ou le câble de masse autour de votre corps.
 - C. Ne jamais vous placer entre la torche et les câbles de masse. Acheminez tous les câbles sur le même côté de votre corps.
 - D. Branchez le câble de masse à la pièce à traiter le plus près possible de la section à souder.
 - E. Veillez à garder la source d'alimentation pour le soudage et les câbles à une distance appropriée de votre corps.



LES VAPEURS ET LES GAZ -- peuvent causer un malaise ou des dommages corporels, plus particulièrement dans les espaces restreints. Ne respirez pas les vapeurs et les gaz. Le gaz de protection risque de causer l'asphyxie. Par conséquent :

1. Assurez en permanence une ventilation adéquate dans l'aire de travail en maintenant une ventilation naturelle ou à l'aide de moyens mécanique. N'effectuez jamais de travaux de soudage, de coupage ou de gougeage sur des matériaux tels que l'acier galvanisé, l'acier inoxydable, le cuivre, le zinc, le plomb, le beryllium ou le cadmium en l'absence de moyens mécaniques de ventilation efficaces. Ne respirez pas les vapeurs de ces matériaux.
2. N'effectuez jamais de travaux à proximité d'une opération de dégraissage ou de pulvérisation. Lorsque la chaleur ou le rayonnement de l'arc entre en contact avec les vapeurs d'hydrocarbure chloré, ceci peut déclencher la formation de phosgène ou d'autres gaz irritants, tous extrêmement toxiques.
3. Une irritation momentanée des yeux, du nez ou de la gorge au cours d'une opération indique que la ventilation n'est pas adéquate. Cessez votre travail afin de prendre les mesures nécessaires pour améliorer la ventilation dans l'aire de travail. Ne poursuivez pas l'opération si le malaise persiste.
4. Consultez ANSI/ASC Standard Z49.1 (à la page suivante) pour des recommandations spécifiques concernant la ventilation.

5. AVERTISSEMENT : Ce produit, lorsqu'il est utilisé dans une opération de soudage ou de coupage, dégage des vapeurs ou des gaz contenant des chimiques considérées par l'état de la Californie comme étant une cause des malformations congénitales et dans certains cas, du cancer. (California Health & Safety Code §25249.5 et seq.)



MANIPULATION DES CYLINDRES --
La manipulation d'un cylindre, sans observer les précautions nécessaires, peut produire des fissures et un échappement dangereux des gaz.

Une brisure soudaine du cylindre, de la soupape ou du dispositif de surpression peut causer des blessures graves ou mortelles. Par conséquent :

1. Utilisez toujours le gaz prévu pour une opération et le détendeur approprié conçu pour utilisation sur les cylindres de gaz comprimé. N'utilisez jamais d'adaptateur. Maintenez en bon état les tuyaux et les raccords. Observez les instructions d'opération du fabricant pour assembler le détendeur sur un cylindre de gaz comprimé.
2. Fixez les cylindres dans une position verticale, à l'aide d'une chaîne ou une sangle, sur un chariot manuel, un châssis de roulement, un banc, un mur, une colonne ou un support convenable. Ne fixez jamais un cylindre à un poste de travail ou toute autre dispositif faisant partie d'un circuit électrique.
3. Lorsque les cylindres ne servent pas, gardez les soupapes fermées. Si le détendeur n'est pas branché, assurez-vous que le bouchon de protection de la soupape est bien en place. Fixez et déplacez les cylindres à l'aide d'un chariot manuel approprié. Toujours manipuler les cylindres avec soin.
4. Placez les cylindres à une distance appropriée de toute source de chaleur, des étincelles et des flammes. Ne jamais amorcer l'arc sur un cylindre.
5. Pour de l'information supplémentaire, consultez CGA Standard P-1, "Precautions for Safe Handling of Compressed Gases in Cylinders", mis à votre disposition par le Compressed Gas Association, 1235 Jefferson Davis Highway, Arlington, VA 22202.



ENTRETIEN DE L'ÉQUIPEMENT -- Un équipement entretenu de façon défectueuse ou inadéquate peut causer des blessures graves ou mortelles. Par conséquent :

1. Efforcez-vous de toujours confier les tâches d'installation, de dépannage et d'entretien à un personnel qualifié. N'effectuez aucune réparation électrique à moins d'être qualifié à cet effet.
2. Avant de procéder à une tâche d'entretien à l'intérieur de la source d'alimentation, débranchez l'alimentation électrique.
3. Maintenez les câbles, les fils de mise à la terre, les branchements, le cordon d'alimentation et la source d'alimentation en bon état. N'utilisez jamais un équipement s'il présente une défectuosité quelconque.
4. N'utilisez pas l'équipement de façon abusive. Gardez l'équipement à l'écart de toute source de chaleur, notamment des fours, de l'humidité, des flaques d'eau, de l'huile ou de la graisse, des atmosphères corrosives et des intempéries.
5. Laissez en place tous les dispositifs de sécurité et tous les panneaux de la console et maintenez-les en bon état.
6. Utilisez l'équipement conformément à son usage prévu et n'effectuez aucune modification.



INFORMATIONS SUPPLÉMENTAIRES RELATIVES À LA SÉCURITÉ -- Pour obtenir de l'information supplémentaire sur les règles de sécurité à observer pour l'équipement de soudage à l'arc électrique et le coupage, demandez un exemplaire du livret "Precautions and Safe Practices for Arc Welding, Cutting and Gouging", Form 52-529.

Les publications suivantes sont également recommandées et mises à votre disposition par l'American Welding Society, 550 N.W. LeJuene Road, Miami, FL 33126 :

1. ANSI/ASC Z49.1 - "Safety in Welding and Cutting"
2. AWS C5.1 - "Recommended Practices for Plasma Arc Welding"
3. AWS C5.2 - "Recommended Practices for Plasma Arc Cutting"
4. AWS C5.3 - "Recommended Practices for Air Carbon Arc Gouging and Cutting"



SIGNIFICATION DES SYMBOLES

Ce symbole, utilisé partout dans ce manuel, signifie "Attention" ! Soyez vigilant ! Votre sécurité est en jeu.



DANGER

Signifie un danger immédiat. La situation peut entraîner des blessures graves ou mortelles.



AVERTISSEMENT

Signifie un danger potentiel qui peut entraîner des blessures graves ou mortelles.



ATTENTION

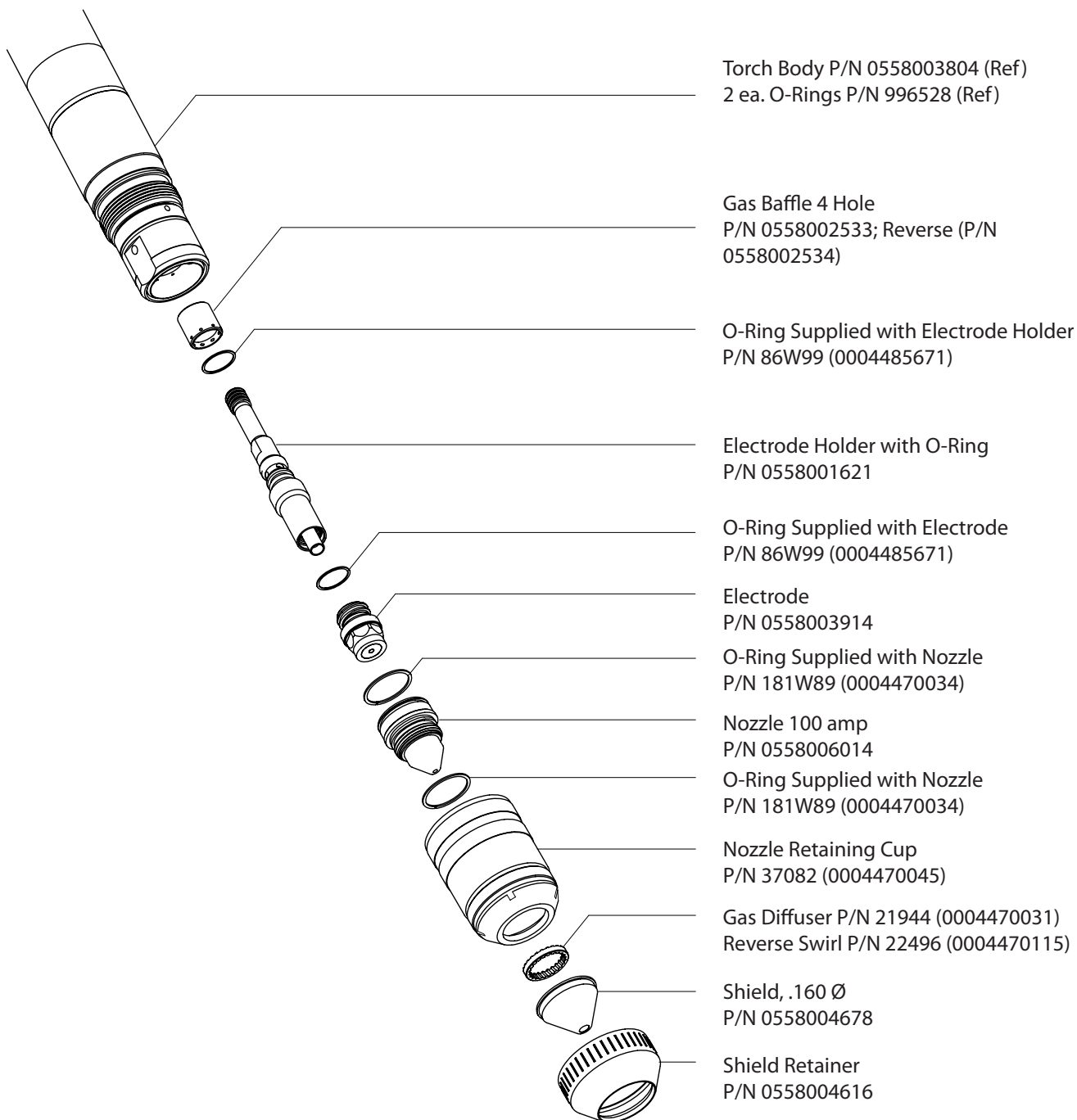
Signifie un danger qui peut entraîner des blessures corporelles mineures.

PT-36 CUT DATA



PLASMARC™ Cutting Torch
Smartflow Plasma System

Material:	Carbon Steel
Amperes:	70 / 110
Start Gas:	Nitrogen (N ₂) @ 150 psi / 10.2 bar
Cut Gas:	Oxygen (O ₂) @ 150 psi / 10.2 bar
Shield Gas 1:	Nitrogen (N ₂) @ 100 psi / 6.9 bar
Shield Gas 2:	Oxygen (O ₂) @ 100 psi / 6.9 bar



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**70 / 110 Amperes
Carbon Steel**

Matl. Thick	IN	.188	.250	.312
	MM	4.78	6.35	7.92

Timers (seconds)	Rise On Pierce	0.0	0.0	0.0
	Pierce Delay	0.1	0.1	0.1
	Auto Height Delay	0.2	0.2	0.2

Setup Parameters Pressure @ Flow	Plasma Start Gas (N ₂)	22psi @ 75cfh	22psi @ 75cfh	22psi @ 75cfh
		1.5bar @ 2.2cmh	1.5bar @ 2.2cmh	1.5bar @ 2.2cmh
	Plasma Cut Gas (O ₂)	45psi @ 110cfh	45psi @ 110cfh	45psi @ 110cfh
		3.1bar @ 3.1cmh	3.1bar @ 3.1cmh	3.1bar @ 3.1cmh
	Shield Start Gas (N ₂)	20psi @ 37cfh	20psi @ 37cfh	20psi @ 37cfh
		1.4bar @ 1.0cmh	1.4bar @ 1.0cmh	1.4bar @ 1.0cmh
	Shield Cut Gas 1 (N ₂)	20psi @ 37cfh	15psi @ 30cfh	15psi @ 30cfh
		1.4bar @ 1.0cmh	1.0bar @ 0.8cmh	1.0bar @ 0.8cmh
	Shield Cut Gas 2 (O ₂)	100psi @ 115cfh	100psi @ 115cfh	100psi @ 115cfh
		6.8bar @ 3.2cmh	6.8bar @ 3.2cmh	6.8bar @ 3.2cmh

Height Readings	Initial Height	IN	.250	.250	.250
		MM	6.35	6.35	6.35
	Arc Voltage (standoff)		133	130	133

Travel Speed	IPM	100	84	70
	MM/MIN	2540	2134	1778

Kerf Width	Inches	.078	.078	.086
	Millimeters	1.98	1.98	2.18

Amps	Amperes	90	90	90
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Notes:

- Pilot Arc Set to LOW when applicable.
- Cutting with 100 amp nozzle, use P/N 0558005306
- Up to 0.50 inch thick material use Gas Baffle 4 Hole P/N 0558002533, Reverse 4 hole P/N 0558002534
- Mixer required for this process.

PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**70 / 110 Amperes
Carbon Steel**

Matl. Thick	IN	.375	.416	.500
	MM	9.53	10.57	12.70

Timers (seconds)	Rise On Pierce	0.1	0.1	0.1
	Pierce Delay	0.3	0.3	0.3
	Auto Height Delay	0.2	0.2	0.2

Setup Parameters Pressure @ Flow	Plasma Start Gas (N ₂)	22psi @ 75cfh	22psi @ 75cfh	22psi @ 75cfh
		1.5bar @ 2.2cmh	1.5bar @ 2.2cmh	1.5bar @ 2.2cmh
	Plasma Cut Gas (O ₂)	45psi @ 110cfh	45psi @ 110cfh	45psi @ 110cfh
		3.1bar @ 3.1cmh	3.1bar @ 3.1cmh	3.1bar @ 3.1cmh
	Shield Start Gas (N ₂)	29psi @ 46cfh	29psi @ 46cfh	29psi @ 46cfh
		2.0bar @ 1.3cmh	2.0bar @ 1.3cmh	2.0bar @ 1.3cmh
	Shield Cut Gas 1 (N ₂)	29psi @ 46cfh	29psi @ 46cfh	29psi @ 46cfh
		2.0bar @ 1.3cmh	2.0bar @ 1.3cmh	2.0bar @ 1.3cmh
	Shield Cut Gas 2 (O ₂)	100psi @ 115cfh	100psi @ 115cfh	100psi @ 115cfh
		6.8bar @ 3.2cmh	6.8bar @ 3.2cmh	6.8bar @ 3.2cmh

Height Readings	Initial Height	IN	.250	.250	.250
		MM	6.35	6.35	6.35
	Arc Voltage (standoff)		135	135	135

Travel Speed	IPM	65	60	60
	MM/MIN	1651	1524	1524

Kerf Width	Inches	.078	.110	.076
	Millimeters	1.98	2.79	1.93

Amps	Amperes	90	90	90
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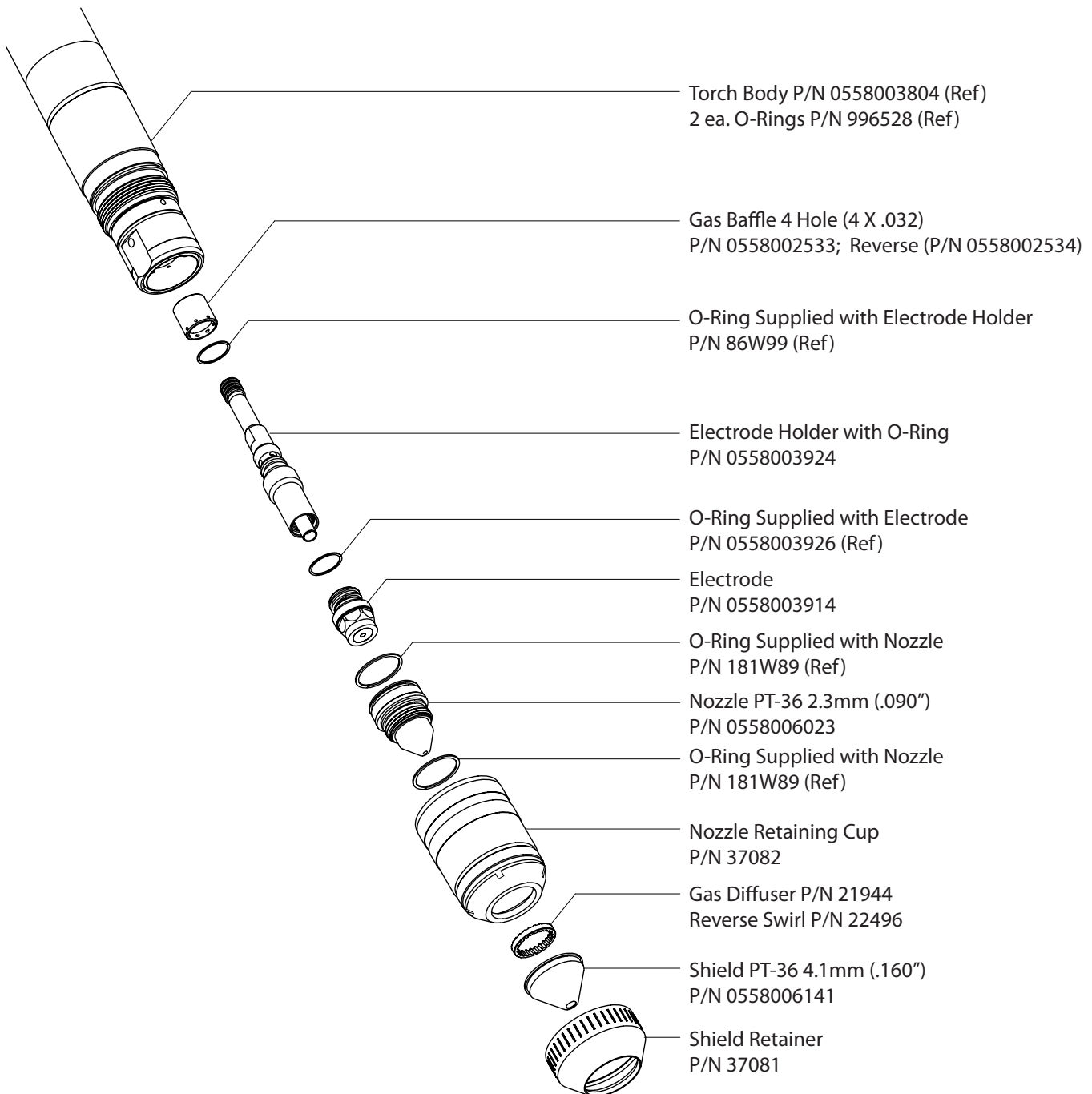
Notes:

- Pilot Arc Set to LOW when applicable.
- Cutting with 100 amp nozzle, use P/N 0558005306
- Up to 0.50 inch thick material use Gas Baffle 4 Hole P/N 0558002533, Reverse 4 hole P/N 0558002534
- Mixer required for this process.

PT-36 CUT DATA

ESAB **PT-36**
PLASMARC™ Cutting Torch
Smartflow Plasma System

Material:	Carbon Steel
Amperes:	260 / 280
Start Gas:	Nitrogen (N ₂) @ 125 psi / 8.6 bar
Cut Gas:	Oxygen (O ₂) @ 125 psi / 8.6 bar
Shield Gas 1:	Nitrogen (N ₂) @ 60 psi / 4.1 bar
Shield Gas 2:	Oxygen (O ₂) @ 110 psi / 7.6 bar



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**260 / 280 Amperes
Carbon Steel**

Matl. Thick	IN	.250	.312	.375
	MM	6.35	7.92	9.53

Timers (seconds)	Rise On Pierce	0.0	0.0	0.0
	Pierce Delay	0.0	0.0	0.0
	Auto Height Delay	0.2	0.4	0.4

Setup Parameters Pressure @ Flow	Plasma Start Gas (N ₂)	20psi @ 40cfh	20psi @ 40cfh	20psi @ 40cfh
		1.4bar @ 1.1cmh	1.4bar @ 1.1cmh	1.4bar @ 1.1cmh
	Plasma Cut Gas (O ₂)	40psi @ 100cfh	50psi @ 120cfh	50psi @ 120cfh
		2.8bar @ 2.8cmh	3.5bar @ 3.4cmh	3.5bar @ 3.4cmh
	Shield Start Gas (N ₂)	70psi @ 90cfh	60psi @ 79cfh	50psi @ 68cfh
		4.8bar @ 2.5cmh	4.1bar @ 2.2cmh	3.5bar @ 1.9cmh
	Shield Cut Gas 1 (N ₂)	70psi @ 90cfh	60psi @ 79cfh	50psi @ 68cfh
		4.8bar @ 2.5cmh	4.1bar @ 2.2cmh	3.5bar @ 1.9cmh
	Shield Cut Gas 2 (O ₂)	100psi @ 114cfh	100psi @ 114cfh	100psi @ 114cfh
		6.9bar @ 3.2cmh	6.9bar @ 3.2cmh	6.9bar @ 3.2cmh

Height Readings	Initial Height	IN	.25	.25	.25
		MM	6.35	6.35	6.35
	Arc Voltage (standoff)		125	132	133

Travel Speed	IPM	152	150	126
	MM/MIN	3861	3810	3200

Kerf Width	Inches	.110	.120	.126
	Millimeters	2.8	3.05	3.20

Amps	Amperes	260	260	260
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Notes:

- Pilot Arc Set to LOW when applicable.
- When cutting with 250 amp nozzle use P/N 0558001623.
- Up to 0.50" thick material use Gas Baffle, 4 hole, P/N 0558002533. Reverse 4 hole P/N 0558002530.

PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**260 / 280 Amperes
Carbon Steel**

Matl. Thick	IN	.500	.750	1.000	1.250
	MM	12.70	19.05	25.40	31.8

Timers (seconds)	Rise On Pierce	0.0	0.2	0.3	0.3
	Pierce Delay	0.1	0.4	0.7	0.7
	Auto Height Delay	0.5	0.5	0.6	0.6

Setup Parameters Pressure @ Flow	Plasma Start Gas (N ₂)	20psi @ 40cfh	20psi @ 40cfh	20psi @ 40cfh	20psi @ 40cfh
		1.4bar @ 1.1cmh	1.4bar @ 1.1cmh	1.4bar @ 1.1cmh	1.4bar @ 1.1cmh
	Plasma Cut Gas (O ₂)	50psi @ 120cfh	45psi @ 110cfh	40psi @ 100cfh	40psi @ 100cfh
		3.5bar @ 3.7cmh	3.1bar @ 3.1cmh	2.8bar @ 2.8cmh	2.8bar @ 2.8cmh
	Shield Start Gas (N ₂)	60psi @ 79cfh	70psi @ 90cfh	70psi @ 90cfh	70psi @ 90cfh
		4.1bar @ 2.2cmh	4.8bar @ 2.5cmh	4.8bar @ 2.5cmh	4.8bar @ 2.5cmh
	Shield Cut Gas 1 (N ₂)	60psi @ 79cfh	70psi @ 90cfh	70psi @ 90cfh	70psi @ 90cfh
		4.1bar @ 2.2cmh	4.8bar @ 2.5cmh	4.8bar @ 2.5cmh	4.8bar @ 2.5cmh
	Shield Cut Gas 2 (O ₂)	100psi @ 114cfh	90psi @ 104cfh	80psi @ 94cfh	80psi @ 94cfh
		6.9bar @ 3.2cmh	6.2bar @ 2.9cmh	5.5bar @ 2.6cmh	5.5bar @ 2.6cmh

Height Readings	Initial Height	IN	.25	.500	.500	.500
		MM	6.35	12.70	12.70	12.70
	Arc Voltage (standoff)		137	143	148	146

Travel Speed	IPM	110	90	60	45
	MM/MIN	2794	2286	1524	1143

Kerf Width	Inches	.130	.151	.159	.165
	Millimeters	3.30	3.84	4.04	4.19

Amps	Amperes	260	280	285	285
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Notes:

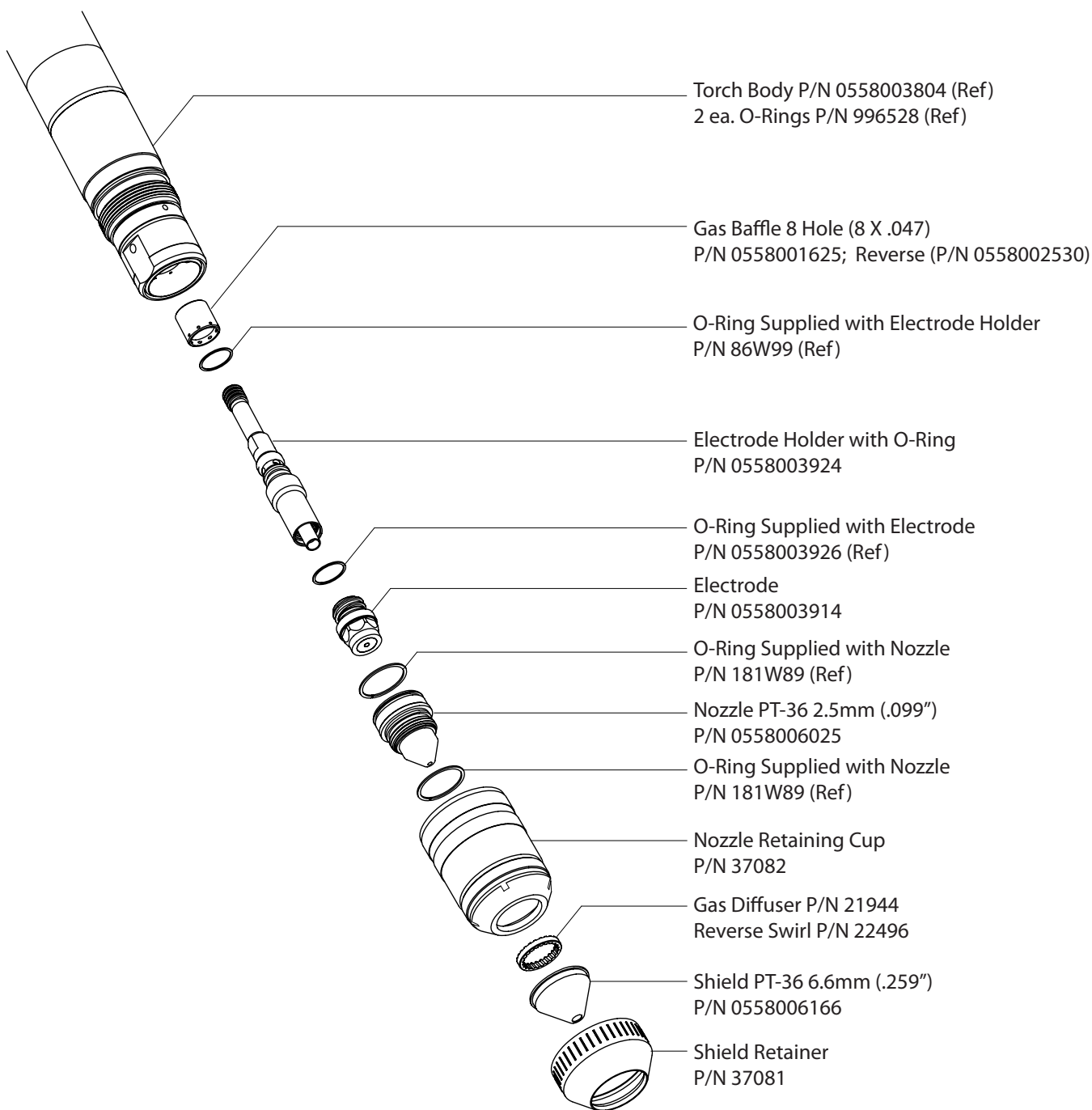
- Pilot Arc Set to LOW when applicable.
 - When cutting with 250 amp nozzle use P/N 0558001623.
- Up to 0.50" thick material use Gas Baffle, 4 hole, P/N 0558002533. Reverse 4 hole P/N 0558002530.

PT-36 CUT DATA



PLASMARC™ Cutting Torch
Smartflow Plasma System

Material:	Carbon Steel
Amperes:	280 / 300
Start Gas:	Nitrogen (N ₂) @ 125 psi / 8.6 bar
Cut Gas:	Oxygen (O ₂) @ 125 psi / 8.6 bar
Shield Gas 1:	Nitrogen (N ₂) @ 60 psi / 4.1 bar
Shield Gas 2:	Oxygen (O ₂) @ 110 psi / 7.6 bar



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**280 / 300 Amperes
Carbon Steel**

Matl. Thick	IN	.250	.312	.375
	MM	6.35	7.92	9.53

Timers (seconds)	Rise On Pierce	0.0	0.0	0.0
	Pierce Delay	0.0	0.0	0.0
	Auto Height Delay	0.4	0.4	0.4

Setup Parameters Pressure @ Flow	Plasma Start Gas (N ₂)	20psi @ xxcfh	20psi @ xxcfh	20psi @ xxcfh
		1.4bar @ xxcmh	1.4bar @ xxcmh	1.4bar @ xxcmh
	Plasma Cut Gas (O ₂)	50psi @ 120cfh	50psi @ 120cfh	50psi @ 120cfh
		3.5bar @ 3.4cmh	3.5bar @ 3.4cmh	3.5bar @ 3.4cmh
	Shield Start Gas ()			
	Shield Cut Gas 1 (N ₂)	60psi @ 80cfh	60psi @ 80cfh	60psi @ 80cfh
		4.1bar @ 2.2cmh	4.1bar @ 2.2cmh	4.1bar @ 2.2cmh
	Shield Cut Gas 2 (O ₂)	110psi @ 126cfh	110psi @ 126cfh	110psi @ 126cfh
		7.6bar @ 3.5cmh	7.6bar @ 3.5cmh	7.6bar @ 3.5cmh

Height Readings	Initial Height	IN	.250	.375	.375
		MM	6.35	9.53	9.53
	Arc Voltage (standoff)		135	138	140

Travel Speed	IPM	190	145	180
	MM/MIN	4826	3683	4572

Kerf Width	Inches	.110	.120	.126
	Millimeters	2.8	3.05	3.20

Amps	Amperes	280	300	300
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Notes:

- Pilot Arc Set to LOW when applicable.
- When cutting with 260 amp nozzle use P/N 0558001623.

PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**280 / 300 Amperes
Carbon Steel**

Matl. Thick	IN	.500	.625	.750	1.000
	MM	12.70	15.88	19.05	25.40

Timers (seconds)	Rise On Pierce	0.0	0.1	0.2	0.3
	Pierce Delay	0.1	0.3	0.4	0.7
	Auto Height Delay	0.5	0.5	0.5	0.6

Setup Parameters Pressure @ Flow	Plasma Start Gas (N ₂)	20psi @ xxcfh	20psi @ xxcfh	20psi @ xxcfh	20psi @ xxcfh
		1.4bar @ xxcmh	1.4bar @ xxcmh	1.4bar @ xxcmh	1.4bar @ xxcmh
	Plasma Cut Gas (O ₂)	50psi @ 120cfh	50psi @ 120cfh	50psi @ 120cfh	50psi @ 120cfh
		3.5bar @ 3.4cmh	3.5bar @ 3.4cmh	3.5bar @ 3.4cmh	3.5bar @ 3.4cmh
	Shield Start Gas ()				
	Shield Cut Gas 1 (N ₂)	60psi @ 80cfh	60psi @ 80cfh	60psi @ 80cfh	60psi @ 80cfh
		4.1bar @ 2.2cmh	4.1bar @ 2.2cmh	4.1bar @ 2.2cmh	4.1bar @ 2.2cmh
	Shield Cut Gas 2 (O ₂)	110psi @ 126cfh	110psi @ 126cfh	110psi @ 126cfh	110psi @ 126cfh
		7.6bar @ 3.5cmh	7.6bar @ 3.5cmh	7.6bar @ 3.5cmh	7.6bar @ 3.5cmh

Height Readings	Initial Height	IN	.375	.500	.500	.500
		MM	9.53	12.70	12.70	12.70
	Arc Voltage (standoff)		142	147	150	170

Travel Speed	IPM	140	125	95	70
	MM/MIN	3556	3175	2413	1778

Kerf Width	Inches	.129	.140	.152	.156
	Millimeters	3.28	3.56	3.86	3.96

Amps	Amperes	280	300	280	300
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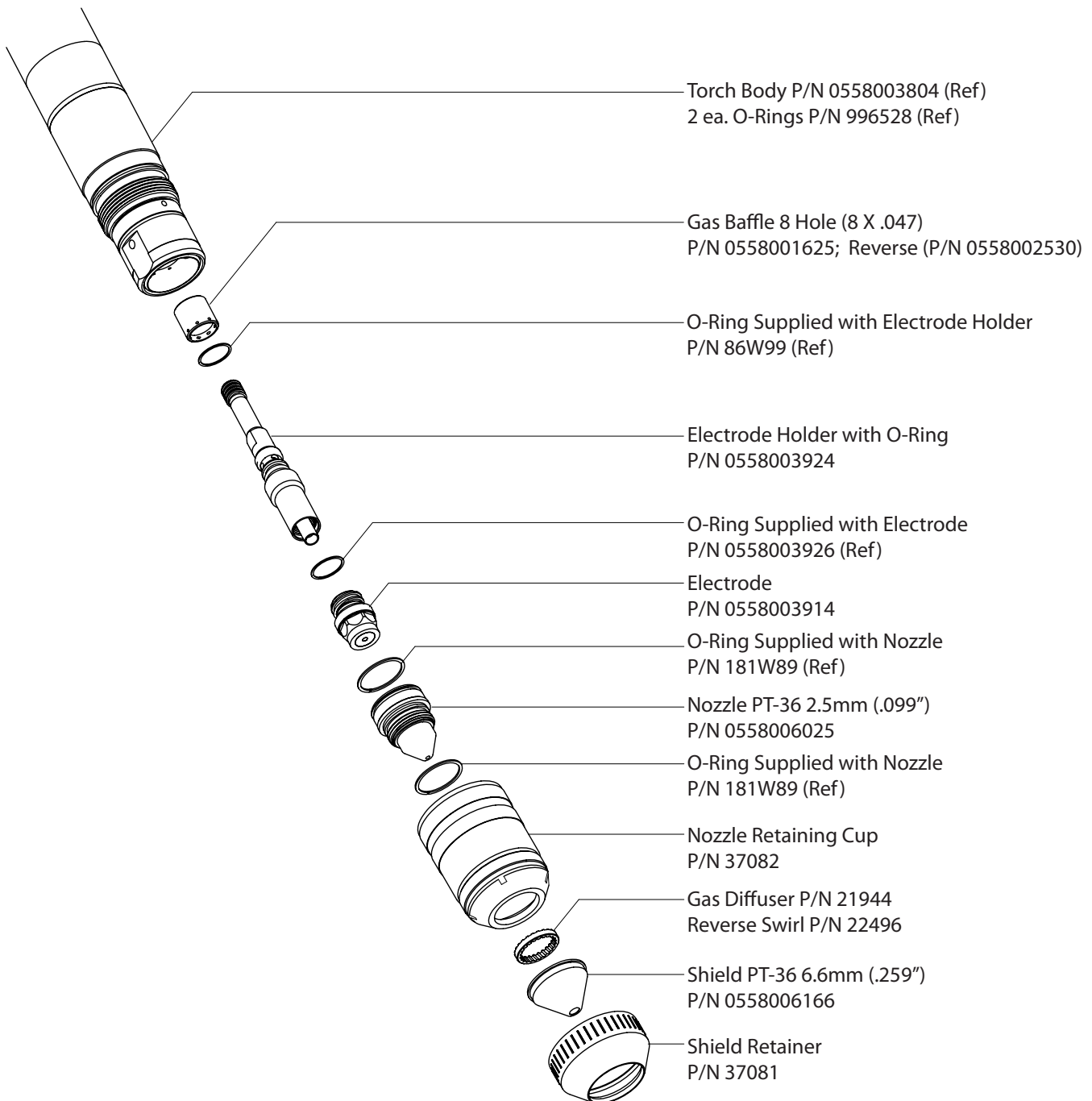
Notes:

- Pilot Arc Set to LOW when applicable.
- When cutting with 260 amp nozzle use P/N 0558001623.

PT-36 CUT DATA

ESAB[®] PT-36 PLASMARC[™] Cutting Torch Smartflow Plasma System

Material:	Carbon Steel
Amperes:	300
Start Gas:	Nitrogen (N ₂) @ 125 psi / 8.6 bar
Cut Gas:	Oxygen (O ₂) @ 125 psi / 8.6 bar
Shield Gas 1:	Nitrogen (N ₂) @ 60 psi / 4.1 bar
Shield Gas 2:	Oxygen (O ₂) @ 110 psi / 7.6 bar



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**300 Amperes
Carbon Steel**

Matl. Thick	IN	.250	.312	.375
	MM	6.35	7.92	9.53

Timers (seconds)	Rise On Pierce	0.0	0.0	0.0
	Pierce Delay	0.0	0.0	0.0
	Auto Height Delay	0.4	0.4	0.4

Setup Parameters Pressure @ Flow	Plasma Start Gas (N ₂)	20psi @ xxcfh	20psi @ xxcfh	20psi @ xxcfh
		1.4bar @ xxcmh	1.4bar @ xxcmh	1.4bar @ xxcmh
	Plasma Cut Gas (O ₂)	50psi @ 120cfh	50psi @ 120cfh	50psi @ 120cfh
		3.5bar @ 3.4cmh	3.5bar @ 3.4cmh	3.5bar @ 3.4cmh
	Shield Start Gas ()			
	Shield Cut Gas 1 (N ₂)	60psi @ 80cfh	60psi @ 80cfh	60psi @ 80cfh
		4.1bar @ 2.2cmh	4.1bar @ 2.2cmh	4.1bar @ 2.2cmh
	Shield Cut Gas 2 (O ₂)	110psi @ 126cfh	110psi @ 126cfh	110psi @ 126cfh
		7.6bar @ 3.5cmh	7.6bar @ 3.5cmh	7.6bar @ 3.5cmh

Height Readings	Initial Height	IN	.250	.375	.375
		MM	6.35	9.53	9.53
	Arc Voltage (standoff)		135	140	144

Travel Speed	IPM	260	230	200
	MM/MIN	6604	5842	50.80

Kerf Width	Inches	.110	.120	.126
	Millimeters	2.8	3.05	3.20

Amps	Amperes	300	300	300
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Notes:

- Pilot Arc Set to LOW when applicable.
- When cutting with 260 amp nozzle use P/N 0558001623.

PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**300 Amperes
Carbon Steel**

Matl. Thick	IN	.500	.625	.750	1.000
	MM	12.70	15.88	19.05	25.40

Timers (seconds)	Rise On Pierce	0.0	0.1	0.2	0.3
	Pierce Delay	0.1	0.3	0.4	0.7
	Auto Height Delay	0.4	0.4	0.5	0.6

Setup Parameters Pressure @ Flow	Plasma Start Gas (N ₂)	20psi @ xxcfh	20psi @ xxcfh	20psi @ xxcfh	20psi @ xxcfh
		1.4bar @ xxcmh	1.4bar @ xxcmh	1.4bar @ xxcmh	1.4bar @ xxcmh
	Plasma Cut Gas (O ₂)	50psi @ 120cfh	50psi @ 120cfh	50psi @ 120cfh	50psi @ 120cfh
		3.5bar @ 3.4cmh	3.5bar @ 3.4cmh	3.5bar @ 3.4cmh	3.5bar @ 3.4cmh
	Shield Start Gas ()				
	Shield Cut Gas 1 (N ₂)	60psi @ 80cfh	60psi @ 80cfh	60psi @ 80cfh	60psi @ 80cfh
		4.1bar @ 2.2cmh	4.1bar @ 2.2cmh	4.1bar @ 2.2cmh	4.1bar @ 2.2cmh
	Shield Cut Gas 2 (O ₂)	110psi @ 126cfh	110psi @ 126cfh	110psi @ 126cfh	110psi @ 126cfh
		7.6bar @ 3.5cmh	7.6bar @ 3.5cmh	7.6bar @ 3.5cmh	7.6bar @ 3.5cmh

Height Readings	Initial Height	IN	.375	.500	.500	.500
		MM	9.53	12.70	12.70	12.70
	Arc Voltage (standoff)		145	147	149	155

Travel Speed	IPM	170	150	120	80
	MM/MIN	4318	3810	3048	2032

Kerf Width	Inches	.129	.140	.152	.156
	Millimeters	3.28	3.56	3.86	3.96

Amps	Amperes	300	300	300	300
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Notes:

- Pilot Arc Set to LOW when applicable.
- When cutting with 260 amp nozzle use P/N 0558001623.

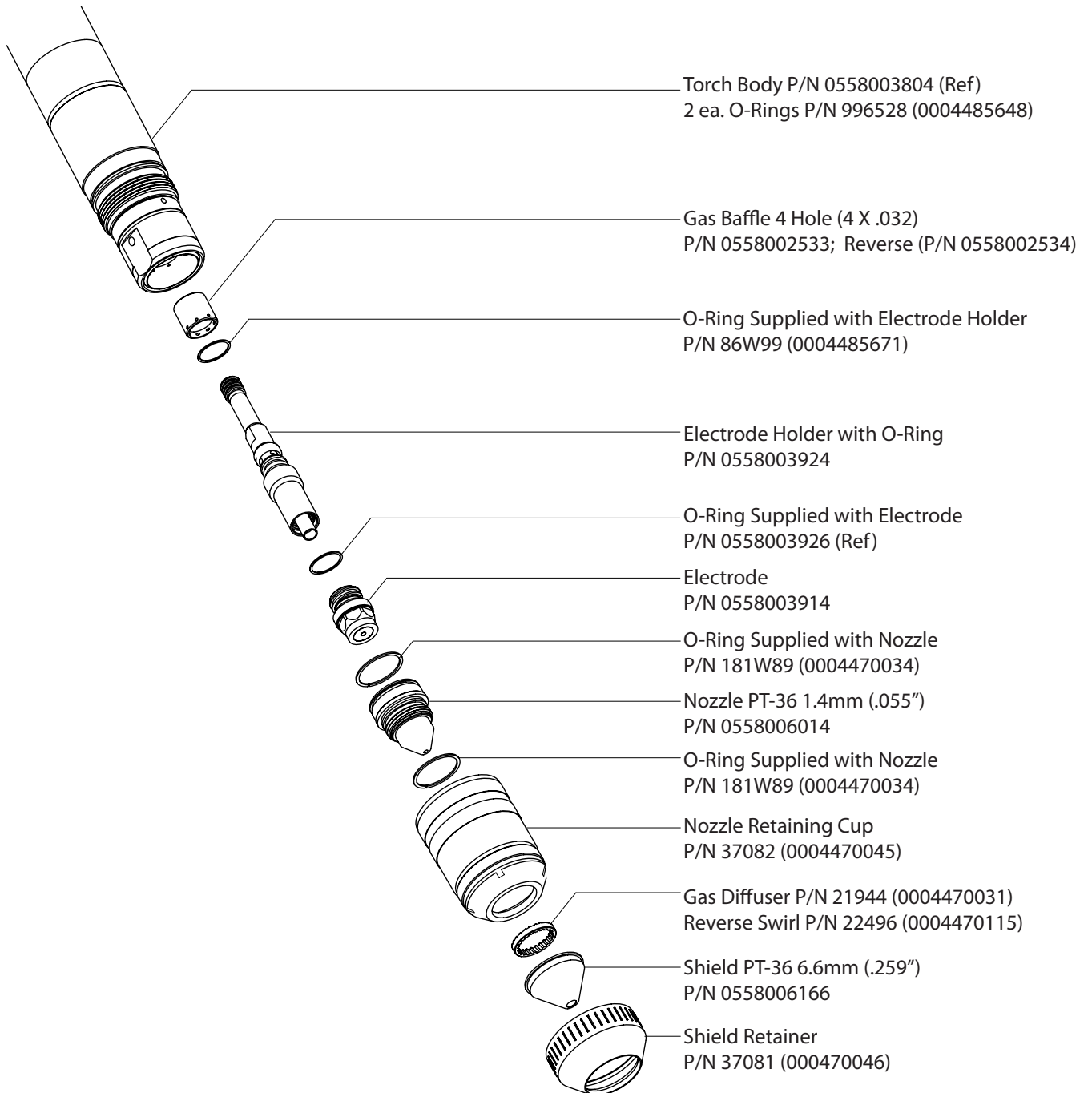
PT-36 CUT DATA



PLASMARC™ Cutting Torch
Smartflow Plasma System

Material:	Carbon Steel
Amperes:	100
Plasma Start Gas:	Nitrogen (N_2) @ 100 psi / 6.9 bar
Plasma Cut Gas:	Oxygen (O_2) @ 100 psi / 6.9 bar
Shield Start Gas:	*Air @ 60 psi / 4.1 bar
Shield Cut Gas:	*Air @ 60 psi / 4.1 bar

*Do not use shop Air.
Use bottled/compressed.



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**100 Amperes
Carbon Steel**

Material Thickness	in(mm)	.125 (3.2)	0.188 (4.8)	0.250 (6.4)	0.313 (7.9)	0.375 (9.5)	0.500 (12.7)	0.625 (15.9)	0.750 (19.1)
Timers (seconds)	Rise on Pierce	0	0	0	0	0.2	0.4	0.5	0.3
	Pierce Delay	0	0	0	0	0.2	0.5	0.6	0.7
Setup Parameters Pressure @ Flow	Plasma Start Gas - (N ₂)	25 psi	25 psi	25 psi	25 psi	25 psi	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas - (O ₂)	46 psi	46 psi	44 psi	46 psi	46 psi	46 psi	48 psi	46 psi
		3.2 bar	3.2 bar	3.0 bar	3.2 bar	3.2 bar	3.2 bar	3.3 bar	3.2 bar
	Shield Start Gas - (Air)	20 psi	20 psi	20 psi	20 psi	20 psi	20 psi	20 psi	18 psi
		1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.2 bar
	Shield Cut Gas - (Air)	10 psi	18 psi	18 psi	10 psi	16 psi	10 psi	12 psi	10 psi
		0.69 bar	1.2 bar	1.2 bar	0.69 bar	1.1 bar	0.69 bar	0.8 bar	0.69 bar
Height Readings	Initial Height in(mm)	.375 (9.5)	.375 (9.5)	.375 (9.5)	.375 (9.5)	.375 (9.5)	0.500 (12.7)	0.500 (12.7)	0.500 (12.7)
	Arc Voltage (standoff)	123	135	133	134	149	141	159	162
Travel Speed	IPM	190	150	120	100	80	60	38	20
	MM/MIN	4826	3810	3048	2540	2032	1524	965	508
Kerf Width	Inches	.08	.075	.100	.085	.012	.100	.14	.145
	Millimeters	2.0	1.9	2.5	2.2	3.0	2.5	3.6	3.7

Notes:

- Pilot Arc Set to LOW.
- Except where noted, data is for above water cutting. Reduce speed approximately 10% when cutting under water.

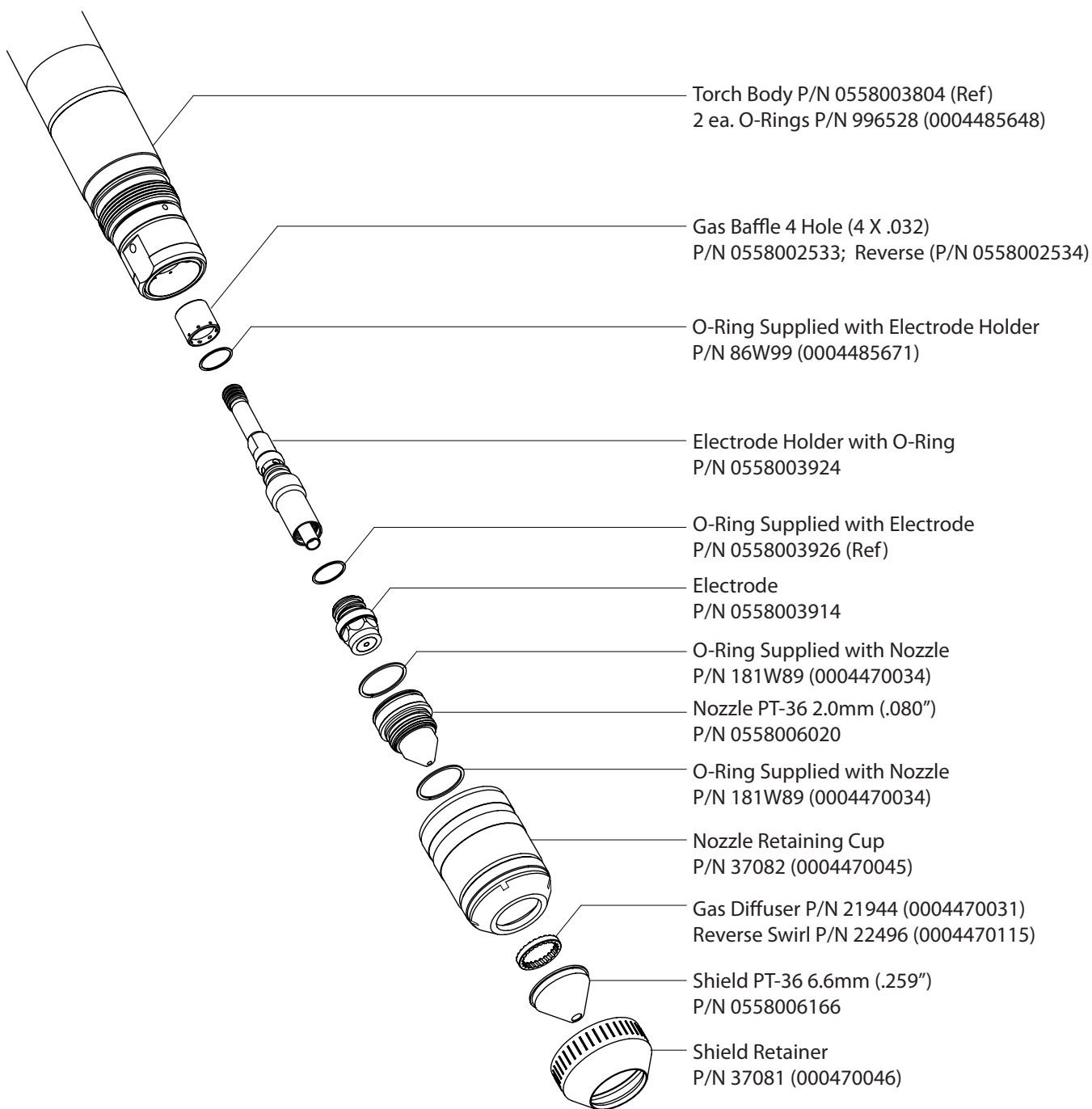
PT-36 CUT DATA



PLASMARC™ Cutting Torch
Smartflow Plasma System

Material:	Carbon Steel
Amperes:	150
Plasma Start Gas:	Nitrogen (N_2) @ 100 psi / 6.9 bar
Plasma Cut Gas:	Oxygen (O_2) @ 100 psi / 6.9 bar
Shield Start Gas:	*Air @ 60 psi / 4.1 bar
Shield Cut Gas:	*Air @ 60 psi / 4.1 bar

*Do not use shop Air.
Use bottled/compressed.



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**150 Amperes
Carbon Steel**

Material Thickness	in(mm)	0.188 (4.8)	0.250 (6.4)	0.313 (7.9)	0.375 (9.5)	0.500 (12.7)	0.625 (15.9)	0.750 (19.1)	1.000 (25.4)
Timers (seconds)	Rise on Pierce	0	0	0	0	0.2	0.2	0.2	0.3
	Pierce Delay	0	0	0	0	0.4	0.5	0.8	1.0
Setup Parameters Pressure @ Flow	Plasma Start Gas - (N ₂)	20 psi	20 psi	20 psi	20 psi	20 psi	20 psi	20 psi	20 psi
		1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.4 bar
	Plasma Cut Gas - (O ₂)	37 psi	37 psi	37 psi	37 psi	37 psi	44 psi	37 psi	37 psi
		2.6 bar	2.6 bar	2.6 bar	2.6 bar	2.6 bar	3.0 bar	2.6 bar	2.6 bar
	Shield Start Gas - (Air)	20 psi	20 psi	20 psi	20 psi	20 psi	21 psi	18 psi	18 psi
		1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.5 bar	1.2 bar	1.2 bar
	Shield Cut Gas - (Air)	18 psi	18 psi	18 psi	18 psi	16 psi	18 psi	10 psi	16 psi
		1.2 bar	1.2 bar	1.2 bar	1.2 bar	1.1 bar	1.2 bar	0.7 bar	1.1 bar
Height Readings	Initial Height in(mm)	.375 (9.5)	.375 (9.5)	.375 (9.5)	.375 (9.5)	0.500 (12.7)	0.500 (12.7)	0.500 (12.7)	0.500 (12.7)
	Arc Voltage (standoff)	127	126	131	134	140	151	157	156
Travel Speed	IPM	160	150	120	90	75	55	45	25
	MM/MIN	4064	3810	3048	2286	1905	1397	1143	635
Kerf Width	Inches	.085	.095	.095	.120	.105	.125	.150	.165
	Millimeters	2.2	2.4	2.4	3.0	2.7	3.2	3.8	4.2

Notes:

- Pilot Arc Set to LOW.
- Except where noted, data is for above water cutting. Reduce speed approximately 10% when cutting under water.

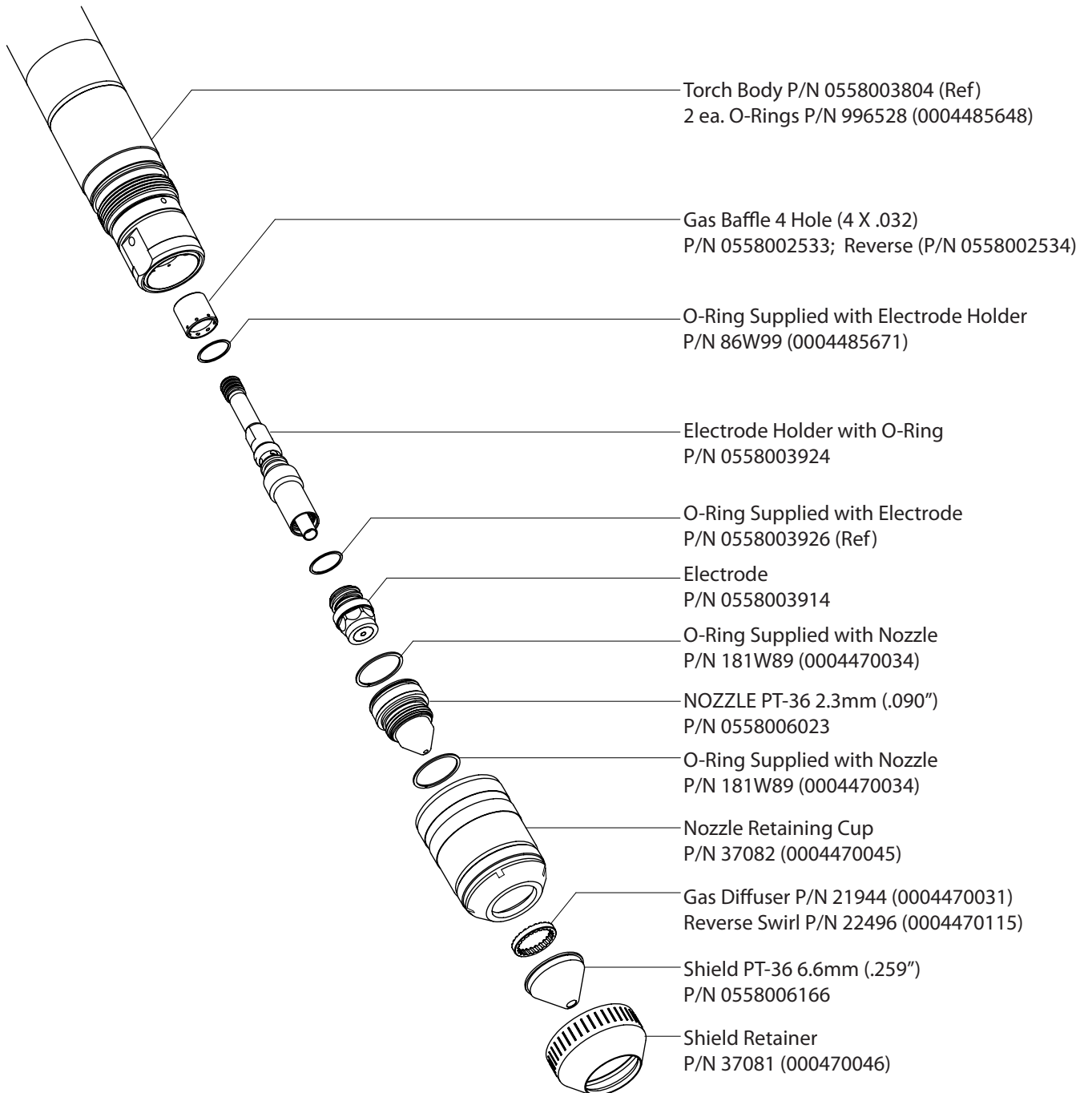
PT-36 CUT DATA



PLASMARC™ Cutting Torch
Smartflow Plasma System

Material:	Carbon Steel
Amperes:	200
Plasma Start Gas:	Nitrogen (N_2) @ 100 psi / 6.9 bar
Plasma Cut Gas:	Oxygen (O_2) @ 100 psi / 6.9 bar
Shield Start Gas:	*Air @ 60 psi / 4.1 bar
Shield Cut Gas:	*Air @ 60 psi / 4.1 bar

*Do not use shop Air.
Use bottled/compressed.



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**200 Amperes
Carbon Steel**

Material Thickness	in(mm)	0.250 (6.4)	0.313 (7.9)	0.375 (9.5)	0.500 (12.7)	0.625 (15.9)	0.750 (19.1)	1.000 (25.4)	1.250 (31.8)
Timers (seconds)	Rise on Pierce	0	0	0	0.1	0.2	0.3	0.3	0.6
	Pierce Delay	0	0.2	0	0.2	0.3	0.3	0.5	1.0
Setup Parameters Pressure @ Flow	Plasma Start Gas - (N ₂)	26 psi	25 psi	25 psi	25 psi	20 psi	25 psi	25 psi	25 psi
		1.8 bar	1.7 bar	1.7 bar	1.7 bar	1.4 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas - (O ₂)	40 psi	43 psi	40 psi	44 psi	40 psi	40 psi	40 psi	44 psi
		2.8 bar	3.0 bar	2.8 bar	3.0 bar	2.8 bar	2.8 bar	2.8 bar	3.0 bar
	Shield Start Gas - (Air)	20 psi	20 psi	20 psi	20 psi	20 psi	18 psi	18 psi	22 psi
		1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.2 bar	1.2 bar	1.5 bar
	Shield Cut Gas - (Air)	8 psi	14 psi	18 psi	10 psi	11 psi	7 psi	12 psi	22 psi
		0.6 bar	1.0 bar	1.2 bar	0.7 bar	0.8 bar	0.5 bar	0.8 bar	1.5 bar
	Height Readings	Initial Height in(mm)	.375 (9.5)	.375 (9.5)	.375 (9.5)	0.500 (12.7)	0.500 (12.7)	0.500 (12.7)	0.500 (12.7)
		Arc Voltage (standoff)	124	129	132	129	139	142	153
Travel Speed	IPM	170	140	110	90	65	55	40	20
	MM/MIN	4318	3556	2794	2286	1651	1397	1016	508
Kerf Width	Inches	.095	.105	.110	.136	.120	.150	.170	.190
	Millimeters	2.4	2.7	2.8	3.5	3.0	3.8	4.3	4.8

Notes:

- Pilot Arc Set to HIGH.
- Except where noted, data is for above water cutting. Reduce speed approximately 10% when cutting under water.

PT-36 CUT DATA

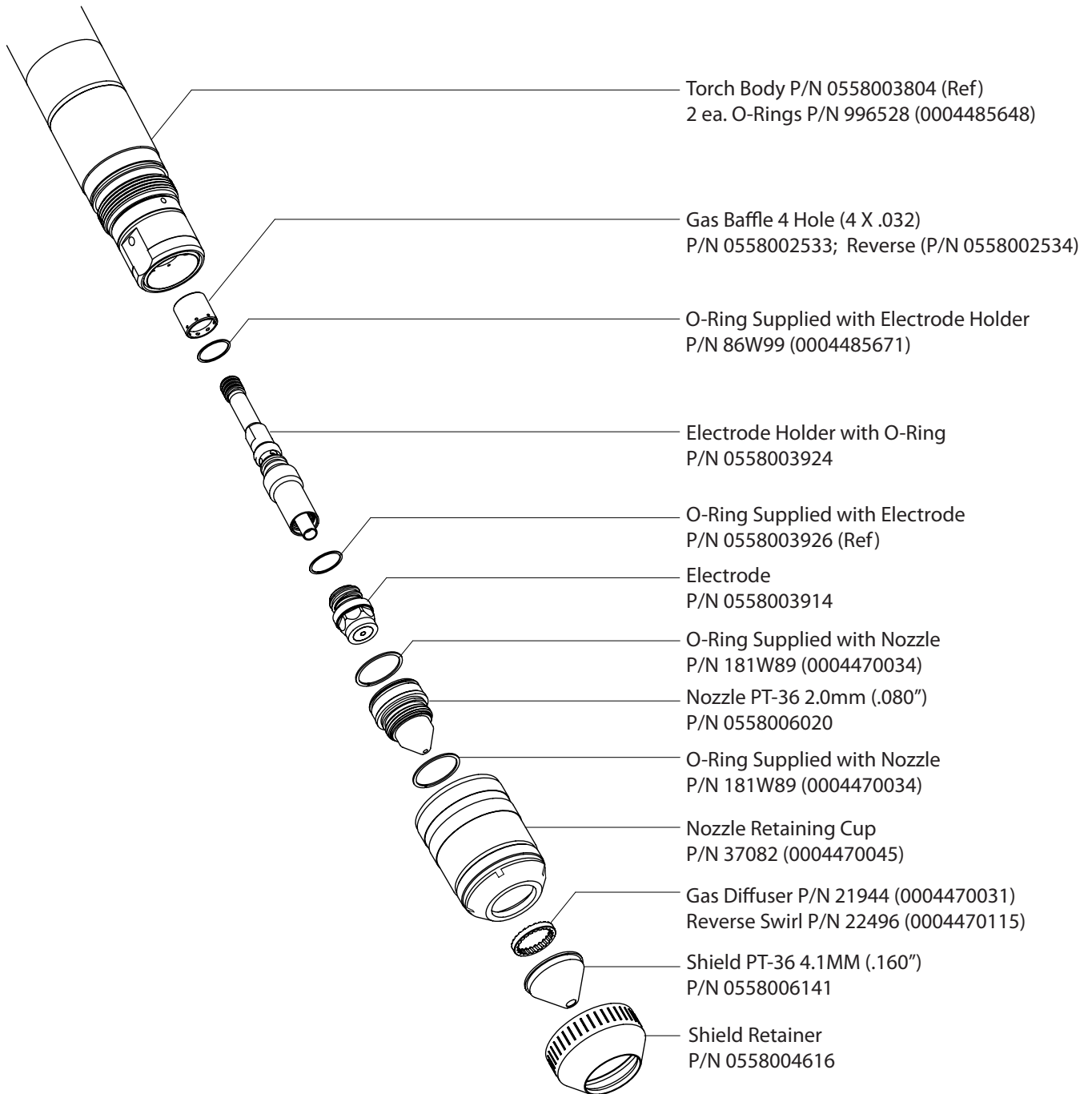


PLASMARC™ Cutting Torch
Smartflow Plasma System

with
EPP-200

Plasma Power Console
(High Speed Cutting)

Material:	Carbon Steel
Amperes:	200
Plasma Start Gas:	Nitrogen (N₂) @ 125 psi / 8.6 bar
Plasma Cut Gas:	Oxygen (O₂) @ 125 psi / 8.6 bar
Shield Start Gas:	Air @ 100 psi / 6.9 bar @ 95 cfh
Shield Cut Gas:	Not used



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**200 Amperes
Carbon Steel**

with
EPP-200 Plasma Power Console
(High Speed Cutting)

Material Thickness	in(mm)	0.250 (6.4)	0.375 (9.5)	0.500 (12.7)	0.750 (19.1)	1.000 (25.4)
Timers (seconds)	Rise on Pierce	0	0.1	0.1	0.3	0.3
	Pierce Delay	0	0.2	0.2	0.3	0.5
	Auto Height Delay	0.4	0.4	0.4	0.4	0.4
Setup Parameters Pressure @ Flow	Plasma Start Gas - (N ₂)	22 psi @ 140 cfh	22 psi @ 140 cfh	22 psi @ 140 cfh	22 psi @ 140 cfh	22 psi @ 140 cfh
		1.5 bar @ 4.0 cmh	1.5 bar @ 4.0 cmh	1.5 bar @ 4.0 cmh	1.5 bar @ 4.0 cmh	1.5 bar @ 4.0 cmh
	Plasma Cut Gas - (O ₂)	49 psi @ 66 cfh	49 psi @ 66 cfh	49 psi @ 66 cfh	49 psi @ 66 cfh	49 psi @ 66 cfh
		3.4 bar @ 1.9 cmh	3.4 bar @ 1.9 cmh	3.4 bar @ 1.9 cmh	3.4 bar @ 1.9 cmh	3.4 bar @ 1.9 cmh
	Shield Gas 1 - (Air)	13 psi @ 190 cfh	13 psi @ 190 cfh	13 psi @ 190 cfh	13 psi @ 190 cfh	13 psi @ 190 cfh
		0.9 bar @ 5.4 cmh	0.9 bar @ 5.4 cmh	0.9 bar @ 5.4 cmh	0.9 bar @ 5.4 cmh	0.9 bar @ 5.4 cmh
	Shield Gas 2 - (N/A)	N/A	N/A	N/A	N/A	N/A
		N/A	N/A	N/A	N/A	N/A
Height Readings	Initial Height in(mm)	.375 (9.5)	.375 (9.5)	0.500 (12.7)	0.500 (12.7)	0.500 (12.7)
	Arc Voltage (standoff)	126	130	145	149	149
Travel Speed	IPM	250	155	121	76	51
	MM/MIN	6350	3937	3073	1930	1295
Kerf Width	Inches	.06	.09	.10	.11	.13
	Millimeters	1.5	2.3	2.5	2.8	3.3

Notes:

- Pilot Arc Set to LOW
- Use the 150 amp nozzle when cutting at 200 amp high speed, P/N 0558006020.
- Up to 1 inch thick material use Gas Baffle 4 Hole P/N 0558002533, Reverse 4 hole P/N 0558002534

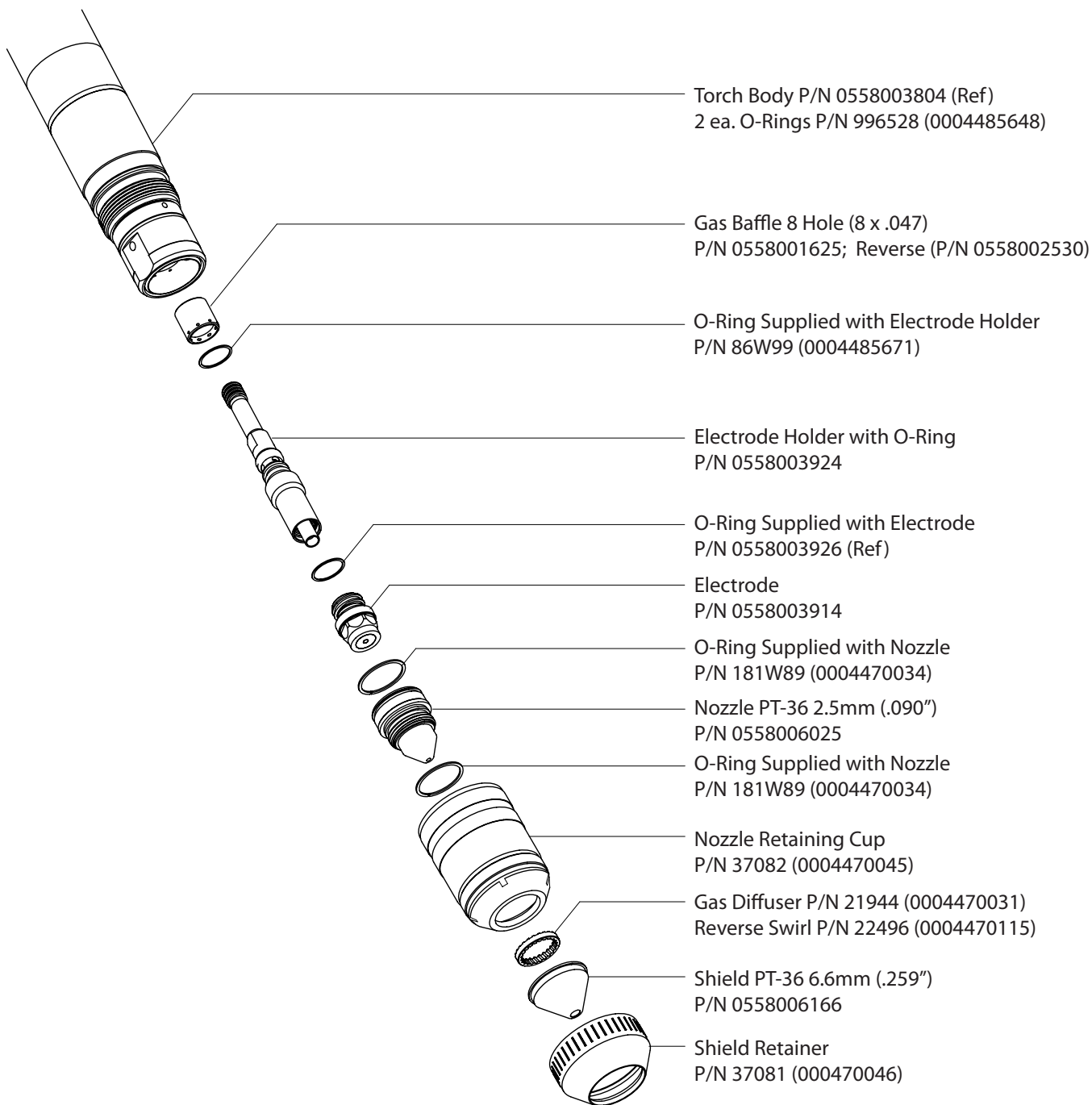
PT-36 CUT DATA



PLASMARC™ Cutting Torch
Smartflow Plasma System

Material:	Carbon Steel
Amperes:	250
Plasma Start Gas:	Nitrogen (N_2) @ 100 psi / 6.9 bar
Plasma Cut Gas:	Oxygen (O_2) @ 100 psi / 6.9 bar
Shield Start Gas:	*Air @ 60 psi / 4.1 bar
Shield Cut Gas:	*Air @ 60 psi / 4.1 bar

*Do not use shop Air.
Use bottled/compressed.



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**250 Amperes
Carbon Steel**

Material Thickness	in(mm)	0.250 (6.4)	0.375 (9.5)	0.500 (12.7)	0.625 (15.9)	0.750 (19.1)	1.000 (25.4)	1.250 (31.8)	1.500 (38.1)
Timers (seconds)	Rise on Pierce	0	0	0	0.2	0.3	0.3	0.5	0.8
	Pierce Delay	0	0	0.2	0.1	0.2	0.4	0.8	1.2
Setup Parameters Pressure @ Flow	Plasma Start Gas - (N ₂)	25 psi	25 psi	25 psi	25 psi	25 psi	25 psi	26 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.8 bar	1.7 bar
	Plasma Cut Gas - (O ₂)	38 psi	38 psi	44 psi	40 psi	38 psi	38 psi	43 psi	44 psi
		2.6 bar	2.6 bar	3.0 bar	2.8 bar	2.6 bar	2.6 bar	2.0 bar	3.0 bar
	Shield Start Gas - (Air)	18 psi	18 psi	20 psi	14 psi	18 psi	18 psi	22 psi	22 psi
		1.2 bar	1.2 bar	1.4 bar	1.0 bar	1.2 bar	1.2 bar	1.5 bar	1.5 bar
	Shield Cut Gas - (Air)	12 psi	12 psi	16 psi	12 psi	12 psi	12 psi	22 psi	22 psi
		0.8 bar	0.8 bar	1.1 bar	0.8 bar	0.5 bar	0.8 bar	1.5 bar	1.5 bar
Height Readings	Initial Height in(mm)	.375 (9.5)	.375 (9.5)	0.500 (12.7)	0.500 (12.7)	0.500 (12.7)	0.625 (15.9)	0.625 (15.9)	0.625 (15.9)
	Arc Voltage (standoff)	130	135	135	138	142	150	162	168
Travel Speed	IPM	170	125	115	80	65	50	33	22
	MM/MIN	4318	3175	2921	2032	1651	1270	838	558
Kerf Width	Inches	.110	.135	.135	.130	.150	.160	.170	.200
	Millimeters	2.8	3.5	3.5	3.3	3.8	4.1	4.3	5.1

Notes:

- Pilot Arc Set to HIGH.
- Except where noted, data is for above water cutting. Reduce speed approximately 10% when cutting under water.

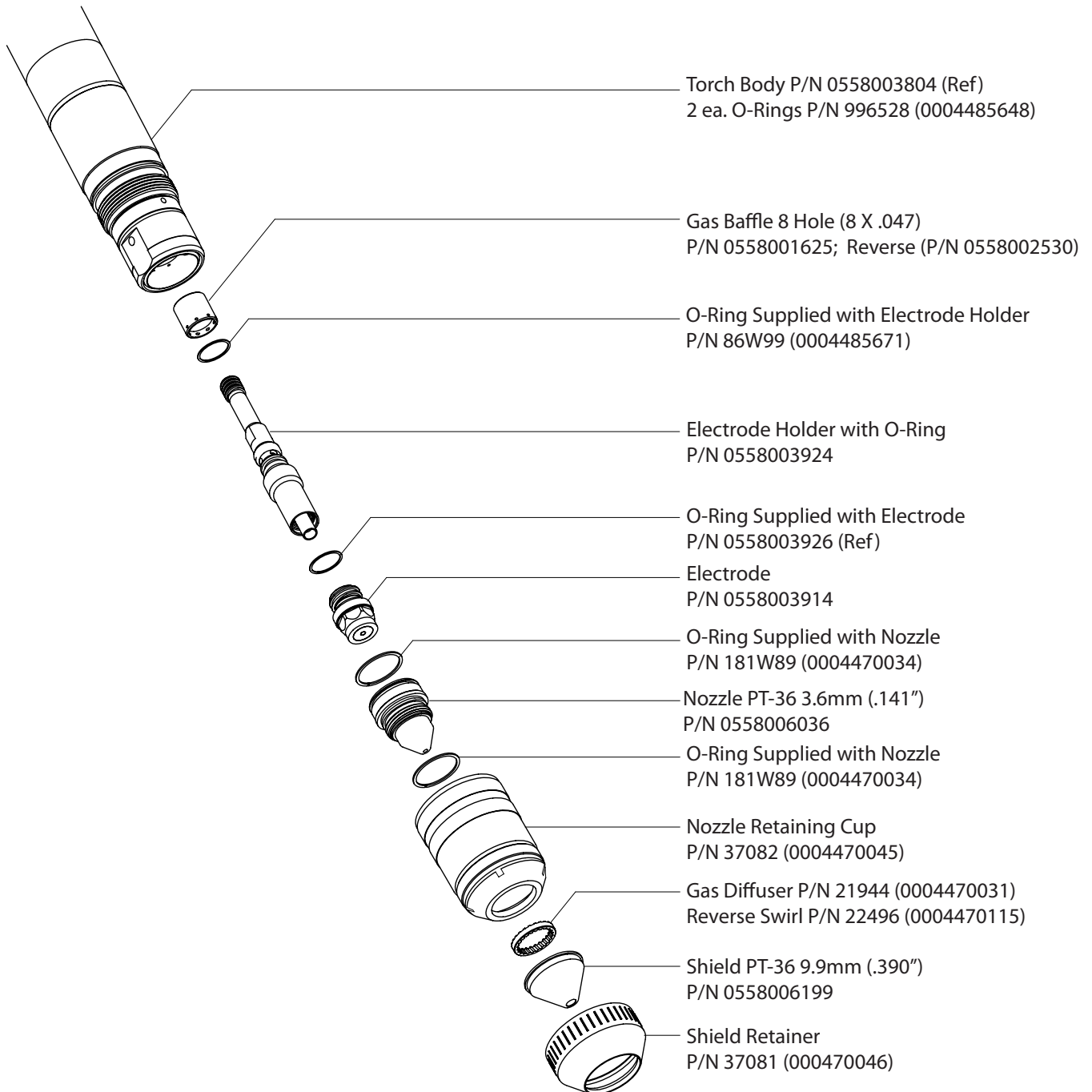
PT-36 CUT DATA



PLASMARC™ Cutting Torch
Smartflow Plasma System

Material:	Carbon Steel
Amperes:	325
Plasma Start Gas:	Nitrogen (N_2) @ 100 psi / 6.9 bar
Plasma Cut Gas:	Oxygen (O_2) @ 100 psi / 6.9 bar
Shield Start Gas:	*Air @ 60 psi / 4.1 bar
Shield Cut Gas:	*Air @ 60 psi / 4.1 bar

*Do not use shop Air.
Use bottled/compressed.



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**325 Amperes
Carbon Steel**

Material Thickness	in(mm)	0.500 (12.7)	0.625 (15.9)	0.750 (19.1)	1.000 (25.4)	1.250 (31.8)	1.500 (38.1)
Timers (seconds)	Rise on Pierce	0.3	0.3	0.3	0.4	0.5	0.7
	Pierce Delay	0.2	0.3	0.3	0.6	0.9	1.0
Setup Parameters Pressure @ Flow	Plasma Start Gas - (N ₂)	26 psi	25 psi	25 psi	25 psi	25 psi	25 psi
		1.8 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas - (O ₂)	37 psi	37 psi	31 psi	31 psi	31 psi	36 psi
		2.6 bar	2.6 bar	2.1 bar	2.1 bar	2.1 bar	2.5 bar
	Shield Start Gas - (Air)	22 psi	22 psi	22 psi	22 psi	22 psi	22 psi
		1.5 bar	1.5 bar	1.5 bar	1.5 bar	1.5 bar	1.5 bar
	Shield Cut Gas - (Air)	22 psi	22 psi	22 psi	22 psi	22 psi	22 psi
		1.5 bar	1.5 bar	1.5 bar	1.5 bar	1.5 bar	1.5 bar
Height Readings	Initial Height in(mm)	0.500 (12.7)	0.500 (12.7)	0.500 (12.7)	0.625 (15.9)	0.625 (15.9)	0.625 (15.9)
	Arc Voltage (standoff)	125	135	132	142	146	156
Travel Speed	IPM	125	100	90	60	37	25
	MM/MIN	3175	2540	2286	1524	939	635
Kerf Width	Inches	.140	.150	.160	.175	.200	.210
	Millimeters	3.6	3.8	4.1	4.5	5.1	5.3

Notes:

- Pilot Arc Set to HIGH.
- Except where noted, data is for above water cutting. Reduce speed approximately 10% when cutting under water.

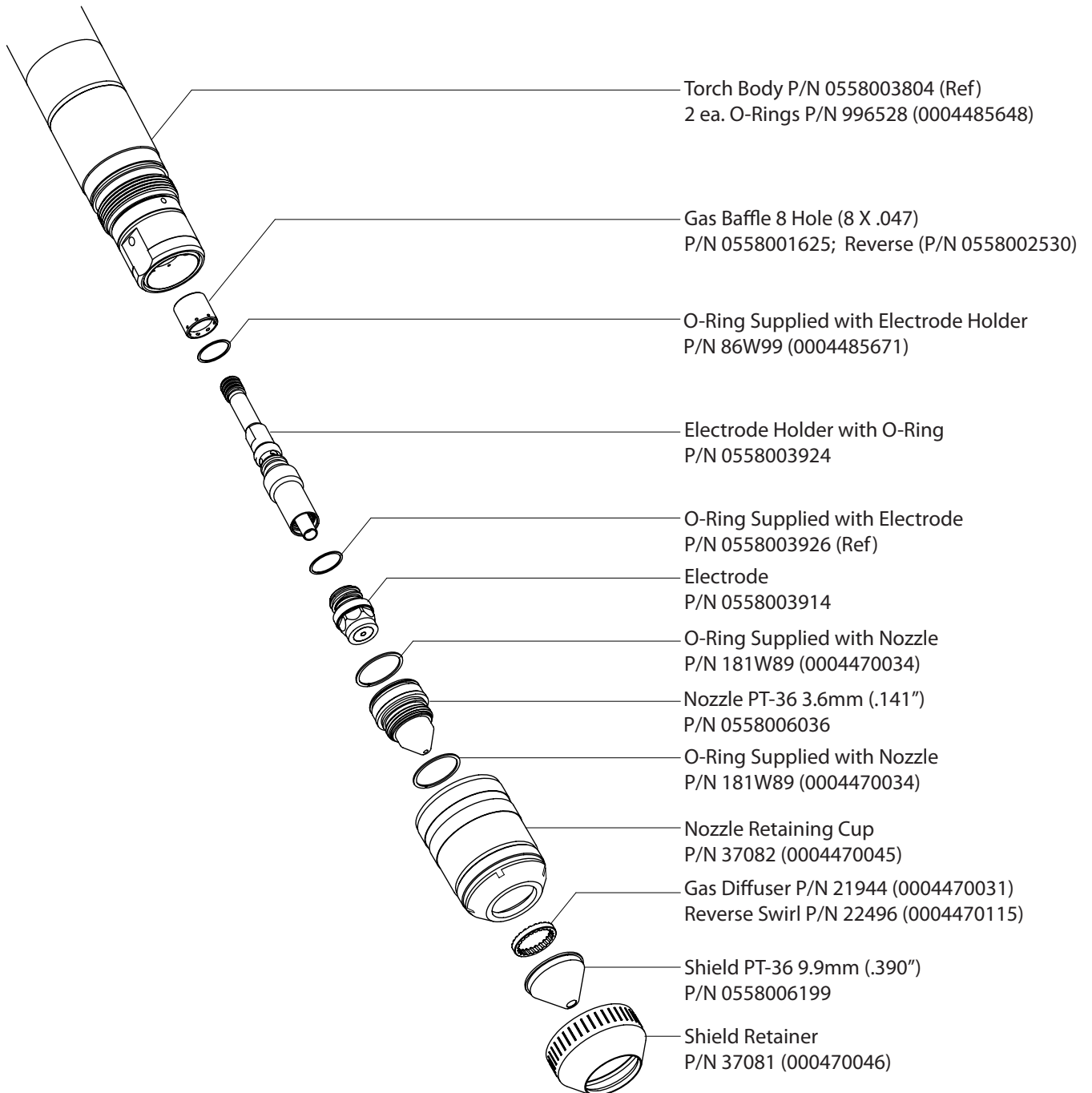
PT-36 CUT DATA



PLASMARC™ Cutting Torch
Smartflow Plasma System

Material:	Carbon Steel
Amperes:	360
Plasma Start Gas:	Nitrogen (N_2) @ 100 psi / 6.9 bar
Plasma Cut Gas:	Oxygen (O_2) @ 100 psi / 6.9 bar
Shield Start Gas:	*Air @ 60 psi / 4.1 bar
Shield Cut Gas:	*Air @ 60 psi / 4.1 bar

*Do not use shop Air.
Use bottled/compressed.



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**360 Amperes
Carbon Steel**

Material Thickness	in(mm)	0.500 (12.7)	0.625 (15.9)	0.750 (19.1)	1.000 (25.4)	1.250 (31.8)	1.500 (38.1)
Timers (seconds)	Rise on Pierce	0.3	0.3	0.3	0.5	0.6	0.7
	Pierce Delay	0.2	0.3	0.3	0.7	0.9	1.0
Setup Parameters Pressure @ Flow	Plasma Start Gas - (N ₂)	26 psi	25 psi	25 psi	25 psi	25 psi	25 psi
		1.8 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas - (O ₂)	38 psi	37 psi	35 psi	35 psi	38 psi	36 psi
		2.6 bar	2.6 bar	2.4 bar	2.4 bar	2.6 bar	2.5 bar
	Shield Start Gas - (Air)	22 psi	22 psi	22 psi	22 psi	22 psi	22 psi
		1.5 bar	1.5 bar	1.5 bar	1.5 bar	1.5 bar	1.5 bar
	Shield Cut Gas - (Air)	22 psi	22 psi	22 psi	22 psi	22 psi	22 psi
		1.5 bar	1.5 bar	1.5 bar	1.5 bar	1.5 bar	1.5 bar
Height Readings	Initial Height in(mm)	0.500 (12.7)	0.500 (12.7)	0.500 (12.7)	0.625 (15.9)	0.625 (15.9)	0.625 (15.9)
	Arc Voltage (standoff)	124	135	132	141	146	153
Travel Speed	IPM	135	115	100	65	45	32
	MM/MIN	3429	2921	2540	1651	1143	813
Kerf Width	Inches	.140	.140	.165	.180	.205	.210
	Millimeters	3.6	3.6	4.2	4.6	5.2	5.3

Notes:

- Pilot Arc Set to HIGH.
- Except where noted, data is for above water cutting. Reduce speed approximately 10% when cutting under water.

PT-36 CUT DATA

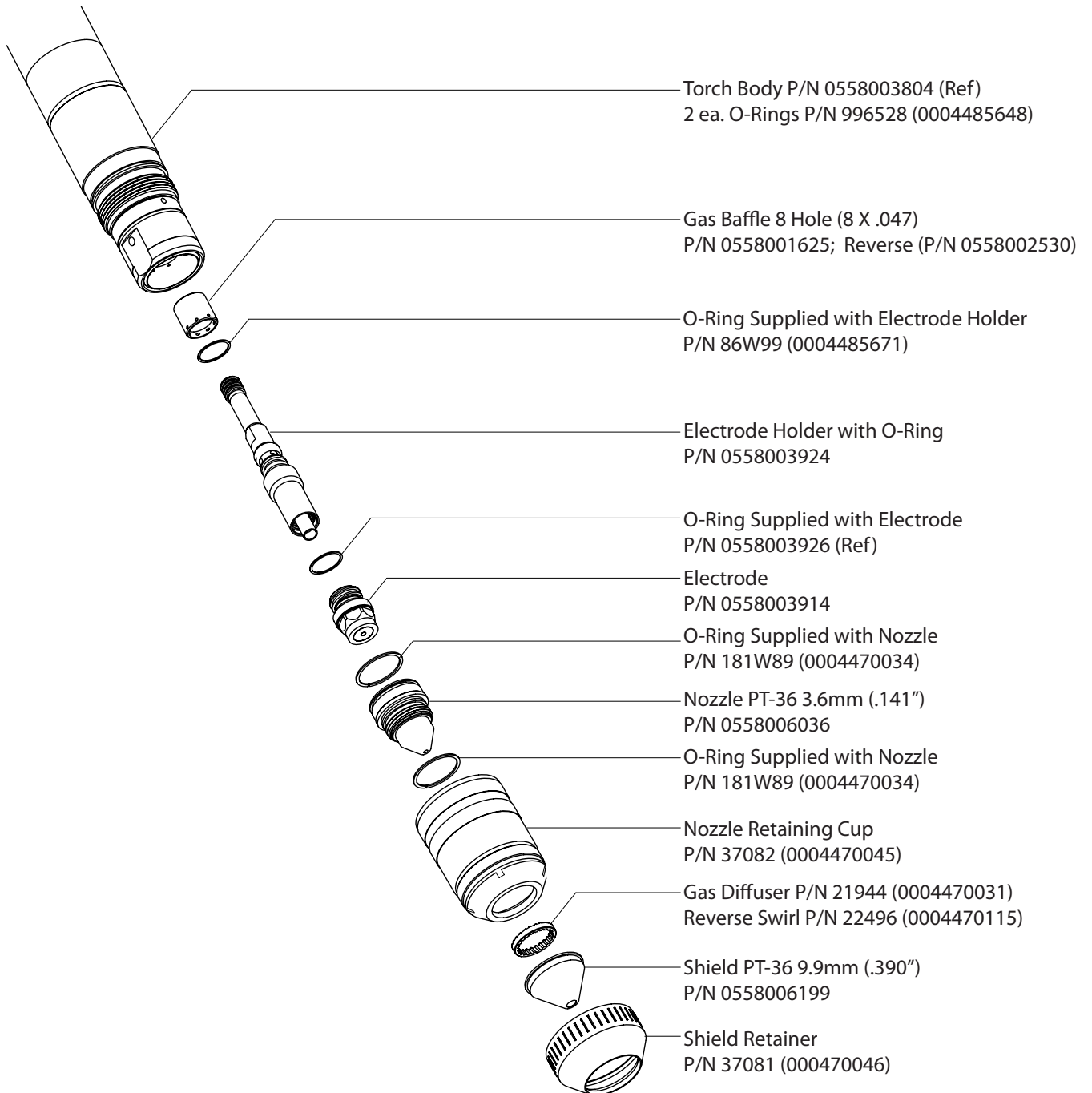


PLASMARC™ Cutting Torch
Smartflow Plasma System

UNDERWATER

Material:	Carbon Steel
Amperes:	400
Plasma Start Gas:	Nitrogen (N_2) @ 100 psi / 6.9 bar
Plasma Cut Gas:	Oxygen (O_2) @ 100 psi / 6.9 bar
Shield Start Gas:	*Air @ 60 psi / 4.1 bar
Shield Cut Gas:	*Air @ 60 psi / 4.1 bar

*Do not use shop Air.
Use bottled/compressed.



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**400 Amperes
Carbon Steel
UNDERWATER**

Material Thickness	in(mm)	0.500 (12.7)	0.625 (15.9)	0.750 (19.1)	1.000 (25.4)	1.250 (31.8)	1.500 (38.1)
Timers (seconds)	Rise on Pierce	0.3	0.3	0.3	0.5	0.5	0.7
	Pierce Delay	0.2	0.3	0.3	0.3	0.7	1.2
Setup Parameters Pressure @ Flow	Plasma Start Gas - (N ₂)	25 psi	25 psi	25 psi	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas - (O ₂)	31 psi	31 psi	31 psi	31 psi	31 psi	31 psi
		2.1 bar	2.1 bar	2.1 bar	2.1 bar	2.1 bar	2.1 bar
	Shield Start Gas - (Air)	22 psi	22 psi	22 psi	22 psi	22 psi	22 psi
		1.5 bar	1.5 bar	1.5 bar	1.5 bar	1.5 bar	1.5 bar
	Shield Cut Gas - (Air)	22 psi	22 psi	22 psi	22 psi	22 psi	22 psi
		1.5 bar	1.5 bar	1.5 bar	1.5 bar	1.5 bar	1.5 bar
Height Readings	Initial Height in(mm)	0.500 (12.7)	0.500 (12.7)	0.500 (12.7)	0.625 (15.9)	0.625 (15.9)	0.625 (15.9)
	Arc Voltage (standoff)	125	132	136	141	142	150
Travel Speed	IPM	130	120	110	75	55	37
	MM/MIN	3556	3175	2794	1905	1397	940
Kerf Width	Inches	.145	.150	.195	.195	.205	.220
	Millimeters	3.7	3.8	5.0	5.0	5.2	5.6

Notes:

- Pilot Arc Set to HIGH.

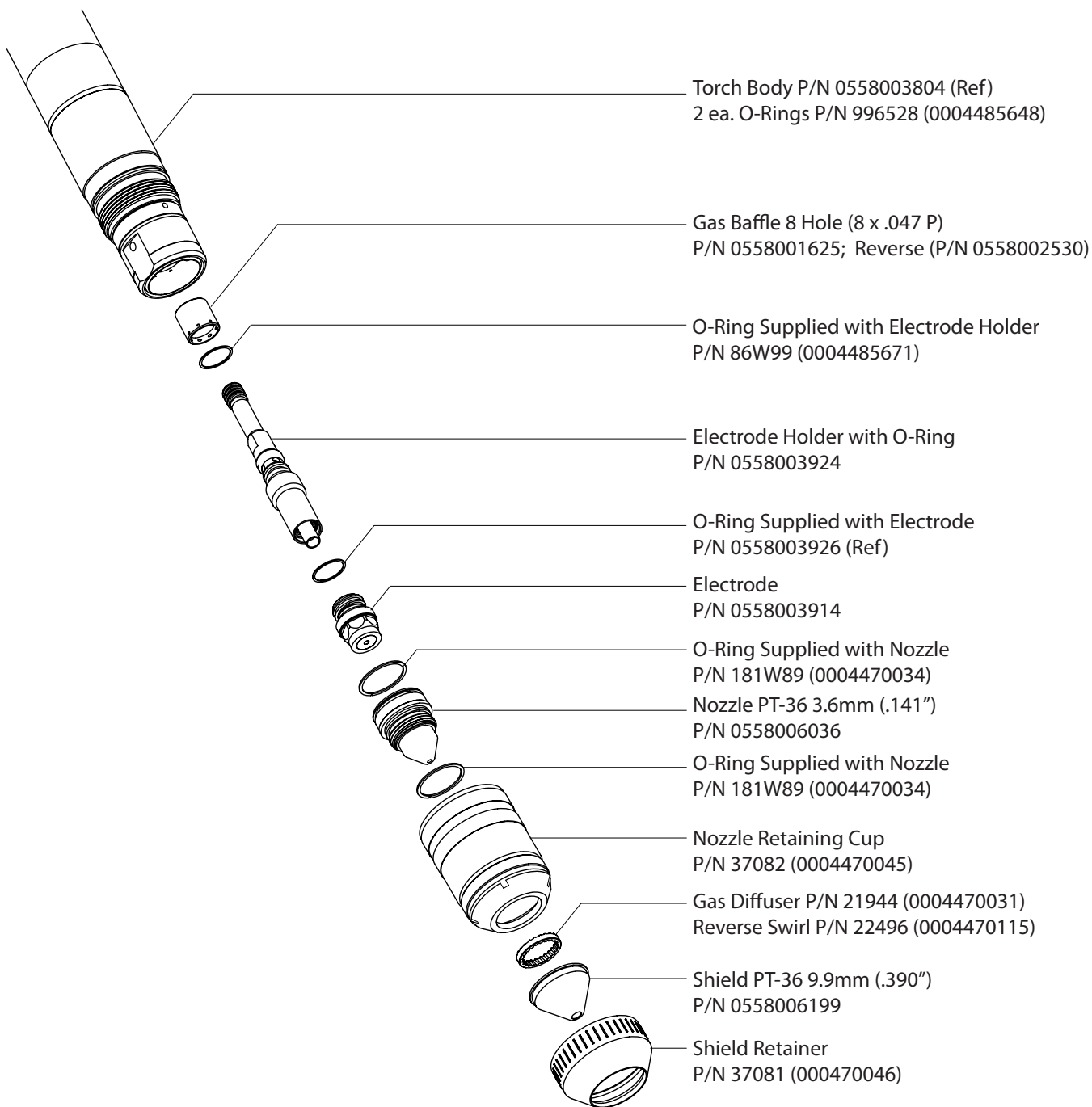
PT-36 CUT DATA



PLASMARC™ Cutting Torch
Smartflow Plasma System

Material:	Carbon Steel
Amperes:	400
Plasma Start Gas:	Nitrogen (N_2) @ 100 psi / 6.9 bar
Plasma Cut Gas:	Oxygen (O_2) @ 100 psi / 6.9 bar
Shield Start Gas:	*Air @ 60 psi / 4.1 bar
Shield Cut Gas:	*Air @ 60 psi / 4.1 bar

*Do not use shop Air.
Use bottled/compressed.



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**400 Amperes
Carbon Steel**

Material Thickness	in(mm)	0.500 (12.7)	0.625 (15.9)	0.750 (19.1)	1.000 (25.4)	1.250 (31.8)	1.500 (38.1)
Timers (seconds)	Rise on Pierce	0.3	0.3	0.3	0.5	0.5	0.7
	Pierce Delay	0.2	0.3	0.3	0.3	0.7	1.2
Setup Parameters Pressure @ Flow	Plasma Start Gas - (N ₂)	25 psi	25 psi	25 psi	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas - (O ₂)	31 psi	31 psi	31 psi	31 psi	31 psi	31 psi
		2.1 bar	2.1 bar	2.1 bar	2.1 bar	2.1 bar	2.1 bar
	Shield Start Gas - (Air)	22 psi	22 psi	22 psi	22 psi	22 psi	22 psi
		1.5 bar	1.5 bar	1.5 bar	1.5 bar	1.5 bar	1.5 bar
	Shield Cut Gas - (Air)	22 psi	22 psi	22 psi	22 psi	22 psi	22 psi
		1.5 bar	1.5 bar	1.5 bar	1.5 bar	1.5 bar	1.5 bar
Height Readings	Initial Height in(mm)	0.500 (12.7)	0.500 (12.7)	0.500 (12.7)	0.625 (15.9)	0.625 (15.9)	0.625 (15.9)
	Arc Voltage (standoff)	125	132	136	141	142	150
Travel Speed	IPM	140	125	115	80	60	43
	MM/MIN	3556	3175	2921	2032	1524	1092
Kerf Width	Inches	.145	.150	.195	.195	.205	.220
	Millimeters	3.7	3.8	5.0	5.0	5.2	5.6

Notes:

- Pilot Arc Set to HIGH.
- Except where noted, data is for above water cutting. Reduce speed approximately 10% when cutting under water.

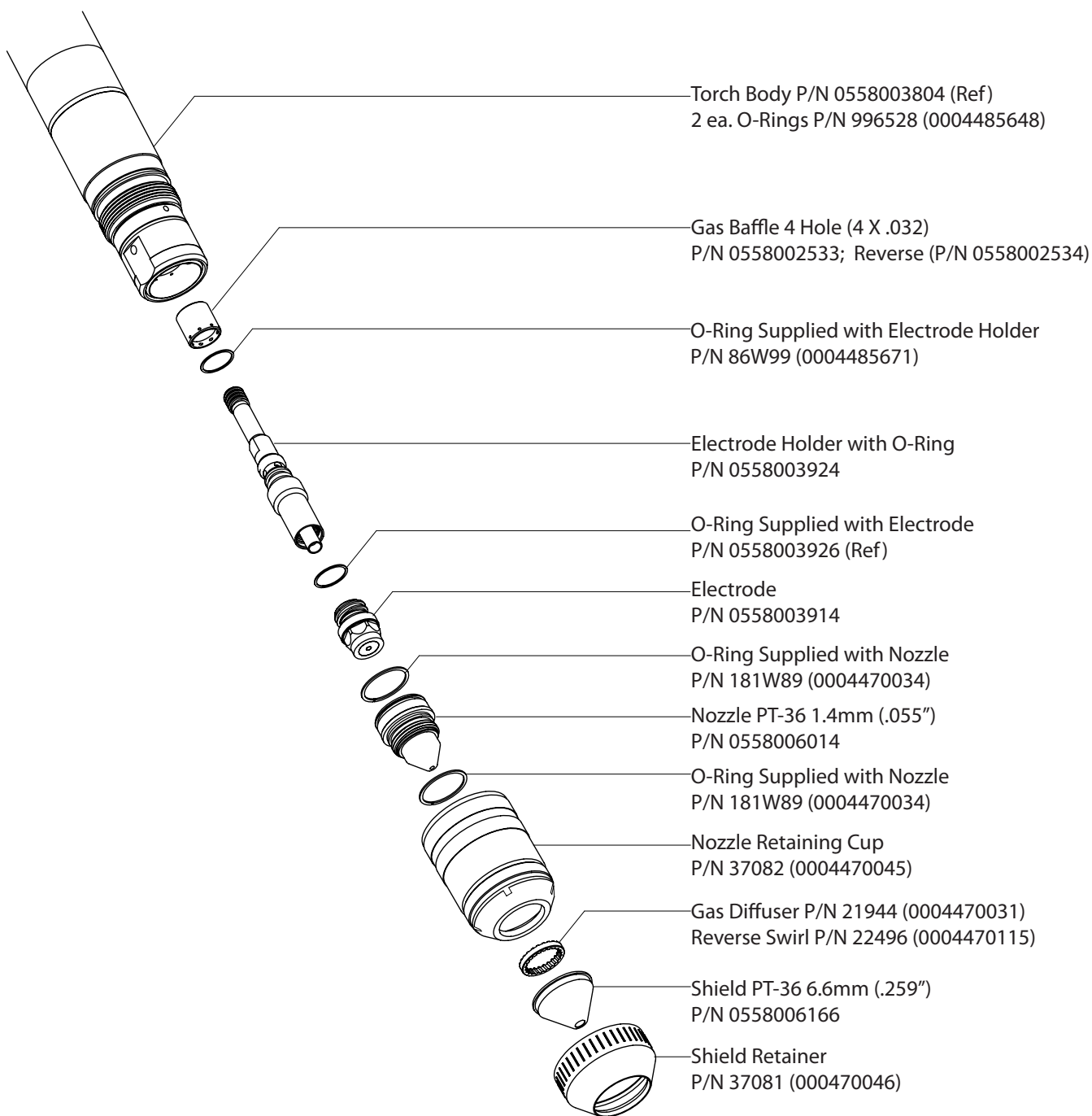
PT-36 CUT DATA



PLASMARC™ Cutting Torch
Smartflow Plasma System

Material:	Aluminum
Amperes:	100
Plasma Start Gas:	*Air @ 100 psi / 6.9 bar
Plasma Cut Gas:	*Air @ 100 psi / 6.9 bar
Shield Start Gas:	*Air @ 60 psi / 4.1 bar
Shield Cut Gas:	*Air @ 60 psi / 4.1 bar

*Do not use shop Air.
Use bottled/compressed.



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**100 Amperes
Aluminum**

Material Thickness	in(mm)	.188 (4.7)	0.250 (6.4)	0.375 (9.5)	0.500 (12.7)	0.750 (19.1)
Timers (seconds)	Rise on Pierce	0	0.1	0.1	0.1	0.2
	Pierce Delay	0.1	0.2	0.3	0.3	0.4
Setup Parameters Pressure @ Flow	Plasma Start Gas - (Alr)	25 psi	25 psi	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas - (Alr)	42 psi	42 psi	42 psi	42 psi	42 psi
		2.9 bar	2.9 bar	2.9 bar	2.9 bar	2.9 bar
	Shield Start Gas - (Alr)	20 psi	20 psi	20 psi	20 psi	20 psi
		1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.4 bar
Height Readings	Initial Height in(mm)	.375 (9.5)	.375 (9.5)	.375 (9.5)	0.500 (12.7)	0.500 (12.7)
	Arc Voltage (standoff)	151	157	157	182	185
Travel Speed	IPM	120	95	70	50	25
	MM/MIN	3048	2413	1778	1270	635
Kerf Width	Inches	.115	.120	.130	.130	.135
	Millimeters	2.9	3.0	3.3	3.5	3.5

Notes:

- Pilot Arc Set to LOW.

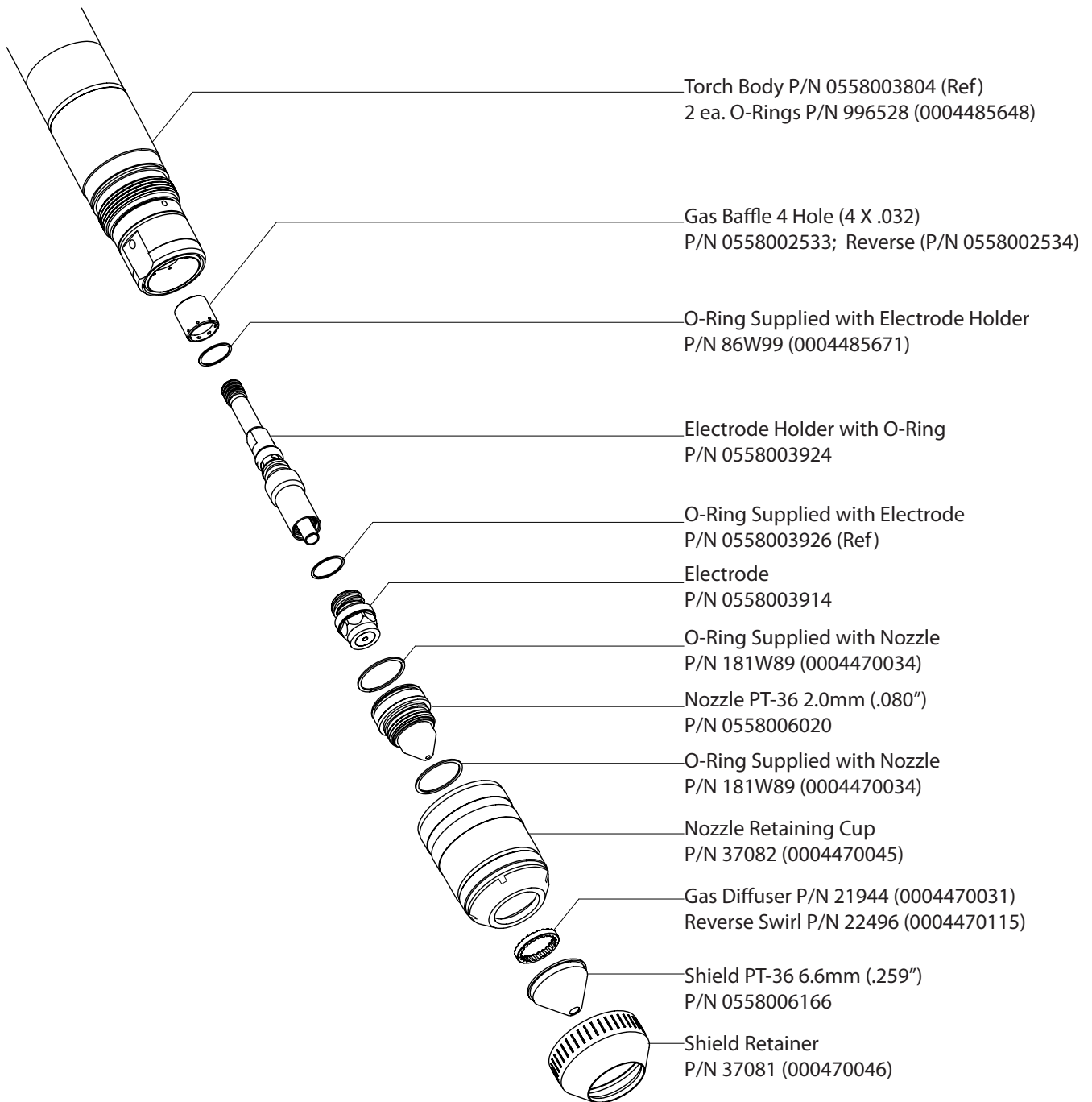
PT-36 CUT DATA



PLASMARC™ Cutting Torch
Smartflow Plasma System

Material:	Aluminum
Amperes:	150
Plasma Start Gas:	*Air @ 100 psi / 6.9 bar
Plasma Cut Gas:	*Air @ 100 psi / 6.9 bar
Shield Start Gas:	*Air @ 60 psi / 4.1 bar
Shield Cut Gas:	*Air @ 60 psi / 4.1 bar

*Do not use shop Air.
Use bottled/compressed.



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**150 Amperes
Aluminum**

Material Thickness	in(mm)	0.188 (4.7)	0.250 (6.4)	0.313 (7.9)	0.375 (9.5)	0.500 (12.7)	0.750 (19.1)	0.875 (22.2)	1.000 (25.4)
Timers (seconds)	Rise on Pierce	0	0	0	0	0.1	0.2	0.4	0.4
	Pierce Delay	0	0	0.2	0.2	0.3	0.5	0.6	0.7
Setup Parameters Pressure @ Flow	Plasma Start Gas - (Air)	25 psi	25 psi	25 psi	25 psi	25 psi	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas - (Air)	40 psi	40 psi	40 psi	40 psi	40 psi	40 psi	40 psi	40 psi
		2.8 bar	2.8 bar	2.8 bar	2.8 bar	2.8 bar	2.8 bar	2.8 bar	2.8 bar
	Shield Start Gas - (Air)	15 psi	15 psi	15 psi	10 psi	15 psi	10 psi	10 psi	10 psi
		1.0 bar	1.0 bar	1.0 bar	0.7 bar	1.0 bar	0.7 bar	0.7 bar	0.7 bar
	Shield Cut Gas - (Air)	15 psi	15 psi	15 psi	10 psi	15 psi	10 psi	10 psi	10 psi
		1.0 bar	1.0 bar	1.0 bar	0.7 bar	1.0 bar	0.7 bar	0.7 bar	0.7 bar
	Initial Height in(mm)	.375 (9.5)	.375 (9.5)	.375 (9.5)	.375 (9.5)	0.500 (12.7)	0.500 (12.7)	0.500 (12.7)	0.500 (12.7)
		Arc Voltage (standoff)	147	152	153	159	165	175	184
	Travel Speed	IPM	200	140	120	100	80	45	37
		MM/MIN	5080	3556	3048	2540	2032	1143	940
Kerf Width	Inches	.110	.110	.120	.130	.140	.140	.150	.150
	Millimeters	2.8	2.8	3.0	3.3	3.6	3.6	3.8	3.8

Notes:

- Pilot Arc Set to HIGH.

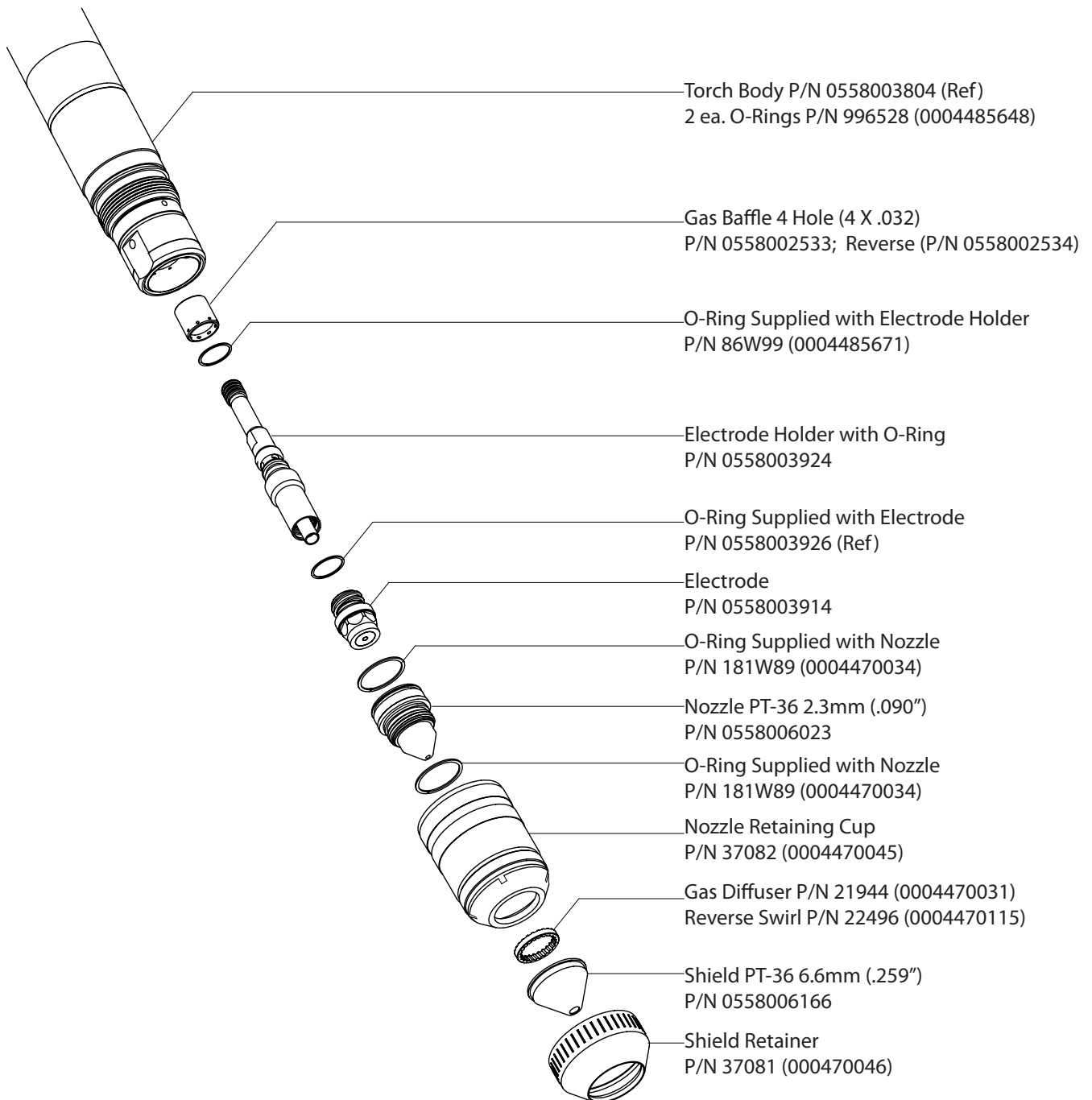
PT-36 CUT DATA



PLASMARC™ Cutting Torch
Smartflow Plasma System

Material:	Aluminum
Amperes:	200
Plasma Start Gas:	*Air @ 100 psi / 6.9 bar
Plasma Cut Gas:	*Air @ 100 psi / 6.9 bar
Shield Start Gas:	*Air @ 60 psi / 4.1 bar
Shield Cut Gas:	*Air @ 60 psi / 4.1 bar

*Do not use shop Air.
Use bottled/compressed.



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**200 Amperes
Aluminum**

Material Thickness	in(mm)	0.250 (6.4)	0.313 (7.9)	0.375 (9.5)	0.500 (12.7)	0.625 (15.9)	0.750 (19.1)	1.000 (25.4)
Timers (seconds)	Rise on Pierce	0	0.1	0.1	0.2	0.2	0.2	0.3
	Pierce Delay	0.2	0.2	0.3	0.3	0.3	0.5	0.6
Setup Parameters Pressure @ Flow	Plasma Start Gas - (Air)	25 psi	25 psi	25 psi	25 psi	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas - (Air)	44 psi	44 psi	44 psi	44 psi	44 psi	44 psi	44 psi
		3.0 bar	3.0 bar	3.0 bar	3.0 bar	3.0 bar	3.0 bar	3.0 bar
	Shield Start Gas - (Air)	14 psi	14 psi	14 psi	14 psi	14 psi	14 psi	14 psi
		.97 bar	.97 bar	.97 bar	.97 bar	.97 bar	.97 bar	.97 bar
	Shield Cut Gas - (Air)	15 psi	15 psi	15 psi	15 psi	15 psi	15 psi	15 psi
		1.0 bar	1.0 bar	1.0 bar	1.0 bar	1.0 bar	1.0 bar	1.0 bar
Height Readings	Initial Height in(mm)	.375 (9.5)	.375 (9.5)	.375 (9.5)	0.500 (12.7)	0.500 (12.7)	0.500 (12.7)	0.500 (12.7)
	Arc Voltage (standoff)	155	160	160	167	170	175	186
Travel Speed	IPM	125	125	110	85	70	60	40
	MM/MIN	3175	3175	2794	2159	1778	1524	1016
Kerf Width	Inches	.110	.130	.130	.130	.140	.140	.140
	Millimeters	2.8	3.3	3.3	3.3	3.6	3.6	3.6

Notes:

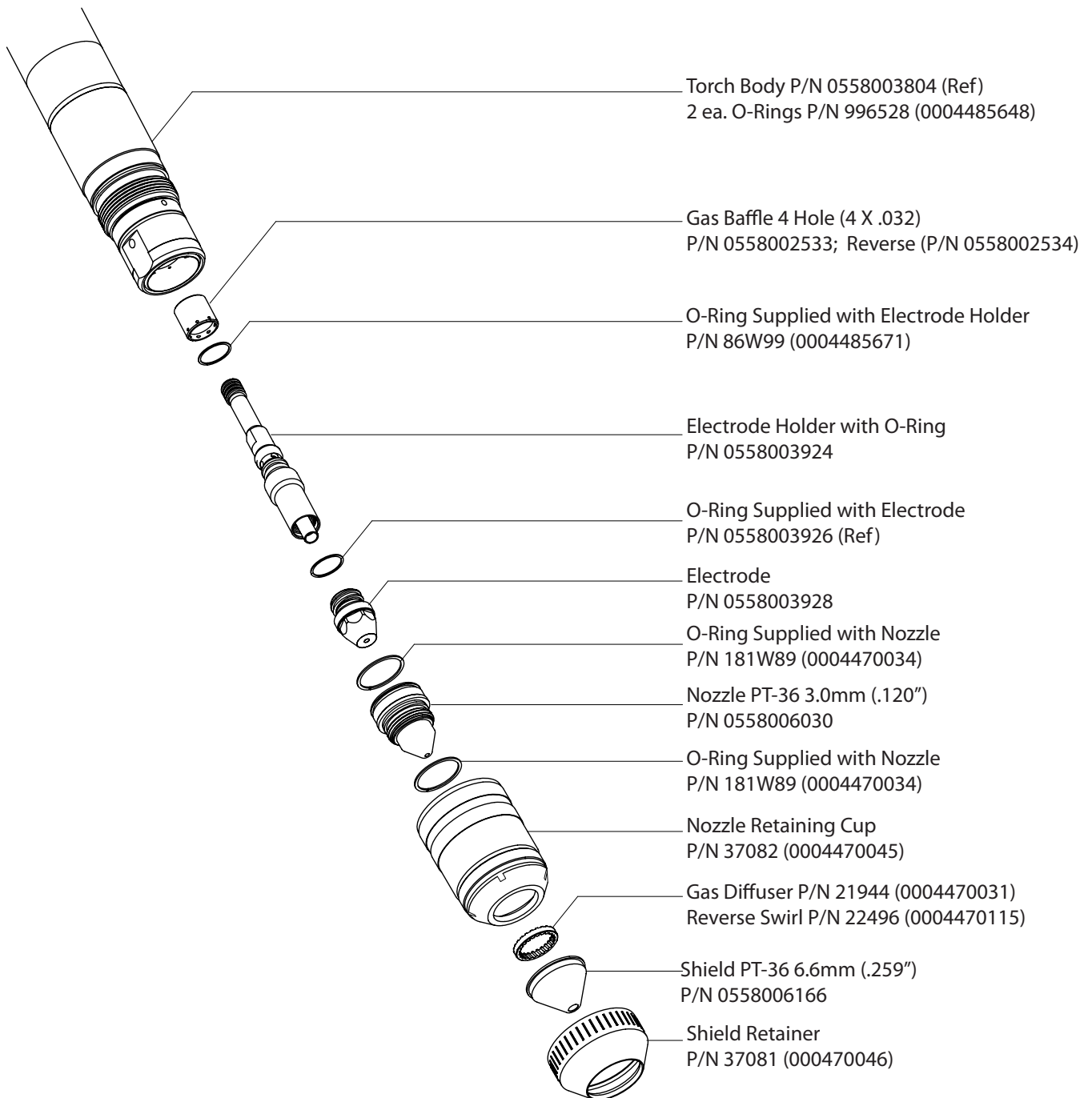
- Pilot Arc Set to HIGH.

PT-36 CUT DATA



PLASMARC™ Cutting Torch Smartflow Plasma System

Material:	Aluminum
Amperes:	150
Plasma Start Gas:	Nitrogen (N₂) @ 100 psi / 6.9 bar
Plasma Cut Gas:	Hydrogen /Argon (H-35) @ 100 psi / 6.9 bar
Shield Start Gas:	Nitrogen (N₂) @ 60 psi / 4.1 bar
Shield Cut Gas:	Nitrogen (N₂) @ 60 psi / 4.1 bar



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**150 Amperes
Aluminum**

WARNING

DO NOT CUT UNDERWATER WITH H-35

Material Thickness	in(mm)	0.250 (6.4)	0.375 (9.5)	0.500 (12.7)	0.625 (15.9)	0.750 (19.1)	1.000 (25.4)
Timers (seconds)	Rise on Pierce	0	0.1	0.1	0.1	0.1	0.2
	Pierce Delay	0.2	0.3	0.2	0.5	0.4	0.5
Setup Parameters Pressure @ Flow	Plasma Start Gas - (N ₂)	20 psi	20 psi	20 psi	20 psi	20 psi	20 psi
		1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.4 bar
	Plasma Cut Gas - (H-35)	54 psi	54 psi	54 psi	54 psi	54 psi	54 psi
		3.7 bar	3.7 bar	3.7 bar	3.7 bar	3.7 bar	3.7 bar
	Shield Start Gas - (N ₂)	10 psi	10 psi	10 psi	10 psi	10 psi	10 psi
		0.7 bar	0.7 bar	0.7 bar	0.7 bar	0.7 bar	0.7 bar
	Shield Cut Gas - (N ₂)	10 psi	10 psi	10 psi	10 psi	10 psi	10 psi
		0.7 bar	0.7 bar	0.7 bar	0.7 bar	0.7 bar	0.7 bar
Height Readings	Initial Height in(mm)	.375 (9.5)	.375 (9.5)	0.500 (12.7)	0.500 (12.7)	0.500 (12.7)	0.500 (12.7)
	Arc Voltage (standoff)	135	141	144	155	160	172
Travel Speed	IPM	150	110	90	55	45	25
	MM/MIN	3810	2794	2286	1397	1143	635
Kerf Width	Inches	.140	.120	.130	.150	.160	.170
	Millimeters	3.6	3.0	3.3	3.8	4.1	4.3

Notes:

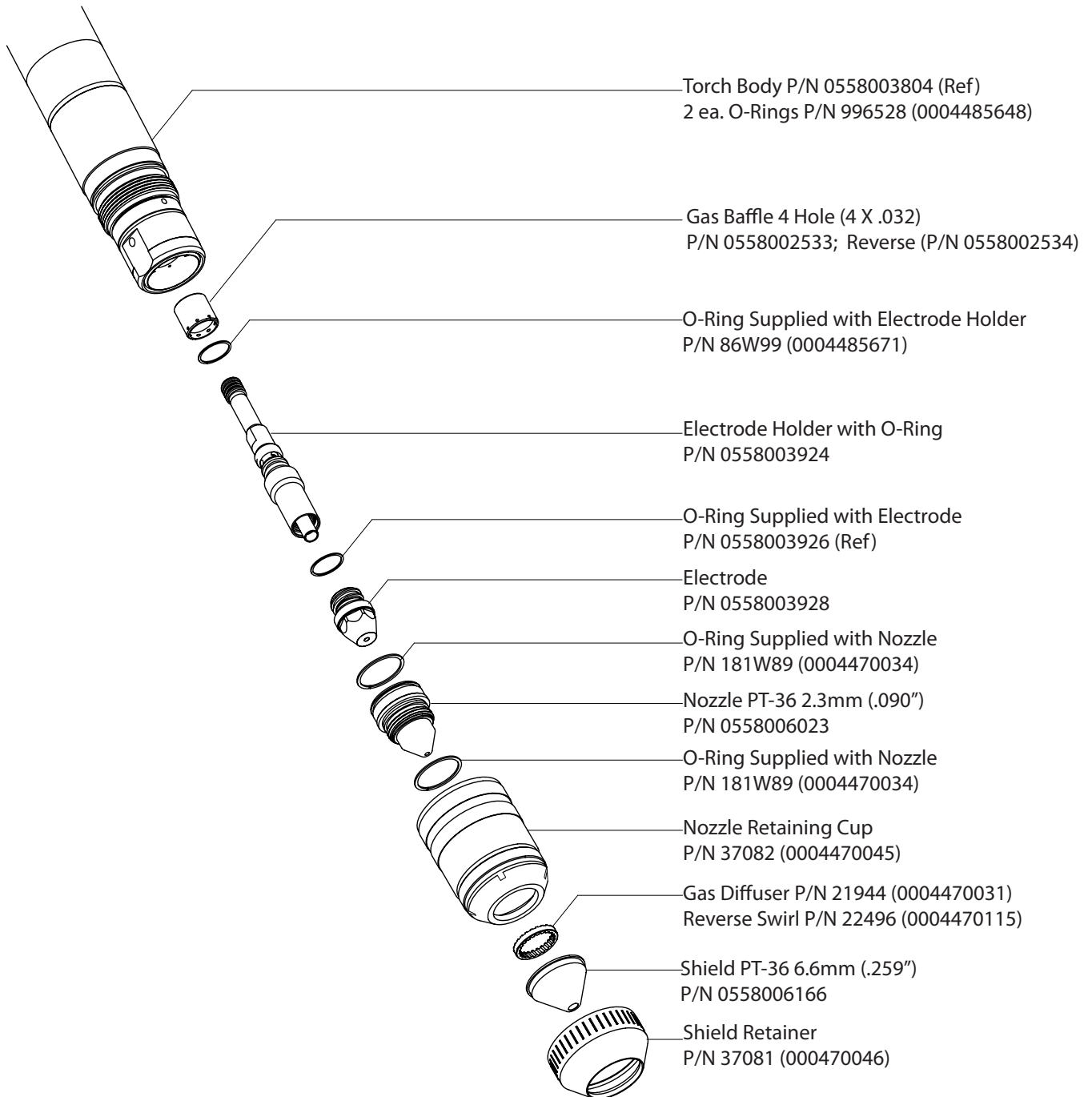
- Pilot Arc Set to HIGH.

PT-36 CUT DATA



PLASMARC™ Cutting Torch Smartflow Plasma System

Material:	Aluminum
Amperes:	200
Plasma Start Gas:	Nitrogen (N ₂) @ 100 psi / 6.9 bar
Plasma Cut Gas:	Hydrogen /Argon (H-35) @ 100 psi / 6.9 bar
Shield Start Gas:	Nitrogen (N ₂) @ 60 psi / 4.1 bar
Shield Cut Gas:	Nitrogen (N ₂) @ 60 psi / 4.1 bar



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**200 Amperes
Aluminum**

WARNING

DO NOT CUT UNDERWATER WITH H-35

Material Thickness	in(mm)	0.375 (9.5)	0.500 (12.7)	0.625 (15.9)	0.750 (19.1)	1.000 (25.4)
Timers (seconds)	Rise on Pierce	0	0	0.1	0.2	0.3
	Pierce Delay	0.2	0.4	0.4	0.5	0.8
Setup Parameters Pressure @ Flow	Plasma Start Gas - (N ₂)	25 psi	25 psi	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas - (H-35)	49 psi	49 psi	49 psi	49 psi	49 psi
		3.4 bar	3.4 bar	3.4 bar	3.4 bar	3.4 bar
	Shield Start Gas - (N ₂)	14 psi	14 psi	14 psi	14 psi	14 psi
		.97 bar	.97 bar	.97 bar	.97 bar	.97 bar
	Shield Cut Gas - (N ₂)	15 psi	15 psi	15 psi	15 psi	15 psi
		1.0 bar	1.0 bar	1.0 bar	1.0 bar	1.0 bar
Height Readings	Initial Height in(mm)	.375 (9.5)	0.500 (12.7)	0.500 (12.7)	0.500 (12.7)	0.500 (12.7)
	Arc Voltage (standoff)	150	155	160	168	175
Travel Speed	IPM	120	100	85	65	35
	MM/MIN	3048	2540	2159	1651	889
Kerf Width	Inches	.130	.140	.150	.160	.170
	Millimeters	3.3	3.6	3.8	4.1	4.3

Notes:

- Pilot Arc Set to HIGH.

PT-36 CUT DATA



PLASMARC™ Cutting Torch
Smartflow Plasma System

Material: Aluminum

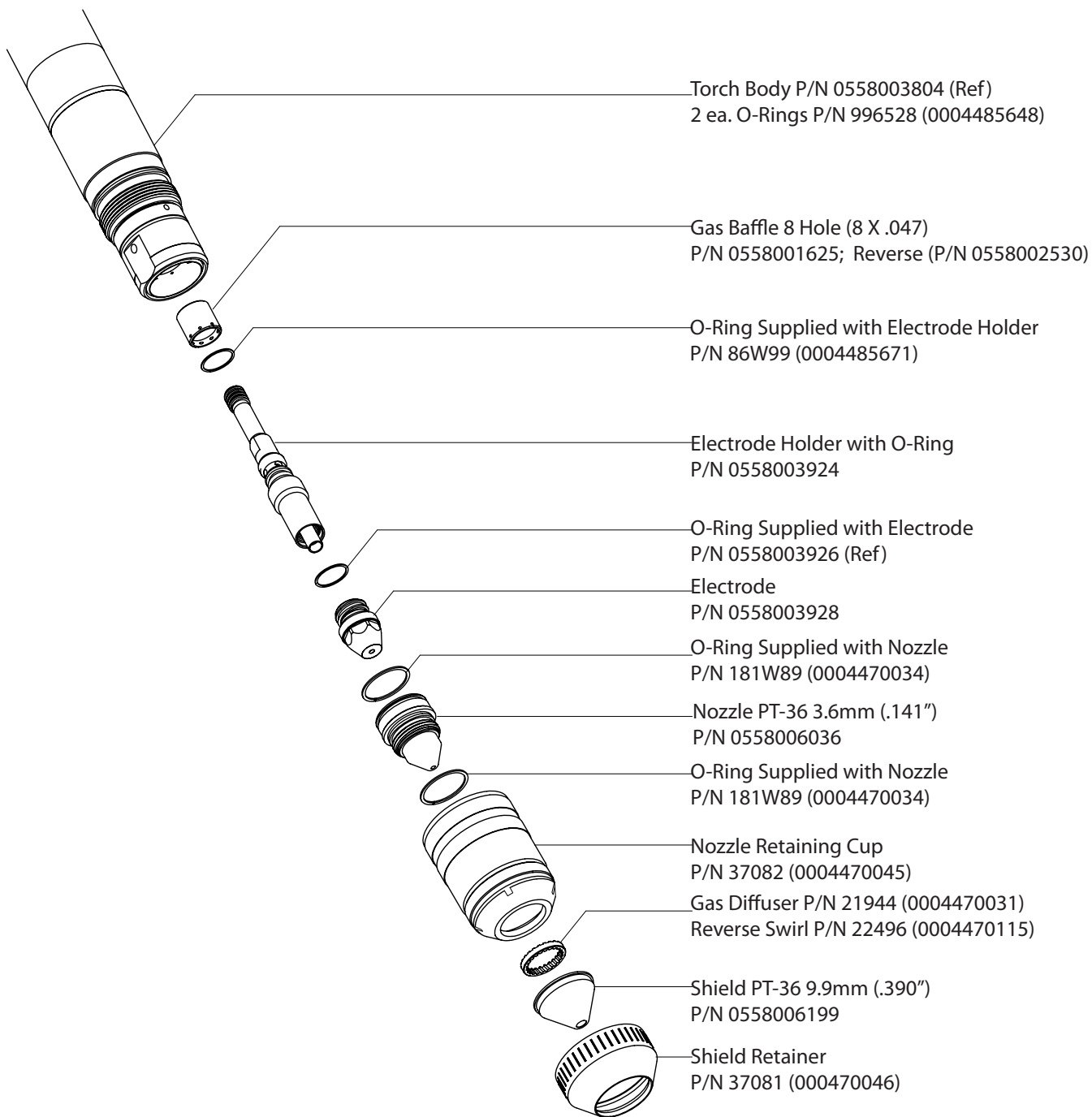
Amperes: 360

Plasma Start Gas: Nitrogen (**N₂**) @ 100 psi / 6.9 bar

Plasma Cut Gas: Hydrogen /Argon (**H-35**) @ 100 psi / 6.9 bar

Shield Start Gas: Nitrogen (**N₂**) @ 60 psi / 4.1 bar

Shield Cut Gas: Nitrogen (**N₂**) @ 60 psi / 4.1 bar



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**360 Amperes
Aluminum**

WARNING

DO NOT CUT UNDERWATER WITH H-35

Material Thickness	in(mm)	0.375 (9.5)	0.500 (12.7)	0.625 (15.9)	0.750 (19.1)	1.000 (25.4)	1.250 (31.8)	1.500 (38.1)	1.750 (44.5)
Timers (seconds)	Rise on Pierce	0	0	0.1	0.1	0.2	0.3	0.4	0.5
	Pierce Delay	0.3	0.3	0.3	0.4	0.8	1.0	1.0	1.4
Setup Parameters Pressure @ Flow	Plasma Start Gas - (N ₂)	25 psi	25 psi	25 psi	25 psi	25 psi	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas - (H-35)	55 psi	55 psi	55 psi	55 psi	55 psi	55 psi	55 psi	55 psi
		3.8 bar	3.8 bar	3.8 bar	3.8 bar	3.8 bar	3.8 bar	3.8 bar	3.8 bar
	Shield Start Gas - (N ₂)	27 psi	27 psi	27 psi	27 psi	27 psi	27 psi	27 psi	27 psi
		1.9 bar	1.9 bar	1.9 bar	1.9 bar	1.9 bar	1.9 bar	1.9 bar	1.9 bar
	Shield Cut Gas - (N ₂)	27 psi	27 psi	27 psi	27 psi	27 psi	27 psi	27 psi	27 psi
		1.9 bar	1.9 bar	1.9 bar	1.9 bar	1.9 bar	1.9 bar	1.9 bar	1.9 bar
Height Readings	Initial Height in(mm)	.375 (9.5)	0.500 (12.7)	0.500 (12.7)	0.500 (12.7)	0.500 (12.7)	0.500 (12.7)	0.500 (12.7)	0.500 (12.7)
	Arc Voltage (standoff)	145	155	166	168	173	185	193	203
Travel Speed	IPM	175	155	130	90	60	45	33	25
	MM/MIN	4445	3937	3302	2286	1524	1143	838	635
Kerf Width	Inches	.160	.160	.180	.180	.190	.210	.240	.260
	Millimeters	4.1	4.1	4.6	4.6	4.8	5.3	6.1	6.6

Notes:

- Pilot Arc Set to HIGH.

PT-36 CUT DATA



PLASMARC™ Cutting Torch
Smartflow Plasma System

Material: Aluminum

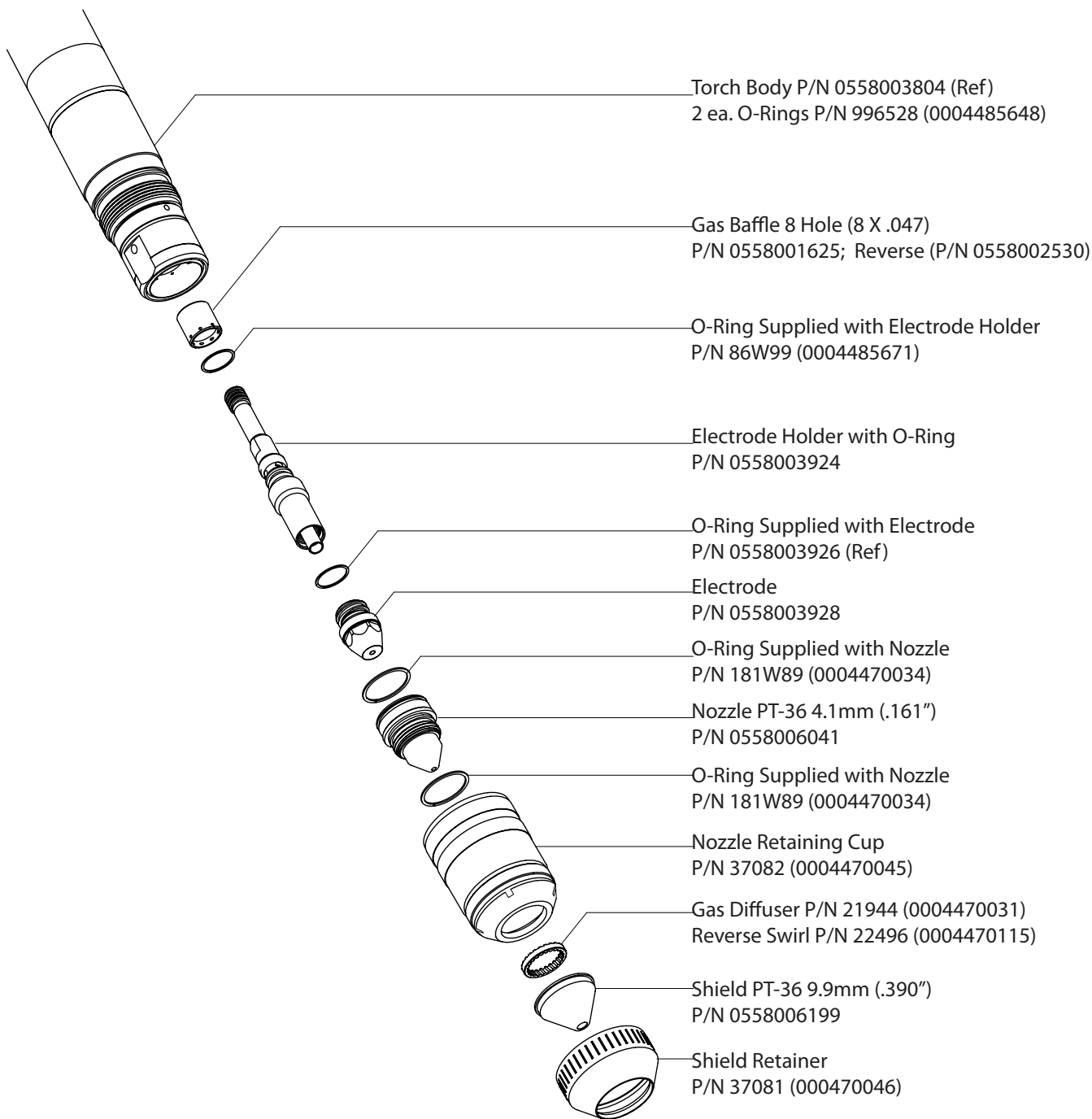
Amperes: 600

Plasma Start Gas: Nitrogen (N₂) @ 100 psi / 6.9 bar

Plasma Cut Gas: Hydrogen /Argon (H-35) @ 100 psi / 6.9 bar

Shield Start Gas: Nitrogen (N₂) @ 60 psi / 4.1 bar

Shield Cut Gas: Nitrogen (N₂) @ 60 psi / 4.1 bar



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**600 Amperes
Aluminum**

WARNING

DO NOT CUT UNDERWATER WITH H-35

Material Thickness	in(mm)	1.000 (25.4)	1.500 (38.1)	2.000 (50.8)	3.000 (76.2)
Timers (seconds)	Rise on Pierce	0.3	0.4	0.5	0.6
	Pierce Delay	0.5	0.8	1.0	1.2
Setup Parameters Pressure @ Flow	Plasma Start Gas - (N ₂)	46 psi	46 psi	46 psi	46 psi
		3.2 bar	3.2 bar	3.2 bar	3.2 bar
	Plasma Cut Gas - (H-35)	46 psi	46 psi	46 psi	46 psi
		3.2 bar	3.2 bar	3.2 bar	3.2 bar
	Shield Start Gas - (N ₂)	35 psi	35 psi	35 psi	35 psi
		2.4 bar	2.4 bar	2.4 bar	2.4 bar
	Shield Cut Gas - (N ₂)	35 psi	35 psi	35 psi	35 psi
		2.4 bar	2.4 bar	2.4 bar	2.4 bar
Height Readings	Initial Height in(mm)	0.750 (19.1)	0.750 (19.1)	0.750 (19.1)	0.750 (19.1)
	Arc Voltage (standoff)	172	177	192	212
Travel Speed	IPM	80	65	30	15
	MM/MIN	2032	1651	762	381
Kerf Width	Inches	.320	.330	.357	.390
	Millimeters	8.1	8.4	9.1	9.9

Notes:

- Pilot Arc Set to HIGH.

PT-36 CUT DATA



PLASMARC™ Cutting Torch
Smartflow Plasma System

Material: Aluminum

Amperes: 250

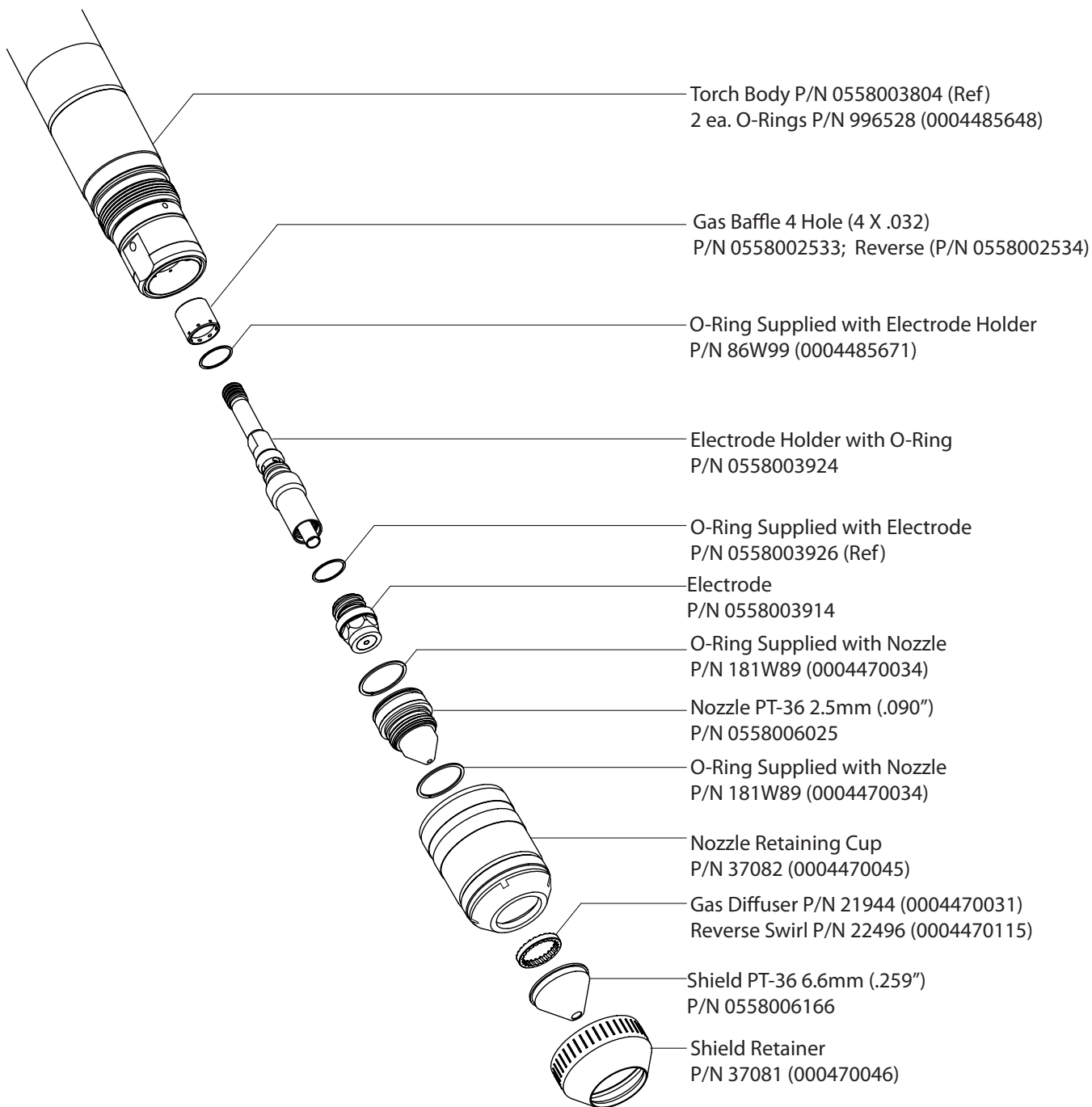
Plasma Start Gas: Nitrogen (**N₂**) @ 100 psi / 6.9 bar

Plasma Cut Gas: Hydrogen /Argon (**H-35**) @ 100 psi / 6.9 bar

Shield Start Gas: *Air @ 60 psi / 4.1 bar

Shield Cut Gas: *Air @ 60 psi / 4.1 bar

*Do not use shop Air.
Use bottled/compressed.



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**250 Amperes
Aluminum**

WARNING

DO NOT CUT UNDERWATER WITH H-35

Material Thickness	in(mm)	0.625 (15.9)	0.750 (19.1)	1.000 (25.4)
Timers (seconds)	Rise on Pierce	0.1	0.2	0.3
	Pierce Delay	0.3	0.4	0.8
Setup Parameters Pressure @ Flow	Plasma Start Gas - (N ₂)	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas - (H-35)	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar
	Shield Start Gas - (AIR)	8 psi	8 psi	8 psi
		0.6 bar	0.6 bar	0.6 bar
	Shield Cut Gas - (AIR)	12 psi	12 psi	12 psi
		0.8 bar	0.8 bar	0.8 bar
Height Readings	Initial Height in(mm)	0.500 (12.7)	0.500 (12.7)	0.500 (12.7)
	Arc Voltage (standoff)	150	155	170
Travel Speed	IPM	85	70	45
	MM/MIN	2159	1778	1143
Kerf Width	Inches	.100	.100	.100
	Millimeters	2.5	2.5	2.5

Notes:

- Pilot Arc Set to HIGH.

PT-36 CUT DATA



PLASMARC™ Cutting Torch
Smartflow Plasma System

Material: Aluminum

Amperes: 360

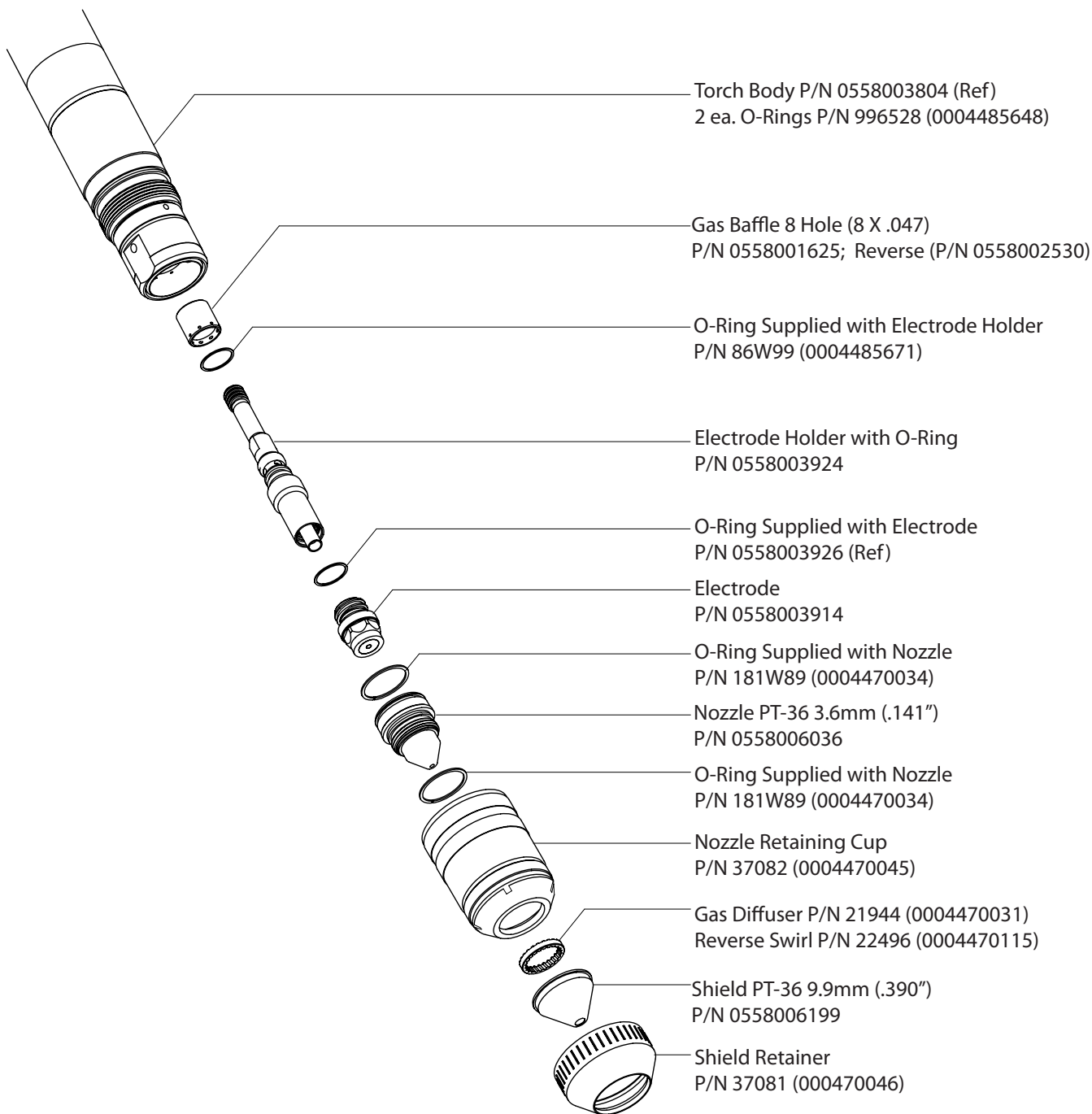
Plasma Start Gas: Nitrogen (N₂) @ 100 psi / 6.9 bar

Plasma Cut Gas: Hydrogen /Argon (**H-35**) @ 100 psi / 6.9 bar

Shield Start Gas: *Air @ 60 psi / 4.1 bar

Shield Cut Gas: *Air @ 60 psi / 4.1 bar

*Do not use shop Air.
Use bottled/compressed.



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**360 Amperes
Aluminum**

WARNING

DO NOT CUT UNDERWATER WITH H-35

Material Thickness	in(mm)	0.500 (12.7)	0.625 (15.9)	0.750 (19.1)	0.875 (22.2)	1.000 (25.4)	1.250 (31.8)	1.500 (38.1)	1.750 (44.5)
Timers (seconds)	Rise on Pierce	0	0.1	0.1	0.1	0.2	0.3	0.4	0.5
	Pierce Delay	0.3	0.3	0.4	0.5	0.8	1.0	1.0	1.4
Setup Parameters Pressure @ Flow	Plasma Start Gas - (N ₂)	42 psi	42 psi	42 psi	42 psi	42 psi	42 psi	42 psi	42 psi
		2.9 bar	2.9 bar	2.9 bar	2.9 bar	2.9 bar	2.9 bar	2.9 bar	2.9 bar
	Plasma Cut Gas - (H-35)	55 psi	55 psi	55 psi	55 psi	55 psi	55 psi	55 psi	55 psi
		3.8 bar	3.8 bar	3.8 bar	3.8 bar	3.8 bar	3.8 bar	3.8 bar	3.8 bar
	Shield Start Gas - (AIR)	27 psi	27 psi	27 psi	27 psi	27 psi	27 psi	27 psi	27 psi
		1.9 bar	1.9 bar	1.9 bar	1.9 bar	1.9 bar	1.9 bar	1.9 bar	1.9 bar
	Shield Cut Gas - (AIR)	27 psi	27 psi	27 psi	27 psi	27 psi	27 psi	27 psi	27 psi
		1.9 bar	1.9 bar	1.9 bar	1.9 bar	1.9 bar	1.9 bar	1.9 bar	1.9 bar
Height Readings	Initial Height in(mm)	0.500 (12.7)	0.500 (12.7)	0.625 (15.9)	0.625 (15.9)	0.625 (15.9)	0.625 (15.9)	0.625 (15.9)	0.625 (15.9)
	Arc Voltage (standoff)	150	166	168	170	173	185	193	200
Travel Speed	IPM	150	130	90	75	60	45	33	25
	MM/MIN	3810	3302	2286	1905	1524	1143	838	635
Kerf Width	Inches	.160	.180	.180	.180	.190	.210	.240	.260
	Millimeters	4.1	4.6	4.6	4.6	4.8	5.3	6.1	6.6

Notes:

- Pilot Arc Set to HIGH.

PT-36 CUT DATA



PLASMARC™ Cutting Torch
Smartflow Plasma System

Material: Aluminum

Amperes: 600

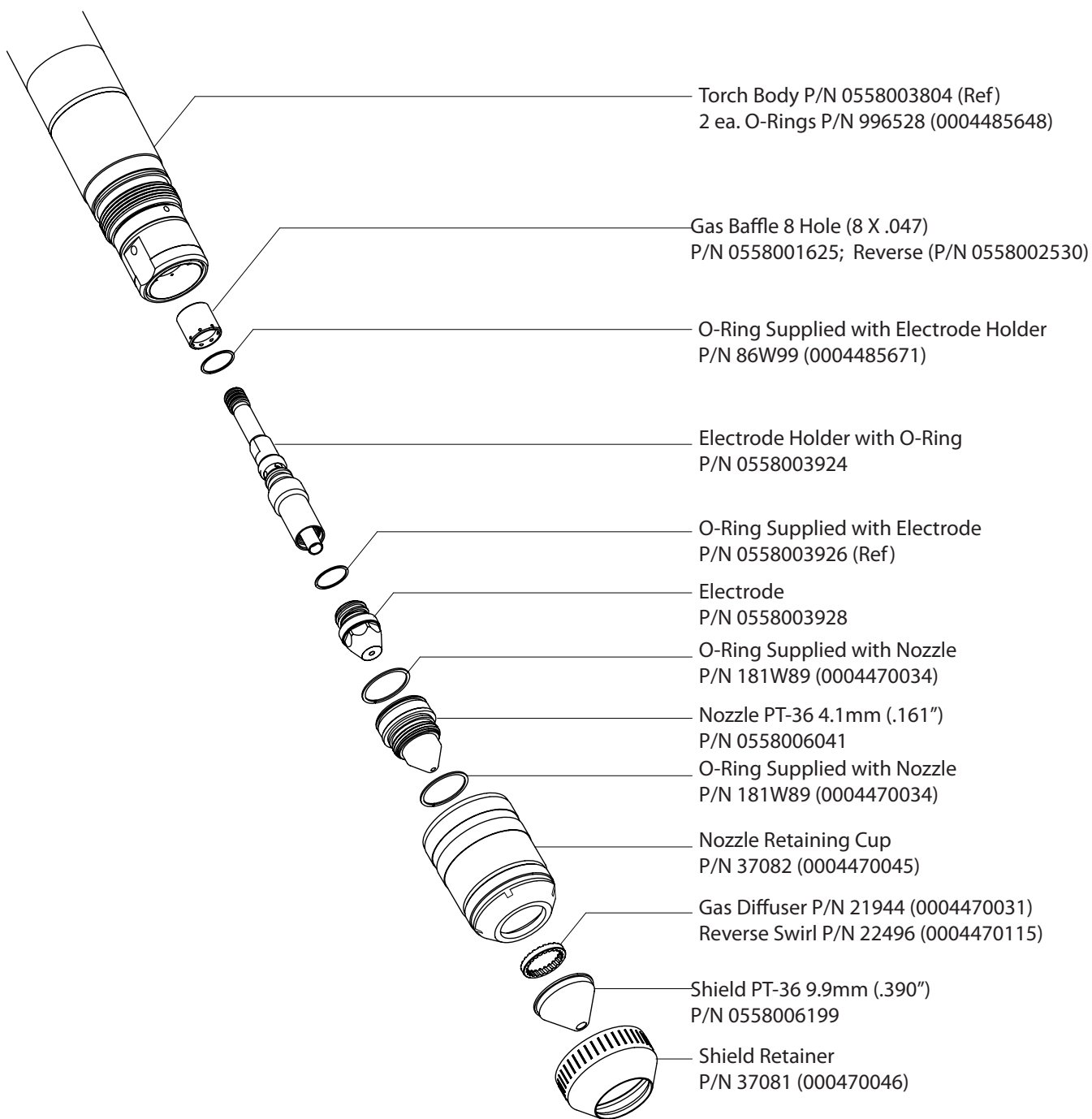
Plasma Start Gas: Hydrogen /Argon (**H-35**) @ 100 psi / 6.9 bar-

Plasma Cut Gas: Hydrogen /Argon (**H-35**) @ 100 psi / 6.9 bar

Shield Start Gas: *Air @ 60 psi / 4.1 bar

Shield Cut Gas: *Air @ 60 psi / 4.1 bar

*Do not use shop Air.
Use bottled/compressed.



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**600 Amperes
Aluminum**

WARNING

DO NOT CUT UNDERWATER WITH H-35

Material Thickness	in(mm)	1.500 (38.1)
Timers (seconds)	Rise on Pierce	0.5
	Pierce Delay	1.1
Setup Parameters Pressure @ Flow	Plasma Start Gas - (H-35)	46 psi
		3.2 bar
	Plasma Cut Gas - (H-35)	46 psi
		3.2 bar
	Shield Start Gas - (AIR)	34 psi
		2.4 bar
	Shield Cut Gas - (AIR)	34 psi
		2.4 bar
Height Readings	Initial Height in(mm)	0.750 (19.1)
	Arc Voltage (standoff)	172
Travel Speed	IPM	75
	MM/MIN	1905
Kerf Width	Inches	.320
	Millimeters	8.1

Notes:

- Pilot Arc Set to HIGH.

PT-36 CUT DATA



PLASMARC™ Cutting Torch Smartflow Plasma System

Material: Aluminum

Amperes: 200

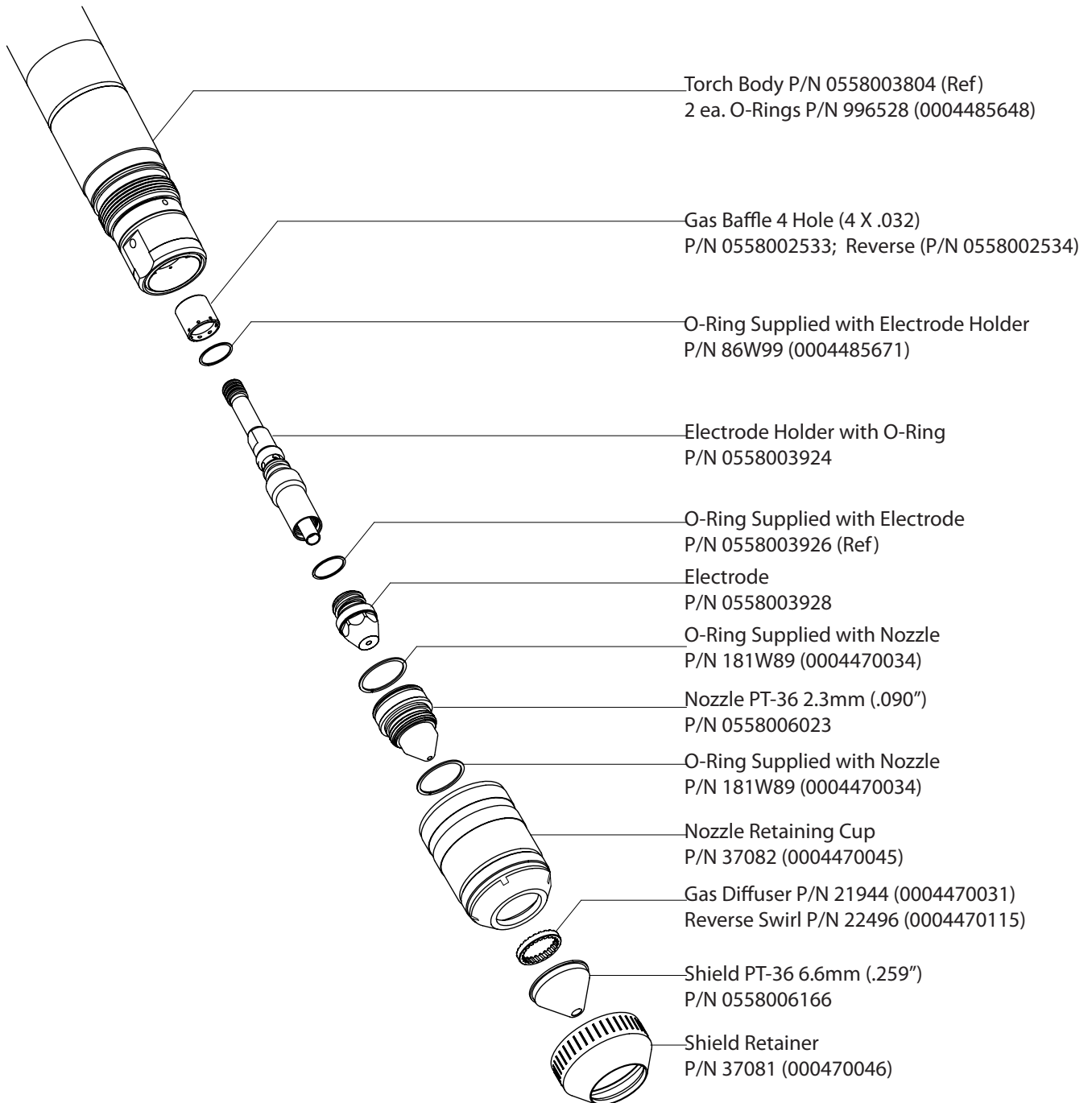
Plasma Start Gas: Nitrogen (N₂) @ 100 psi / 6.9 bar

Plasma Cut Gas: Nitrogen (N₂) @ 100 psi / 6.9 bar

Shield Start Gas: *Air @ 60 psi / 4.1 bar

Shield Cut Gas: *Air @ 60 psi / 4.1 bar

*Do not use shop Air.
Use bottled/compressed.



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**200 Amperes
Aluminum**

Material Thickness	in(mm)	0.188 (4.7)	0.250 (6.4)	0.313 (7.9)	0.375 (9.5)	0.500 (12.7)	0.625 (15.9)	0.750 (19.1)	1.000 (25.4)
Timers (seconds)	Rise on Pierce	0	0	0	0	0	0.1	0.2	0.2
	Pierce Delay	0	0.2	0.2	0.3	0.3	0.4	0.5	0.8
Setup Parameters Pressure @ Flow	Plasma Start Gas - (N ₂)	25 psi	25 psi	25 psi	25 psi	25 psi	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas - (N ₂)	44 psi	44 psi	44 psi	44 psi	44 psi	44 psi	44 psi	44 psi
		3.0 bar	3.0 bar	3.0 bar	3.0 bar	3.0 bar	3.0 bar	3.0 bar	3.0 bar
	Shield Start Gas - (Air)	20 psi	20 psi	20 psi	20 psi	20 psi	20 psi	20 psi	20 psi
		1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.4 bar
	Shield Cut Gas - (Air)	18 psi	18 psi	18 psi	18 psi	18 psi	18 psi	18 psi	18 psi
		1.24 bar	1.24 bar	1.24 bar	1.24 bar	1.24 bar	1.24 bar	1.24 bar	1.24 bar
Height Readings	Initial Height in(mm)	.375 (9.5)	.375 (9.5)	.375 (9.5)	.375 (9.5)	0.500 (12.7)	0.500 (12.7)	0.500 (12.7)	0.500 (12.7)
	Arc Voltage (standoff)	137	143	145	148	152	154	163	176
Travel Speed	IPM	240	170	105	90	70	62	55	30
	MM/MIN	6096	4318	2667	2286	1778	1575	1397	676
Kerf Width	Inches	.110	.110	.120	.130	.130	.140	.150	.160
	Millimeters	2.8	2.8	3.0	3.3	3.3	3.6	3.8	4.1

Notes:

- Pilot Arc Set to HIGH.
- Except where noted, data is for above water cutting. Reduce speed approximately 10% when cutting under water.

PT-36 CUT DATA



PLASMARC™ Cutting Torch Smartflow Plasma System

Material: Aluminum

Amperes: 250

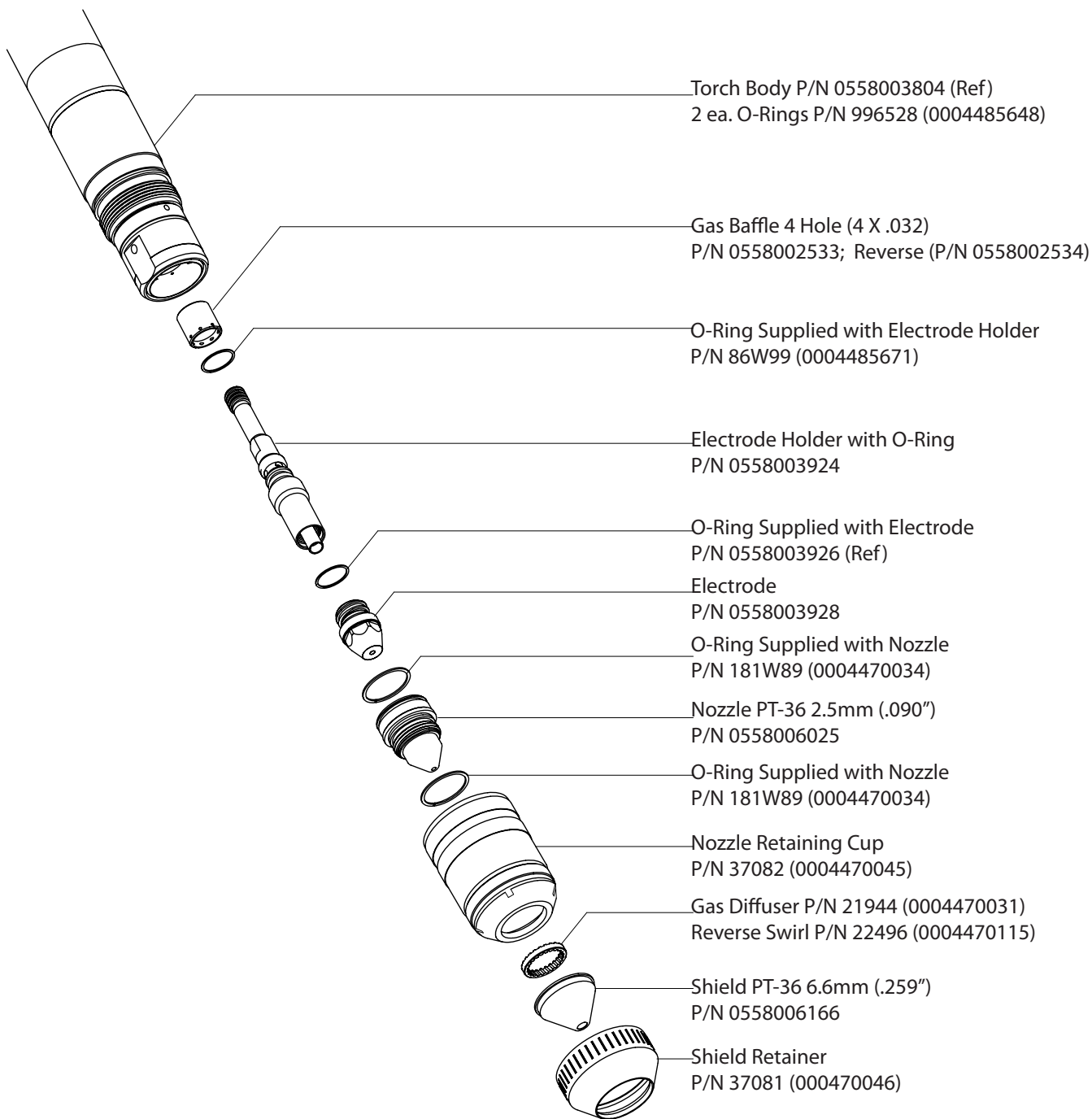
Plasma Start Gas: Nitrogen (N₂) @ 100 psi / 6.9 bar

Plasma Cut Gas: Nitrogen (N₂) @ 100 psi / 6.9 bar

Shield Start Gas: *Air @ 60 psi / 4.1 bar

Shield Cut Gas: *Air @ 60 psi / 4.1 bar

*Do not use shop Air.
Use bottled/compressed.



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**250 Amperes
Aluminum**

Material Thickness	in(mm)	0.250 (6.4)	0.375 (9.5)	0.500 (12.7)	0.625 (15.9)	0.750 (19.1)	1.000 (25.4)
Timers (seconds)	Rise on Pierce	0	0.1	0.1	0.1	0.1	0.2
	Pierce Delay	0.2	0.3	0.3	0.5	0.6	0.8
Setup Parameters Pressure @ Flow	Plasma Start Gas - (N ₂)	25 psi	25 psi	25 psi	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas - (N ₂)	44 psi	44 psi	44 psi	44 psi	44 psi	44 psi
		3.0 bar	3.0 bar	3.0 bar	3.0 bar	3.0 bar	3.0 bar
	Shield Start Gas - (Air)	20 psi	20 psi	20 psi	20 psi	20 psi	20 psi
		1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.4 bar
	Shield Cut Gas - (Air)	18 psi	18 psi	18 psi	18 psi	18 psi	18 psi
		1.24 bar	1.24 bar	1.24 bar	1.24 bar	1.24 bar	1.24 bar
Height Readings	Initial Height in(mm)	.375 (9.5)	.375 (9.5)	0.500 (12.7)	0.500 (12.7)	0.500 (12.7)	0.500 (12.7)
	Arc Voltage (standoff)	136	146	148	152	157	166
Travel Speed	IPM	200	125	100	75	65	45
	MM/MIN	5080	3175	2540	1905	1651	1143
Kerf Width	Inches	.120	.130	.130	.150	.150	.160
	Millimeters	3.0	3.3	3.3	3.8	3.8	4.1

Notes:

- Pilot Arc Set to HIGH.
- Except where noted, data is for above water cutting. Reduce speed approximately 10% when cutting under water.

PT-36 CUT DATA



PLASMARC™ Cutting Torch
Smartflow Plasma System

Material: Aluminum

Amperes: 360

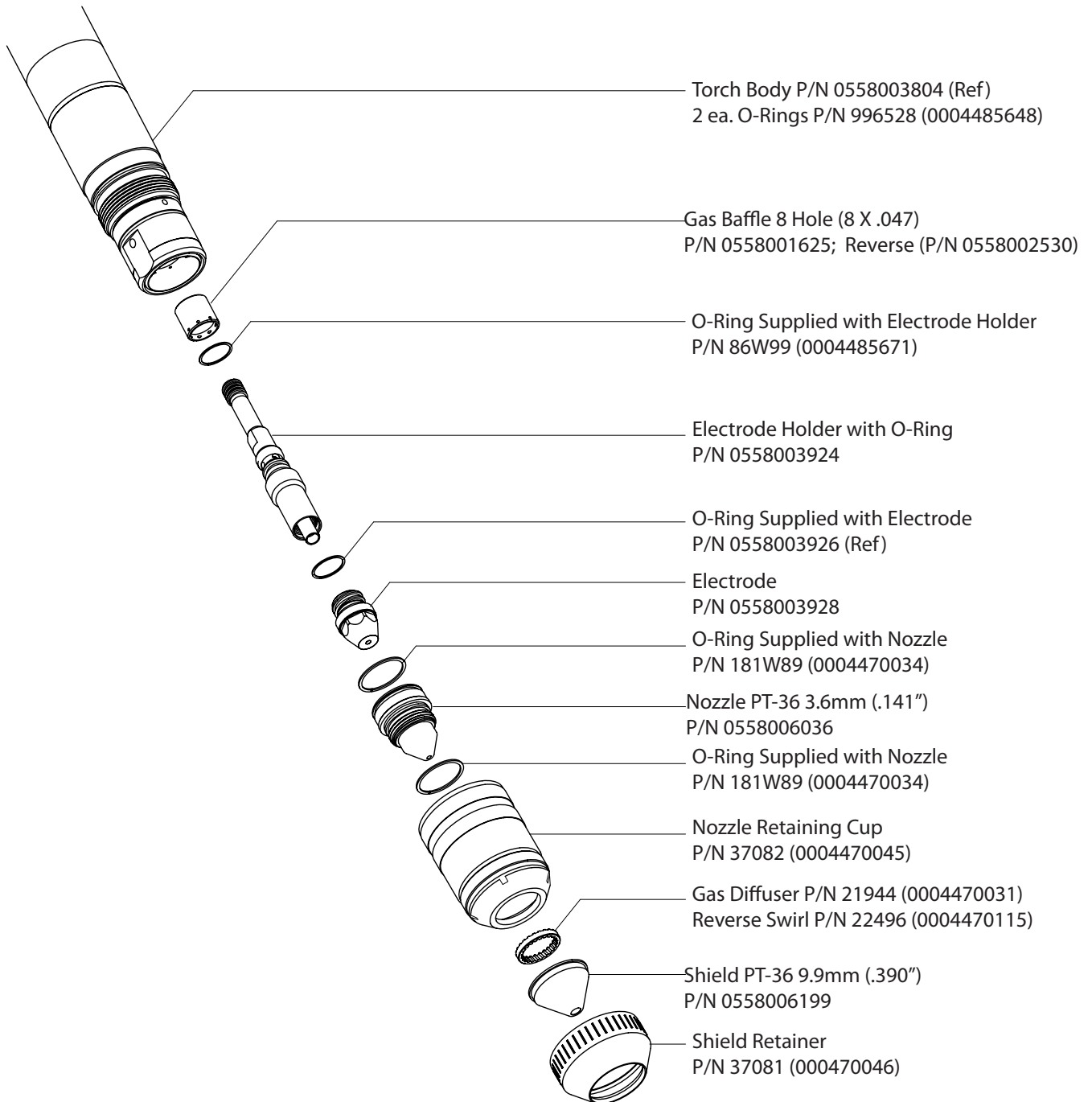
Plasma Start Gas: Nitrogen (N₂) @ 100 psi / 6.9 bar

Plasma Cut Gas: Nitrogen (N₂) @ 100 psi / 6.9 bar

Shield Start Gas: *Air @ 60 psi / 4.1 bar

Shield Cut Gas: *Air @ 60 psi / 4.1 bar

*Do not use shop Air.
Use bottled/compressed.



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**360 Amperes
Aluminum**

Material Thickness	in(mm)	0.250 (6.4)	0.375 (9.5)	0.500 (12.7)	0.750 (19.1)	1.000 (25.4)	1.250 (31.8)
Timers (seconds)	Rise on Pierce	0	0	0	0.2	0.3	0.3
	Pierce Delay	0.1	0.2	0.3	0.4	0.7	0.8
Setup Parameters Pressure @ Flow	Plasma Start Gas - (N ₂)	25 psi	25 psi	25 psi	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas - (N ₂)	39 psi	39 psi	39 psi	39 psi	39 psi	39 psi
		2.7 bar	2.7 bar	2.7 bar	2.7 bar	2.7 bar	2.7 bar
	Shield Start Gas - (Air)	44 psi	44 psi	44 psi	44 psi	44 psi	44 psi
		3.0 bar	3.0 bar	3.0 bar	3.0 bar	3.0 bar	3.0 bar
	Shield Cut Gas - (Air)	44 psi	44 psi	44 psi	44 psi	44 psi	44 psi
		3.0 bar	3.0 bar	3.0 bar	3.0 bar	3.0 bar	3.0 bar
Height Readings	Initial Height in(mm)	.375 (9.5)	.375 (9.5)	0.500 (12.7)	0.500 (12.7)	0.500 (12.7)	0.500 (12.7)
	Arc Voltage (standoff)	147	155	161	168	168	190
Travel Speed	IPM	230	180	160	90	60	40
	MM/MIN	5842	4572	4064	2286	1524	1016
Kerf Width	Inches	.120	.130	.130	.140	.150	.200
	Millimeters	3.0	3.3	3.3	3.6	3.8	5.1

Notes:

- Pilot Arc Set to HIGH.
- Except where noted, data is for above water cutting. Reduce speed approximately 10% when cutting under water.

PT-36 CUT DATA



PLASMARC™ Cutting Torch Smartflow Plasma System

Material: Aluminum

Amperes: 600

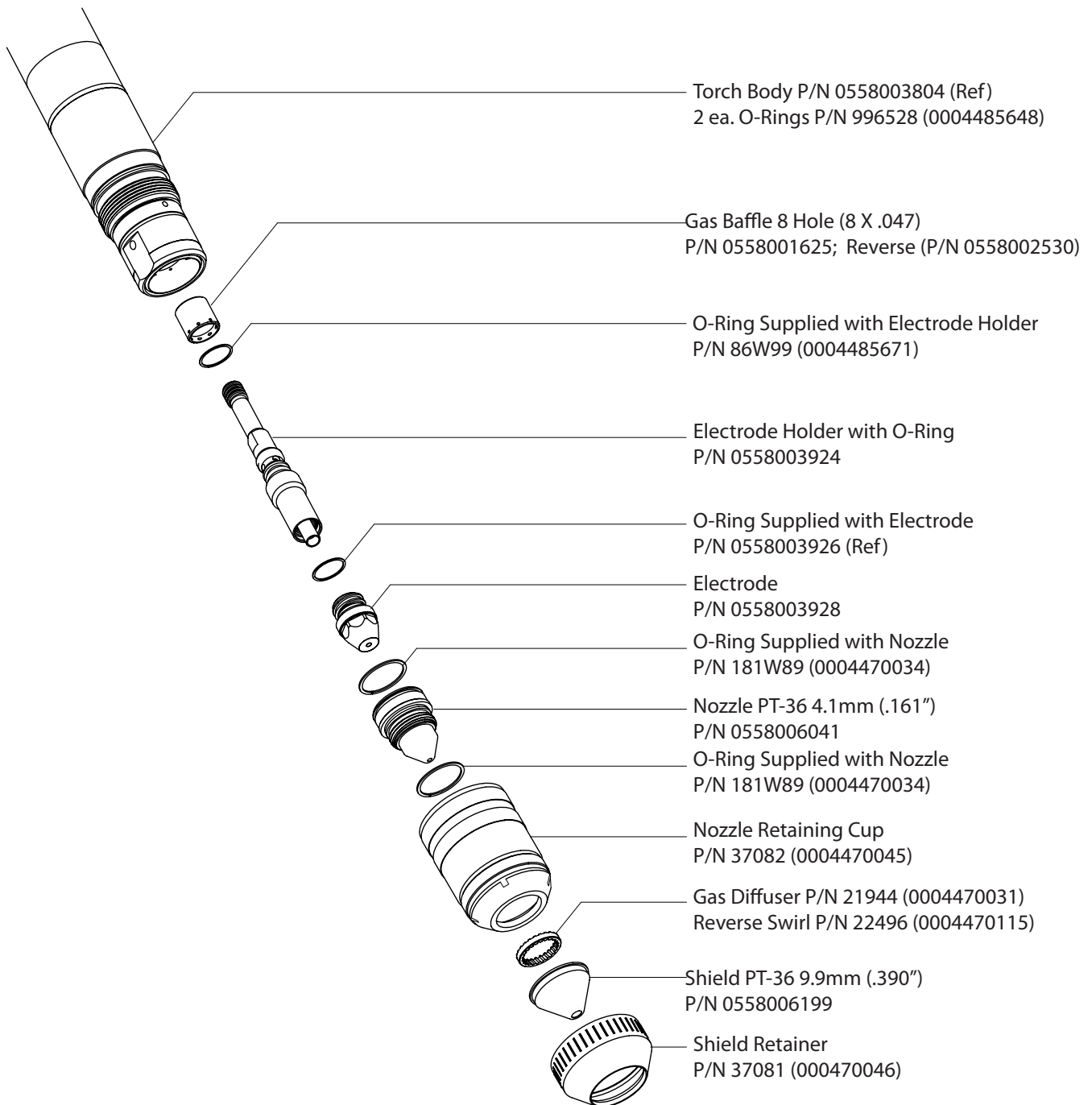
Plasma Start Gas: Nitrogen (N₂) @ 100 psi / 6.9 bar

Plasma Cut Gas: Nitrogen (N₂) @ 100 psi / 6.9 bar

Shield Start Gas: *Air @ 60 psi / 4.1 bar

Shield Cut Gas: *Air @ 60 psi / 4.1 bar

*Do not use shop Air.
Use bottled/compressed.



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**600 Amperes
Aluminum**

Material Thickness	in(mm)	1.000 (25.4)	1.500 (38.1)
Timers (seconds)	Rise on Pierce	0.5	0.5
	Pierce Delay	1.0	1.1
Setup Parameters Pressure @ Flow	Plasma Start Gas - (N ₂)	27 psi	27 psi
		1.9 bar	1.9 bar
	Plasma Cut Gas - (N ₂)	27 psi	27 psi
		1.9 bar	1.9 bar
	Shield Start Gas - (Air)	34 psi	34 psi
		2.4 bar	2.4 bar
	Shield Cut Gas - (Air)	34 psi	34 psi
		2.4 bar	2.4 bar
Height Readings	Initial Height in(mm)	0.625 (15.9)	0.625 (15.9)
	Arc Voltage (standoff)	158	168
Travel Speed	IPM	100	60
	MM/MIN	2540	1524
Kerf Width	Inches	.177	.189
	Millimeters	4.5	4.8

Notes:

- Pilot Arc Set to HIGH.
- Except where noted, data is for above water cutting. Reduce speed approximately 10% when cutting under water.

PT-36 CUT DATA



PLASMARC™ Cutting Torch Smartflow Plasma System

Material: Stainless Steel

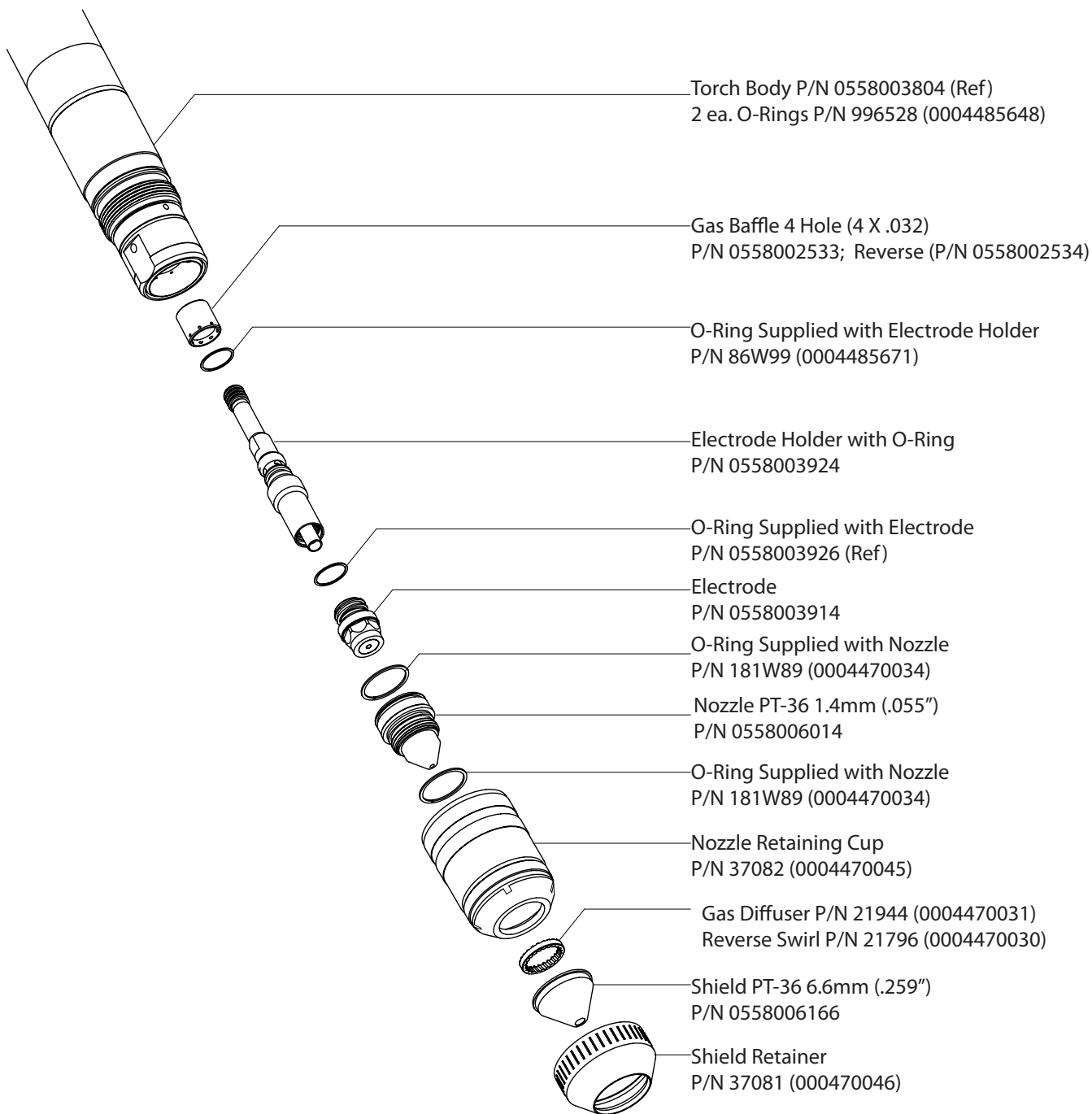
Amperes: 100

Plasma Start Gas: Nitrogen (N₂) @ 100 psi / 6.9 bar

Plasma Cut Gas: Nitrogen (N₂) @ 100 psi / 6.9 bar

Shield Start Gas: Nitrogen (N₂) @ 100 psi / 6.9 bar

Shield Cut Gas: Nitrogen (N₂) @ 100 psi / 6.9 bar



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**100 Amperes
Stainless Steel**

Material Thickness	in(mm)	0.250 (6.4)	0.375 (9.5)	0.500 (12.7)	0.625 (15.9)	0.750 (19.1)
Timers (seconds)	Rise on Pierce	0.1	0.2	0.3	0.3	0.5
	Pierce Delay	0.3	0.4	0.5	0.5	1.2
Setup Parameters Pressure @ Flow	Plasma Start Gas - (N ₂)	25 psi	25 psi	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas - (N ₂)	50 psi	50 psi	50 psi	50 psi	50 psi
		3.5 bar	3.5 bar	3.5 bar	3.5 bar	3.5 bar
	Shield Start Gas - (N ₂)	20 psi	20 psi	20 psi	20 psi	20 psi
		1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.4 bar
	Shield Cut Gas - (N ₂)	22 psi	22 psi	22 psi	22 psi	22 psi
		1.5 bar	1.5 bar	1.5 bar	1.5 bar	1.5 bar
Height Readings	Initial Height in(mm)	.375 (9.5)	.375 (9.5)	0.500 (12.7)	0.625 (15.9)	0.625 (15.9)
	Arc Voltage (standoff)	152	158	162	177	186
Travel Speed	IPM	55	42	30	16	9
	MM/MIN	1397	1067	762	384	248
Kerf Width	Inches	.120	.120	.130	.140	.150
	Millimeters	3.0	3.0	3.3	3.6	3.8

Notes:

- Pilot Arc Set to LOW.
- Except where noted, data is for above water cutting. Reduce speed approximately 10% when cutting under water.

PT-36 CUT DATA



PLASMARC™ Cutting Torch
Smartflow Plasma System

Material: Stainless Steel

Amperes: 100

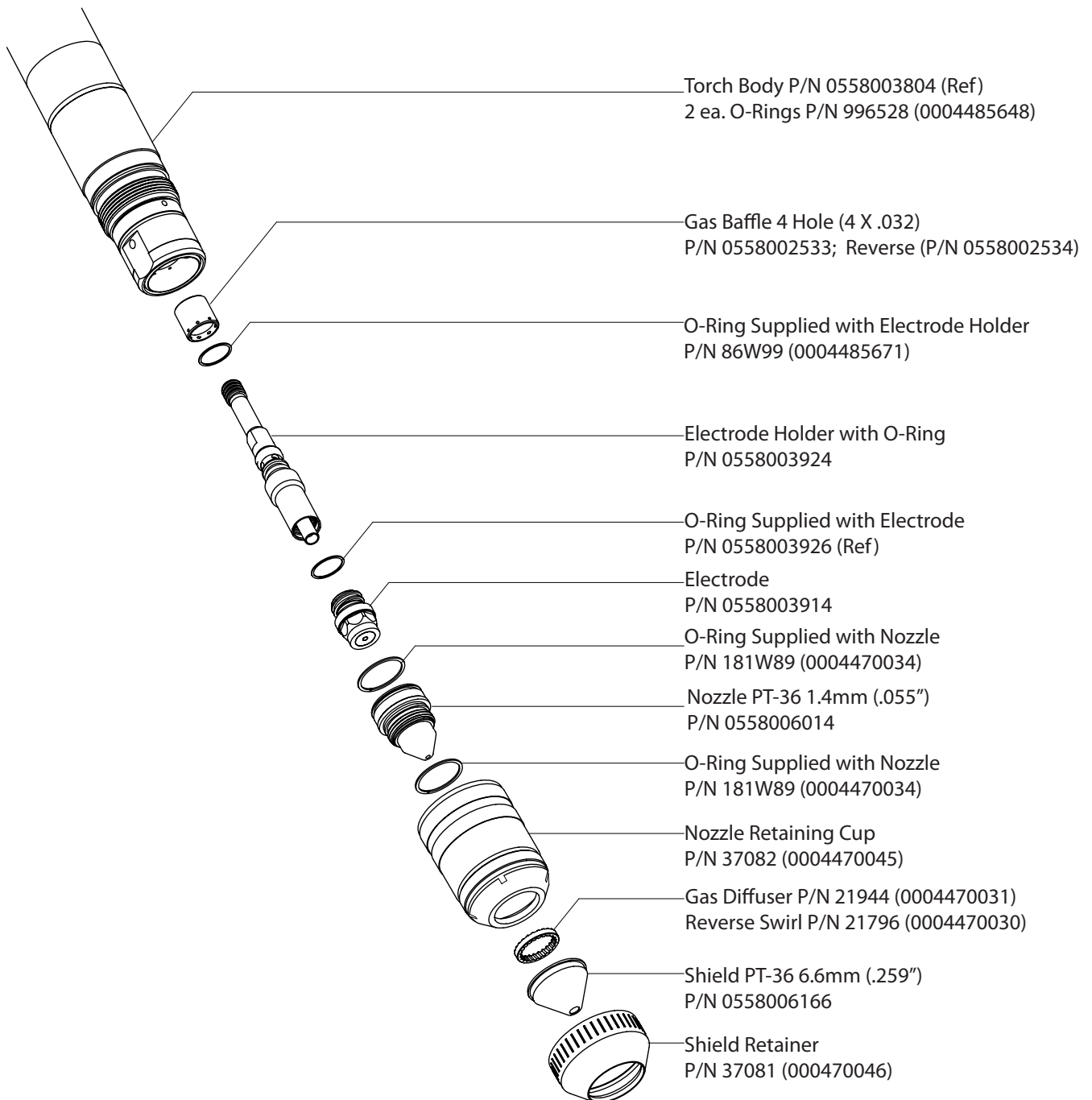
Plasma Start Gas: *Air @ 60 psi / 4.1 bar

Plasma Cut Gas: *Air @ 60 psi / 4.1 bar

Shield Start Gas: *Air @ 60 psi / 4.1 bar

Shield Cut Gas: *Air @ 60 psi / 4.1 bar

*Do not use shop Air.
Use bottled/compressed.



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**100 Amperes
Stainless Steel**

Material Thickness	in(mm)	0.188 (4.7)	0.250 (6.4)	0.313 (7.9)	0.375 (9.5)	0.500 (12.7)	0.625 (15.9)	0.750 (19.1)
Timers (seconds)	Rise on Pierce	0	0.1	0.1	0.2	0.3	0.4	0.5
	Pierce Delay	0.2	0.3	0.4	0.4	0.6	0.8	1.2
Setup Parameters Pressure @ Flow	Plasma Start Gas - (AIR)	25 psi	25 psi	25 psi	25 psi	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas - (AIR)	38 psi	38 psi	44 psi	44 psi	44 psi	44 psi	44 psi
		2.6 bar	2.6 bar	3.0 bar	3.0 bar	3.0 bar	3.0 bar	3.0 bar
	Shield Start Gas - (AIR)	20 psi	20 psi	20 psi	20 psi	20 psi	20 psi	20 psi
		1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.4 bar
	Shield Cut Gas - (AIR)	18 psi	18 psi	18 psi	18 psi	18 psi	18 psi	18 psi
		1.2 bar	1.2 bar	1.2 bar	1.2 bar	1.2 bar	1.2 bar	1.2 bar
Height Readings	Initial Height in(mm)	.375 (9.5)	.375 (9.5)	.375 (9.5)	.375 (9.5)	0.500 (12.7)	0.625 (15.9)	0.625 (15.9)
	Arc Voltage (standoff)	155	160	158	165	180	186	188
Travel Speed	IPM	100	55	45	35	25	18	10
	MM/MIN	2540	1397	1143	889	635	457	254
Kerf Width	Inches	.100	.115	.120	.135	.140	.145	.150
	Millimeters	2.5	2.9	3.0	3.4	3.6	3.7	3.8

Notes:

- Pilot Arc Set to LOW.
- Except where noted, data is for above water cutting. Reduce speed approximately 10% when cutting under water.

PT-36 CUT DATA



PLASMARC™ Cutting Torch
Smartflow Plasma System

Material: Stainless Steel

Amperes: 150

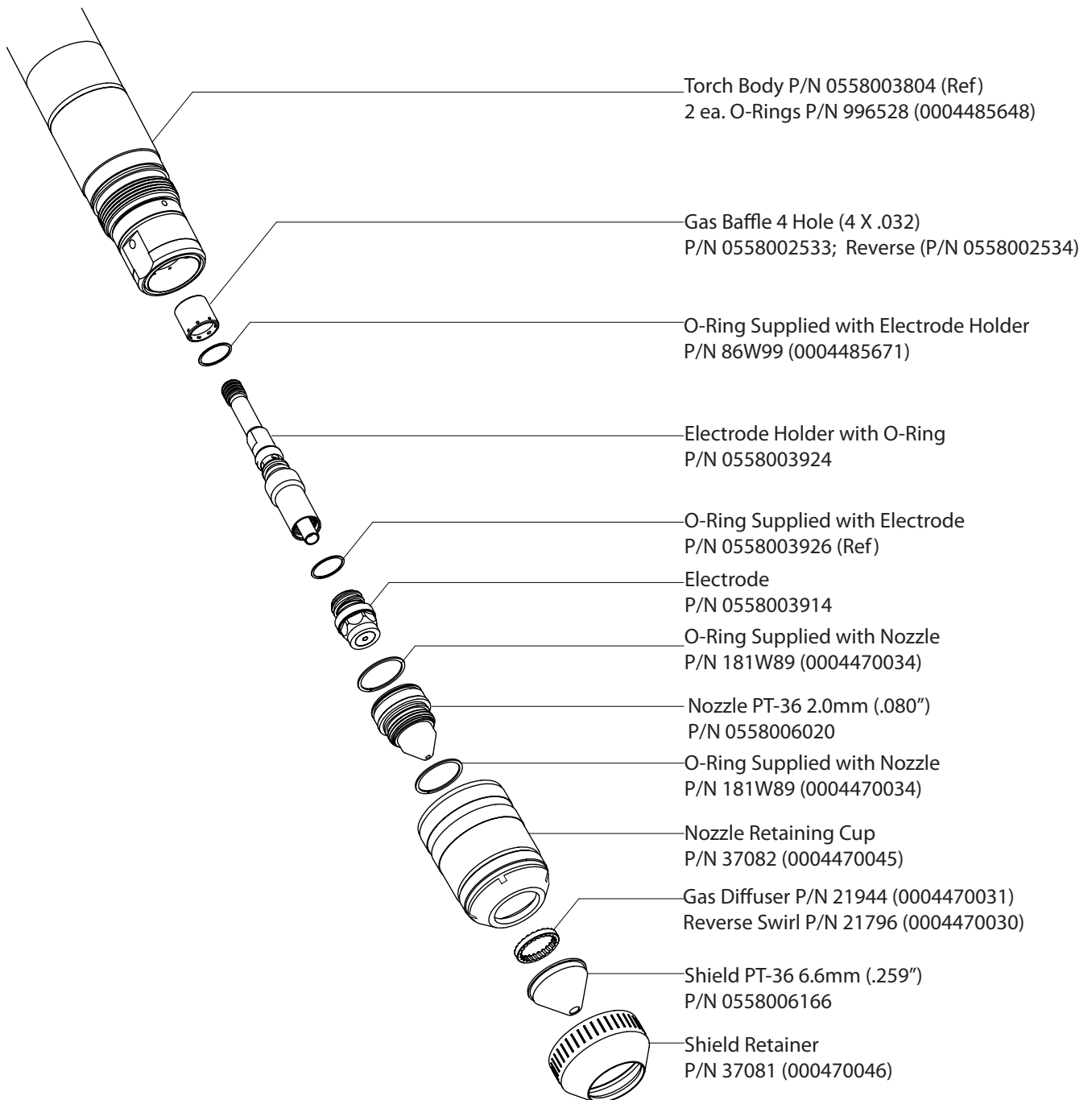
Plasma Start Gas: *Air @ 60 psi / 4.1 bar

Plasma Cut Gas: *Air @ 60 psi / 4.1 bar

Shield Start Gas: *Air @ 60 psi / 4.1 bar

Shield Cut Gas: *Air @ 60 psi / 4.1 bar

*Do not use shop Air.
Use bottled/compressed.



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**150 Amperes
Stainless Steel**

Material Thickness	in(mm)	0.188 (4.7)	0.250 (6.4)	0.313 (7.9)	0.375 (9.5)	0.500 (12.7)	0.625 (15.9)	0.750 (19.1)	1.000 (25.4)
Timers (seconds)	Rise on Pierce	0	0	0.1	0.1	0.2	0.3	0.4	0.4
	Pierce Delay	0.1	0.3	0.3	0.3	0.4	0.4	0.8	1.0
Setup Parameters Pressure @ Flow	Plasma Start Gas - (AIR)	25 psi	25 psi	25 psi	25 psi	25 psi	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas - (AIR)	36 psi	36 psi	36 psi	36 psi	36 psi	36 psi	36 psi	36 psi
		2.5 bar	2.5 bar	2.5 bar	2.5 bar	2.5 bar	2.5 bar	2.5 bar	2.5 bar
	Shield Start Gas - (AIR)	20 psi	20 psi	20 psi	20 psi	20 psi	20 psi	20 psi	20 psi
		1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.4 bar
	Shield Cut Gas - (AIR)	22 psi	22 psi	22 psi	22 psi	22 psi	22 psi	22 psi	22 psi
		1.5 bar	1.5 bar	1.5 bar	1.5 bar	1.5 bar	1.5 bar	1.5 bar	1.5 bar
Height Readings	Initial Height in(mm)	.375 (9.5)	.375 (9.5)	.375 (9.5)	.375 (9.5)	0.500 (12.7)	0.625 (15.9)	0.625 (15.9)	0.625 (15.9)
	Arc Voltage (standoff)	145	147	152	155	162	169	177	189
Travel Speed	IPM	180	130	110	90	60	40	25	15
	MM/MIN	4572	3302	2794	2286	1524	1016	635	381
Kerf Width	Inches	.100	.105	.115	.120	.125	.130	.140	.145
	Millimeters	2.5	2.6	2.9	3.0	3.2	3.3	3.6	3.7

Notes:

- Pilot Arc Set to HIGH.
- Except where noted, data is for above water cutting. Reduce speed approximately 10% when cutting under water.

PT-36 CUT DATA



PLASMARC™ Cutting Torch Smartflow Plasma System

Material: Stainless Steel

Amperes: 200

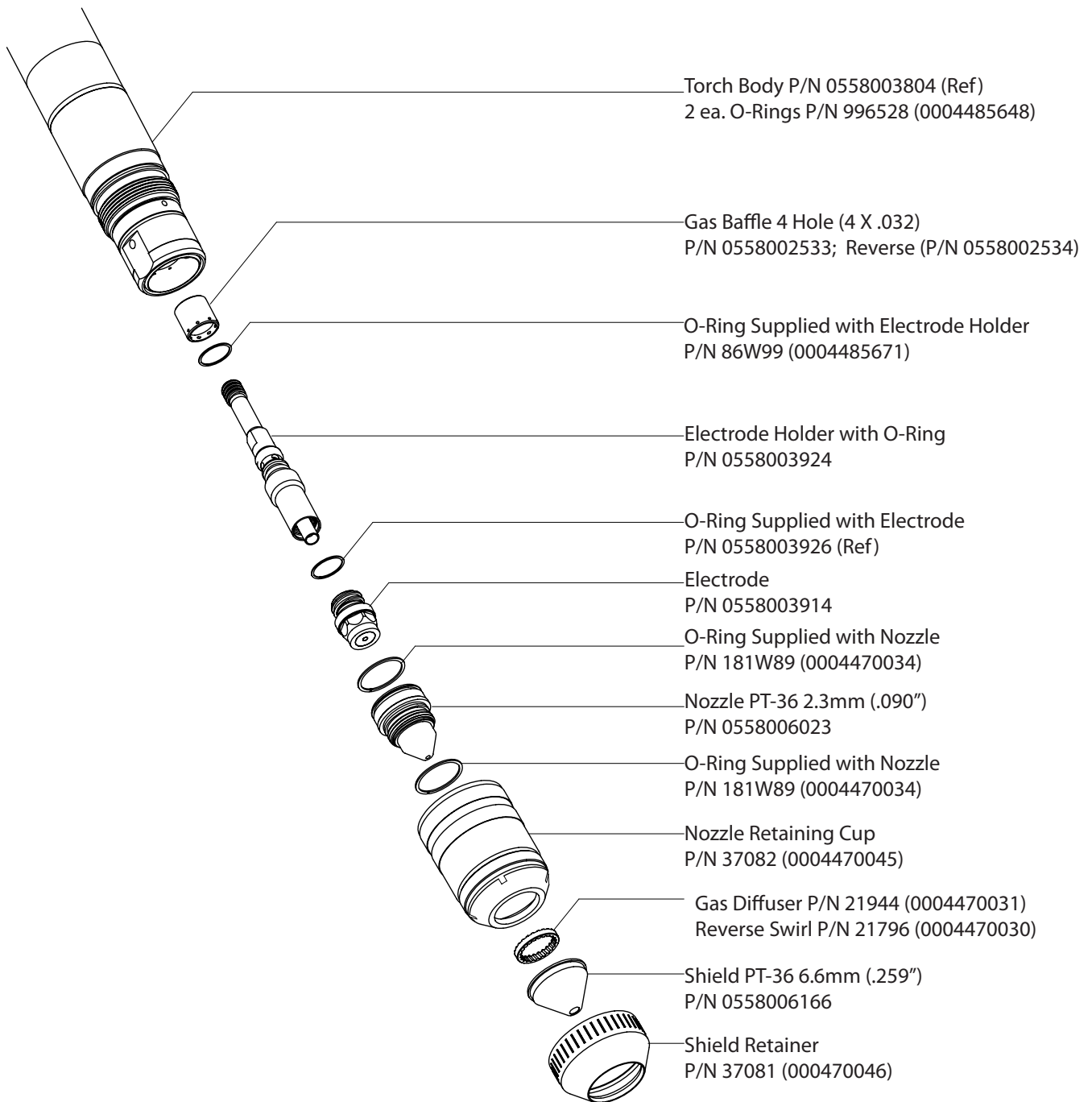
Plasma Start Gas: *Air @ 60 psi / 4.1 bar

Plasma Cut Gas: *Air @ 60 psi / 4.1 bar

Shield Start Gas: *Air @ 60 psi / 4.1 bar

Shield Cut Gas: *Air @ 60 psi / 4.1 bar

*Do not use shop Air.
Use bottled/compressed.



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

200 Amperes Stainless Steel

Material Thickness	in(mm)	0.188 (4.7)	0.250 (6.4)	0.313 (7.9)	0.375 (9.5)	0.500 (12.7)	0.625 (15.9)	0.750 (19.1)	1.000 (25.4)
Timers (seconds)	Rise on Pierce	0	0.1	0.1	0.1	0.1	0.2	0.3	0.4
	Pierce Delay	0.2	0.2	0.3	0.3	0.4	0.5	0.8	1.0
Setup Parameters Pressure @ Flow	Plasma Start Gas - (AIR)	25 psi	25 psi	25 psi	25 psi	25 psi	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas - (AIR)	38 psi	38 psi	38 psi	38 psi	38 psi	38 psi	38 psi	38 psi
		2.6 bar	2.6 bar	2.6 bar	2.6 bar	2.6 bar	2.6 bar	2.6 bar	2.6 bar
	Shield Start Gas - (AIR)	20 psi	20 psi	20 psi	20 psi	20 psi	20 psi	20 psi	20 psi
		1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.4 bar
	Shield Cut Gas - (AIR)	22 psi	22 psi	22 psi	22 psi	22 psi	22 psi	22 psi	22 psi
		1.5 bar	1.5 bar	1.5 bar	1.5 bar	1.5 bar	1.5 bar	1.5 bar	1.5 bar
Height Readings	Initial Height in(mm)	.375 (9.5)	.375 (9.5)	.375 (9.5)	.375 (9.5)	0.500 (12.7)	0.625 (15.9)	0.625 (15.9)	0.750 (19.1)
	Arc Voltage (standoff)	145	147	152	155	162	169	177	189
Travel Speed	IPM	200	135	130	125	85	70	55	20
	MM/MIN	5080	3429	3302	3175	2159	1778	1397	508
Kerf Width	Inches	.105	.110	.105	.130	.125	.130	.135	.175
	Millimeters	2.6	2.8	2.6	3.3	3.2	3.3	3.5	4.5

Notes:

- Pilot Arc Set to HIGH.
- Except where noted, data is for above water cutting. Reduce speed approximately 10% when cutting under water.

PT-36 CUT DATA



PLASMARC™ Cutting Torch
Smartflow Plasma System

Material: Stainless Steel

Amperes: 100

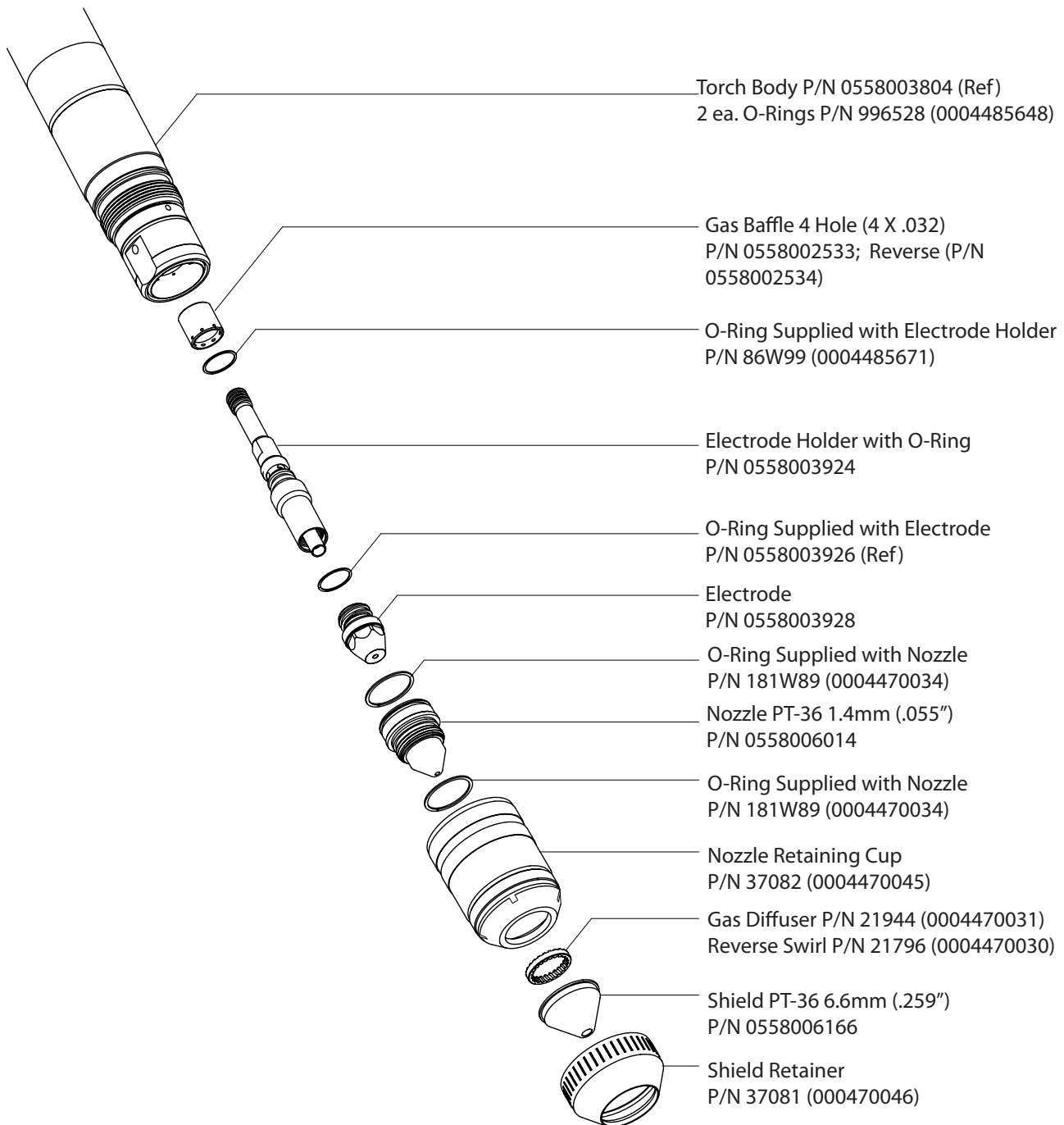
Plasma Start Gas: Nitrogen (N₂) @ 100 psi / 6.9 bar

Plasma Cut Gas: Nitrogen (N₂) @ 100 psi / 6.9 bar

Shield Start Gas: *Air @ 60 psi / 4.1 bar

Shield Cut Gas: *Air @ 60 psi / 4.1 bar

*Do not use shop Air.
Use bottled/compressed.



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**100 Amperes
Stainless Steel**

Material Thickness	in(mm)	0.250 (6.4)	0.313 (7.9)	0.375 (9.5)	0.500 (12.7)	0.625 (15.9)	0.750 (19.1)
Timers (seconds)	Rise on Pierce	0.1	0	0.1	0.2	0.4	0.5
	Pierce Delay	0.3	0.3	0.4	0.4	0.8	1.0
Setup Parameters Pressure @ Flow	Plasma Start Gas - (N ₂)	25 psi	25 psi	25 psi	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas - (N ₂)	45 psi	45 psi	45 psi	45 psi	45 psi	45 psi
		3.1 bar	3.1 bar	3.1 bar	3.1 bar	3.1 bar	3.1 bar
	Shield Start Gas - (AIR)	20 psi	20 psi	20 psi	20 psi	20 psi	20 psi
		1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.4 bar
	Shield Cut Gas - (AIR)	22 psi	22 psi	22 psi	22 psi	22 psi	22 psi
		1.5 bar	1.5 bar	1.5 bar	1.5 bar	1.5 bar	1.5 bar
Height Readings	Initial Height in(mm)	.375 (9.5)	.375 (9.5)	.375 (9.5)	0.500 (12.7)	0.625 (15.9)	0.625 (15.9)
	Arc Voltage (standoff)	152	155	157	160	178	185
Travel Speed	IPM	55	48	42	35	16	8
	MM/MIN	1397	1219	1066	889	406	203
Kerf Width	Inches	.105	.115	.115	.120	.140	.150
	Millimeters	2.6	2.9	2.9	3.0	3.6	3.8

Notes:

- Pilot Arc Set to LOW.
- Except where noted, data is for above water cutting. Reduce speed approximately 10% when cutting under water.

PT-36 CUT DATA



PLASMARC™ Cutting Torch
Smartflow Plasma System

Material: Stainless Steel

Amperes: 150

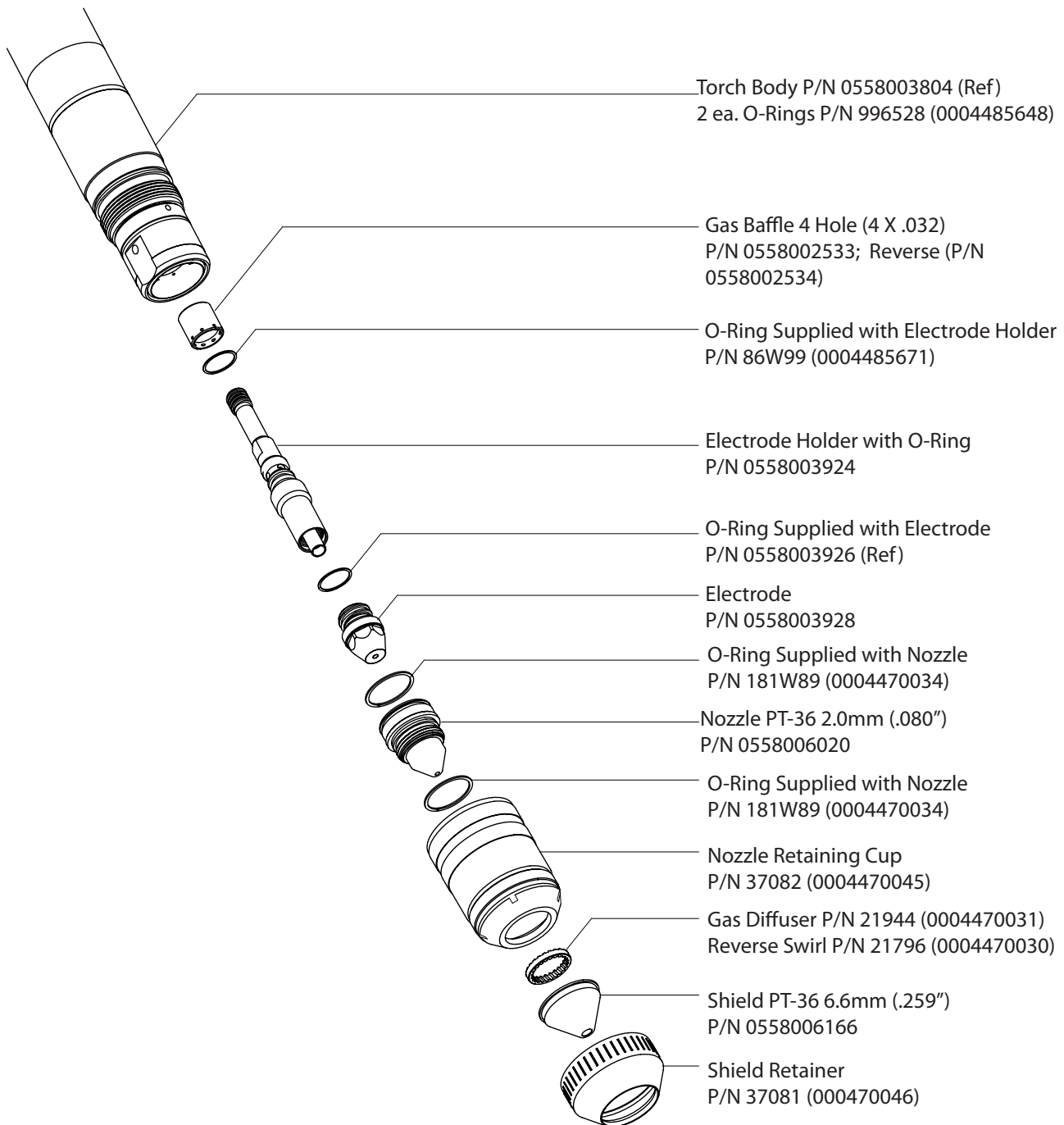
Plasma Start Gas: Nitrogen (N₂) @ 100 psi / 6.9 bar

Plasma Cut Gas: Nitrogen (N₂) @ 100 psi / 6.9 bar

Shield Start Gas: *Air @ 60 psi / 4.1 bar

Shield Cut Gas: *Air @ 60 psi / 4.1 bar

*Do not use shop Air.
Use bottled/compressed.



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

150 Amperes Stainless Steel

Material Thickness	in(mm)	0.188 (4.7)	0.250 (6.4)	0.375 (9.5)	0.500 (12.7)	0.625 (15.9)	0.750 (19.1)	1.000 (25.4)
Timers (seconds)	Rise on Pierce	0	0	0	0.2	0.4	0.4	0.5
	Pierce Delay	0.1	0.2	0.3	0.4	0.8	1.0	1.2
Setup Parameters Pressure @ Flow	Plasma Start Gas - (N ₂)	25 psi	25 psi	25 psi	25 psi	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas - (N ₂)	40 psi	40 psi	40 psi	40 psi	42 psi	42 psi	42 psi
		2.8 bar	2.8 bar	2.8 bar	2.8 bar	2.9 bar	2.9 bar	2.9 bar
	Shield Start Gas - (AIR)	20 psi	20 psi	20 psi	20 psi	20 psi	20 psi	20 psi
		1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.4 bar
	Shield Cut Gas - (AIR)	8 psi	8 psi	8 psi	8 psi	8 psi	8 psi	8 psi
		0.6 bar	0.6 bar	0.6 bar	0.6 bar	0.6 bar	0.6 bar	0.6 bar
Height Readings	Initial Height in(mm)	.375 (9.5)	.375 (9.5)	.375 (9.5)	0.500 (12.7)	0.625 (15.9)	0.750 (19.1)	0.750 (19.1)
	Arc Voltage (standoff)	142	149	154	157	165	172	186
Travel Speed	IPM	180	135	85	60	35	18	10
	MM/MIN	4572	3429	2159	1524	889	457	254
Kerf Width	Inches	.110	.115	.120	.125	.145	.165	.175
	Millimeters	2.8	2.9	3.0	3.2	3.7	4.2	4.5

Notes:

- Pilot Arc Set to HIGH.
- Except where noted, data is for above water cutting. Reduce speed approximately 10% when cutting under water.

PT-36 CUT DATA



PLASMARC™ Cutting Torch Smartflow Plasma System

Material: Stainless Steel

Amperes: 200

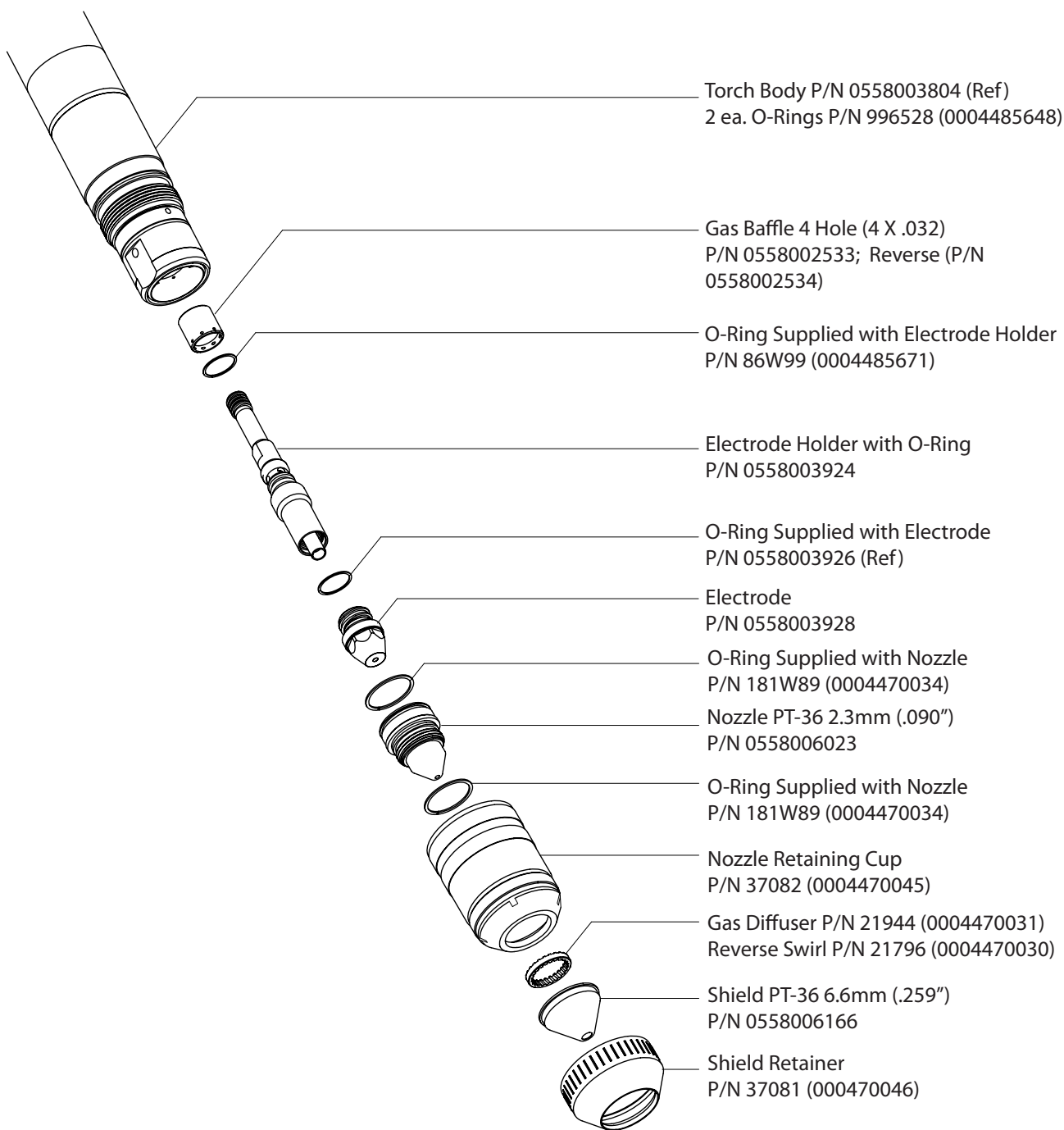
Plasma Start Gas: Nitrogen (N₂) @ 100 psi / 6.9 bar

Plasma Cut Gas: Nitrogen (N₂) @ 100 psi / 6.9 bar

Shield Start Gas: *Air @ 60 psi / 4.1 bar

Shield Cut Gas: *Air @ 60 psi / 4.1 bar

*Do not use shop Air.
Use bottled/compressed.



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**200 Amperes
Stainless Steel**

Material Thickness	in(mm)	0.250 (6.4)	0.375 (9.5)	0.500 (12.7)	0.750 (19.1)	1.000 (25.4)
Timers (seconds)	Rise on Pierce	0	0.1	0.2	0.5	0.6
	Pierce Delay	0.2	0.3	0.2	1.0	1.2
Setup Parameters Pressure @ Flow	Plasma Start Gas - (N ₂)	25 psi	25 psi	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas - (N ₂)	48 psi	48 psi	48 psi	48 psi	48 psi
		3.3 bar	3.3 bar	3.3 bar	3.3 bar	3.3 bar
	Shield Start Gas - (AIR)	20 psi	20 psi	20 psi	20 psi	20 psi
		1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.4 bar
	Shield Cut Gas - (AIR)	16 psi	16 psi	16 psi	16 psi	16 psi
		1.1 bar	1.1 bar	1.1 bar	1.1 bar	1.1 bar
Height Readings	Initial Height in(mm)	.375 (9.5)	.375 (9.5)	0.500 (12.7)	0.625 (15.9)	0.750 (19.1)
	Arc Voltage (standoff)	143	149	157	163	175
Travel Speed	IPM	165	105	70	45	20
	MM/MIN	4191	2667	1778	1143	508
Kerf Width	Inches	.100	.115	.100	.140	.150
	Millimeters	2.5	2.9	2.5	3.6	3.8

Notes:

- Pilot Arc Set to HIGH.
- Except where noted, data is for above water cutting. Reduce speed approximately 10% when cutting under water.

PT-36 CUT DATA



PLASMARC™ Cutting Torch Smartflow Plasma System

Material: Stainless Steel

Amperes: 260

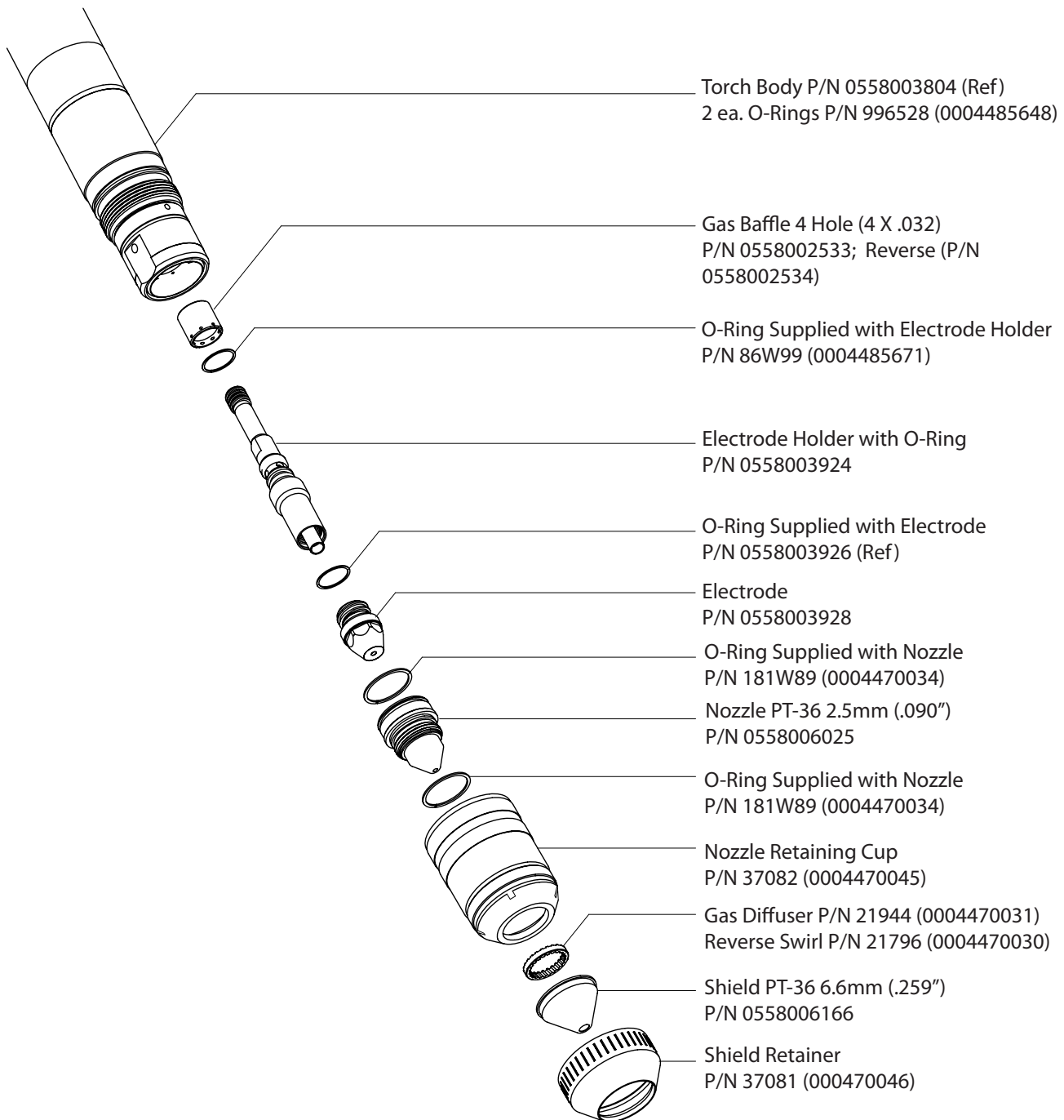
Plasma Start Gas: Nitrogen (N₂) @ 100 psi / 6.9 bar

Plasma Cut Gas: Nitrogen (N₂) @ 100 psi / 6.9 bar

Shield Start Gas: *Air @ 60 psi / 4.1 bar

Shield Cut Gas: *Air @ 60 psi / 4.1 bar

*Do not use shop Air.
Use bottled/compressed.



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**260 Amperes
Stainless Steel**

Material Thickness	in(mm)	0.250 (6.4)	0.375 (9.5)	0.500 (12.7)	0.625 (15.9)	0.750 (19.1)	1.000 (25.4)	1.250 (31.8)
Timers (seconds)	Rise on Pierce	0	0.2	0.2	0.3	0.3	0.4	0.7
	Pierce Delay	0.2	0.3	0.5	0.6	0.6	0.9	1.3
Setup Parameters Pressure @ Flow	Plasma Start Gas - (N ₂)	25 psi	25 psi	25 psi	25 psi	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas - (N ₂)	46 psi	46 psi	46 psi	46 psi	46 psi	46 psi	46 psi
		3.2 bar	3.2 bar	3.2 bar	3.2 bar	3.2 bar	3.2 bar	3.2 bar
	Shield Start Gas - (AIR)	20 psi	20 psi	20 psi	20 psi	20 psi	20 psi	20 psi
		1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.4 bar	1.4 bar
	Shield Cut Gas - (AIR)	18 psi	18 psi	18 psi	18 psi	18 psi	18 psi	18 psi
		1.2 bar	1.2 bar	1.2 bar	1.2 bar	1.2 bar	1.2 bar	1.2 bar
Height Readings	Initial Height in(mm)	.375 (9.5)	.375 (9.5)	0.500 (12.7)	0.625 (15.9)	0.625 (15.9)	0.750 (19.1)	0.750 (19.1)
	Arc Voltage (standoff)	136	142	157	160	168	180	190
Travel Speed	IPM	170	135	110	70	50	30	15
	MM/MIN	4318	3429	2794	1778	1270	762	381
Kerf Width	Inches	.110	.110	.115	.120	.130	.140	.160
	Millimeters	2.8	2.8	2.9	3.0	3.3	3.6	4.1

Notes:

- Pilot Arc Set to HIGH.
- Except where noted, data is for above water cutting. Reduce speed approximately 10% when cutting under water.

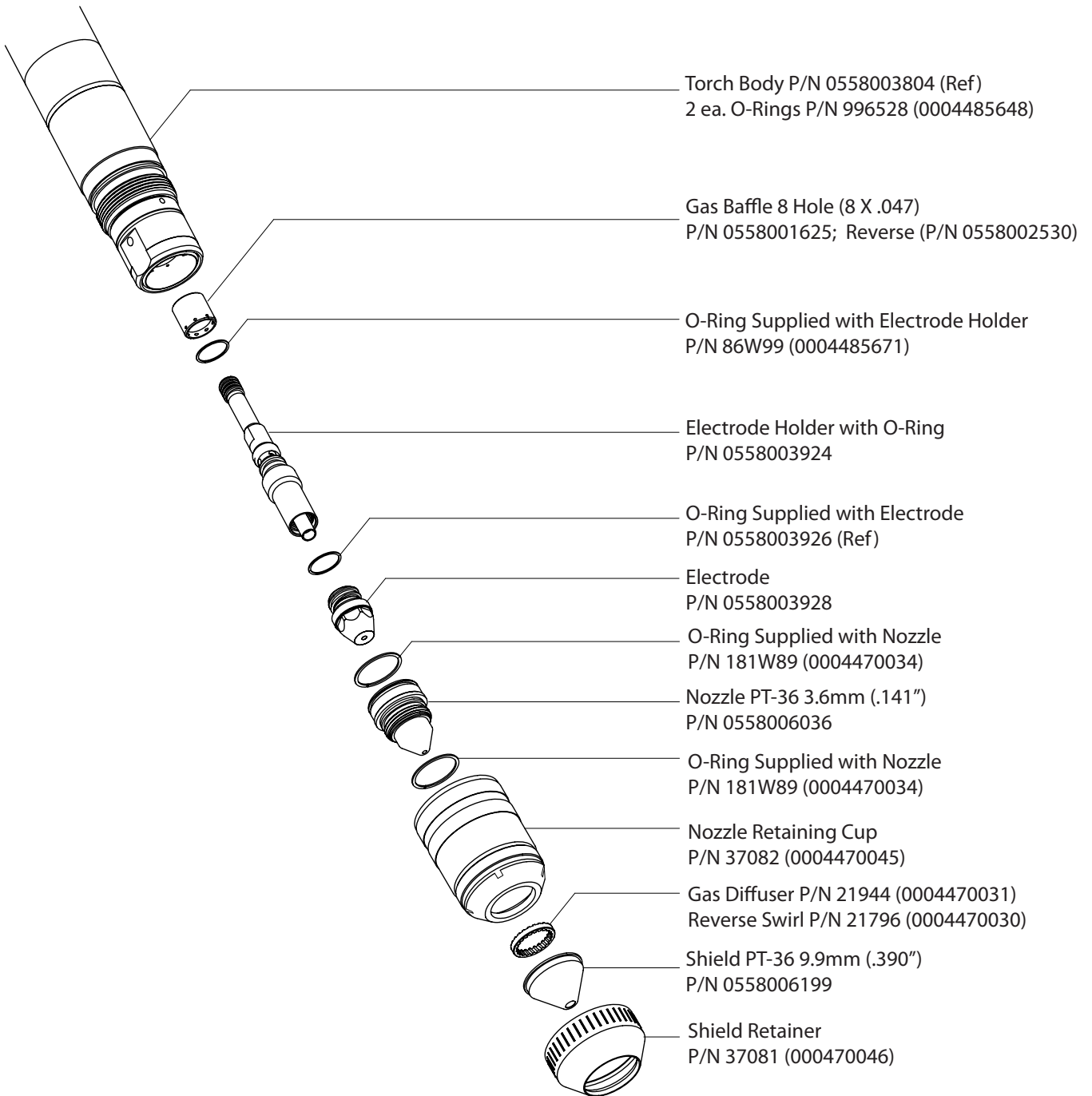
PT-36 CUT DATA



PLASMARC™ Cutting Torch
Smartflow Plasma System

Material:	Stainless Steel
Amperes:	360
Plasma Start Gas:	Nitrogen (N ₂) @ 100 psi / 6.9 bar
Plasma Cut Gas:	Nitrogen (N ₂) @ 100 psi / 6.9 bar
Shield Start Gas:	*Air @ 60 psi / 4.1 bar
Shield Cut Gas:	*Air @ 60 psi / 4.1 bar

*Do not use shop Air.
Use bottled/compressed.



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

360 Amperes Stainless Steel

Material Thickness	in(mm)	0.250 (6.4)	0.375 (9.5)	0.500 (12.7)	0.625 (15.9)	0.750 (19.1)	1.000 (25.4)	1.250 (31.8)
Timers (seconds)	Rise on Pierce	0	0	0.1	0.2	0.2	0.4	0.4
	Pierce Delay	0	0.1	0.4	0.4	0.4	1.0	1.0
Setup Parameters Pressure @ Flow	Plasma Start Gas - (N ₂)	25 psi	25 psi	25 psi	25 psi	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas - (N ₂)	44 psi	44 psi	44 psi	44 psi	44 psi	44 psi	44 psi
		3.0 bar	3.0 bar	3.0 bar	3.0 bar	3.0 bar	3.0 bar	3.0 bar
	Shield Start Gas - (AIR)	18 psi	18 psi	18 psi	18 psi	18 psi	18 psi	18 psi
		1.2 bar	1.2 bar	1.2 bar	1.2 bar	1.2 bar	1.2 bar	1.2 bar
	Shield Cut Gas - (AIR)	18 psi	18 psi	18 psi	18 psi	18 psi	18 psi	18 psi
		1.2 bar	1.2 bar	1.2 bar	1.2 bar	1.2 bar	1.2 bar	1.2 bar
Height Readings	Initial Height in(mm)	.375 (9.5)	.375 (9.5)	0.500 (12.7)	0.625 (15.9)	0.625 (15.9)	0.750 (19.1)	0.750 (19.1)
	Arc Voltage (standoff)	157	163	170	175	180	195	205
Travel Speed	IPM	230	150	125	95	75	45	25
	MM/MIN	5842	3810	3175	2413	1905	1143	635
Kerf Width	Inches	.100	.105	.125	.125	.135	.145	.175
	Millimeters	2.5	2.5	3.2	3.2	3.5	3.7	4.5

Notes:

- Pilot Arc Set to HIGH.
- Except where noted, data is for above water cutting. Reduce speed approximately 10% when cutting under water.

PT-36 CUT DATA



PLASMARC™ Cutting Torch
Smartflow Plasma System

Material: Stainless Steel

Amperes: 450

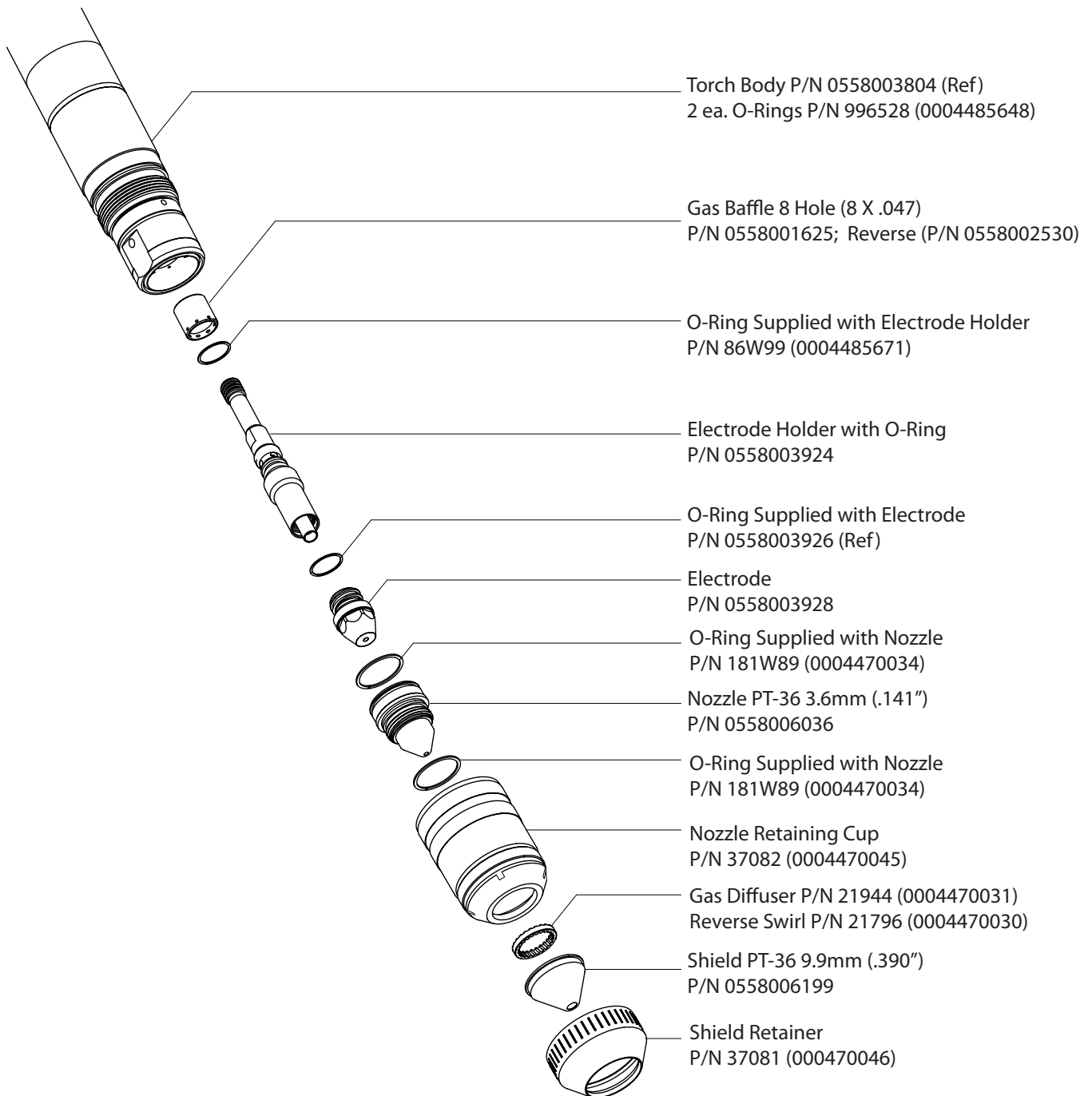
Plasma Start Gas: Nitrogen (N₂) @ 100 psi / 6.9 bar

Plasma Cut Gas: Nitrogen (N₂) @ 100 psi / 6.9 bar

Shield Start Gas: *Air @ 60 psi / 4.1 bar

Shield Cut Gas: *Air @ 60 psi / 4.1 bar

*Do not use shop Air.
Use bottled/compressed.



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**450 Amperes
Stainless Steel**

Material Thickness	in(mm)	0.750 (19.1)	1.000 (25.4)	1.250 (31.8)	1.500 (38.1)
Timers (seconds)	Rise on Pierce	0.3	0.5	0.5	0.7
	Pierce Delay	0.3	0.7	0.7	1.2
Setup Parameters Pressure @ Flow	Plasma Start Gas - (N ₂)	25 psi	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas - (N ₂)	34 psi	34 psi	34 psi	34 psi
		2.4 bar	2.4 bar	2.4 bar	2.4 bar
	Shield Start Gas - (AIR)	31 psi	31 psi	31 psi	31 psi
		2.1 bar	2.1 bar	2.1 bar	2.1 bar
	Shield Cut Gas - (AIR)	31 psi	31 psi	31 psi	31 psi
		2.1 bar	2.1 bar	2.1 bar	2.1 bar
Height Readings	Initial Height in(mm)	0.625 (15.9)	0.625 (15.9)	0.625 (15.9)	0.625 (15.9)
	Arc Voltage (standoff)	156	160	165	175
Travel Speed	IPM	100	70	52	33
	MM/MIN	2540	1778	1321	838
Kerf Width	Inches	.175	.180	.185	.196
	Millimeters	4.5	4.6	4.7	5.0

Notes:

- Pilot Arc Set to HIGH.
- Except where noted, data is for above water cutting. Reduce speed approximately 10% when cutting under water.

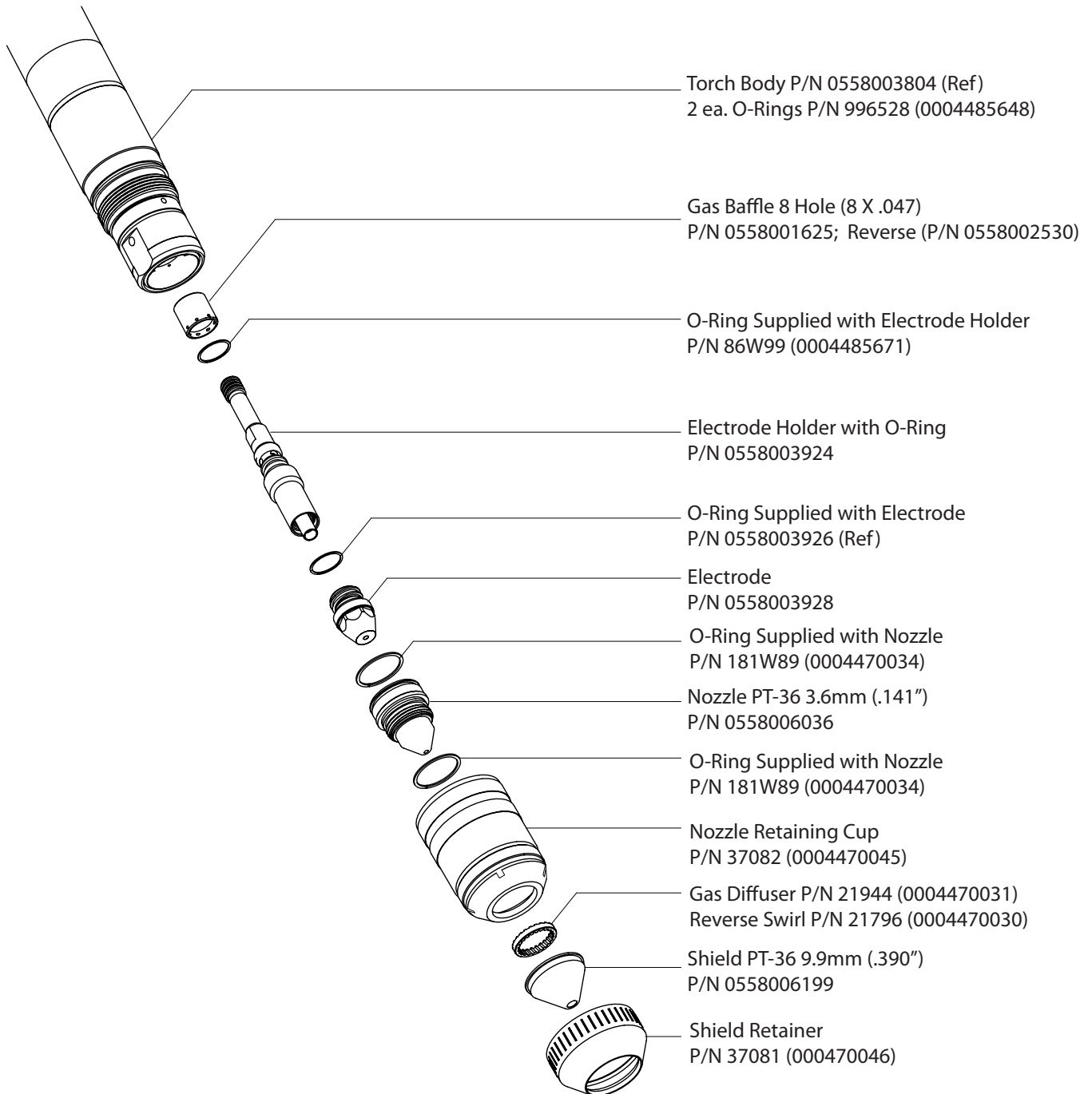
PT-36 CUT DATA



PLASMARC™ Cutting Torch Smartflow Plasma System UNDERWATER

Material:	Stainless Steel
Amperes:	450
Plasma Start Gas:	Nitrogen (N ₂) @ 100 psi / 6.9 bar
Plasma Cut Gas:	Nitrogen (N ₂) @ 100 psi / 6.9 bar
Shield Start Gas:	*Air @ 60 psi / 4.1 bar
Shield Cut Gas:	*Air @ 60 psi / 4.1 bar

*Do not use shop Air.
Use bottled/compressed.



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**450 Amperes
Stainless Steel
UNDERWATER**

Material Thickness	in(mm)	0.750 (19.1)	1.000 (25.4)	1.250 (31.8)	1.500 (38.1)
Timers (seconds)	Rise on Pierce	0.5	0.5	0.5	0.7
	Pierce Delay	1.0	1.0	1.3	1.4
Setup Parameters Pressure @ Flow	Plasma Start Gas - (N ₂)	25 psi	27 psi	25 psi	25 psi
		1.7 bar	1.9 bar	1.7 bar	1.7 bar
	Plasma Cut Gas - (N ₂)	34 psi	27 psi	34 psi	34 psi
		2.4 bar	1.9 bar	2.4 bar	2.4 bar
	Shield Start Gas - (AIR)	31 psi	34 psi	31 psi	31 psi
		2.1 bar	2.4 bar	2.1 bar	2.1 bar
	Shield Cut Gas - (AIR)	31 psi	34 psi	31 psi	31 psi
		2.1 bar	2.4 bar	2.1 bar	2.1 bar
Height Readings	Initial Height in(mm)	0.625 (15.9)	0.625 (15.9)	0.625 (15.9)	0.625 (15.9)
	Arc Voltage (standoff)	150	160	165	175
Travel Speed	IPM	85	70	45	33
	MM/MIN	2159	1778	1143	838
Kerf Width	Inches	.160	.180	.185	.196
	Millimeters	4.1	4.6	4.7	5.0

Notes:

- Pilot Arc Set to HIGH.

PT-36 CUT DATA



PLASMARC™ Cutting Torch
Smartflow Plasma System

Material: Stainless Steel

Amperes: 600

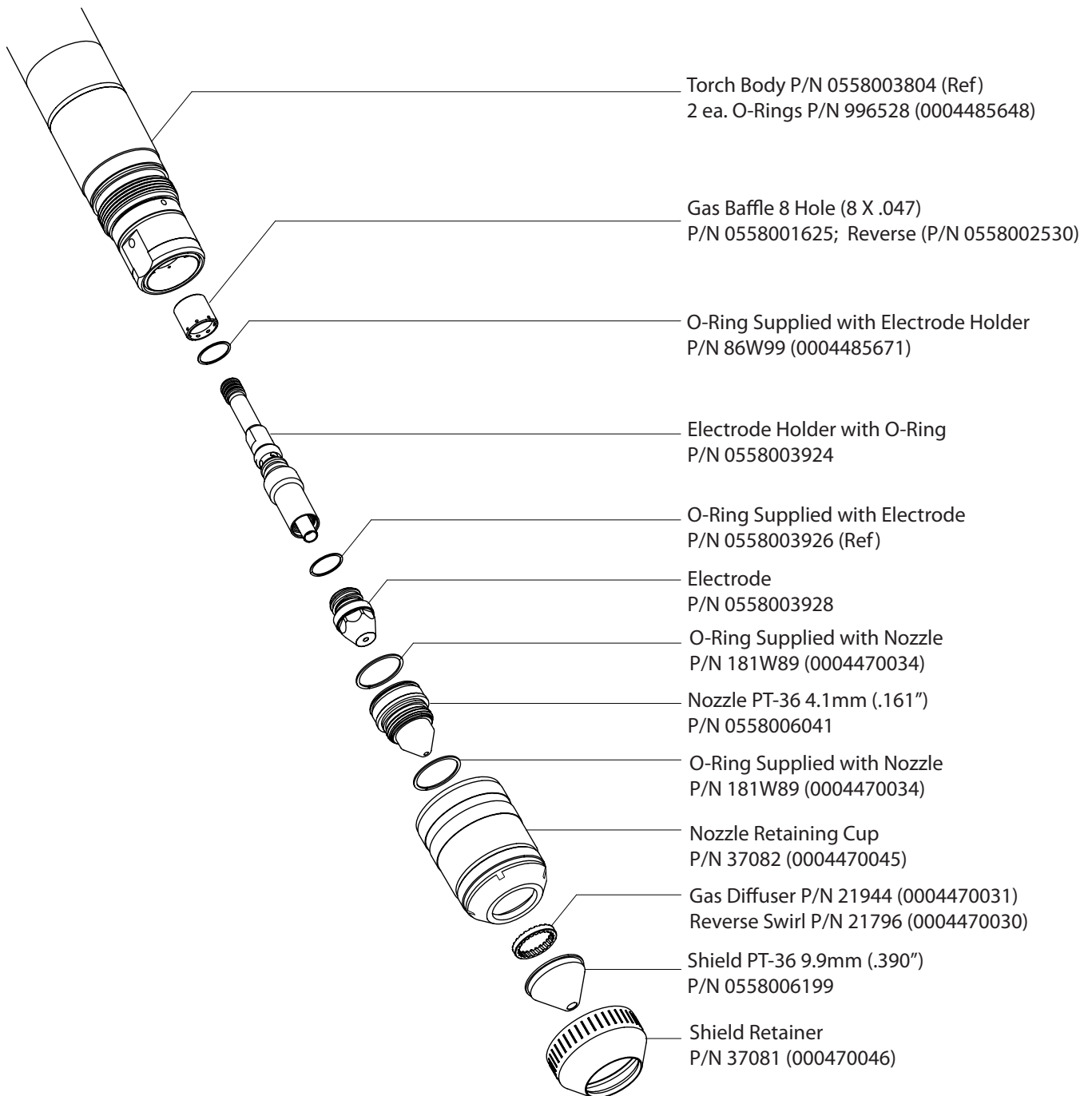
Plasma Start Gas: Nitrogen (N₂) @ 100 psi / 6.9 bar

Plasma Cut Gas: Nitrogen (N₂) @ 100 psi / 6.9 bar

Shield Start Gas: *Air @ 60 psi / 4.1 bar

Shield Cut Gas: *Air @ 60 psi / 4.1 bar

*Do not use shop Air.
Use bottled/compressed.



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**600 Amperes
Stainless Steel**

Material Thickness	in(mm)	1.000 (25.4)	1.500 (38.1)
Timers (seconds)	Rise on Pierce	0.3	0.5
	Pierce Delay	0.8	1.1
Setup Parameters Pressure @ Flow	Plasma Start Gas - (N ₂)	27 psi	27 psi
		1.9 bar	1.9 bar
	Plasma Cut Gas - (N ₂)	27 psi	27 psi
		1.9 bar	1.9 bar
	Shield Start Gas - (AIR)	34 psi	34 psi
		2.4 bar	2.4 bar
	Shield Cut Gas - (AIR)	34 psi	34 psi
		2.4 bar	2.4 bar
Height Readings	Initial Height in(mm)	0.625 (15.9)	0.625 (15.9)
	Arc Voltage (standoff)	160	163
Travel Speed	IPM	70	40
	MM/MIN	1778	1016
Kerf Width	Inches	.175	.183
	Millimeters	4.5	4.6

Notes:

- Pilot Arc Set to HIGH.
- Except where noted, data is for above water cutting. Reduce speed approximately 10% when cutting under water.

PT-36 CUT DATA



PLASMARC™ Cutting Torch Smartflow Plasma System

Material: Stainless Steel

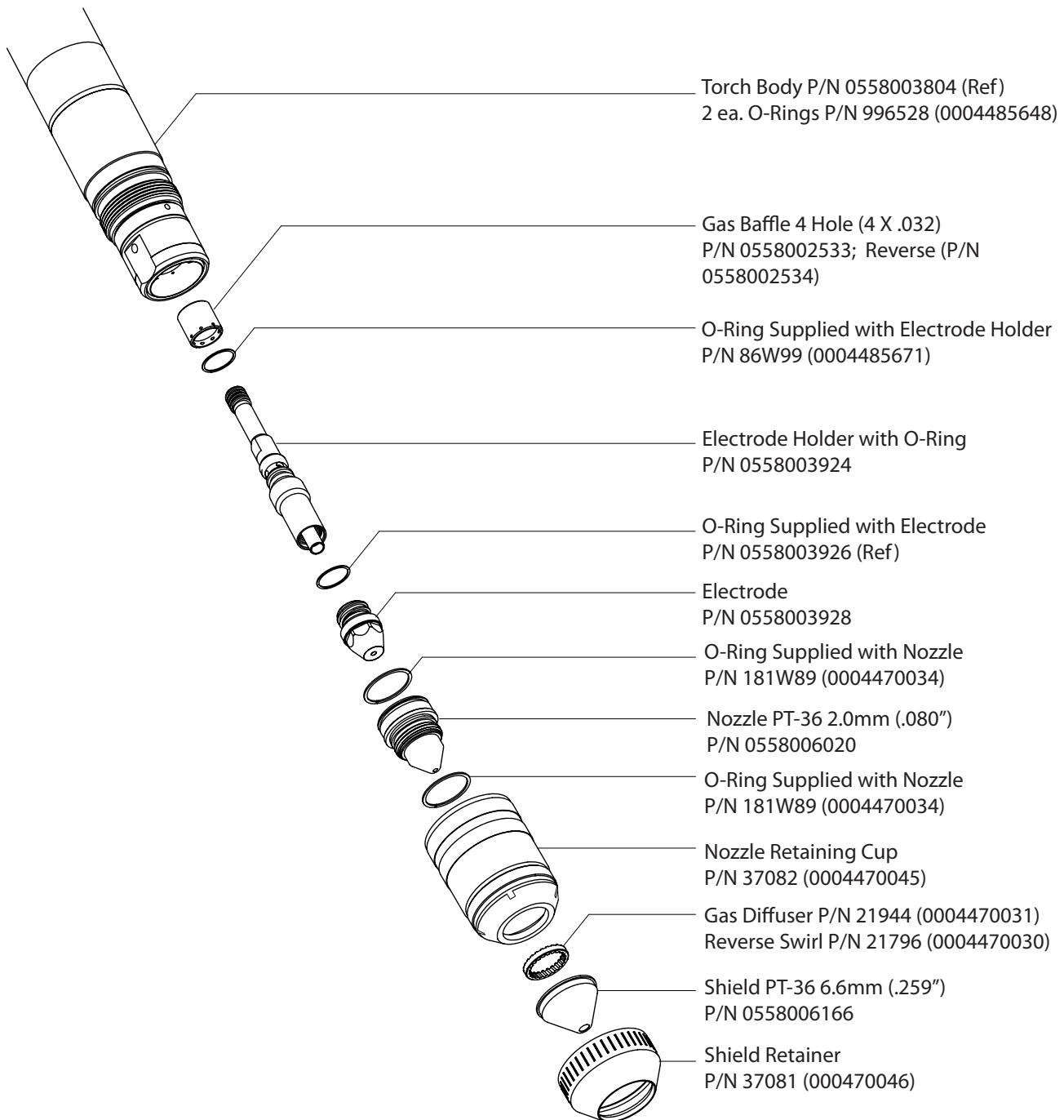
Amperes: 150

Plasma Start Gas: Nitrogen (**N₂**) @ 100 psi / 6.9 bar

Plasma Cut Gas: Hydrogen /Argon (**H-35**) @ 100 psi / 6.9 bar

Shield Start Gas: Nitrogen (**N₂**) @ 60 psi / 4.1 bar

Shield Cut Gas: Nitrogen (**N₂**) @ 60 psi / 4.1 bar



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**150 Amperes
Stainless Steel**

WARNING

DO NOT CUT UNDERWATER WITH H-35

Material Thickness	in(mm)	0.500 (12.7)	0.750 (19.1)
Timers (seconds)	Rise on Pierce	0.2	0.3
	Pierce Delay	0.4	0.6
Setup Parameters Pressure @ Flow	Plasma Start Gas - (N ₂)	25 psi	25 psi
		1.7 bar	1.7 bar
	Plasma Cut Gas - (H-35)	48 psi	48 psi
		3.3 bar	3.3 bar
	Shield Start Gas - (N ₂)	16 psi	16 psi
		1.1 bar	1.1 bar
	Shield Cut Gas - (N ₂)	12 psi	8 psi
		0.8 bar	0.6 bar
Height Readings	Initial Height in(mm)	0.500 (12.7)	0.625 (15.9)
	Arc Voltage (standoff)	160	177
Travel Speed	IPM	40	20
	MM/MIN	1016	508
Kerf Width	Inches	.145	.185
	Millimeters	3.7	4.7

Notes:

- Pilot Arc Set to HIGH.

PT-36 CUT DATA



PLASMARC™ Cutting Torch
Smartflow Plasma System

Material: Stainless Steel

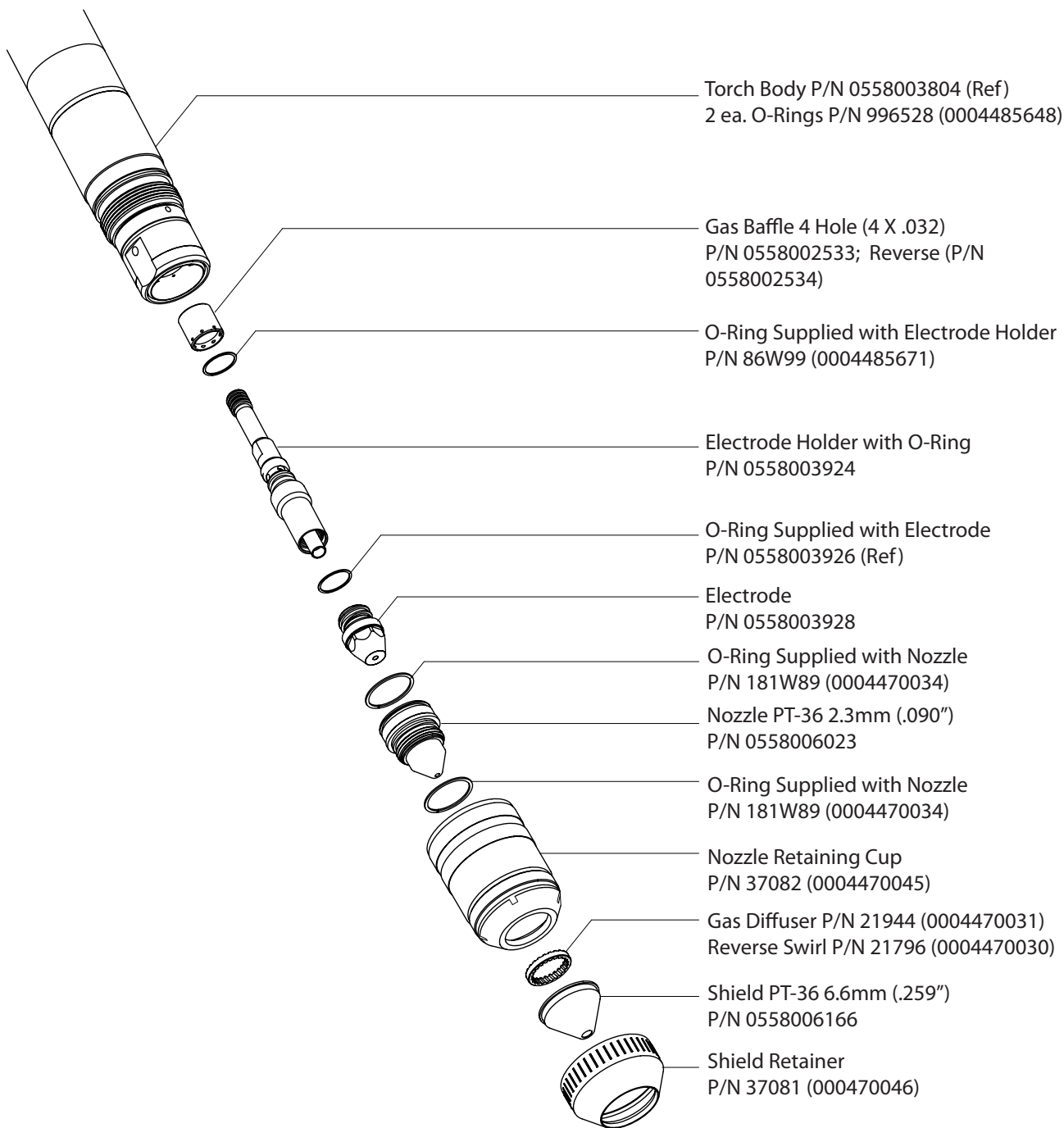
Amperes: 200

Plasma Start Gas: Nitrogen (**N₂**) @ 100 psi / 6.9 bar

Plasma Cut Gas: Hydrogen /Argon (**H-35**) @ 100 psi / 6.9 bar

Shield Start Gas: Nitrogen (**N₂**) @ 60 psi / 4.1 bar

Shield Cut Gas: Nitrogen (**N₂**) @ 60 psi / 4.1 bar



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**200 Amperes
Stainless Steel**

WARNING

DO NOT CUT UNDERWATER WITH H-35

Material Thickness	in(mm)	0.375 (9.5)	0.500 (12.7)	1.000 (25.4)
Timers (seconds)	Rise on Pierce	0.1	0.2	0.3
	Pierce Delay	0.4	0.4	0.8
Setup Parameters Pressure @ Flow	Plasma Start Gas - (N ₂)	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas - (H-35)	54 psi	54 psi	54 psi
		3.7 bar	3.7 bar	3.7 bar
	Shield Start Gas - (N ₂)	16 psi	14 psi	16 psi
		1.1 bar	1.0 bar	1.1 bar
	Shield Cut Gas - (N ₂)	22 psi	13 psi	22 psi
		1.5 bar	0.9 bar	1.5 bar
Height Readings	Initial Height in(mm)	0.375 (9.5)	0.500 (12.7)	0.750 (19.1)
	Arc Voltage (standoff)	160	164	180
Travel Speed	IPM	55	50	17
	MM/MIN	1397	1270	432
Kerf Width	Inches	.135	.145	.175
	Millimeters	3.4	3.7	4.5

Notes:

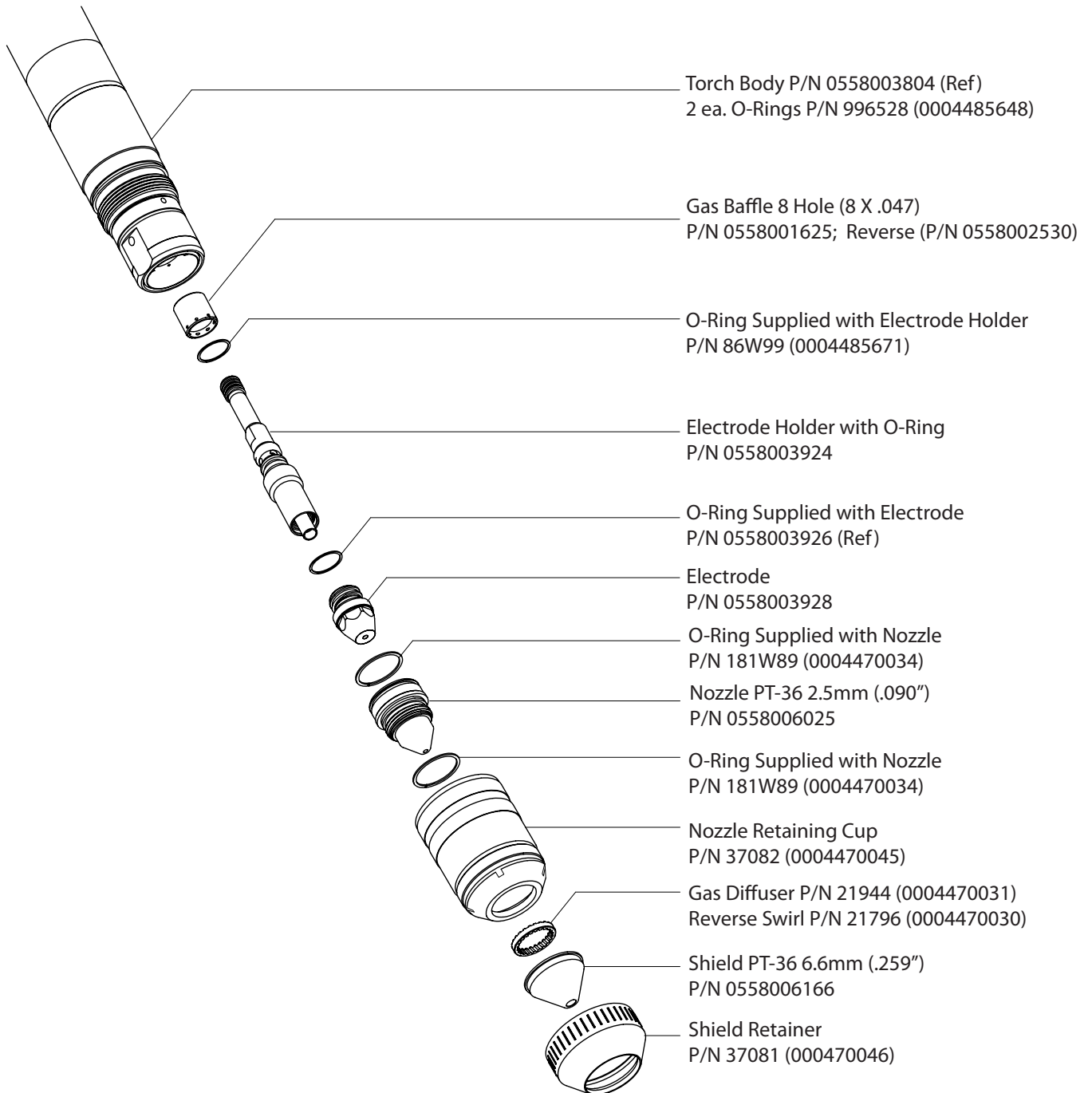
- Pilot Arc Set to HIGH.

PT-36 CUT DATA



PLASMARC™ Cutting Torch
Smartflow Plasma System

Material:	Stainless Steel
Amperes:	260
Plasma Start Gas:	Nitrogen (N₂) @ 100 psi / 6.9 bar
Plasma Cut Gas:	Hydrogen /Argon (H-35) @ 100 psi / 6.9 bar
Shield Start Gas:	Nitrogen (N₂) @ 60 psi / 4.1 bar
Shield Cut Gas:	Nitrogen (N₂) @ 60 psi / 4.1 bar



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**260 Amperes
Stainless Steel**

WARNING

DO NOT CUT UNDERWATER WITH H-35

Material Thickness	in(mm)	0.500 (12.7)	0.625 (15.9)	0.750 (19.1)	1.000 (25.4)	1.250 (31.8)
Timers (seconds)	Rise on Pierce	0.2	0.2	0.4	0.6	0.6
	Pierce Delay	0.4	0.5	0.6	1.2	1.2
Setup Parameters Pressure @ Flow	Plasma Start Gas - (N ₂)	25 psi	25 psi	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas - (H-35)	65 psi	65 psi	65 psi	65 psi	65 psi
		4.5 bar	4.5 bar	4.5 bar	4.5 bar	4.5 bar
	Shield Start Gas - (N ₂)	8 psi	8 psi	8 psi	8 psi	8 psi
		0.6 bar	0.6 bar	0.6 bar	0.6 bar	0.6 bar
	Shield Cut Gas - (N ₂)	4 psi	4 psi	4 psi	4 psi	4 psi
		0.3 bar	0.3 bar	0.3 bar	0.3 bar	0.3 bar
Height Readings	Initial Height in(mm)	0.500 (12.7)	0.625 (15.9)	0.625 (15.9)	0.750 (19.1)	0.750 (19.1)
	Arc Voltage (standoff)	165	174	182	195	210
Travel Speed	IPM	50	45	30	20	10
	MM/MIN	1270	1143	762	508	254
Kerf Width	Inches	.180	.180	.185	.195	.225
	Millimeters	4.6	4.6	4.7	4.9	5.7

Notes:

- Pilot Arc Set to HIGH.

PT-36 CUT DATA



PLASMARC™ Cutting Torch
Smartflow Plasma System

Material: Stainless Steel

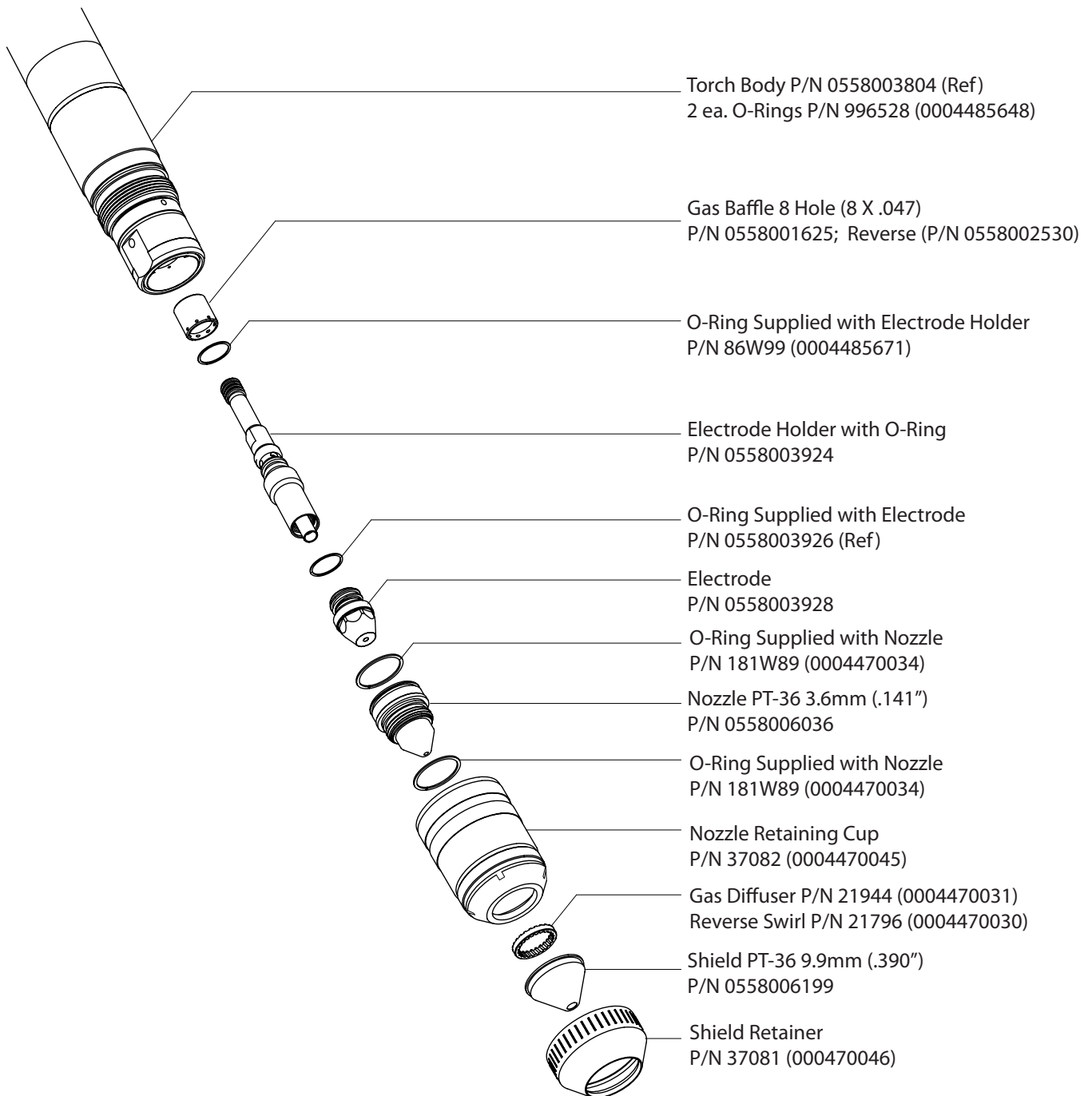
Amperes: 360

Plasma Start Gas: Nitrogen (**N₂**) @ 100 psi / 6.9 bar

Plasma Cut Gas: Hydrogen /Argon (**H-35**) @ 100 psi / 6.9 bar

Shield Start Gas: Nitrogen (**N₂**) @ 60 psi / 4.1 bar

Shield Cut Gas: Nitrogen (**N₂**) @ 60 psi / 4.1 bar



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**360 Amperes
Stainless Steel**

WARNING

DO NOT CUT UNDERWATER WITH H-35

Material Thickness	in(mm)	0.500 (12.7)	0.750 (19.1)	1.000 (25.4)	1.250 (31.8)	1.500 (38.1)
Timers (seconds)	Rise on Pierce	0.3	0.4	0.5	0.8	1.0
	Pierce Delay	0.6	0.8	1.0	1.2	1.2
Setup Parameters Pressure @ Flow	Plasma Start Gas - (N ₂)	25 psi	25 psi	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas - (N ₂)	52 psi	60 psi	60 psi	60 psi	60 psi
		3.6 bar	4.1 bar	4.1 bar	4.1 bar	4.1 bar
	Shield Start Gas - (N ₂)	6 psi	14 psi	14 psi	14 psi	14 psi
		0.4 bar	0.97 bar	0.97 bar	0.97 bar	0.97 bar
	Shield Cut Gas - (N ₂)	4 psi	12 psi	12 psi	12 psi	8 psi
		0.3 bar	0.8 bar	0.8 bar	0.8 bar	0.6 bar
Height Readings	Initial Height in(mm)	0.500 (12.7)	0.625 (15.9)	0.750 (19.1)	0.750 (19.1)	0.750 (19.1)
	Arc Voltage (standoff)	177	183	190	200	225
Travel Speed	IPM	80	45	30	20	15
	MM/MIN	2032	1143	762	508	381
Kerf Width	Inches	.175	.225	.250	.300	.345
	Millimeters	4.5	5.7	6.3	7.6	8.8

Notes:

- Pilot Arc Set to HIGH.

PT-36 CUT DATA



PLASMARC™ Cutting Torch
Smartflow Plasma System

Material: Stainless Steel

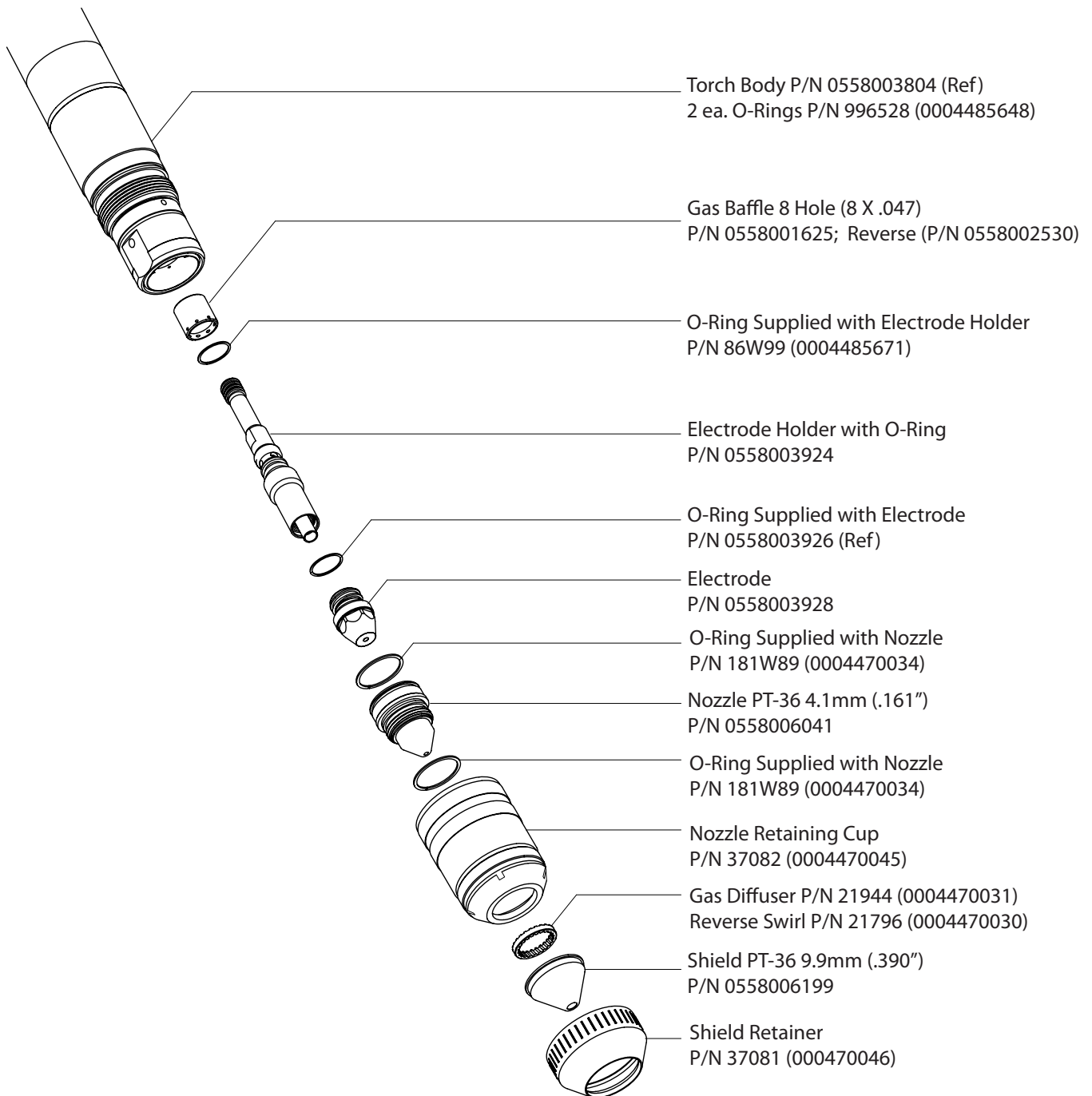
Amperes: 600

Plasma Start Gas: Hydrogen /Argon (**H-35**) @ 100 psi / 6.9 bar-

Plasma Cut Gas: Hydrogen /Argon (**H-35**) @ 100 psi / 6.9 bar

Shield Start Gas: Nitrogen (**N₂**) @ 60 psi / 4.1 bar

Shield Cut Gas: Nitrogen (**N₂**) @ 60 psi / 4.1 bar



PT-36 CUT DATA



PT-36 Smartflow Plasma System Process Data

**600 Amperes
Stainless Steel**

WARNING

DO NOT CUT UNDERWATER WITH H-35

Material Thickness	in(mm)	1.000 (25.4)	1.500 (38.1)	2.000 (50.8)	3.000 (76.2)
Timers (seconds)	Rise on Pierce	0.5	0.5	0.5	0.5
	Pierce Delay	1.0	1.1	1.4	1.7
Setup Parameters Pressure @ Flow	Plasma Start Gas - (H-35)	46 psi	46 psi	46 psi	46 psi
		3.2 bar	3.2 bar	3.2 bar	3.2 bar
	Plasma Cut Gas - (H-35)	46 psi	46 psi	46 psi	46 psi
		3.2 bar	3.2 bar	3.2 bar	3.2 bar
	Shield Start Gas - (N ₂)	35 psi	35 psi	22 psi	22 psi
		2.4 bar	2.4 bar	1.5 bar	1.5 bar
	Shield Cut Gas - (N ₂)	35 psi	35 psi	22 psi	22 psi
		2.4 bar	2.4 bar	1.5 bar	1.5 bar
Height Readings	Initial Height in(mm)	0.750 (19.1)	0.750 (19.1)	0.750 (19.1)	0.750 (19.1)
	Arc Voltage (standoff)	163	186	204	206
Travel Speed	IPM	40	18	12	9
	MM/MIN	1016	457	305	229
Kerf Width	Inches	.303	.346	.380	.383
	Millimeters	7.7	8.8	9.7	9.7

Notes:

- Pilot Arc Set to HIGH.

PT-36 CUT DATA

CUTTING PARAMETERS FOR THE ESP-150 & ESP-200

Table 1. 50 - 65 Amp Data

Nozzle - 50 amp	P/N 0558006010	Shield - 50 amp	P/N 0558006166
Electrode - Hafnium	P/N 0558003914	Diffuser 50 amp	P/N 21944 (0004470031)
Gas Baffle - 4 hole	P/N 0558002533	Pilot Arc -	LOW

Material Type-Thickness in.(mm)	Current (Amps)	Travel Speed ipm(m/min)	Pierce Height in. (mm)	Cutting Height in.(mm)	Arc Voltage (Volts)	Start Gas Type/Pressure psi (bar)	Plasma Gas Type/Pressure psi (bar)	Shield Gas Type/Pressure psi (bar)
CS - 1/16 (1.6)	50	220 (5.6)	1/4 (6.4)	5/32 (4)	115	Air - 40 (2.76)	Air - 60 (4.14)	Air - 30 (2.07)
CS - 1/8 (3.2)		120 (3)			112			
CS - 1/8 (3.2)	65	120 (3)		1/8 (3.2)	110			
CS - 3/16 (4.8)		95 (2.4)		5/32 (4)	118			
CS - 1/4 (6.4)		80 (2)			120			Air - 65 (4.48)
CS - 3/8 (9.6)		40 (2)			122			
SS - 1/16 (1.6)	50	180 (4.6)	1/4 (6.4)	5/32 (4)	111	Air - 40 (2.76)	Air - 60 (4.14)	Air - 30 (2.07)
SS - 1/8 (3.2)	65	80 (2)			119			
SS - 1/4 (6.4)		60 (1.5)			118			Air - 65 (4.48)
AL - 1/16 (1.6)	50	180 (4.6)	1/4 (6.4)	1/8 (3.2)	116	Air - 40 (2.76)	Air - 60 (4.14)	Air - 45 (3.1)
AL - 1/8 (3.2)		110 (2.8)			115			
AL - 1/4 (6.4)	65	65 (1.6)		5/32 (4)	128			Air - 65 (4.48)
AL - 1/16 (1.6)	50	180 (4.6)	1/4 (6.4)	1/8 (3.2)	118	N ₂ - 40 (2.76)	N ₂ - 60 (4.14)	N ₂ - 30 (2.07)
AL - 1/8 (3.2)		120 (3)			117			
AL - 1/4 (6.4)	65	70 (1.8)			125			N ₂ - 65 (4.48)
SS - 1/16 (1.6)	50	180 (4.6)	1/4 (6.4)	5/32 (4)	119	N ₂ - 40 (2.76)	N ₂ - 60 (4.14)	N ₂ - 30 (2.07)
SS - 1/8 (3.2)	65	80 (2)			125			N ₂ - 45 (3.1)
SS - 1/4 (6.4)		55 (1.4)			127			N ₂ - 65 (4.48)

NOTES:

CS - Carbon Steel, SS - Stainless Steel, AL - Aluminum

Air Plasma/Air Shield, 50 - 65 Amp cuts on Stainless Steel and Aluminum have rough surfaces.

N₂ Plasma/N₂ Shield, 50 - 65 Amp cuts of Stainless Steel and Aluminum have fair to good surfaces.

* - uses electrode p/n 0558002499

PT-36 CUT DATA

Table 2. 100 Amp Data

Nozzle - 200 Amp	P/N 0558006014		Shield - 250 Amp	P/N 0558006166
Electrode - Hafnium	P/N 0558003914		Diffuser 100 - 360 Amp	P/N 21944 (0004470031)
Gas Baffle - 4 Hole	P/N 0558002533		Pilot Arc -	HIGH

Material Type-Thickness in.(mm)	Current (Amps)	Travel Speed ipm(m/min)	Pierce Height in.(mm)	Cutting Height in.(mm)	Arc Voltage (Volts)	Start Gas Type/Pressure psi(bar)	Plasma Gas Type/Pressure psi (bar)	Shield Gas Type/Pressure psi(bar)
CS - 3/16 (4.8)	100	150 (3.8)	3/8 (9.6)	1/8 (3.2)	148	Air - 30 (2.07)	Air - 50 (3.45)	Air - 110 (7.6)
CS - 1/4 (6.4)		120 (3)		5/32 (4)	154			Air - 85 (5.86)
CS - 3/8 (9.6)		65 (1.65)		3/16 (4.8)	159			Air - 65 (4.48)
CS - 1/2 (12.7)		50 (1.27)			162			
CS - 5/8 (15.8)		35 (.89)	1/2 (12.7)	9/32 (7.1)	175			
CS - 3/4 (19)		20 (.50)		5/16 (8)	184			
SS - 1/4 (6.4)	100	55 (1.4)	3/8 (9.6)	1/8 (3.2)	154	Air - 30 (2.07)	Air - 45 (3.1)	Air - 85 (5.86)
SS - 3/8 (9.6)		35 (.89)		3/16 (4.8)	165			Air - 65 (4.48)
SS - 1/2 (12.7)		25 (.6)		5/16 (8)	180			
SS - 3/4 (19)		10 (.25)	1/2 (12.7)		189			
AL - 1/4 (6.4)	100	100 (2.5)	3/8 (9.6)	3/16 (4.8)	154	Air - 30 (2.07)	Air - 50 (3.45)	Air - 65 (4.48)
AL - 3/8 (9.6)		70 (1.78)		1/4 (6.4)	174			Air - 85 (5.86)
AL - 1/2 (12.7)		50 (1.27)		5/16 (8)	183			Air - 65 (4.48)
AL - 3/4 (19)		30 (.76)	1/2 (12.7)		189			
CS - 3/16 (4.8)	100	150 (3.8)	3/8 (9.6)	5/32 (4)	135	N ₂ - 30 (2.07)	O ₂ - 50 (3.45)	Air - 85 (5.86)
CS - 1/4 (6.4)		120 (3)			133			Air - 65 (4.48)
CS - 3/8 (9.6)		80 (2)		1/4 (6.4)	149			
CS - 1/2 (12.7)		60 (1.5)		3/16 (4.8)	141			
CS - 5/8 (15.8)		37 (.94)	1/2 (12.7)	5/16 (8)	159			
CS - 3/4 (19)		20 (.50)			162			
* SS - 1/4 (6.4)	100	55 (1.4)	3/8 (9.6)	1/8 (3.2)	153	N ₂ - 30 (2.07)	N ₂ - 35 (2.4)	N ₂ - 85 (5.86)
* SS - 3/8 (9.6)		45 (1.1)		3/16 (4.8)	157			N ₂ - 65 (4.48)
* SS - 1/2 (12.7)		35 (.89)			162			
* SS - 3/4 (19)		13 (.33)	1/2 (12.7)	5/16 (8)	185			
* SS - 1/4 (6.4)	100	55 (1.4)	3/8 (9.6)	1/8 (3.2)	153	N ₂ - 30 (2.07)	N ₂ - 35 (2.4)	Air - 85 (5.86)
* SS - 3/8 (9.6)		45 (1.1)		3/16 (4.8)	157			Air - 65 (4.48)
* SS - 1/2 (12.7)		35 (.89)			162			
* SS - 3/4 (19)		13 (.33)	1/2 (12.7)	5/16 (8)	185			

NOTES: When using a 50 ft torch, a dwell of approx. 3 sec. is required to allow the N₂ start gas to be purged out by the O₂ cut gas.
 CS - Carbon Steel, SS - Stainless Steel, AL - Aluminum
 All Air Plasma/Air Shield, 100 Amp cuts on Aluminum have good surfaces except 3/4" (19mm) AL that has poor surface.
 All Air Plasma/Air Shield, 100 Amp cuts on Stainless Steel have fair surface except 3/4" (19mm) SS that is very rough.
 * All N₂ Plasma/N₂ Shield, 100 Amp cuts on Stainless Steel have fairly good surfaces except 3/4" (19mm) SS that is fair.
 * - uses electrode p/n 0558002499

PT-36 CUT DATA

Table 3. 150 Amp Data

NOZZLE PT-36 2.0 mm (.080")	P/N 0558006020		Shield - 250 Amp	P/N 0558006166
Electrode - Hafnium	P/N 0558003914		Diffuser 100 - 360 Amp	P/N 21944 (0004470031)
Gas Baffle - 4 Hole	P/N 0558002533		Pilot Arc -	HIGH

Material Type-Thickness in. (mm)	Current (Amps)	Travel Speed ipm(m/min)	Pierce Height in.(mm)	Cutting Height in.(mm)	Arc Voltage (Volts)	Start Gas Type/Pressure psi(bar)	Plasma Gas Type/Pressure psi(bar)	Shield Gas Type/Pressure psi(bar)	
CS - 3/16 (4.8)	150	160 (4.1)	3/8 (9.6)	1/8 (3.2)	143	Air - 25 (1.7)	Air - 50 (3.45)	Air - 85 (5.86)	
CS - 1/4 (6.4)		140 (3.6)			145			Air - 55 (3.8)	
CS - 3/8 (9.6)		90 (2.3)		3/16 (4.8)	156			Air - 65 (4.48)	
CS - 1/2 (12.7)		75 (1.9)		1/4 (6.4)	160				
CS - 5/8 (15.8)		50 (1.3)	1/2 (12.7)		164				
CS - 3/4 (19)		45 1.1)		3/8 (9.6)	179				
CS - 1 (25.4)		25 (.64)			184				
SS - 3/16 (4.8)	150	200	3/8 (9.6)	1/8 (3.2)	138	Air - 25 (1.7)	Air - 50 (3.45)	Air - 85 (5.86)	
SS - 1/4 (6.4)		165		3/16 (4.8)	146			Air - 65 (4.48)	
SS - 3/8 (9.6)		95		1/4 (6.4)	155			Air - 65 (4.48)	
SS - 1/2 (12.7)		60		5/16 (8)	163				
SS - 3/4 (19)		25		1/2 (12.7)	3/8 (9.6)				175
SS - 1 (25.4)		15							185
AL - 3/16 (4.8)	150	200 (5.1)	3/8 (9.6)	3/16 (4.8)	148	Air - 25 (1.7)	Air - 45 (3.1)	Air - 85 (5.86)	
AL - 1/4 (6.4)		140 (3.6)			149			Air - 65 (4.48)	
AL - 3/8 (9.6)		105 (2.7)		1/4 (6.4)	159				
AL - 1/2 (12.7)		80 (2)		5/16 (8)	174			Air - 85 (5.86)	
AL - 3/4 (19)		45 (1.1)	1/2 (12.7)		180			Air - 65 (4.48)	
AL - 1 (25.4)		30 (.76)			184				
CS - 3/16 (4.8)	150	160 (4.1)	3/8 (9.6)	1/8 (3.2)	127	N ₂ - 25 (1.7)	O ₂ - 45 (3.1)	Air - 85 (5.86)	
CS - 1/4 (6.4)		150 (3.8)		3/16 (4.8)	130			Air - 45 (3.1)	
CS - 3/8 (9.6)		90 (2.3)			134			Air - 65 (4.48)	
CS - 1/2 (12.7)		75 (1.9)		1/4 (6.4)	142			Air - 85 (5.86)	
CS - 5/8 (15.8)		55 (1.4)	1/2 (12.7)	5/16 (8)	151				
CS - 3/4 (19)		45 (1.1)		3/8 (9.6)	157				Air - 65 (4.48)
CS - 1 (25.4)		25 (.64)		5/16 (8)	160				

NOTES: When using a 50 ft torch, a dwell of approx. 3 sec. is required to allow the N₂ start gas to be purged out by the O₂ cut gas.
 CS - Carbon Steel, SS - Stainless Steel, AL - Aluminum
 All Air Plasma/Air Shield, 100 Amp cuts on Aluminum have good surfaces except 3/4" (19mm) AL that has poor surface.
 All Air Plasma/Air Shield, 100 Amp cuts on Stainless Steel have fair surface except 3/4" (19mm) SS that is very rough.
 All N₂ Plasma/N₂ Shield, 100 Amp cuts on Stainless Steel have fairly good surfaces except 3/4" (19mm) SS that is fair.

PT-36 CUT DATA

Table 3. 150 Amp Data (Continued)

NOZZLE PT-36 2.0 mm (.080")	P/N 0558006020		Shield - 250 Amp	P/N 0558006166
Electrode - Hafnium	P/N 0558003914		Diffuser 100 - 360 Amp	P/N 21944 (0004470031)
Gas Baffle - 4 Hole	P/N 0558002533		Pilot Arc -	HIGH

Material Type-Thickness in. (mm)	Current (Amps)	Travel Speed ipm(m/min)	Pierce Height in.(mm)	Cutting Height in.(mm)	Arc Voltage (Volts)	Start Gas Type/Pressure psi(bar)	Plasma Gas Type/Pressure psi(bar)	Shield Gas Type/Pressure psi(bar)
SS - 3/16 (4.8)	150	200 (5.1)	3/8 (9.6)	1/8 (3.2)	132	N ₂ - 25 (1.7)	N ₂ - 45 (3.1)	Air - 85 (5.86)
SS - 1/4 (6.4)		130 (3.3)		3/16 (4.8)	140			
SS - 3/8 (9.6)		85 (2.16)			143			
SS - 1/2 (12.7)		60 (1.5)		1/4 (6.4)	154			
SS - 3/4 (19)		18 (.45)	1/2 (12.7)		164			Air - 65 (4.48)
SS - 1 (25.4)		10 (.25)		5/16 (8)	179			
SS - 1/2 (12.7)	150	40 (1.0)	3/8 (9.6)	5/16 (8)	160	N ₂ - 25 (1.7)	H-35 - 55 (3.8)	N ₂ - 65 (4.48)
SS - 3/4 (19)		25 (.64)	1/2 (12.7)	3/8 (9.6)	175			N ₂ - 45 (3.1)
SS - 1 (25.4)		12 (.30)	NR		180			N ₂ - 20 (1.37)
AL - 3/16 (4.8)	150	200 (5.1)	3/8 (9.6)	3/16 (9.6)	136	N ₂ - 25 (1.7)	H-35 - 55 (3.8)	N ₂ - 65 (4.48)
AL - 1/4 (6.4)		150 (3.8)		1/4 (6.4)	141			
AL - 3/8 (9.6)		110 (2.8)			145			
AL - 1/2 (12.7)		90 (2.3)		5/16 (8)	155			
AL - 3/4 (19)		50 (1.3)	1/2 (12.7)	3/8 (9.6)	166			
AL - 1 (25.4)		30 (.76)			171			
NOTES: When using a 50 ft torch, a dwell of approx. 3 sec. is required to allow the N ₂ start gas to be purged out by the O ₂ cut gas. CS - Carbon Steel, SS - Stainless Steel, AL - Aluminum All Air Plasma/Air Shield, 100 Amp cuts on Aluminum have good surfaces except 3/4" (19mm) AL that has poor surface. All Air Plasma/Air Shield, 100 Amp cuts on Stainless Steel have fair surface except 3/4" (19mm) SS that is very rough. All N ₂ Plasma/N ₂ Shield, 100 Amp cuts on Stainless Steel have fairly good surfaces except 3/4" (19mm) SS that is fair.								

PT-36 CUT DATA

Table 4. 200 Amp Data

NOZZLE PT-36 2.3mm (.090")	P/N 0558006023		Shield - 250 Amp	P/N 0558006166
Electrode - Hafnium	P/N 0558003914		Diffuser 100 - 360 Amp	P/N 21944 (0004470031)
Gas Baffle - 4 Hole	P/N 0558002533		Pilot Arc -	HIGH

Material Type-Thickness in.(mm)	Current (Amps)	Travel Speed ipm(m/min)	Pierce Height in.(mm)	Cutting Height in.(mm)	Arc Voltage (Volts)	Start Gas Type/Pressure psi(bar)	Plasma Gas Type/Pressure psi(bar)	Shield Gas Type/Pressure psi(bar)
CS - 1/4 (6.4)	200	150 (3.8)	3/8 (9.6)	1/8 (3.2)	143	Air - 30 (2.07)	Air - 45 (3.1)	Air - 65 (4.48)
CS - 3/8 (9.6)		100 (2.54)			146			
CS - 1/2 (12.7)		95 (2.4)		7/32 (5.5)	158			
CS - 5/8 (15.8)		75 (1.9)	1/2 (12.7)		160			Air - 55 (3.8)
CS - 3/4 (19)		65 (1.65)		1/4 (6.4)	165			
CS - 1 (25.4)		35 (.89)		3/8 (9.6)	180			
CS - 1/4 (6.4)	200	170 (4.3)	3/8 (9.6)	1/8 (3.2)	129	N ₂ - 30 (2.07)	O ₂ - 45 (3.1)	Air - 65 (4.48) ●
CS - 3/8 (9.6)		110 (2.8)		3/16 (4.8)	133			Air - 55 (3.8)
CS - 1/2 (12.7)		95 (2.4)		7/32 (5.5)	136			
CS - 5/8 (15.8)		75 (1.9)	1/2 (12.7)		139			
CS - 3/4 (19)		55 (1.4)		1/4 (6.4)	142			
CS - 1 (25.4)		40 (1.0)		3/8 (9.6)	155			
SS - 1/4 (6.4)	200	140 (3.6)	3/8 (9.6)	1/8 (3.2)	142	Air - 30 (2.07)	Air - 52 (3.6)	Air - 85 (5.86)
SS - 3/8 (9.6)		125 (3.2)		3/16 (4.8)	150			
SS - 1/2 (12.7)		85 (2.2)			154			
SS - 3/4 (19)		55 (1.4)	1/2 (12.7)	3/8 (9.6)	174			
SS - 1 (25.4)		20 (.50)			180			●
AL - 1/4 (6.4)	200	125 (3.2)	3/8 (9.6)	3/16 (4.8)	155	Air - 30 (2.07)	Air - 52 (3.6)	Air - 85 (5.86)
AL - 3/8 (9.6)		110 (2.8)		1/4 (6.4)	165			
AL - 1/2 (12.7)		85 (2.2) □	1/2 (12.7)	3/8 (9.6)	167			
AL - 3/4 (19)		60 (1.5)			182			
AL -1 (25.4)		40 (1.02)			189			

NOTES: CS - Carbon Steel, SS - Stainless Steel, AL - Aluminum
All N₂ Plasma/Air Shield, 200 Amp cuts on Aluminum and Stainless Steel have fair surfaces except 1" (25.4mm) AL that is poor.

- Not a drop cut
- Piercing thicker than 1" (25.4mm) is not recommended.
If attempting set shield gas to 85 psi (5.86 bar) or higher

PT-36 CUT DATA

Table 4. 200 Amp Data (Continued)

NOZZLE PT-36 2.3mm (.090")	P/N 0558006023		Shield - 250 Amp	P/N 0558006166
Electrode - Hafnium	P/N 0558003928		Diffuser 100 - 360 Amp	P/N 21944 (0004470031)
Gas Baffle - 4 Hole	P/N 0558002533		Pilot Arc -	HIGH

Material Type-Thickness in.(mm)	Current (Amps)	Travel Speed ipm(m/min)	Pierce Height in.(mm)	Cutting Height in.(mm)	Arc Voltage (Volts)	Start Gas Type/Pressure psi(bar)	Plasma Gas Type/Pressure psi(bar)	Shield Gas Type/Pressure psi(bar)
AL - 1/4 (6.4)	200	180 (4.6)	3/8 (9.6)	3/16 (4.8)	151	N ₂ - 30 (2.07)	N ₂ - 35 (2.4)	Air - 65 (4.48)
AL - 3/8 (9.6)		110 (2.8)			155			
AL - 1/2 (12.7)		70 (1.8)			159			
AL - 3/4 (19)		55 (1.4)	1/2 (12.7)	1/4 (6.4)	170			
AL - 1 (25.4)		30 (.76)			177			
SS - 1/4 (6.4)	200	165 (4.2)	3/8 (9.6)	1/4 (6.4)	148	N ₂ - 30 (2.07)	N ₂ - 35 (2.4)	Air - 85 (5.86)
SS - 3/8 (9.6)		105 (2.7)		3/16 (4.8)	149			Air - 65 (4.48)
SS - 1/2 (12.7)		90 (2.3)		1/2 (12.7)	150			
SS - 3/4 (19)		45 (1.1)			159			Air - 45 (3.1)
SS - 1 (25.4)		20 (.50)			169			Air - 65 (4.48)
SS - 1/2 (12.7)	200	50 (1.27)	1/2 (12.7)	3/8 (9.6)	163	N ₂ - 30 (2.07)	H-35 - 52 (3.6)	N ₂ - 85 (5.86)
SS - 5/8 (15.8)		47 (1.2)		5/16 (8)	162			
SS - 3/4 (19)		32 (.8)		3/8 (9.6)	169			
SS - 1 (25.4)		17 (.43)		3/8 (9.6)	175			
AL - 1/4 (6.4)	200	155 (3.9)	3/8 (9.6)	5/16 (8)	146	N ₂ - 30 (2.07)	H-35 - 52 (3.6)	N ₂ - 65 (4.48)
AL - 3/8 (9.6)		120 (3)		1/4 (6.4)	148			N ₂ - 45 (3.1)
AL - 1/2 (12.7)		110 (2.8)		5/16 (8)	155			N ₂ - 85 (5.86)
AL - 3/4 (19)		60 (1.5)	1/2 (12.7)	3/8 (9.6)	166			
AL - 1 (25.4)		40 (1.01)			169			

NOTES: SS - Stainless Steel, AL - Aluminum
Stainless Steel 3/8" (9.6mm) and thinner is NOT recommended for H-35 plasma gas - heavy dross

CUTTING PARAMETERS FOR THE ESP-1000

The PT-36 is a mechanized plasma cutting torch designed for cutting without water injection. Cutting can be performed using air, oxygen, nitrogen or H-35 as the cut gas at currents ranging from 50 to 360 amperes. Underwater cutting can be performed by using an Air Curtain at 150 amps or higher. Refer to your torch manual.

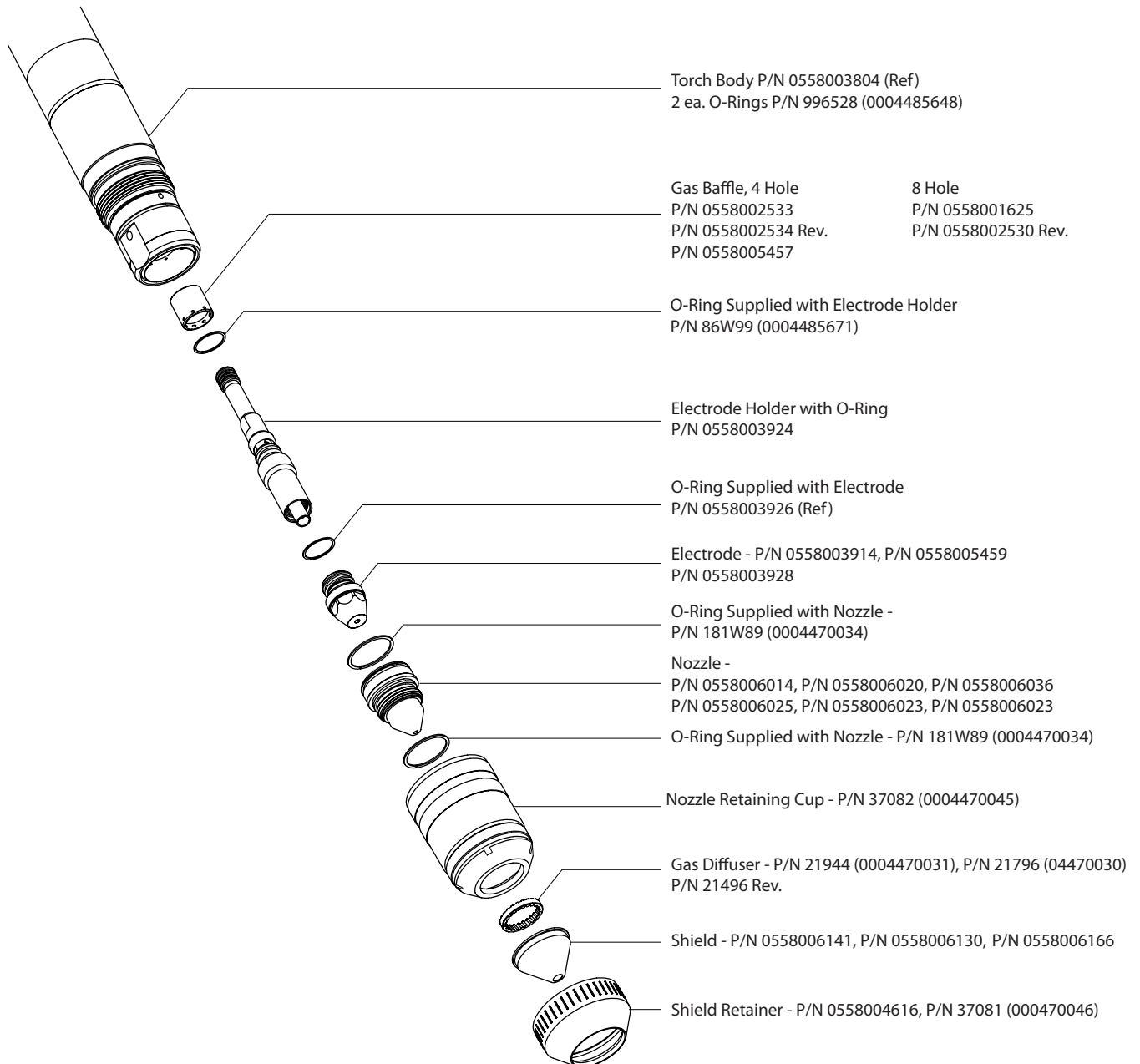


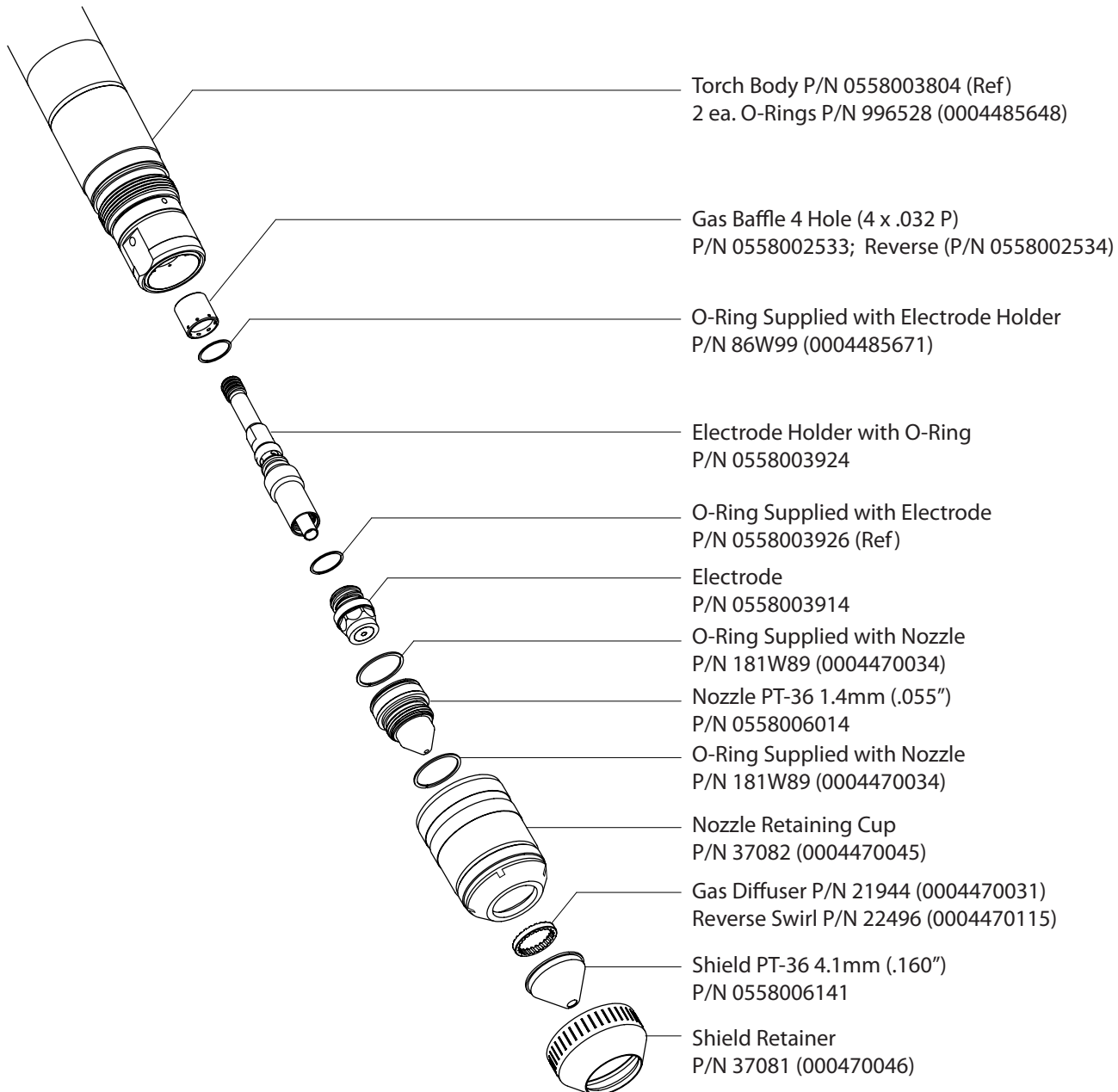
Figure 4-4 Torch Components

PT-36 CUT DATA



PLASMARC™ Cutting Torch
ESP-1000 Plasma System
Precision

Material:	Carbon Steel
Amperes:	100
Start Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Cut Gas:	Oxygen (O ₂) @ 100 psi / 6.8 bar
Primary Shield Gas:	Nitrogen (N ₂) or Air @ 100 psi / 6.8 bar
Shield Mix Gas :	Oxygen (O ₂) @ 100 psi / 6.8 bar



PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

100 Amperes Carbon Steel Precision

Material Thickness	in(mm)	.188(4.8)	.250(6.4)	.312(7.9)
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Encoder Height	Initial Height in(mm)	.130(3)	.130(3)	.130(3)
	Pierce Height in(mm)	0.220(6)	0.220(6)	0.220(6)
	Cutting Height in(mm)	0.220(6)	0.220(6)	0.220(6)

Height Readings	Arc Voltage (standoff)	132	133	135
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Timers (seconds)	Pierce Delay	0.1	0.1	0.1
	Auto Height Delay	0.2	0.2	0.2

Setup Parameters Pressure @ Flow	Plasma Start Gas (N ₂)	22 psi	22 psi	22 psi
		1.5 bar	1.5 bar	1.5 bar
	Plasma Cut Gas (O ₂)	50 psi @ LOW 0	50 psi @ LOW 0	50 psi @ LOW 0
		3.5 bar @ LOW 0	3.5 bar @ LOW 0	3.5 bar @ LOW 0
	Shield Pressure Mix (N ₂ O ₂)	19 psi	13 psi	13 psi
		1.3 bar	0.9 bar	0.9 bar
	Primary Shield Gas (N ₂)	0.4	0.5	0.5
	Shield Mix Gas (O ₂)	6.2	5.0	5.0

Travel Speed	IPM	100	85	70
	MM/MIN	2540	2159	1778

Kerf Width	Inches	.110	.110	.120
	Millimeters	2.79	2.79	3.05

Amps	Amperes	100	100	100
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Notes:

- Pilot Arc Set to LOW.
- Up to 0.50 inch thick material use Gas Baffle 4 Hole (4 X .032) P/N 0558002533, Reverse 4 hole P/N 0558002534
- PG-1 Proportional Valve
- PG-2 MFC

PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

100 Amperes Carbon Steel Precision

Material Thickness	in(mm)	.375(9.5)	.416(10.6)	.500(12.7)
Encoder Height	Initial Height in(mm)	.130(3)	.130(3)	.130(3)
	Pierce Height in(mm)	0.220(6)	0.220(6)	0.220(6)
	Cutting Height in(mm)	0.220(6)	0.220(6)	0.220(6)
Height Readings	Arc Voltage (standoff)	137	141	144
Timers (seconds)	Pierce Delay	0.2	0.3	0.4
	Auto Height Delay	0.2	0.2	0.2
Setup Parameters Pressure @ Flow	Plasma Start Gas (N₂)	22 psi	22 psi	22 psi
		1.5 bar	1.5 bar	1.5 bar
	Plasma Cut Gas (O₂)	50 psi @ LOW 0	50 psi @ LOW 0	50 psi @ LOW 0
		3.5 bar @ LOW 0	3.5 bar @ LOW 0	3.5 bar @ LOW 0
	Shield Pressure Mix (N₂O₂)	14 psi	15 psi	15 psi
		0.9 bar	1.0 bar	1.0 bar
	Primary Shield Gas (N₂)	0.6	0.6	0.6
	Shield Mix Gas (O₂)	5.0	5.0	5.0
Travel Speed	IPM	65	62	60
	MM/MIN	1651	1575	1524
Kerf Width	Inches	.110	.115	.120
	Millimeters	2.79	2.92	3.05
Amps	Amperes	100	100	100

Notes:

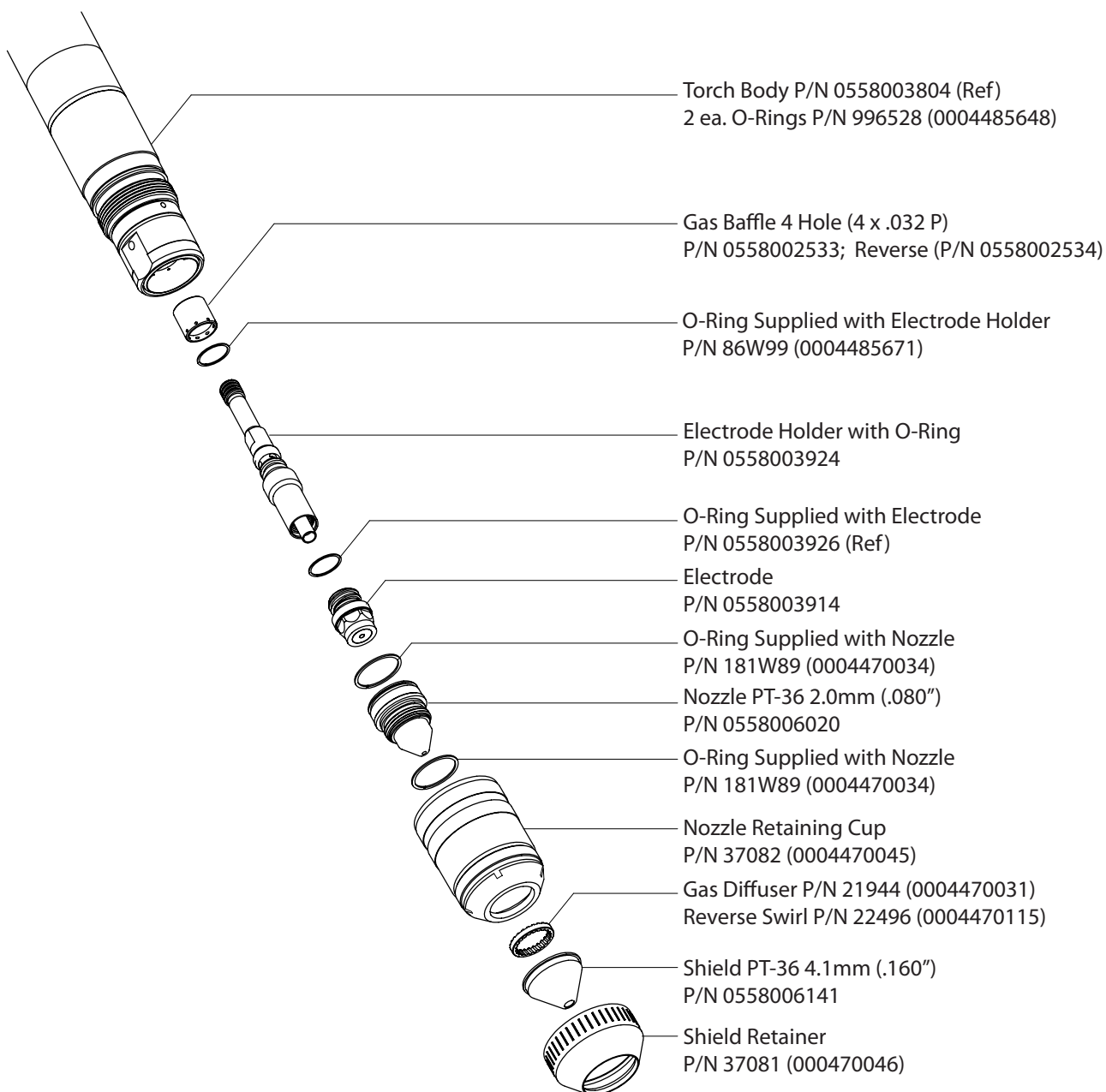
- Pilot Arc Set to LOW.
- Up to 0.50 inch thick material use Gas Baffle 4 Hole (4 X .032) P/N 0558002533, Reverse 4 hole P/N 0558002534
- PG-1 Proportional Valve
- PG-2 MFC

PT-36 CUT DATA



PLASMARC™ Cutting Torch
ESP-1000 Plasma System
Precision

Material:	Carbon Steel
Amperes:	200
Start Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Cut Gas:	Oxygen (O ₂) @ 100 psi / 6.8 bar
Primary Shield Gas:	Nitrogen (N ₂) or Air @ 100 psi / 6.8 bar
Shield Mix Gas :	Oxygen (O ₂) @ 100 psi / 6.8 bar



PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

200 Amperes Carbon Steel Precision

Material Thickness	in(mm)	0.250(6.35)	0.375(9.53)	.500(12.7)
Encoder Height	Initial Height in(mm)	.130(3)	.130(3)	.130(3)
	Pierce Height in(mm)	0.140(4)	0.140(4)	0.160(4)
	Cutting Height in(mm)	0.140(4)	0.140(4)	0.160(4)
Height Readings	Arc Voltage (standoff)	122	128	129
Timers (seconds)	Pierce Delay	0.2	0.2	0.4
	Auto Height Delay	0.5	0.5	0.5
Setup Parameters Pressure @ Flow	Plasma Start Gas (N₂)	18 psi	18 psi	18 psi
		1.2 bar	1.2 bar	1.2 bar
	Plasma Cut Gas (O₂)	LOW 3	LOW 3	LOW 3
	Shield Pressure Mix (N₂O₂)	13 psi	13 psi	21 psi
		0.9 bar	1.0 bar	1.4 bar
	Primary Shield Gas (N₂)	1.0	1.0	1.5
	Shield Mix Gas (O₂)	3.6	3.6	3.6
Travel Speed	IPM	161	110	90
	MM/MIN	4089	2667	2159
Kerf Width	Inches	.110	.114	.125
	Millimeters	2.79	2.90	3.2
Amps	Amperes	200	200	200

Notes:

- Pilot Arc Set to LOW.
- 1.00" and 1.25" carbon steel could have low speed dross.
- Cutting nozzle, P/N 0558006020
- Up to 1.25" thick material use Gas Baffle 4 Hole (4 X .032) P/N 0558002533, Reverse 4 Hole P/N 0558002534
- PG-1 Proportional Valve
- PG-2 MFC

PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

200 Amperes Carbon Steel Precision

Material Thickness	in(mm)	0.625(15.9)	0.750(19.1)	1.000(25.4)	1.250(31.8)
Encoder Height	Initial Height in(mm)	.130(3)	.130(3)	.130(3)	.130(3)
	Pierce Height in(mm)	0.172 (4)	0.180(5)	0.200(5)	0.220(6)
	Cutting Height in(mm)	0.172 (4)	0.180(5)	0.200(5)	0.220(6)
Height Readings	Arc Voltage (standoff)	136	140	148	155
Timers (seconds)	Pierce Delay	0.4	0.5	0.6	0.6
	Auto Height Delay	0.3	0.4	0.4	0.5
Setup Parameters Pressure @ Flow	Plasma Start Gas (N₂)	18 psi	18 psi	18 psi	18 psi
		1.2 bar	1.2 bar	1.2 bar	1.2 bar
	Plasma Cut Gas (O₂)	LOW 3	LOW 3	LOW 3	LOW 3
	Shield Pressure Mix (N₂O₂)	15 psi	18 psi	18 psi	16 psi
		1.0 bar	1.2 bar	1.2 bar	1.1 bar
	Primary Shield Gas (N₂)	1.2	1.4	1.4	1.2
	Shield Mix Gas (O₂)	4.0	4.5	4.5	4.5
Travel Speed	IPM	75	65	45	30
	MM/MIN	1905	1651	1143	762
Kerf Width	Inches	.120	.140	.170	.200
	Millimeters	3.01	3.56	4.32	5.08
Amps	Amperes	200	200	200	200

Notes:

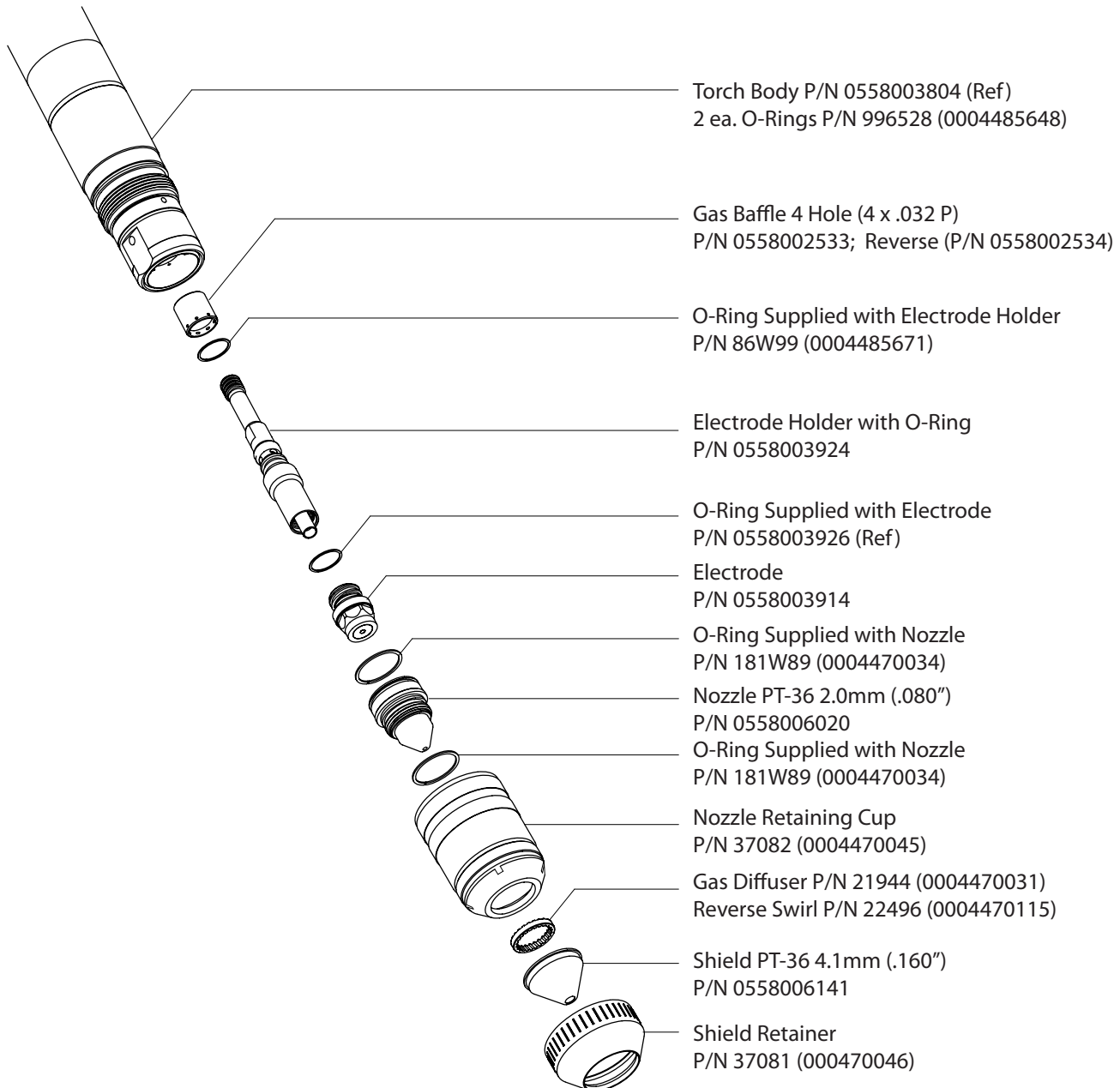
- Pilot Arc Set to LOW.
- 1.00" and 1.25" carbon steel could have low speed dross.
- Cutting nozzle, P/N 0558006020
- Up to 1.25" thick material use Gas Baffle 4 Hole (4 X .032) P/N 0558002533, Reverse 4 Hole P/N 0558002534
- PG-1 Proportional Valve
- PG-2 MFC

PT-36 CUT DATA



PLASMARC™ Cutting Torch
ESP-1000 Plasma System
Production

Material:	Carbon Steel
Amperes:	200
Start Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Cut Gas:	Oxygen (O ₂) @ 100 psi / 6.8 bar
Primary Shield Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Shield Mix Gas :	NONE



PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

200 Amperes Carbon Steel Production

Material Thickness	in(mm)	0.250(6.4)	0.375(9.5)	0.500(12.7)	0.625(15.9)
Encoder Height	Initial Height in(mm)	.130(3)	.130(3)	.130(3)	.130(3)
	Pierce Height in(mm)	0.140(4)	0.140(4)	0.140(4)	0.170(4)
	Cutting Height in(mm)	0.140(4)	0.140(4)	0.140(4)	0.170(4)
Height Readings	Arc Voltage (standoff)	129	133	148	150
Timers (seconds)	Pierce Delay	0.2	0.2	0.2	0.5
	Auto Height Delay	0.5	0.5	0.5	0.4
Setup Parameters Pressure @ Flow	Plasma Start Gas (N₂)	18 psi	18 psi	18 psi	18 psi
		1.2 bar	1.2 bar	1.2 bar	1.2 bar
	Plasma Cut Gas (O₂)	LOW 3	LOW 3	LOW 3	LOW 3
	Shield Pressure (N₂)	13 psi	13 psi	13 psi	13 psi
		0.9 bar	0.9 bar	0.9 bar	0.9 bar
	Primary Shield Gas (N₂)	2.5	2.5	2.5	2.5
	Shield Mix Gas (NONE)	NONE	NONE	NONE	NONE
Travel Speed	IPM	250	155	120	100
	MM/MIN	6350	3937	3048	2540
Kerf Width	Inches	0.100	0.110	0.115	0.118
	Millimeters	2.5	2.8	2.9	3.0
Amps	Amperes	200	200	200	200

Notes:

- Pilot Arc Set to LOW.
- 1.00" and 1.25" carbon steel could have low speed dross.
- Cutting nozzle, P/N 0558006020
- Up to 1.25" thick material use Gas Baffle 4 Hole (4 X .032) P/N 0558002533, Reverse 4 Hole P/N 0558002534
- PG-1 Proportional Valve
- PG-2 MFC

PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

200 Amperes Carbon Steel Production

Material Thickness	in(mm)	0.750(19.1)	1.000(25.4)	1.250(31.8)
Encoder Height	Initial Height in(mm)	.130(3)	.130(3)	.130(3)
	Pierce Height in(mm)	0.180(5)	0.200(5)	0.200(5)
	Cutting Height in(mm)	0.180(5)	0.200(5)	0.200(5)
Height Readings	Arc Voltage (standoff)	152	152	155
Timers (seconds)	Pierce Delay	0.5	0.6	0.9
	Auto Height Delay	0.4	0.4	0.9
Setup Parameters Pressure @ Flow	Plasma Start Gas (N₂)	18 psi	18 psi	18 psi
		1.2 bar	1.2 bar	1.2 bar
	Plasma Cut Gas (O₂)	LOW 3	LOW 3	LOW 3
	Shield Pressure (N₂)	13 psi	13 psi	13 psi
		0.9 bar	0.9 bar	0.9 bar
Travel Speed	Primary Shield Gas (N₂)	2.5	2.5	2.5
	Shield Mix Gas (NONE)	NONE	NONE	NONE
Kerf Width	Inches	0.120	0.130	0.140
	Millimeters	3.0	3.3	3.6
Amps	Amperes	200	200	200

Notes:

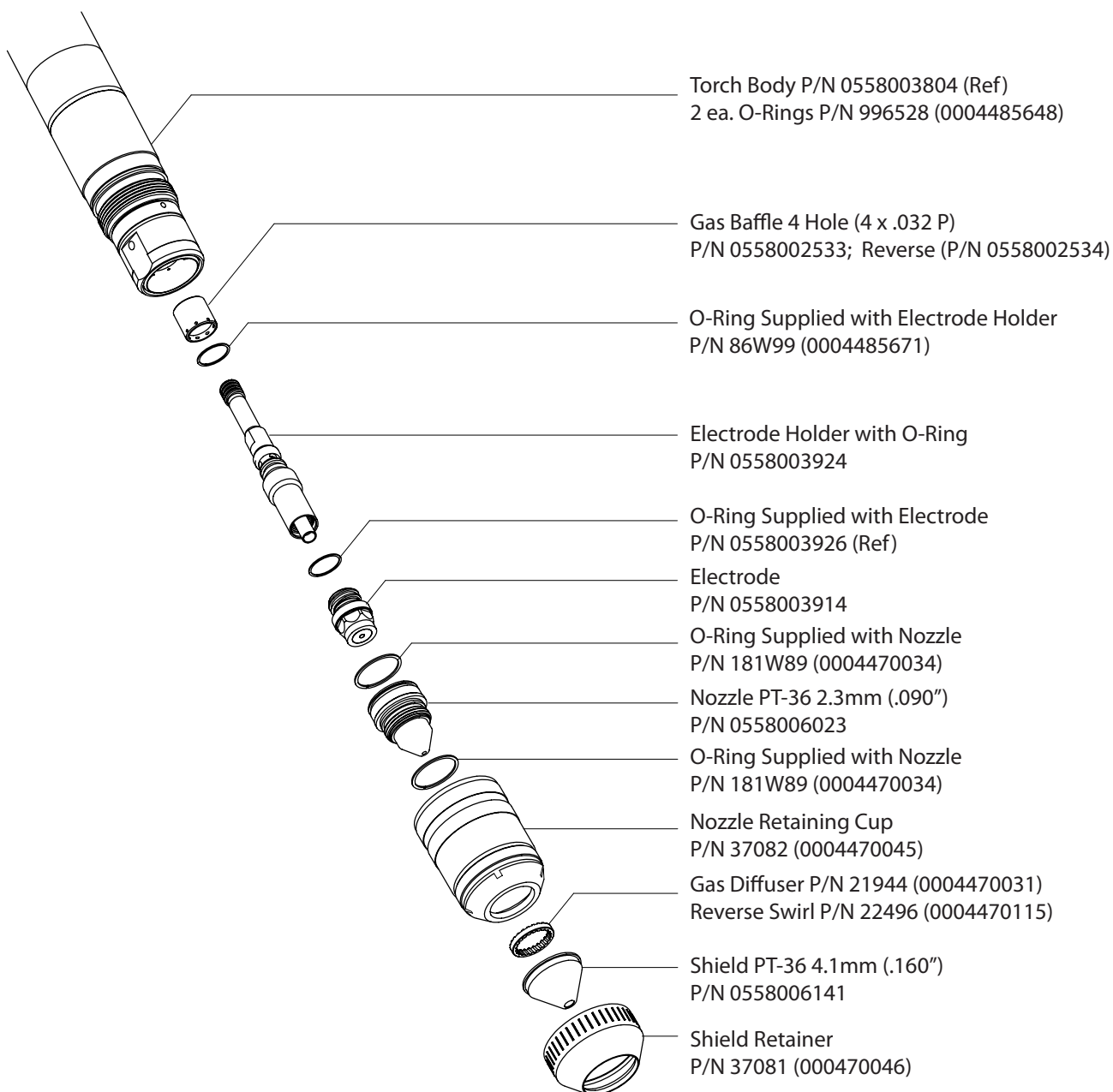
- Pilot Arc Set to LOW.
- 1.00" and 1.25" carbon steel could have low speed dross.
- Cutting nozzle, P/N 0558006020
- Up to 1.25" thick material use Gas Baffle 4 Hole (4 X .032) P/N 0558002533, Reverse 4 Hole P/N 0558002534
- PG-1 Proportional Valve
- PG-2 MFC

PT-36 CUT DATA



PLASMARC™ Cutting Torch
ESP-1000 Plasma System
Precision

Material:	Carbon Steel
Amperes:	260/280
Start Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Cut Gas:	Oxygen (O ₂) @ 100 psi / 6.8 bar
Primary Shield Gas:	Nitrogen (N ₂) or Air @ 100 psi / 6.8 bar
Shield Mix Gas :	Oxygen (O ₂) @ 100 psi / 6.8 bar



PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

260/280 Amperes Carbon Steel Precision

Material Thickness	in(mm)	.188(4.78)	.250(6.35)	.312(7.92)	.375(9.53)
Encoder Height	Initial Height in(mm)	0.160(4)	0.160(4)	0.160(4)	0.160(4)
	Pierce Height in(mm)	0.250(6)	0.250(6)	0.250(6)	0.250(6)
	Cutting Height in(mm)	0.250(6)	0.250(6)	0.250(6)	0.250(6)
Height Readings	Arc Voltage (standoff)	120	122	125	128
Timers (seconds)	Pierce Delay	0.4	0.4	0.5	0.5
	Auto Height Delay	0.1	0.1	0.4	0.4
Setup Parameters Pressure @ Flow	Plasma Start Gas (N₂)	25 psi	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas (O₂)	LOW 4	LOW 4	LOW 4	LOW 4
	Shield Pressure Mix (N₂O₂)	14 psi	17 psi	17 psi	17 psi
		1.0 bar	1.2 bar	1.2 bar	1.2 bar
	Primary Shield Gas (N₂)	1.0	1.0	1.0	1.0
	Shield Mix Gas (O₂)	5.2	5.2	5.2	5.2
Travel Speed	IPM	220	170	145	115
	MM/MIN	5588	4318	3683	2921
Kerf Width	Inches	.100	.120	.126	.125
	Millimeters	2.5	3.1	3.2	3.2
Amps	Amperes	260	260	260	260

Notes:

- Pilot Arc Set to LOW.
- Cutting nozzle, P/N 0558006023
- PG-1 Proportional Valve
- PG-2 MFC

PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

260/280 Amperes Carbon Steel Precision

Material Thickness	in(mm)	.500(12.70)	.625(15.88)	.750(19.05)	1.000(25.4)
Encoder Height	Initial Height in(mm)	0.160(4)	0.160(4)	0.160(4)	0.160(4)
	Pierce Height in(mm)	0.250(6)	0.250(6)	0.250(6)	0.250(6)
	Cutting Height in(mm)	0.250(6)	0.250(6)	0.250(6)	0.250(6)
Height Readings	Arc Voltage (standoff)	130	135	135	143
Timers (seconds)	Pierce Delay	0.5	0.5	0.5	0.5
	Auto Height Delay	0.4	0.5	0.5	0.6
Setup Parameters Pressure @ Flow	Plasma Start Gas (N ₂)	25 psi 1.7 bar	25 psi 1.7 bar	25 psi 1.7 bar	25 psi 1.7 bar
	Plasma Cut Gas (O ₂)	LOW 4	LOW 4	LOW 4	LOW 4
	Shield Pressure Mix (N ₂ O ₂)	17 psi 1.2 bar	17 psi 1.2 bar	19 psi 1.3 bar	19 psi 1.3 bar
	Primary Shield Gas (N ₂)	1.0	1.0	1.2	1.2
	Shield Mix Gas (O ₂)	5.2	5.2	5.6	5.6
Travel Speed	IPM	100	90	85	60
	MM/MIN	2540	2286	2159	1524
Kerf Width	Inches	.130	.140	.140	.160
	Millimeters	3.30	3.56	3.56	4.06
Amps	Amperes	260	280	260	280

Notes:

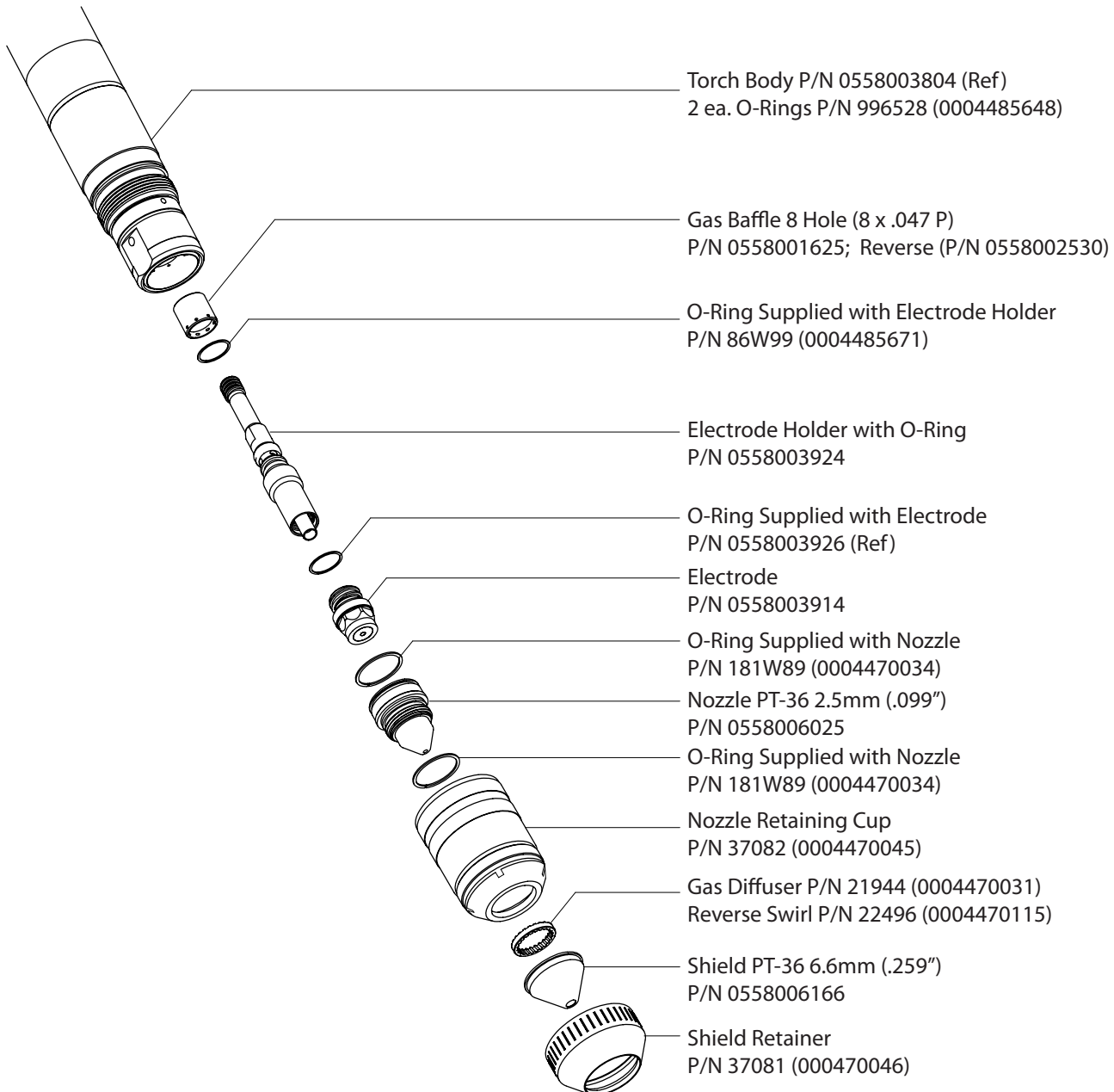
- Pilot Arc Set to LOW.
- Cutting nozzle, P/N 0558006023
- PG-1 Proportional Valve
- PG-2 MFC

PT-36 CUT DATA



PLASMARC™ Cutting Torch
ESP-1000 Plasma System
Production

Material:	Carbon Steel
Amperes:	280/300
Start Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Cut Gas:	Oxygen (O ₂) @ 100 psi / 6.8 bar
Primary Shield Gas:	Air @ 100 psi / 6.8 bar
Shield Mix Gas :	NONE



PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

280/300 Amperes Carbon Steel Production

Material Thickness	in(mm)	.188(4.78)	.250(6.35)	.312(7.92)	.375(9.53)
Encoder Height	Initial Height in(mm)	0.160(4)	0.160(4)	0.160(4)	0.160(4)
	Pierce Height in(mm)	0.250(6)	0.250(6)	0.250(6)	0.250(6)
	Cutting Height in(mm)	0.250(6)	0.250(6)	0.250(6)	0.250(6)
Height Readings	Arc Voltage (standoff)	132	135	138	140
Timers (seconds)	Pierce Delay	0.0	0.0	0.5	0.5
	Auto Height Delay	0.3	0.3	0.3	0.3
Setup Parameters Pressure @ Flow	Plasma Start Gas (N₂)	25 psi	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas (O₂)	LOW 5	LOW 5	LOW 5	LOW 5
	Shield Pressure Mix (N₂O₂)	14 psi	14 psi	14 psi	14 psi
		1.0 bar	1.0 bar	1.0 bar	1.0 bar
	Primary Shield Gas (Air)	3.5	3.5	3.5	3.5
	Shield Mix Gas (NONE)	NONE	NONE	NONE	NONE
Travel Speed	IPM	260	190	185	180
	MM/MIN	6604	4826	4699	4572
Kerf Width	Inches	.100	.120	.120	.126
	Millimeters	2.5	3.1	3.05	3.20
Amps	Amperes	280	280	300	300

Notes:

- Pilot Arc Set to HIGH.
- Cutting nozzle, P/N 0558006025
- PG-1 Proportional Valve
- PG-2 MFC

PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

280/300 Amperes Carbon Steel Production

Material Thickness	in(mm)	.500(12.70)	.625(15.88)	.750(19.05)	1.000(25.4)
Encoder Height	Initial Height in(mm)	0.160(4)	0.160(4)	0.160(4)	0.160(4)
	Pierce Height in(mm)	0.250(6)	0.250(6)	0.250(6)	0.250(6)
	Cutting Height in(mm)	0.250(6)	0.250(6)	0.250(6)	0.250(6)
Height Readings	Arc Voltage (standoff)	145	151	153	160
Timers (seconds)	Pierce Delay	0.5	0.5	0.7	0.7
	Auto Height Delay	0.3	0.5	0.6	0.6
Setup Parameters Pressure @ Flow	Plasma Start Gas (N₂)	25 psi	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas (O₂)	LOW 5	LOW 5	LOW 5	LOW 5
	Shield Pressure Mix (N₂O₂)	19 psi	19 psi	19 psi	19 psi
		1.3 bar	1.3 bar	1.3 bar	1.3 bar
	Primary Shield Gas (N₂)	3.5	3.5	3.5	3.5
	Shield Mix Gas (O₂)	NONE	NONE	NONE	NONE
Travel Speed	IPM	140	125	95	70
	MM/MIN	3556	3175	2413	1778
Kerf Width	Inches	.130	.140	.140	.160
	Millimeters	3.30	3.56	3.56	4.06
Amps	Amperes	300	280	300	300

Notes:

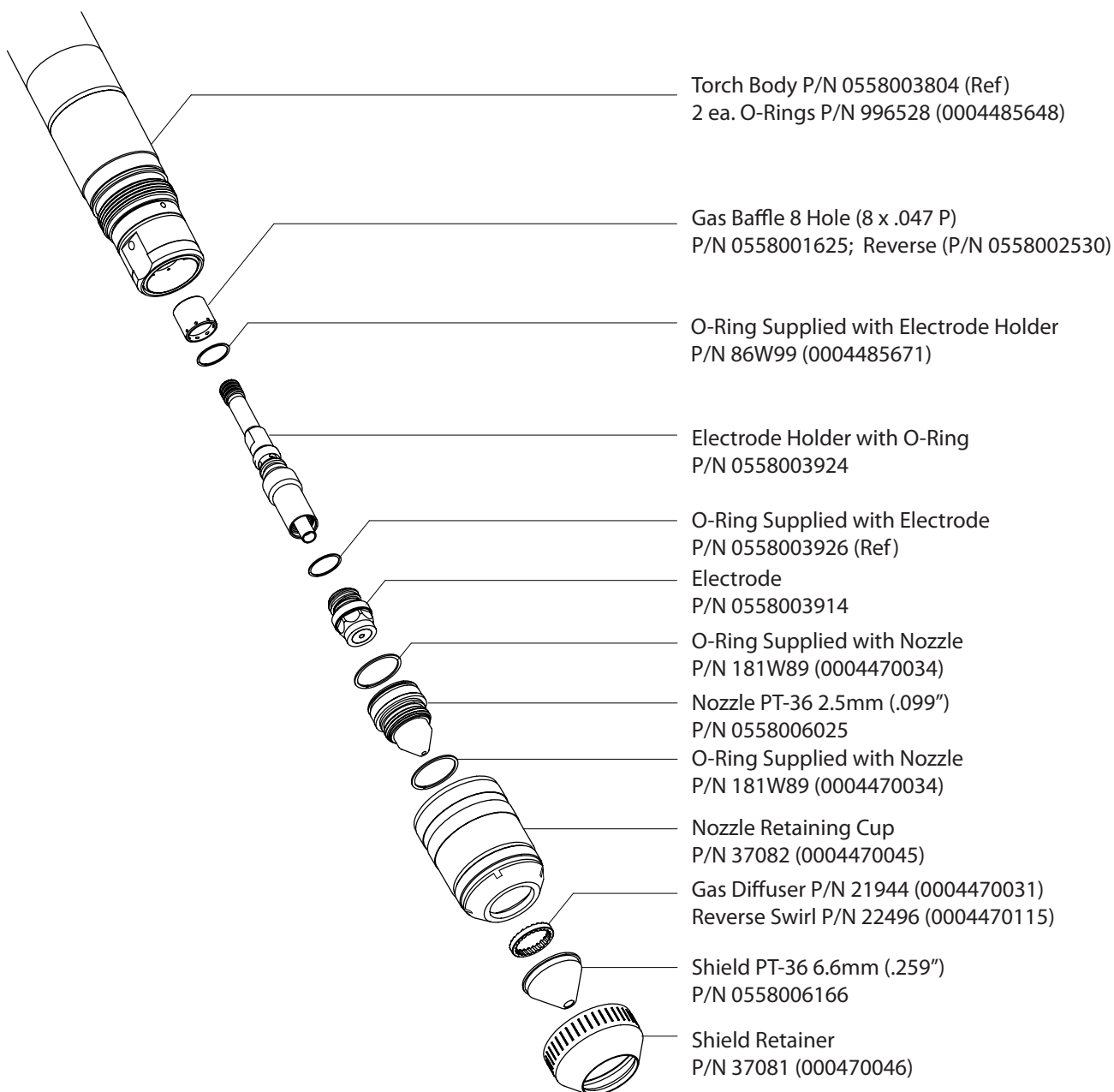
- Pilot Arc Set to HIGH.
- Cutting nozzle, P/N 0558006025
- PG-1 Proportional Valve
- PG-2 MFC

PT-36 CUT DATA



PLASMARC™ Cutting Torch
ESP-1000 Plasma System
Production Cutting Thick
Plate

Material:	Carbon Steel
Amperes:	290
Start Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Cut Gas:	Oxygen (O ₂) @ 100 psi / 6.8 bar
Primary Shield Gas:	Air @ 100 psi / 6.8 bar
Shield Mix Gas :	NONE



PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

290 Amperes Carbon Steel Production Cutting Thick Plate

Material Thickness	in(mm)	1.250(31.75)	1.375(34.96)	1.500(38.10)
Encoder Height	Initial Height in(mm)	0.160(4)	0.160(4)	0.160(4)
	Pierce Height in(mm)	0.376(10)	0.376(10)	0.376(10)
	Cutting Height in(mm)	0.376(10)	0.376(10)	0.376(10)
Height Readings	Arc Voltage (standoff)	170	173	175
Timers (seconds)	Pierce Delay	1.3	1.5	1.7
	Auto Height Delay	0.7	0.7	0.7
Setup Parameters Pressure @ Flow	Plasma Start Gas (N₂)	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas (O₂)	LOW 6	LOW 6	LOW 6
	Shield Pressure (N₂ O₂)	19 psi	19 psi	17 psi
		1.3 bar	1.3 bar	1.2 bar
	Primary Shield Gas (Air)	3.5	3.5	3.2
	Shield Mix Gas (NONE)	NONE	NONE	NONE
Travel Speed	IPM	45	40	35
	MM/MIN	1143	1016	889
Kerf Width	Inches	0.190	0.190	0.190
	Millimeters	4.82	4.82	4.82
Amps	Amperes	290	290	290

Notes:

- Pilot Arc Set to HIGH.
- Cutting nozzle, P/N 0558006025
- Piercing not recommended above 1.50" (38.1mm). Edge starts only.
- PG-1 Proportional Valve
- PG-2 MFC

PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

290 Amperes Carbon Steel Production Cutting Thick Plate

Material Thickness	in(mm)	1.625(41.28)	1.750(44.45)	1.875(47.63)	2.000(50.80)
Encoder Height	Initial Height in(mm)	0.160(4)	0.160(4)	0.160(4)	0.160(4)
	Pierce Height in(mm)	0.481(12)	0.481(12)	0.481(12)	0.481(12)
	Cutting Height in(mm)	0.481(12)	0.481(12)	0.481(12)	0.481(12)
Height Readings	Arc Voltage (standoff)	180	182	185	188
Timers (seconds)	Pierce Delay	1.8	2.0	2.2	2.3
	Auto Height Delay	0.8	0.8	0.9	0.9
Setup Parameters Pressure @ Flow	Plasma Start Gas (N₂)	25 psi	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas (O₂)	LOW 6	LOW 6	LOW 6	LOW 6
	Shield Pressure (N₂ O₂)	17 psi	17 psi	17 psi	17 psi
		1.2 bar	1.2 bar	1.2 bar	1.2 bar
	Primary Shield Gas (Air)	3.2	3.2	3.2	3.2
	Shield Mix Gas (NONE)	NONE	NONE	NONE	NONE
Travel Speed	IPM	30	24	18	13
	MM/MIN	762	609	457	330
Kerf Width	Inches	.200	.220	.240	.250
	Millimeters	5.08	5.59	6.10	6.35
Amps	Amperes	290	290	290	290

Notes:

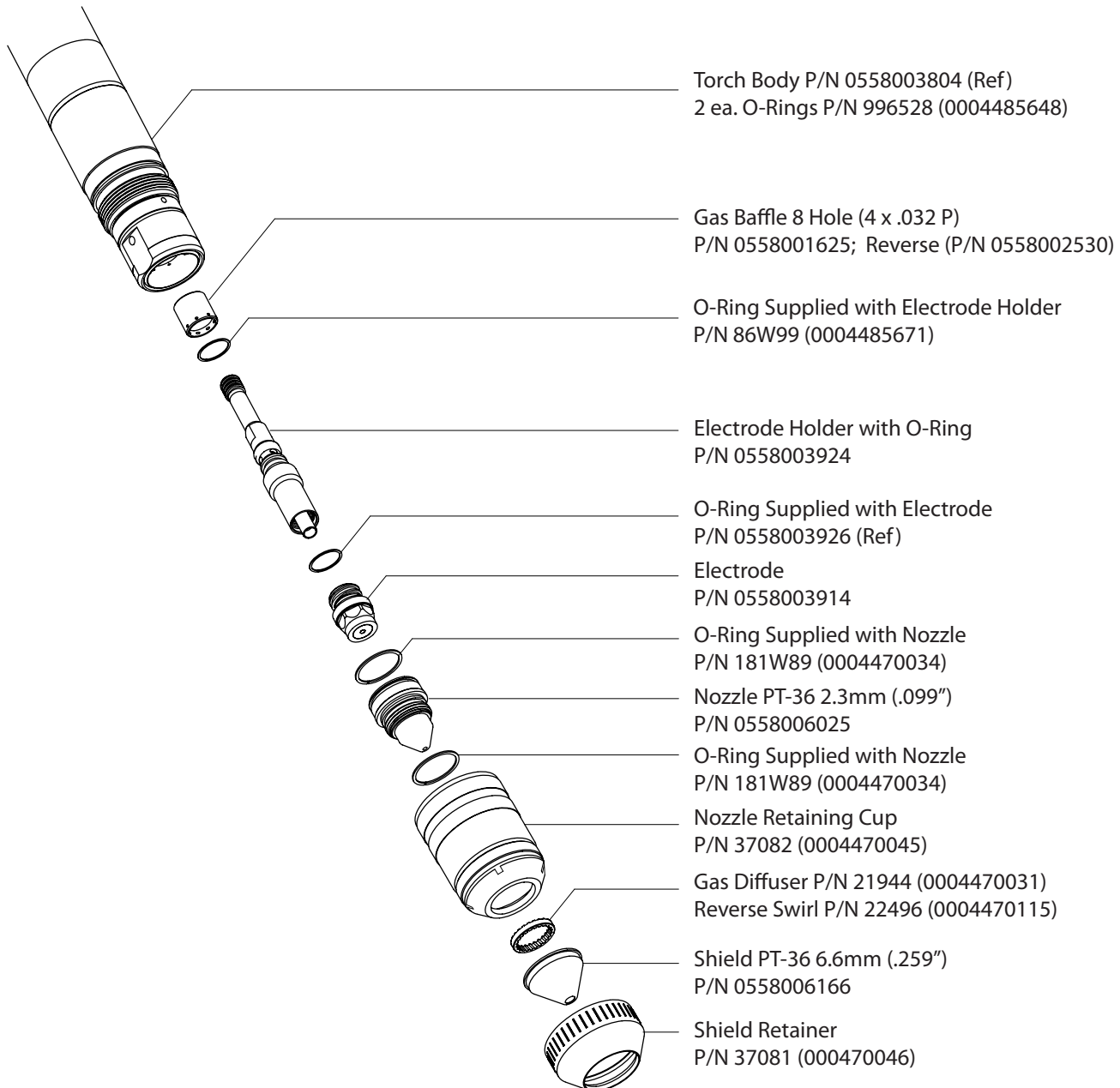
- Pilot Arc Set to HIGH.
- Cutting nozzle, P/N 0558006025
- Piercing not recommended above 1.50" (38.1mm). Edge starts only.
- PG-1 Proportional Valve
- PG-2 MFC

PT-36 CUT DATA



PLASMARC™ Cutting Torch
ESP-1000 Plasma System
Sever

Material:	Carbon Steel
Amperes:	300
Start Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Cut Gas:	Oxygen (O ₂) @ 100 psi / 6.8 bar
Primary Shield Gas:	Air @ 100 psi / 6.8 bar
Shield Mix Gas :	NONE



PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

300 Amperes Carbon Steel Sever

Material Thickness	in(mm)	.188(4.78)	.250(6.35)	.312(7.92)	.375(9.53)
Encoder Height	Initial Height in(mm)	0.160(4)	0.160(4)	0.160(4)	0.160(4)
	Pierce Height in(mm)	0.250(6)	0.250(6)	0.250(6)	0.250(6)
	Cutting Height in(mm)	0.250(6)	0.250(6)	0.250(6)	0.250(6)
Height Readings	Arc Voltage (standoff)	134	135	140	145
Timers (seconds)	Pierce Delay	0.4	0.4	0.5	0.5
	Auto Height Delay	0.1	0.1	0.1	0.1
Setup Parameters Pressure @ Flow	Plasma Start Gas (N₂)	25 psi	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas (O₂)	LOW 5	LOW 5	LOW 5	LOW 5
	Shield Pressure Mix (N₂O₂)	14 psi	14 psi	14 psi	14 psi
		1.0 bar	1.0 bar	1.0 bar	1.0 bar
	Primary Shield Gas (Air)	3.5	3.5	3.5	3.5
	Shield Mix Gas (NONE)	NONE	NONE	NONE	NONE
Travel Speed	IPM	300	240	230	200
	MM/MIN	7620	6096	5842	5080
Kerf Width	Inches	.110	.110	.120	.126
	Millimeters	2.79	2.79	3.05	3.20
Amps	Amperes	300	300	300	300

Notes:

- Pilot Arc Set to HIGH.
- Cutting nozzle, P/N 0558006025
- PG-1 Proportional Valve
- PG-2 MFC

PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

**300 Amperes
Carbon Steel Sever**

Material Thickness	in(mm)	.500(12.70)	.625(15.88)	.750(19.05)	1.000(25.4)
Encoder Height	Initial Height in(mm)	0.160(4)	0.160(4)	0.160(4)	0.160(4)
	Pierce Height in(mm)	0.250(6)	0.250(6)	0.250(6)	0.250(6)
	Cutting Height in(mm)	0.250(6)	0.250(6)	0.250(6)	0.250(6)
Height Readings	Arc Voltage (standoff)	150	155	160	165
Timers (seconds)	Pierce Delay	0.5	0.5	0.5	0.7
	Auto Height Delay	0.2	0.6	0.6	0.6
Setup Parameters Pressure @ Flow	Plasma Start Gas (N ₂)	25 psi	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas (O ₂)	LOW 5	LOW 5	LOW 5	LOW 5
	Shield Pressure Mix (N ₂ O ₂)	17 psi	19 psi	19 psi	19 psi
		1.2 bar	1.3 bar	1.3 bar	1.3 bar
	Primary Shield Gas (Air)	2.9	2.9	2.9	2.9
	Shield Mix Gas (NONE)	NONE	NONE	NONE	NONE
Travel Speed	IPM	170	150	120	80
	MM/MIN	4318	3810	3048	2032
Kerf Width	Inches	.130	.140	.140	.160
	Millimeters	3.30	3.56	3.56	4.06
Amps	Amperes	300	300	300	300

Notes:

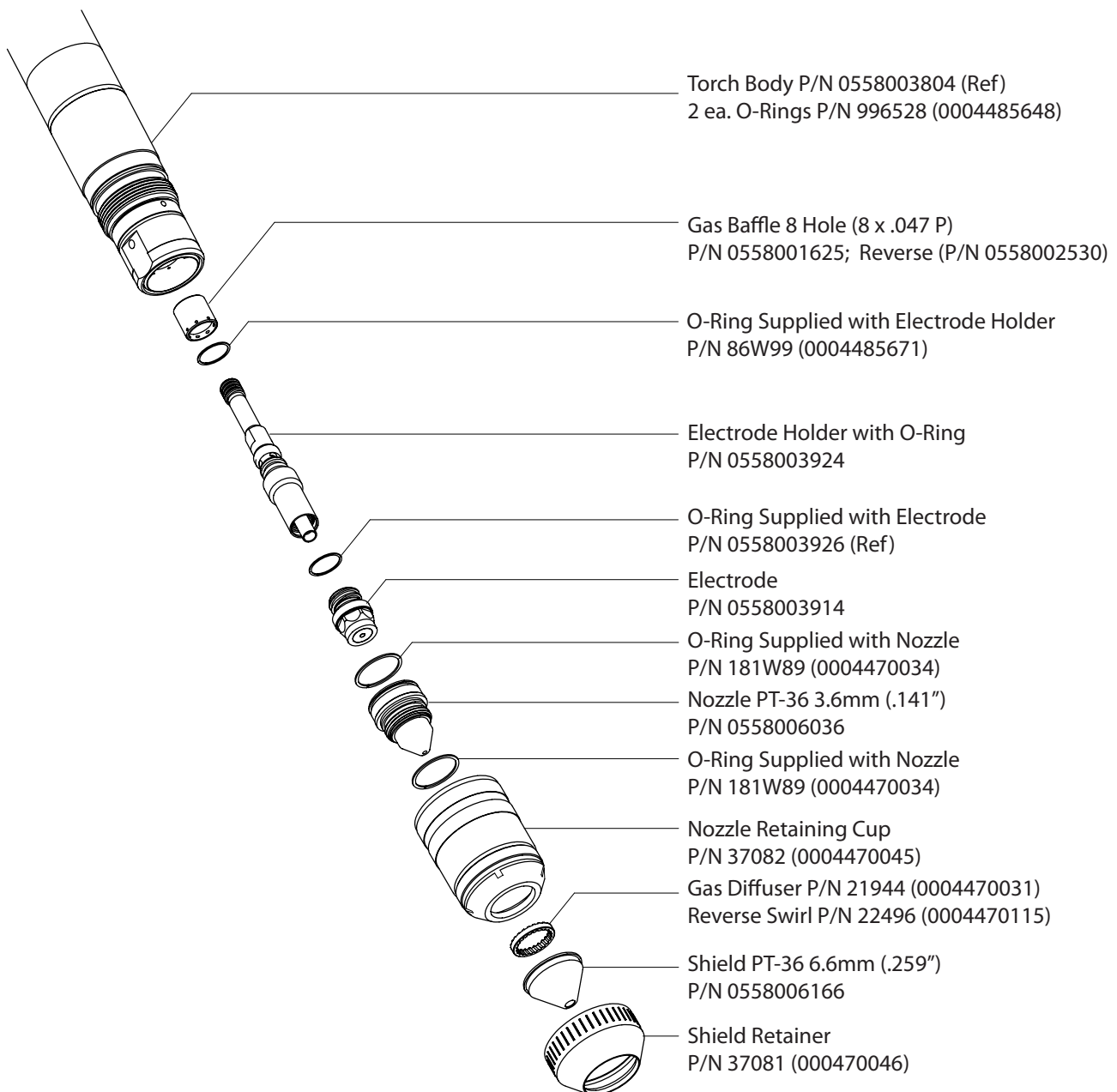
- Pilot Arc Set to HIGH.
- Cutting nozzle, P/N 0558006025
- PG-1 Proportional Valve
- PG-2 MFC

PT-36 CUT DATA



PLASMARC™ Cutting Torch
ESP-1000 Plasma System
Production Cutting
Thick Plate

Material:	Carbon Steel
Amperes:	400 - 450
Start Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Cut Gas:	Oxygen (O ₂) @ 100 psi / 6.8 bar
Primary Shield Gas:	Nitrogen (N ₂) or Air @ 100 psi / 6.8 bar
Shield Mix Gas :	Oxygen (O ₂) @ 100 psi / 6.8 bar



PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

400 - 450 Amperes Carbon Steel Production Cutting Thick Plate

Material Thickness	in(mm)	0.750(19.1)	0.875(22.2)	1.000(25.4)	1.250(31.8)	1.375(34.9)
Encoder Height	Initial Height in(mm)	0.700(18)	0.700(18)	0.700(18)	0.700(18)	0.700(18)
	Pierce Height in(mm)	0.750(19)	0.750(19)	0.750(19)	0.750(19)	0.750(19)
	Cutting Height in(mm)	0.750(19)	0.750(19)	0.750(19)	0.750(19)	0.750(19)
Height Readings	Arc Voltage (standoff)	136	140	145	150	153
Timers (seconds)	Pierce Delay	0.3	0.4	0.5	0.6	0.6
	Auto Height Delay	0.5	0.5	0.6	0.6	0.6
Setup Parameters Pressure @ Flow	Plasma Start Gas (N ₂)	25 psi	25 psi	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas (O ₂)	LOW 7	LOW 7	LOW 7	LOW 7	LOW 7
	Shield Pressure Mix (N ₂ O ₂)	28 psi	28 psi	28 psi	28 psi	28 psi
		1.9 bar	1.9 bar	1.9 bar	1.9 bar	1.9 bar
	Primary Shield Gas (N ₂)	2.6	2.6	2.6	2.6	2.6
	Shield Mix Gas (O ₂)	6.0	6.0	6.0	6.0	6.0
Travel Speed	IPM	116	95	80	50	45
	MM/MIN	2946	2413	2032	1270	1143
Kerf Width	Inches	.170	.180	.180	.200	.200
	Millimeters	4.32	4.57	4.57	5.08	5.08
Amps	Amperes	400	400	400	400	400

Notes:

- Pilot Arc Set to HIGH.
- Cutting nozzle, P/N 0558006036
- Piercing not recommended above 1.50" (38.1mm). Edge starts only.
- PG-1 Proportional Valve
- PG-2 MFC

PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

400 - 450 Amperes Carbon Steel Production Cutting Thick Plate

Material Thickness	in(mm)	1.500(38.1)	1.750(44.5)	2.000(50.8)	2.500(63.5)
Encoder Height	Initial Height in(mm)	.700(18)	.700(18)	.700(18)	.700(18)
	Pierce Height in(mm)	0.750(19)	0.750(19)	0.750(19)	0.750(19)
	Cutting Height in(mm)	0.750(19)	0.750(19)	0.750(19)	0.750(19)
Height Readings	Arc Voltage (standoff)	157	170	184	219
Timers (seconds)	Pierce Delay	2.0	2.5	3.0	5.0
	Auto Height Delay	2.0	2.5	3.0	10.0
Setup Parameters Pressure @ Flow	Plasma Start Gas (N ₂)	25 psi	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas (O ₂)	HIGH 0	HIGH 0	HIGH 0	HIGH 2
	Shield Pressure Mix (N ₂ O ₂)	28 psi	39 psi	39 psi	39 psi
		1.9 bar	2.7 bar	2.7 bar	2.7 bar
	Primary Shield Gas (N ₂)	2.6	5.7	5.7	5.7
	Shield Mix Gas (O ₂)	6.0	NONE	NONE	NONE
Travel Speed	IPM	40	30	20	10
	MM/MIN	1016	762	508	254
Kerf Width	Inches	.225	.250	.325	.400
	Millimeters	5.72	6.35	8.26	10.16
Amps	Amperes	400	450	450	450

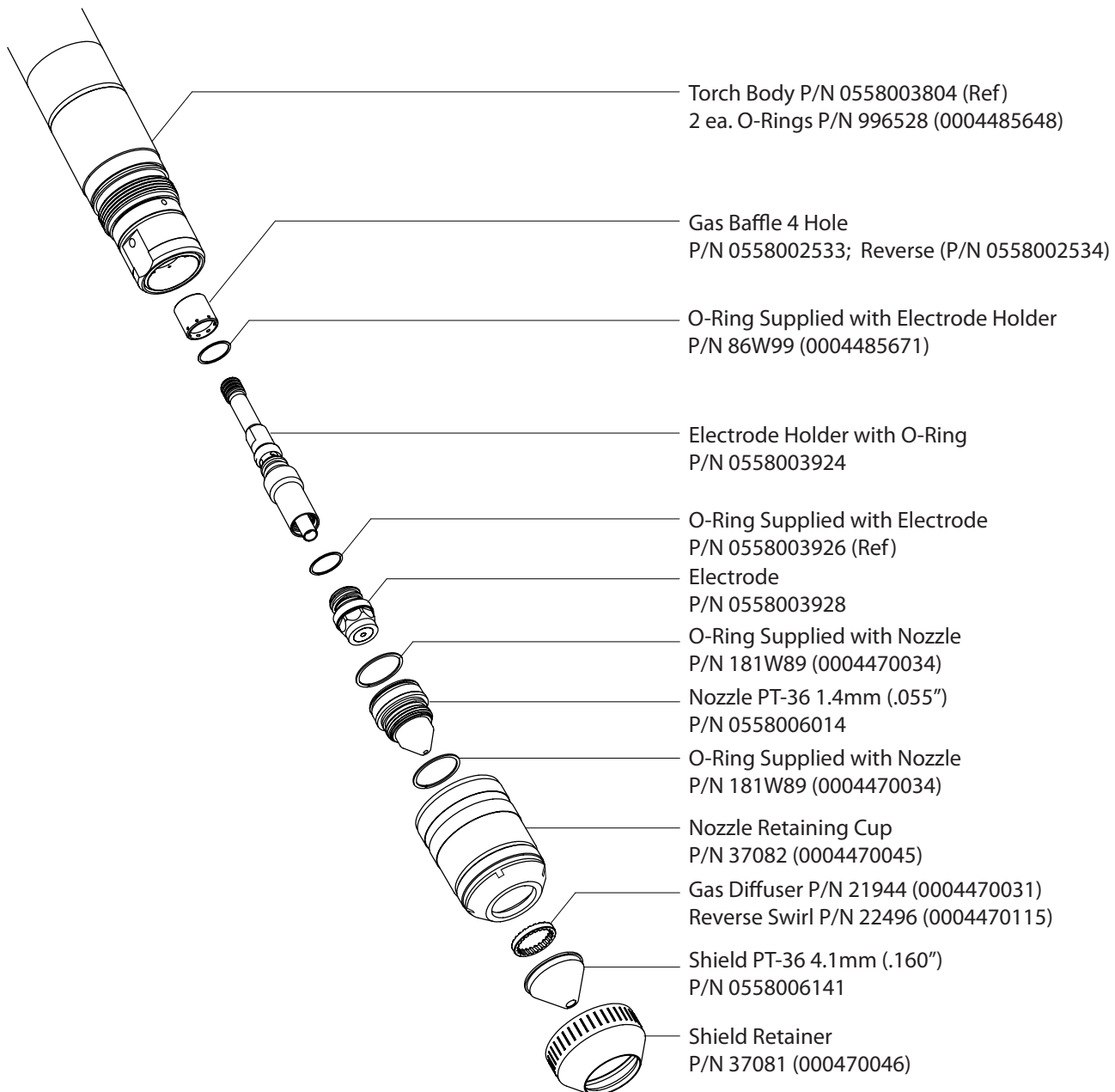
Notes:

- Pilot Arc Set to HIGH.
- Cutting nozzle, P/N 0558006036
- Piercing not recommended above 1.50" (38.1mm). Edge starts only.
- PG-1 Proportional Valve
- PG-2 MFC

PT-36 CUT DATA

ESAB[®] PT-36 PLASMARC[™] Cutting Torch ESP-1000 Plasma System Production

Material:	Aluminum
Amperes:	100
Start Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Cut Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Primary Shield Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Shield Mix Gas :	Methane (CH ₄) @ 100 psi / 6.8 bar



PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

100 Amperes Aluminum Production

Material Thickness	in(mm)	.250(6.3)	.312(8)	.375(9.5)	.437(11)	.500(12.7)
Encoder Height	Initial Height in(mm)	0.160(4)	0.160(4)	0.160(4)	0.160(4)	0.160(4)
	Pierce Height in(mm)	0.160(4)	0.160(4)	0.160(4)	0.250(6)	0.250(6)
	Cutting Height in(mm)	0.160(4)	0.160(4)	0.160(4)	0.250(6)	0.250(6)
Height Readings	Arc Voltage (standoff)	153	154	155	158	160
Timers (seconds)	Pierce Delay	0.4	0.4	0.6	0.6	0.6
	Auto Height Delay	0.5	0.5	0.8	0.8	0.8
Setup Parameters Pressure @ Flow	Plasma Start Gas (N₂)	22 psi	22 psi	22 psi	22 psi	22 psi
		1.5 bar	1.5 bar	1.5 bar	1.5 bar	1.5 bar
	Plasma Cut Gas (N₂)	LOW 2	LOW 2	LOW 2	LOW 2	LOW 2
	Shield Pressure Mix (N₂ CH₄)	16 psi	16 psi	9 psi	9 psi	9 psi
		1.1 bar	1.1 bar	0.6 bar	0.6 bar	0.6 bar
	Primary Shield Gas (N₂)	2.2	2.2	1.4	1.4	1.4
	Shield Mix Gas (CH₄)	2.2	2.2	1.4	1.4	1.4
Travel Speed	IPM	80	77	75	60	50
	MM/MIN	2032	1956	1905	1524	1270
Kerf Width	Inches	0.080	0.080	0.080	0.080	0.080
	Millimeters	2.0	2.0	2.0	2.0	2.0
Amps	Amperes	100	100	100	100	100

Notes:

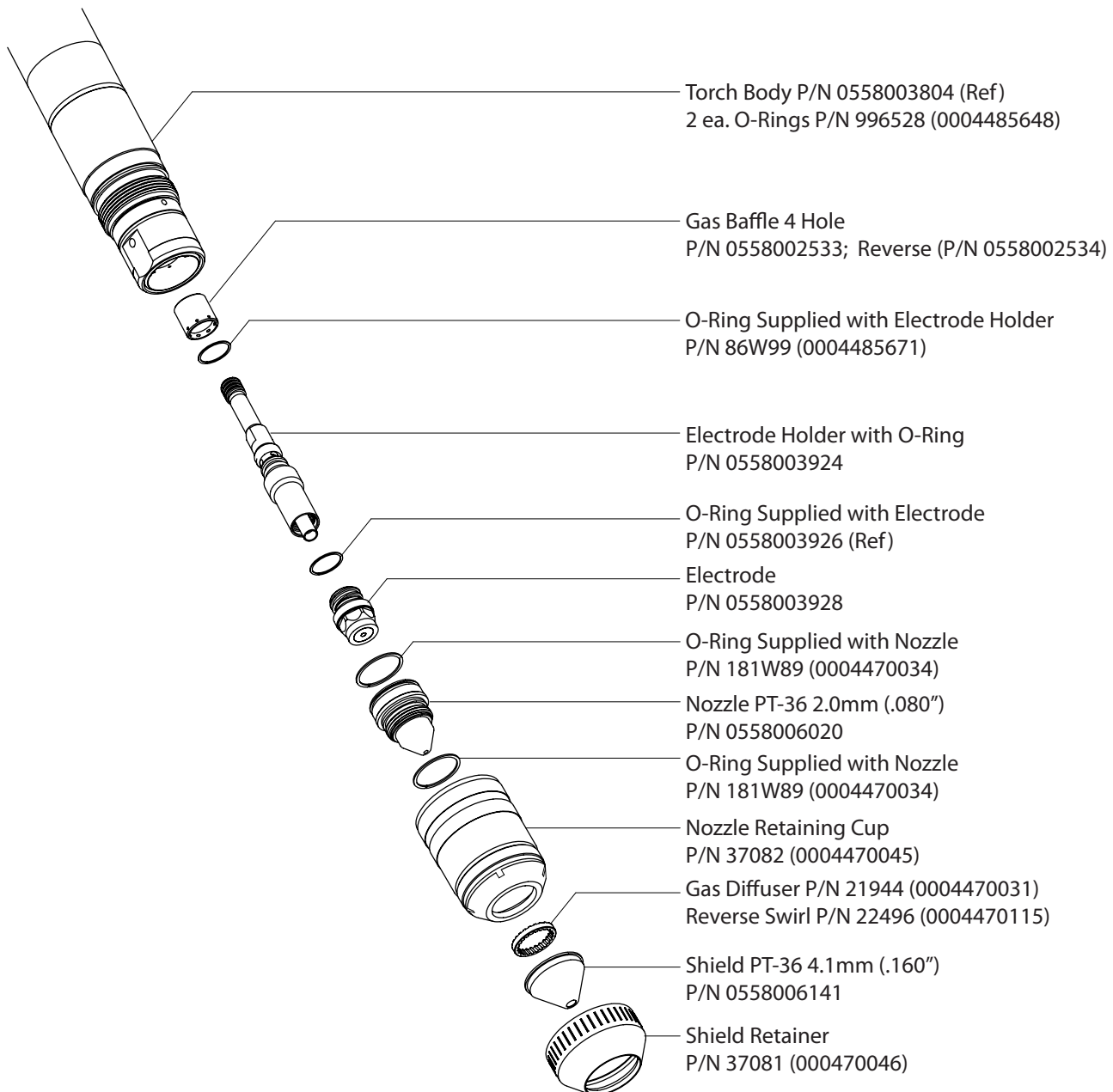
- Pilot Arc Set to LOW.
- Cutting nozzle, P/N 0558006014.
- PG-1 Proportional Valve
- PG-2 MFC

PT-36 CUT DATA



PLASMARC™ Cutting Torch
ESP-1000 Plasma System
Production

Material:	Aluminum
Amperes:	200
Start Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Cut Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Primary Shield Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Shield Mix Gas :	Methane (CH ₄) @ 100 psi / 6.8 bar



PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

200 Amperes Aluminum Production

Material Thickness	in(mm)	.375(9.5)	.500(12.7)	.750(20)	1.000(25.4)
Encoder Height	Initial Height in(mm)	0.160(4)	0.160(4)	0.160(4)	0.160(4)
	Pierce Height in(mm)	0.250(6)	0.250(6)	0.250(6)	0.250(6)
	Cutting Height in(mm)	0.250(6)	0.250(6)	0.250(6)	0.250(6)
Height Readings	Arc Voltage (standoff)	145	162	180	187
Timers (seconds)	Pierce Delay	0.5	0.5	0.5	0.7
	Auto Height Delay	0.6	0.6	0.6	0.9
Setup Parameters Pressure @ Flow	Plasma Start Gas (N ₂)	18 psi	18 psi	18 psi	18 psi
		1.2 bar	1.2 bar	1.2 bar	1.2 bar
	Plasma Cut Gas (N ₂)	LOW 4	LOW 4	LOW 4	LOW 4
	Shield Pressure Mix (N ₂ CH ₄)	13 psi	13 psi	13 psi	14 psi
		0.9 bar	0.9 bar	0.9 bar	1.0 bar
	Primary Shield Gas (N ₂)	1.8	1.8	1.8	1.8
	Shield Mix Gas (CH ₄)	2.0	2.0	2.0	2.4
Travel Speed	IPM	105	85	70	45
	MM/MIN	2667	2159	1778	1143
Kerf Width	Inches	0.110	0.110	0.110	0.140
	Millimeters	2.8	2.8	2.8	3.6
Amps	Amperes	200	200	200	200

Notes:

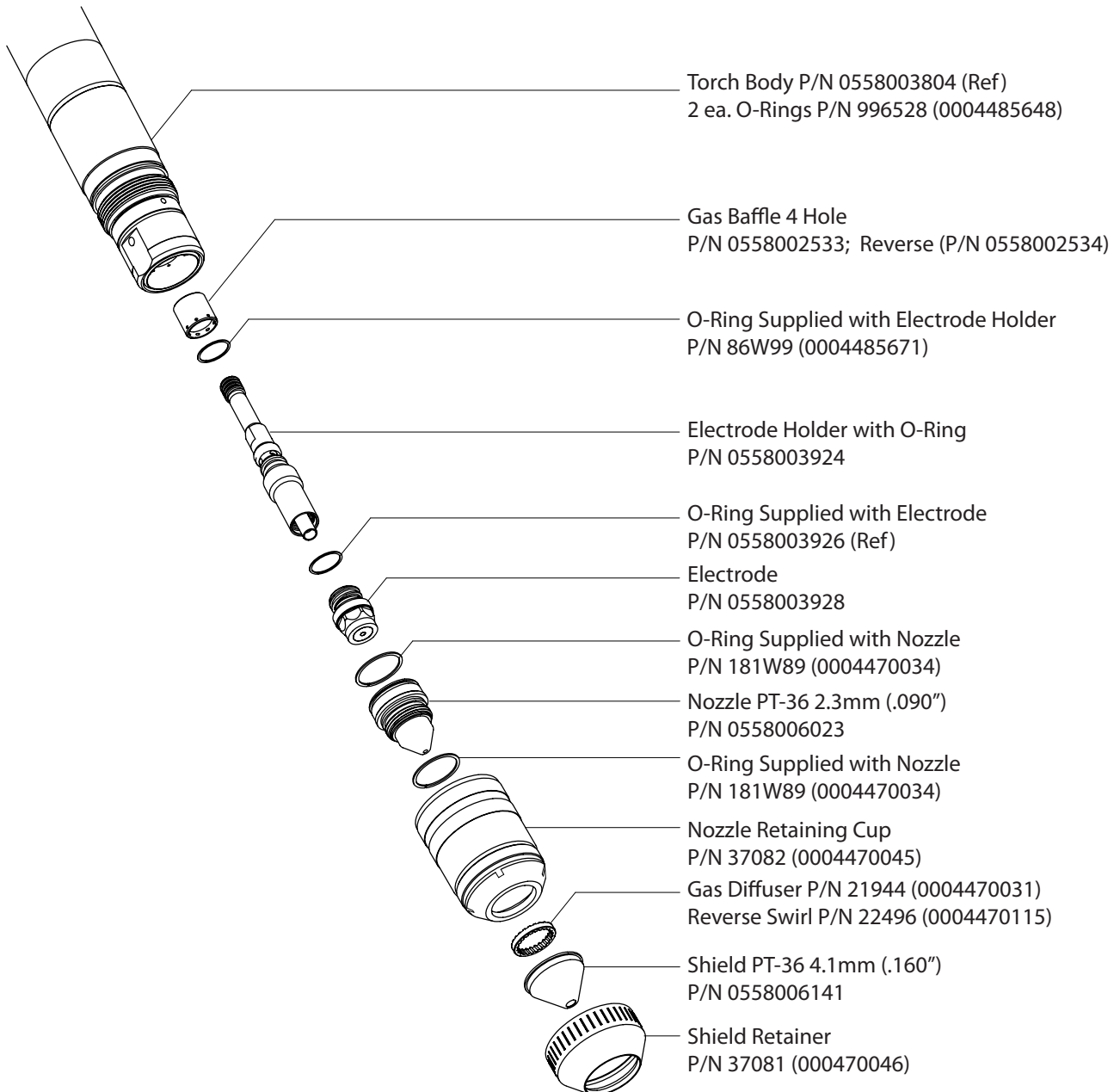
- Pilot Arc Set to LOW.
- Cutting nozzle, P/N 0558006020.
- PG-1 Proportional Valve
- PG-2 MFC

PT-36 CUT DATA



PLASMARC™ Cutting Torch
ESP-1000 Plasma System
Production

Material:	
Amperes:	250/260
Start Gas:	Aluminum Nitrogen (N ₂) @ 100 psi / 6.8 bar
Cut Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Primary Shield Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Shield Mix Gas :	Methane (CH ₄) @ 100 psi / 6.8 bar



PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

250/260 Amperes Aluminum Production

Material Thickness	in(mm)	.250(6.3)	.375(9.5)	.500(12.70)
Encoder Height	Initial Height in(mm)	0.160(4)	0.160(4)	0.160(4)
	Pierce Height in(mm)	0.250(6)	0.250(6)	0.250(6)
	Cutting Height in(mm)	0.250(6)	0.250(6)	0.250(6)
Height Readings	Arc Voltage (standoff)	160	165	168
Timers (seconds)	Pierce Delay	0.5	0.5	0.5
	Auto Height Delay	0.6	0.6	0.6
Setup Parameters Pressure @ Flow	Plasma Start Gas (N₂)	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas (N₂)	LOW 5	LOW 5	LOW 5
	Shield Pressure Mix (N₂ CH₄)	13 psi	13 psi	13 psi
		0.9 bar	0.9 bar	0.9 bar
	Primary Shield Gas (N₂)	1.8	1.8	1.8
	Shield Mix Gas (CH₄)	2.0	2.0	2.0
Travel Speed	IPM	300	200	150
	MM/MIN	7620	5080	3810
Kerf Width	Inches	0.110	0.110	0.110
	Millimeters	2.8	2.8	2.8
Amps	Amperes	260	260	250

Notes:

- Pilot Arc Set to LOW.
- Cutting nozzle, P/N 0558006023.
- PG-1 Proportional Valve
- PG-2 MFC

PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

250/260 Amperes Aluminum Production

Material Thickness	in(mm)	.625(16)	.750(20)	1.00(25)
Encoder Height	Initial Height in(mm)	0.160(4)	0.160(4)	0.376(10)
	Pierce Height in(mm)	0.250(6)	0.250(6)	0.487(12)
	Cutting Height in(mm)	0.250(6)	0.250(6)	0.487(12)
Height Readings	Arc Voltage (standoff)	170	180	188
Timers (seconds)	Pierce Delay	0.5	0.5	0.5
	Auto Height Delay	0.6	0.6	0.6
Setup Parameters Pressure @ Flow	Plasma Start Gas (N₂)	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas (N₂)	LOW 5	LOW 5	LOW 5
	Shield Pressure Mix (N₂ CH₄)	13 psi	13 psi	14 psi
		0.9 bar	0.9 bar	0.9 bar
	Primary Shield Gas (N₂)	1.8	1.8	1.8
	Shield Mix Gas (CH₄)	2.0	2.0	2.4
Travel Speed	IPM	100	90	72
	MM/MIN	2540	2286	1828
Kerf Width	Inches	0.110	0.110	0.110
	Millimeters	2.8	2.8	2.8
Amps	Amperes	250	250	250

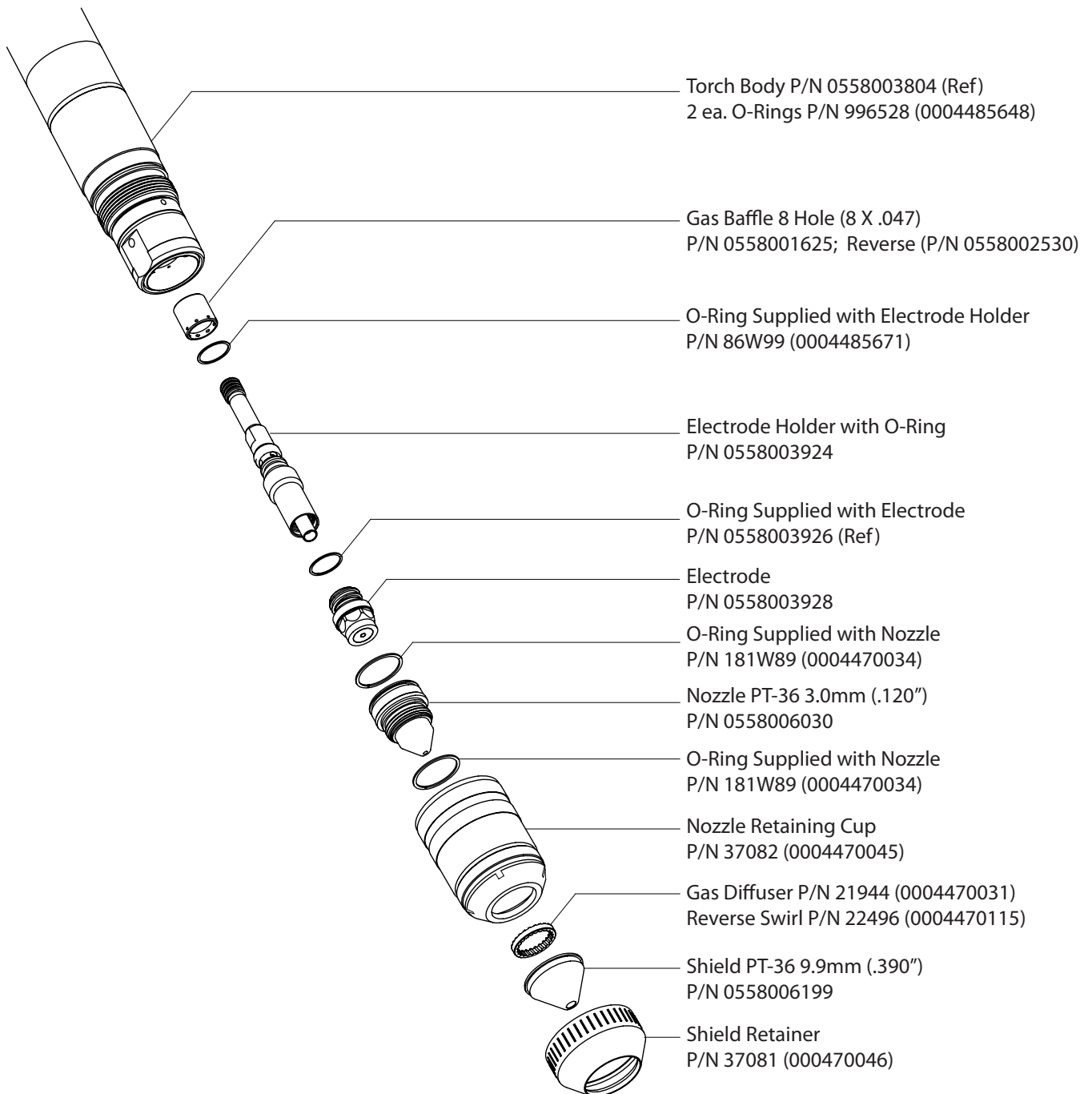
Notes:

- Pilot Arc Set to LOW.
- Cutting nozzle, P/N 0558006023.
- PG-1 Proportional Valve
- PG-2 MFC

PT-36 CUT DATA

ESAB® PT-36
PLASMARC™ Cutting Torch
ESP-1000 Plasma System
Production

Material:	Aluminum
Amperes:	360
Start Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Cut Gas:	Hydrogen 35% Argon 65% (H-35) @ 100 psi / 6.8 bar
Primary Shield Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Shield Mix Gas :	NONE



PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

360 Amperes Aluminum Production

Material Thickness	in(mm)	0.500(12.7)	0.625(15.9)	.750(19.1)	.875(22.2)
Encoder Height	Initial Height in(mm)	0.500(12.7)	0.500(12.7)	0.500(12.7)	0.500(12.7)
	Pierce Height in(mm)	0.625(15.9)	0.625(15.9)	0.625(15.9)	0.625(15.9)
	Cutting Height in(mm)	0.500(12.7)	0.500(12.7)	0.500(12.7)	0.600(15.2)
Height Readings	Arc Voltage (standoff)	150	166	168	170
Timers (seconds)	Pierce Delay	0	0.1	0.1	0.1
	Auto Height Delay	0.5	0.5	0.5	0.6
Setup Parameters Pressure @ Flow	Plasma Start Gas (N₂)	26 psi	26 psi	26 psi	26 psi
		1.8 bar	1.8 bar	1.8 bar	1.8 bar
	Plasma Cut Gas (H-35)	HIGH 1	HIGH 1	HIGH 1	HIGH 1
	Shield Pressure	40 psi	40 psi	40 psi	40 psi
		2.8 bar	2.8 bar	2.8 bar	2.8 bar
	Primary Shield Gas (N₂)	5.8	5.8	5.8	5.8
	Shield Mix Gas (NONE)	NONE	NONE	NONE	NONE
Travel Speed	IPM	150	130	90	75
	MM/MIN	3810	3302	2286	1905
Kerf Width	Inches	.160	.180	.180	.180
	Millimeters	4.06	4.57	4.57	4.57
Amps	Amperes	360	360	360	360

Notes:

- Pilot Arc Set to HIGH.
- Cutting nozzle, P/N 0558006030.
- PG-1 Proportional Valve
- PG-2 MFC

PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

360 Amperes Aluminum Production

Material Thickness	in(mm)	1.000(25.4)	1.250(31.8)	1.500(38.1)	1.750(44.5)
Encoder Height	Initial Height in(mm)	0.500(12.7)	0.500(12.7)	0.500(12.7)	0.625(15.9)
	Pierce Height in(mm)	0.625(15.9)	0.750(19.1)	0.750(19.1)	0.800(20.3)
	Cutting Height in(mm)	0.600(15.2)	0.600(15.2)	0.625(15.9)	0.625(15.9)
Height Readings	Arc Voltage (standoff)	173	185	193	200
Timers (seconds)	Pierce Delay	0.2	0.3	0.4	0.5
	Auto Height Delay	0.6	0.7	0.7	0.8
Setup Parameters Pressure @ Flow	Plasma Start Gas (N ₂)	26 psi	26 psi	26 psi	26 psi
		1.8 bar	1.8 bar	1.8 bar	1.8 bar
	Plasma Cut Gas (H-35)	HIGH 1	HIGH 1	HIGH 1	HIGH 1
	Shield Pressure	40 psi	40 psi	40 psi	40 psi
		2.8 bar	2.8 bar	2.8 bar	2.8 bar
	Primary Shield Gas (N ₂)	5.8	5.8	5.8	5.8
	Shield Mix Gas (NONE)	NONE	NONE	NONE	NONE
Travel Speed	IPM	60	45	33	25
	MM/MIN	1524	1143	838	635
Kerf Width	Inches	.190	.210	.240	.260
	Millimeters	4.83	5.33	6.10	6.60
Amps	Amperes	360	360	360	360

Notes:

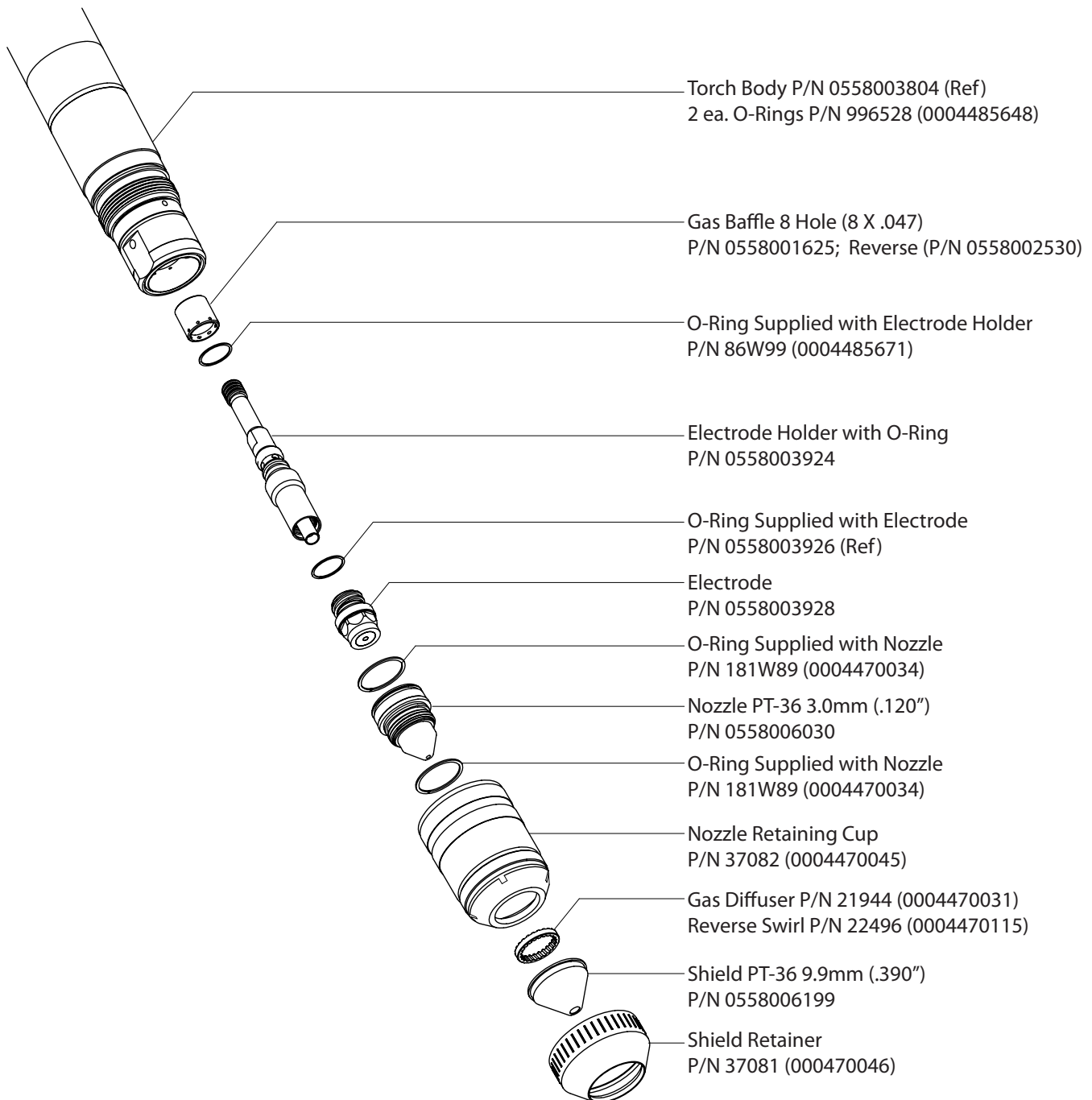
- Pilot Arc Set to HIGH.
- Cutting nozzle, P/N 0558006030.
- PG-1 Proportional Valve
- PG-2 MFC

PT-36 CUT DATA



PLASMARC™ Cutting Torch
ESP-1000 Plasma System
Production

Material:	Aluminum
Amperes:	360
Start Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Cut Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Primary Shield Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Shield Mix Gas :	NONE



PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

360 Amperes Aluminum Production

Material Thickness	in(mm)	0.250(6.3)	0.375(9.5)	0.500(12.7)
Encoder Height	Initial Height in(mm)	0.500(12.7)	0.500(12.7)	0.500(12.7)
	Pierce Height in(mm)	0.625(15.9)	0.625(15.9)	0.625(15.9)
	Cutting Height in(mm)	0.375(9.5)	0.375(9.5)	0.375(9.5)
Height Readings	Arc Voltage (standoff)	147	155	161
Timers (seconds)	Pierce Delay	0	0	0
	Auto Height Delay	0.5	0.5	0.5
Setup Parameters Pressure @ Flow	Plasma Start Gas (N₂)	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas (N₂)	LOW 7	LOW 7	LOW 7
	Shield Pressure	44 psi	44 psi	44 psi
		3.0 bar	3.0 bar	3.0 bar
	Primary Shield Gas (N₂)	5.8	5.8	5.8
	Shield Mix Gas (NONE)	NONE	NONE	NONE
Travel Speed	IPM	230	180	160
	MM/MIN	5842	4572	4064
Kerf Width	Inches	0.120	0.130	0.130
	Millimeters	3.0	3.3	3.3
Amps	Amperes	360	360	360

Notes:

- Pilot Arc Set to HIGH.
- Cutting nozzle, P/N 0558006030.
- PG-1 Proportional Valve
- PG-2 MFC

PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

360 Amperes Aluminum Production

Material Thickness	in(mm)	.750(19.1)	1.000(25.4)	1.250(31.8)
Encoder Height	Initial Height in(mm)	0.625(15.9)	0.625(15.9)	0.625(15.9)
	Pierce Height in(mm)	0.700(17.8)	0.800(20.3)	0.800(20.3)
	Cutting Height in(mm)	0.375(9.5)	0.375(9.5)	0.375(9.5)
Height Readings	Arc Voltage (standoff)	168	168	190
Timers (seconds)	Pierce Delay	0.2	0.3	0.3
	Auto Height Delay	0.6	0.7	0.7
Setup Parameters Pressure @ Flow	Plasma Start Gas (N₂)	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas (N₂)	LOW 7	LOW 7	LOW 7
	Shield Pressure	44 psi	44 psi	44 psi
		3.0 bar	3.0 bar	3.0 bar
	Primary Shield Gas (N₂)	5.8	5.8	5.8
	Shield Mix Gas (NONE)	NONE	NONE	NONE
Travel Speed	IPM	90	60	40
	MM/MIN	2286	1524	1016
Kerf Width	Inches	0.140	0.150	0.200
	Millimeters	3.6	3.8	5.1
Amps	Amperes	360	360	360

Notes:

- Pilot Arc Set to HIGH.
- Cutting nozzle, P/N 0558006030.
- PG-1 Proportional Valve
- PG-2 MFC

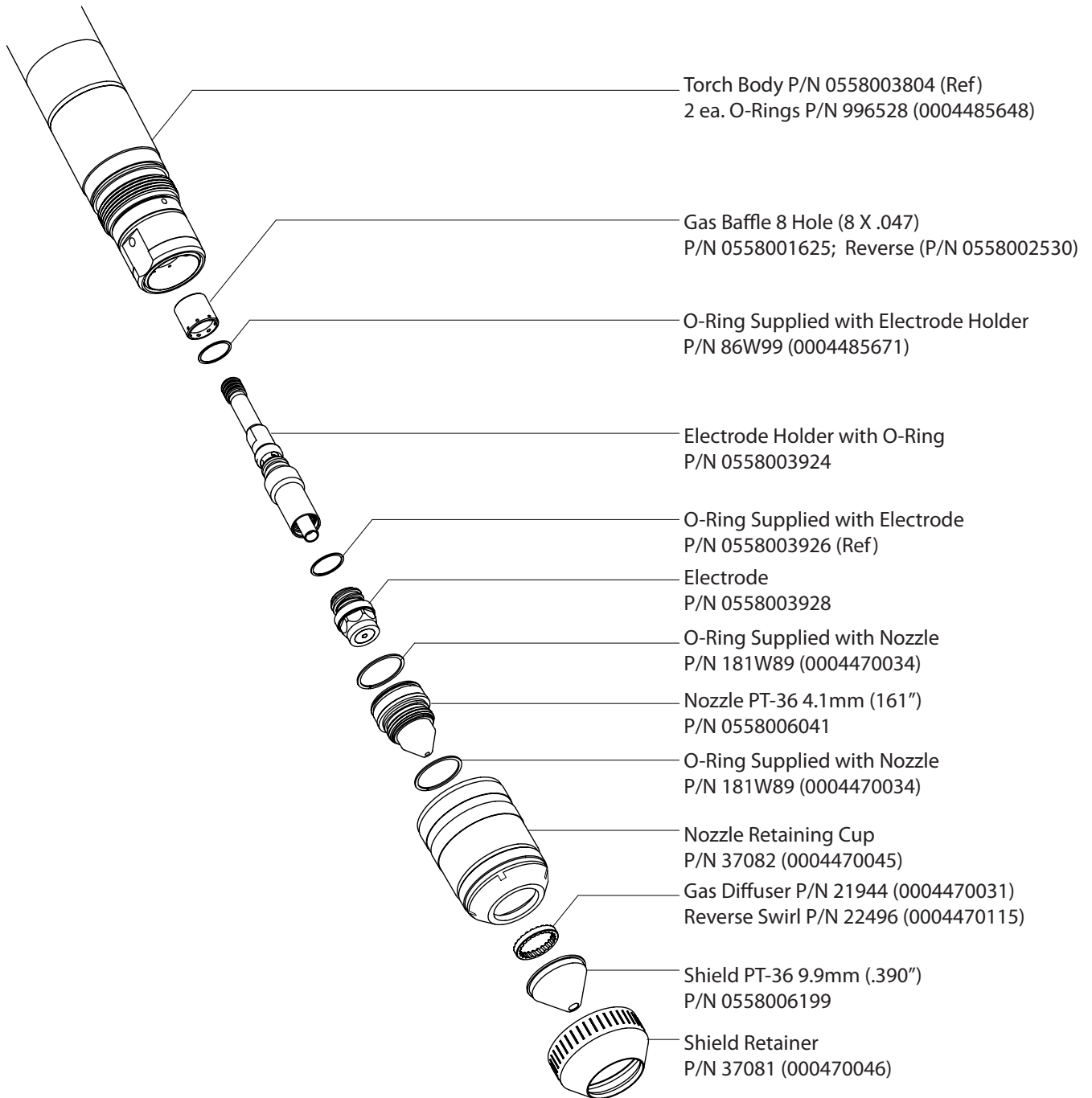
PT-36 CUT DATA



PT-36

PLASMARC™ Cutting Torch
ESP-1000 Plasma System
Production

Material:	Aluminum
Amperes:	600
Start Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Cut Gas:	Hydrogen 35% Argon 65% (H-35) @ 100 psi / 6.8 bar
Primary Shield Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Shield Mix Gas :	NONE



PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

600 Amperes Aluminum Production

Material Thickness	in(mm)	1.000(25.4)	1.500(38.1)	2.000(50.8)	3.000(76.2)
Encoder Height	Initial Height in(mm)	0.750(19.1)	0.750(19.1)	*0.750(19.1)	*0.750(19.1)
	Pierce Height in(mm)	1.000(25.4)	1.000(25.4)	*1.000(25.4)	*1.000(25.4)
	Cutting Height in(mm)	0.625(15.9)	0.625(15.9)	0.750(19.1)	0.750(19.1)
Height Readings	Arc Voltage (standoff)	172	177	192	212
Timers (seconds)	Pierce Delay	0.5	0.8	1.0	1.2
	Auto Height Delay	0.6	0.7	0.8	0.9
Setup Parameters Pressure @ Flow	Plasma Start Gas (N ₂)	46 psi	46 psi	46 psi	46 psi
		3.2 bar	3.2 bar	3.2 bar	3.2 bar
	Plasma Cut Gas (H-35)	HIGH 4	HIGH 4	HIGH 4	HIGH 4
	Shield Pressure	35 psi	35 psi	22 psi	35 psi
		2.4 bar	2.4 bar	1.5 bar	2.4 bar
	Primary Shield Gas (N ₂)	5.8	5.8	5.8	5.8
	Shield Mix Gas (NONE)	NONE	NONE	NONE	NONE
Travel Speed	IPM	80	65	30	15
	MM/MIN	2032	1651	762	381
Kerf Width	Inches	0.320	0.330	0.357	0.390
	Millimeters	8.1	8.4	9.1	9.9
Amps	Amperes	600	600	600	600

Notes:

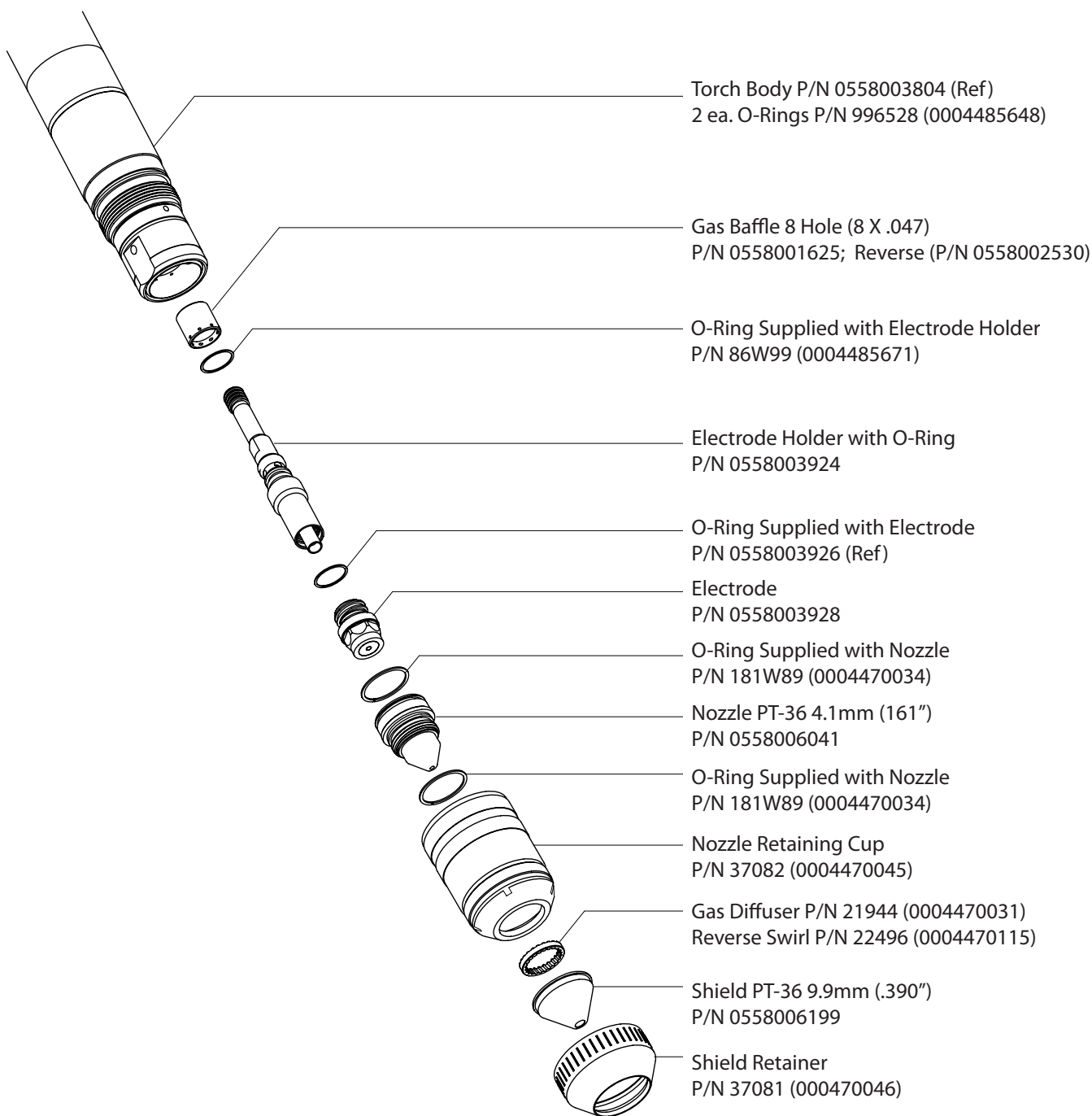
- Pilot Arc Set to HIGH.
- Cutting nozzle, P/N 0558006041.
- PG-1 Proportional Valve
- PG-2 MFC
- *Use creep speed for Piercing/Standing pierce not recommended.

PT-36 CUT DATA



PLASMARC™ Cutting Torch
ESP-1000 Plasma System
Production

Material:	Aluminum
Amperes:	600
Start Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Cut Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Primary Shield Gas:	Air @ 100 psi / 6.8 bar
Shield Mix Gas :	NONE



PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

600 Amperes Aluminum Production

Material Thickness	in(mm)	1.000(25.4)	1.500(38.1)
Encoder Height	Initial Height in(mm)	0.625(15.9)	0.625(15.9)
	Pierce Height in(mm)	1.000(25.4)	1.000(25.4)
	Cutting Height in(mm)	0.375(9.5)	0.375(9.5)
Height Readings	Arc Voltage (standoff)	158	168
Timers (seconds)	Pierce Delay	1.0	1.0
	Auto Height Delay	0.6	0.7
Setup Parameters Pressure @ Flow	Plasma Start Gas (N ₂)	20 psi	20 psi
		1.38 bar	1.38 bar
	Plasma Cut Gas (N ₂)	HIGH 0	HIGH 0
	Shield Pressure	34 psi	29 psi
		2.3 bar	2.0 bar
	Primary Shield Gas (Air)	5.8	5.8
	Shield Mix Gas (NONE)	NONE	NONE
Travel Speed	IPM	100	60
	MM/MIN	2540	1524
Kerf Width	Inches	0.177	0.189
	Millimeters	4.5	4.8
Amps	Amperes	600	600

Notes:

- Pilot Arc Set to HIGH.
- Cutting nozzle, P/N 0558006041.
- PG-1 Proportional Valve
- PG-2 MFC

PT-36 CUT DATA



PLASMARC™ Cutting Torch
ESP-1000 Plasma System
Production

Material: Stainless Steel

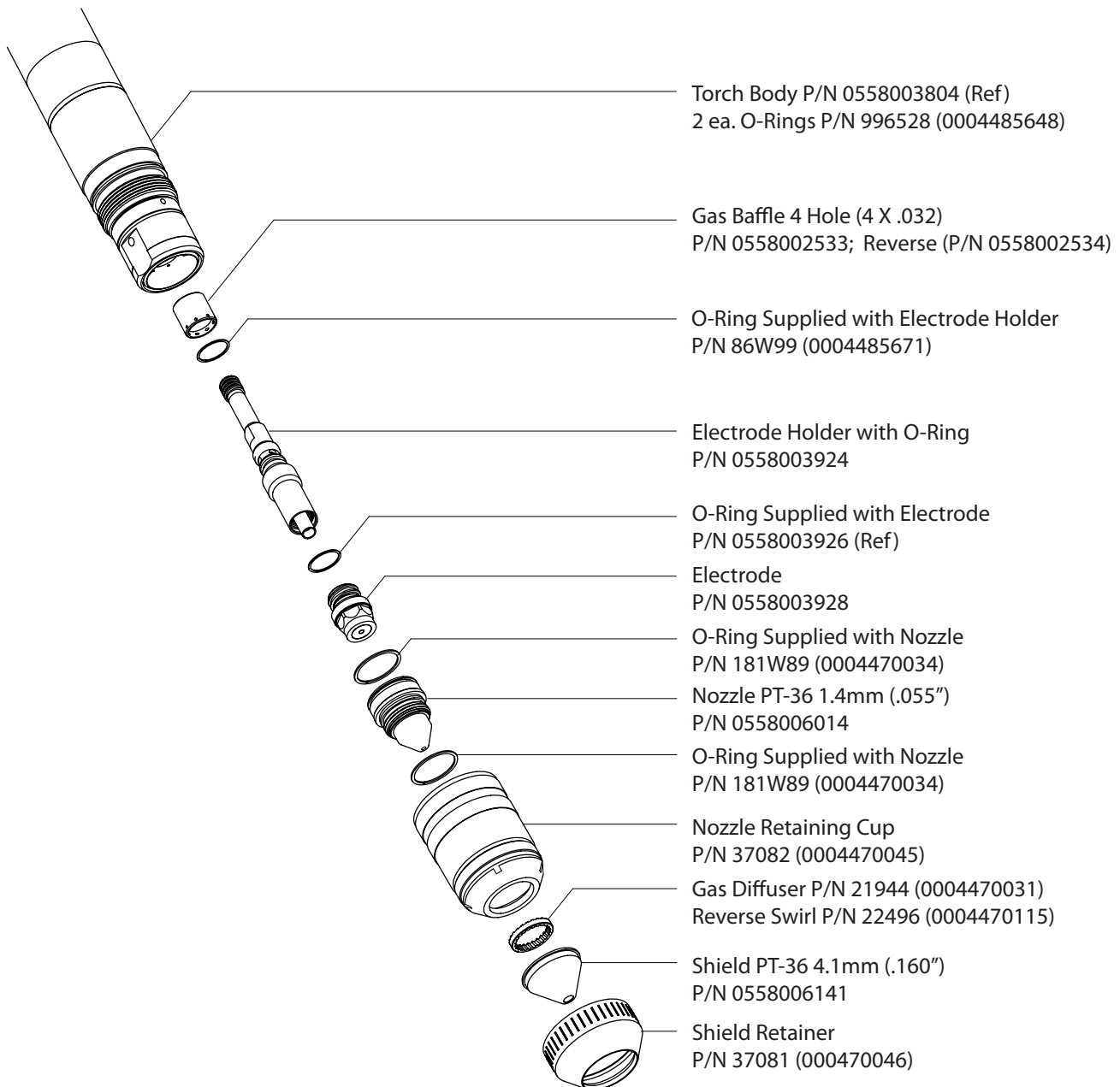
Amperes: 70

Start Gas: Nitrogen (N₂) @ 100 psi / 6.8 bar

Cut Gas: Nitrogen (N₂) @ 100 psi / 6.8 bar

Primary Shield Gas: Nitrogen (N₂) @ 100 psi / 6.8 bar

Shield Mix Gas : NONE



PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

70 Amperes Stainless Steel Production

Material Thickness	in(mm)	.093(2.4)	.104(2.6)	.125(3.2)	.160(4.1)	.188(4.8)
Encoder Height	Initial Height in(mm)	0.160(4)	0.160(4)	0.160(4)	0.160(4)	0.160(4)
	Pierce Height in(mm)	0.160(4)	0.160(4)	0.250(6)	0.250(6)	0.250(6)
	Cutting Height in(mm)	0.160(4)	0.160(4)	0.250(6)	0.250(6)	0.250(6)
Height Readings	Arc Voltage (standoff)	140	145	146	148	150
Timers (seconds)	Pierce Delay	0.2	0.2	0.2	0.2	0.2
	Auto Height Delay	0.8	0.8	0.8	0.8	0.8
Setup Parameters Pressure @ Flow	Plasma Start Gas (N ₂)	25 psi	25 psi	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas (N ₂)	60 psi @ LOW 0	60 psi @ LOW 0	60 psi @ LOW 0	60 psi @ LOW 0	60 psi @ LOW 0
		4.1 bar @ LOW 0	4.1 bar @ LOW 0	4.1 bar @ LOW 0	4.1 bar @ LOW 0	4.1 bar @ LOW 0
	Shield Pressure Mix (N ₂)	42 psi	42 psi	42 psi	42 psi	42 psi
		2.9 bar	2.9 bar	2.9 bar	2.9 bar	2.9 bar
	Primary Shield Gas (N ₂)	5.7	5.7	5.7	5.7	5.7
	Shield Mix Gas (NONE)	NONE	NONE	NONE	NONE	NONE
Travel Speed	IPM	190	160	130	100	70
	MM/MIN	4826	4064	3302	2540	1778
Kerf Width	Inches	.050	.050	.055	.060	.065
	Millimeters	1.3	1.3	1.4	1.5	1.7
Amps	Amperes	70	70	70	70	70

Notes:

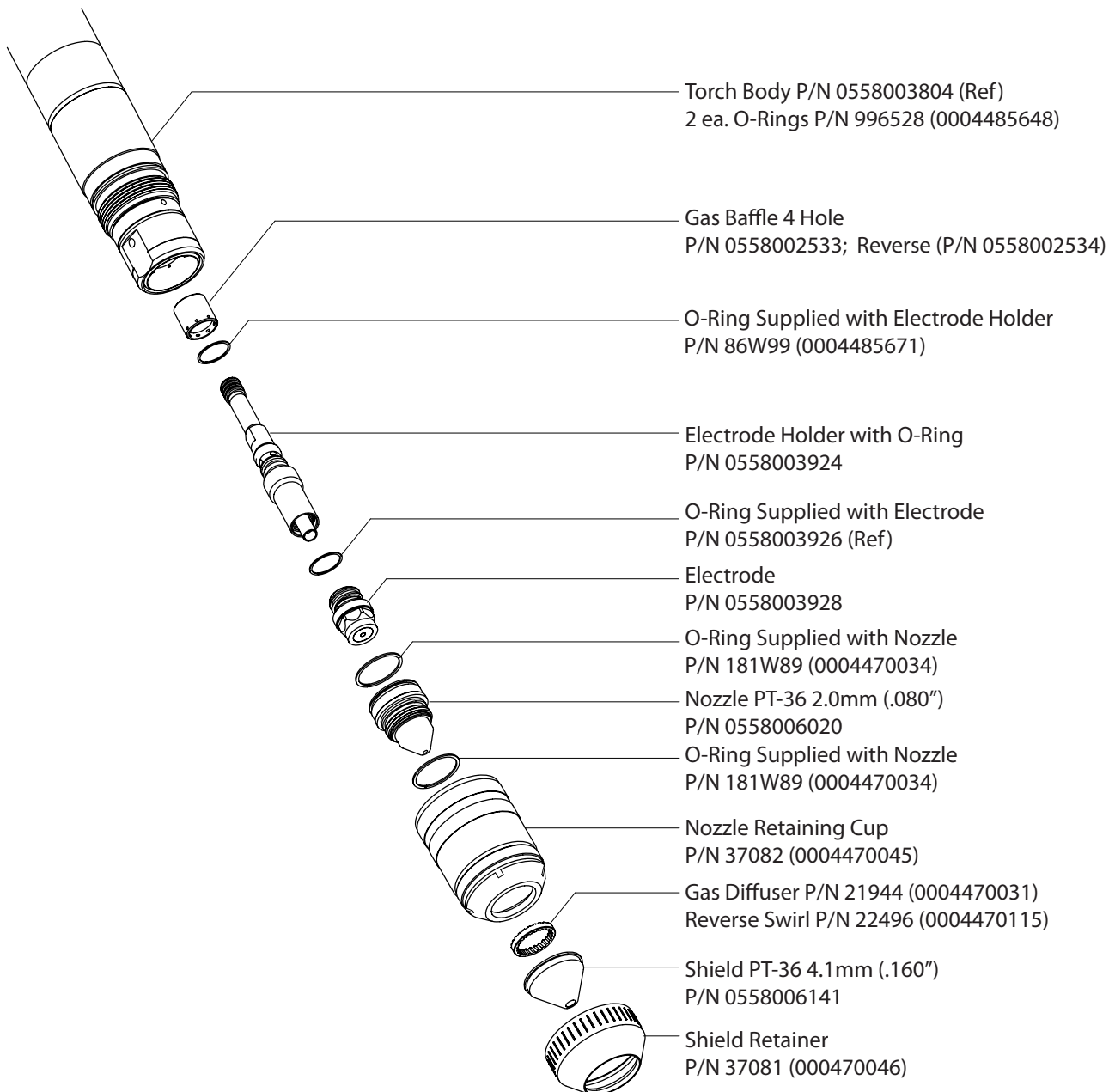
- Pilot Arc Set to LOW.
- Cutting nozzle, P/N 0558006014.
- PG-1 Proportional Valve
- PG-2 MFC

PT-36 CUT DATA



PLASMARC™ Cutting Torch
ESP-1000 Plasma System
Precision

Material:	Stainless Steel
Amperes:	130
Start Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Cut Gas:	Hydrogen 35% Argon 65% (H-35) @ 100 psi / 6.8 bar
Primary Shield Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Shield Mix Gas :	NONE



PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

130 Amperes Stainless Steel Precision

Material Thickness	in(mm)	.375(10)	.500(12.7)	.625(15.9)	.750(19)	1.000(25.4)
Encoder Height	Initial Height in(mm)	0.160(4)	0.200(5)	0.200(5)	0.200(5)	0.200(5)
	Pierce Height in(mm)	0.250(6)	0.250(6)	0.350(9)	0.350(9)	0.350(9)
	Cutting Height in(mm)	0.250(6)	0.250(6)	0.350(9)	0.350(9)	0.350(9)
Height Readings	Arc Voltage (standoff)	158	163	167	171	179
Timers (seconds)	Pierce Delay	0.6	0.6	0.8	0.8	1.1
	Auto Height Delay	0.7	0.7	0.9	0.9	1.3
Setup Parameters Pressure @ Flow	Plasma Start Gas (N ₂)	25 psi	25 psi	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas (H-35)	45 psi @ LOW 0	45 psi @ LOW 0	45 psi @ LOW 0	45 psi @ LOW 0	50 psi @ LOW 0
	Shield Pressure (N ₂)	9 psi	9.5 psi	9 psi	9 psi	7 psi
		0.6 bar	0.7 bar	0.6 bar	0.6 bar	0.5 bar
	Primary Shield Gas (N ₂)	3.4	3.8	3.4	3.4	2.6
	Shield Mix Gas (NONE)	NONE	NONE	NONE	NONE	NONE
Travel Speed	IPM	40	35	31	27	25
	MM/MIN	1016	889	787	686	635
Kerf Width	Inches	.124	.130	.142	.142	.180
	Millimeters	3.1	3.3	3.6	3.6	4.6
Amps	Amperes	130	130	130	130	180

Notes:

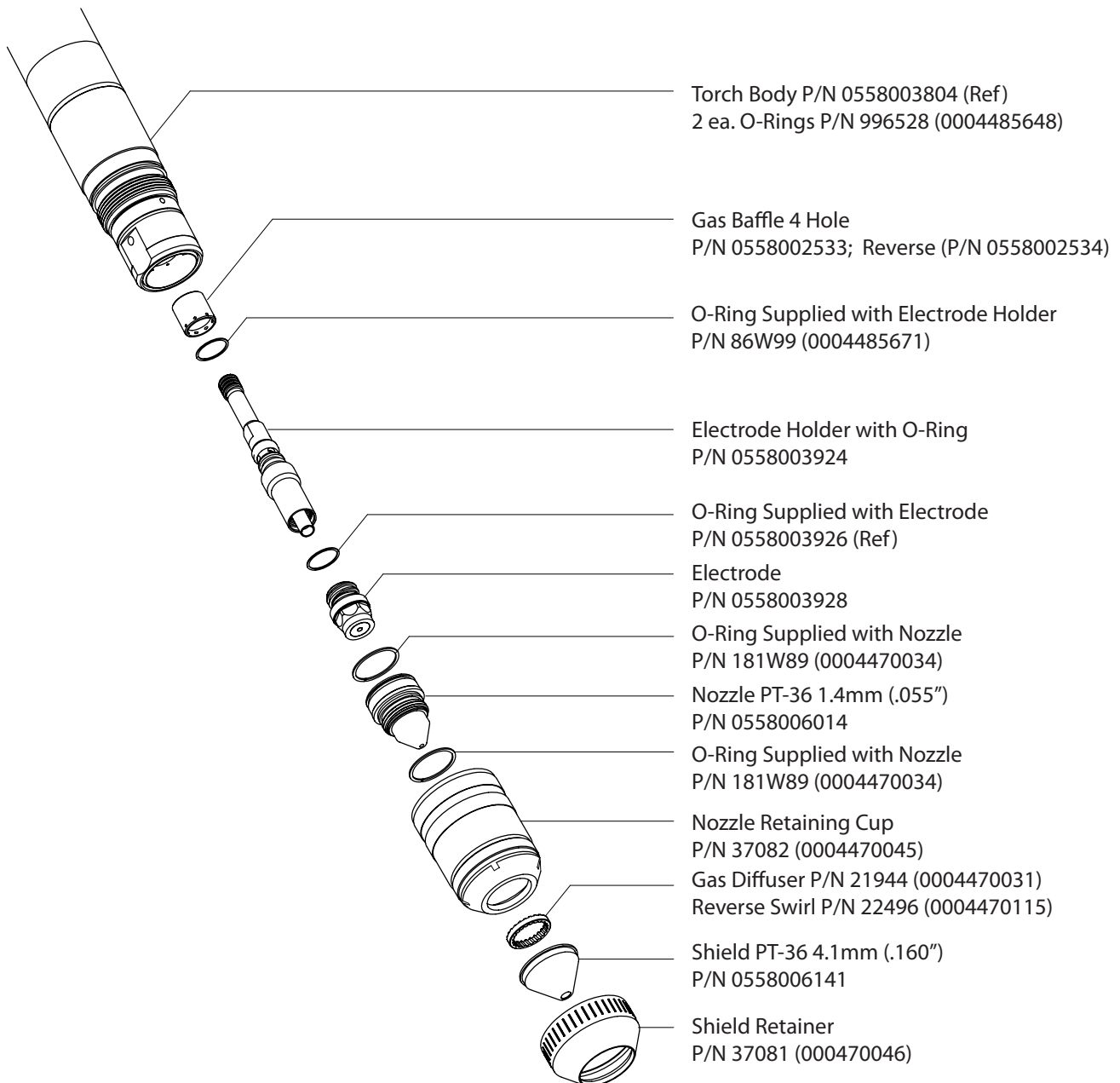
- Pilot Arc Set to LOW.
- Cutting nozzle, P/N 0558006020.
- PG-1 Proportional Valve
- PG-2 MFC

PT-36 CUT DATA



PLASMARC™ Cutting Torch
ESP-1000 Plasma System
Production

Material:	Stainless Steel
Amperes:	130
Start Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Cut Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Primary Shield Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Shield Mix Gas :	NONE



PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

130 Amperes Stainless Steel Production

Material Thickness	in(mm)	.250(6.3)	.312(8)	.375(10)
Encoder Height	Initial Height in(mm)	0.160(4)	0.160(4)	0.160(4)
	Pierce Height in(mm)	0.190(5)	0.160(4)	0.160(4)
	Cutting Height in(mm)	0.190(5)	0.160(4)	0.160(4)
Height Readings	Arc Voltage (standoff)	149	148	155
Timers (seconds)	Pierce Delay	0.6	0.6	0.6
	Auto Height Delay	0.8	0.8	0.8
Setup Parameters Pressure @ Flow	Plasma Start Gas (N₂)	22 psi	22 psi	22 psi
		1.5 bar	1.5 bar	1.5 bar
	Plasma Cut Gas (N₂)	LOW 2	LOW 2	LOW 2
	Shield Pressure (N₂)	31 psi	30 psi	30 psi
		2.1 bar	2.0 bar	2.0 bar
	Primary Shield Gas (N₂)	4.5	4.0	3.5
	Shield Mix Gas (NONE)	NONE	NONE	NONE
Travel Speed	IPM	85	65	45
	MM/MIN	2159	1651	1143
Kerf Width	Inches	.090	.077	.105
	Millimeters	2.3	1.8	2.7
Amps	Amperes	130	130	130

Notes:

- Pilot Arc Set to LOW.
- Cutting nozzle, P/N 0558006014.
- PG-1 Proportional Valve
- PG-2 MFC

PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

130 Amperes Stainless Steel Production

Material Thickness	in(mm)	.500(12.7)	.625(16)	.750(20)
Encoder Height	Initial Height in(mm)	0.160(4)	0.259(7)	0.259(7)
	Pierce Height in(mm)	0.250(6)	0.190(5)	0.190(5)
	Cutting Height in(mm)	0.250(6)	0.190(5)	0.190(5)
Height Readings	Arc Voltage (standoff)	160	170	180
Timers (seconds)	Pierce Delay	0.6	0.8	0.8
	Auto Height Delay	0.8	0.9	0.9
Setup Parameters Pressure @ Flow	Plasma Start Gas (N₂)	22 psi	22 psi	22 psi
		1.5 bar	1.5 bar	1.5 bar
	Plasma Cut Gas (N₂)	LOW 2	LOW 2	LOW 2
	Shield Pressure (N₂)	14 psi	27 psi	27 psi
		1.0 bar	1.9 bar	1.9 bar
	Primary Shield Gas (N₂)	2.7	2.5	2.5
	Shield Mix Gas (NONE)	NONE	NONE	NONE
Travel Speed	IPM	30	27	25
	MM/MIN	762	686	635
Kerf Width	Inches	.105	.090	.090
	Millimeters	2.7	2.3	2.3
Amps	Amperes	130	130	130

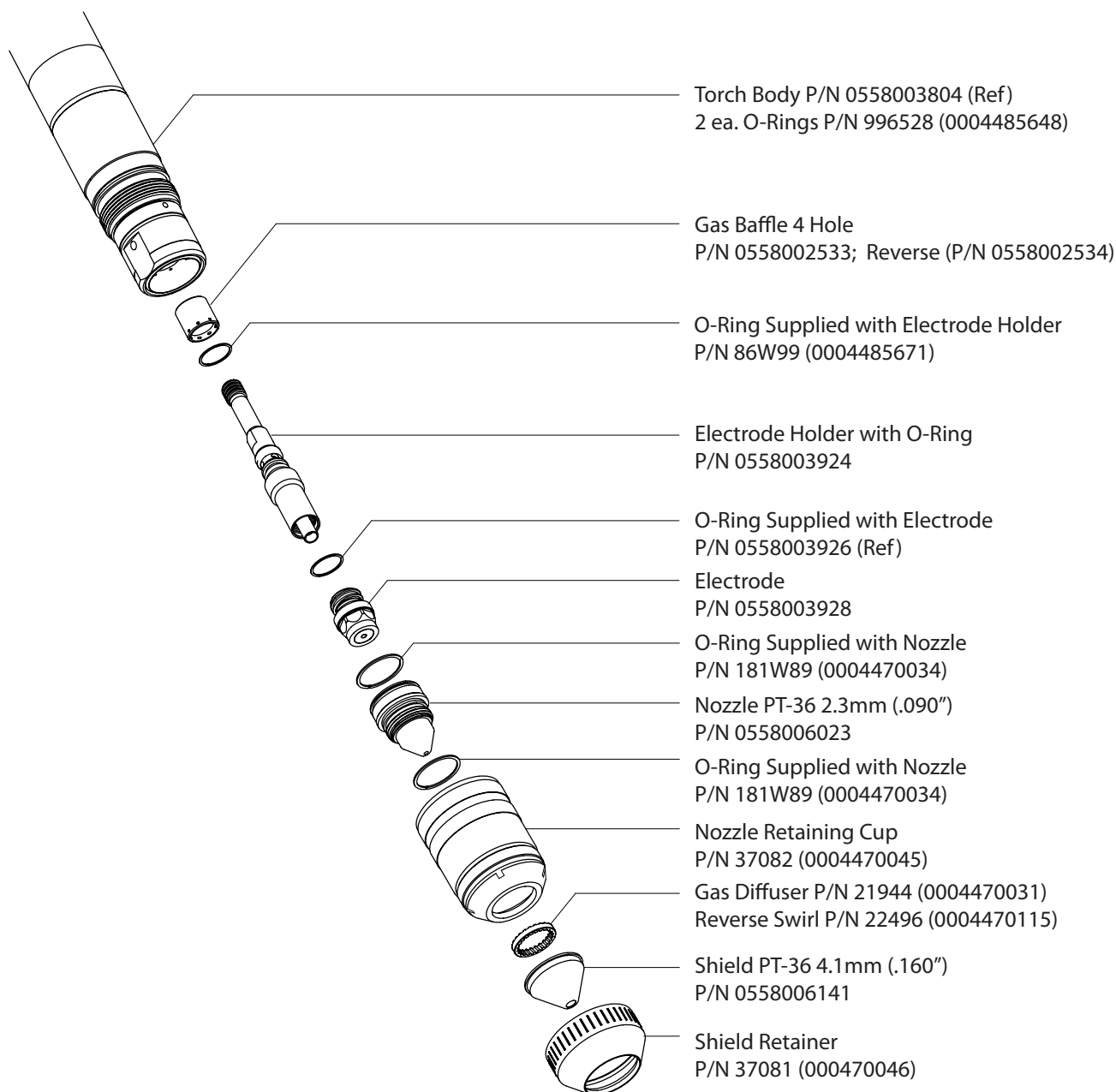
1. Notes:

- Pilot Arc Set to LOW.
- Cutting nozzle, P/N 0558006014.
- PG-1 Proportional Valve
- PG-2 MFC

PT-36 CUT DATA

ESAB **PT-36**
PLASMARC™ Cutting Torch
ESP-1000 Plasma System
Precision

Material:	Stainless Steel
Amperes:	200
Start Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Cut Gas:	Hydrogen 35% Argon 65% (H-35) @ 100 psi / 6.8 bar
Primary Shield Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Shield Mix Gas :	NONE



PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

200 Amperes Stainless Steel Precision

Material Thickness	in(mm)	.375(10)	.500(12.7)	.625(15.9)	.750(19)
Encoder Height	Initial Height in(mm)	0.200(5)	0.200(5)	0.200(5)	0.200(5)
	Pierce Height in(mm)	0.350(9)	0.350(9)	0.350(9)	0.350(9)
	Cutting Height in(mm)	0.350(9)	0.350(9)	0.350(9)	0.350(9)
Height Readings	Arc Voltage (standoff)	155	160	163	166
Timers (seconds)	Pierce Delay	0.6	0.6	0.6	0.6
	Auto Height Delay	0.7	0.7	0.7	0.7
Setup Parameters Pressure @ Flow	Plasma Start Gas (N ₂)	25 psi	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas (H-35)	54 psi @ LOW 5	54 psi @ LOW 5	54 psi @ LOW 5	54 psi @ LOW 5
		3.73 bar @ LOW 5	3.73 bar @ LOW 5	3.73 bar @ LOW 5	3.73 bar @ LOW 5
	Shield Pressure Mix (N ₂)	9 psi	9 psi	9 psi	9 psi
		0.6 bar	0.6 bar	0.6 bar	0.6 bar
	Primary Shield Gas (N ₂)	3.5	3.5	3.5	3.5
	Shield Mix Gas (NONE)	NONE	NONE	NONE	NONE
Travel Speed	IPM	65	55	45	40
	MM/MIN	1651	1397	1143	1016
Kerf Width	Inches	.157	.157	.157	.157
	Millimeters	4.0	4.0	4.0	4.0
Amps	Amperes	200	200	200	200

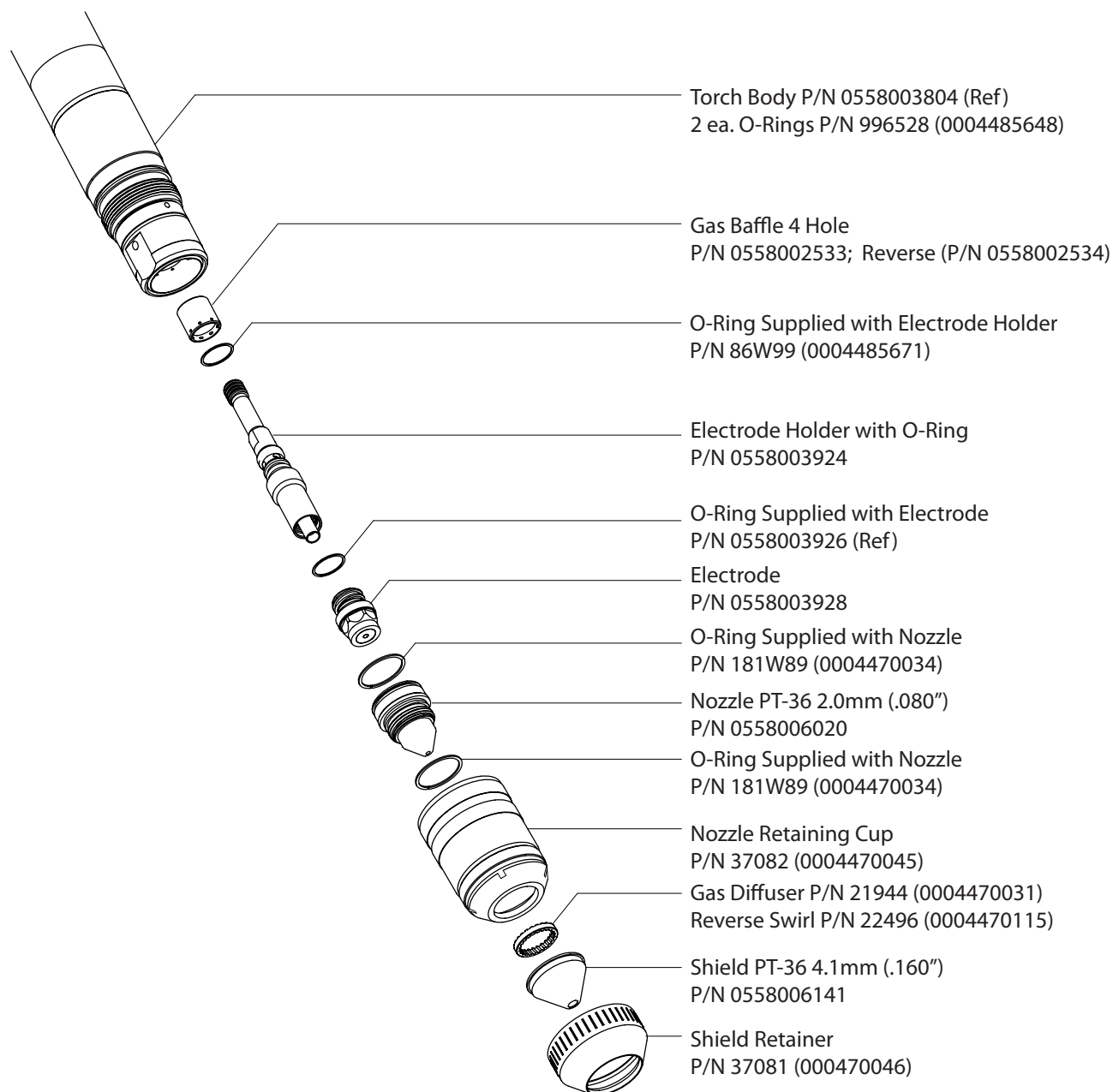
Notes:

- Pilot Arc Set to LOW.
- Cutting nozzle, P/N 0558006023.
- PG-1 Proportional Valve
- PG-2 MFC

PT-36 CUT DATA

ESAB[®] PT-36
PLASMARC™ Cutting Torch
ESP-1000 Plasma System
Production

Material:	Stainless Steel
Amperes:	220
Start Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Cut Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Primary Shield Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Shield Mix Gas :	Methane (CH ₄) @ 100 psi / 6.8 bar



PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

220 Amperes Stainless Steel Production

Material Thickness	in(mm)	.375(9.5)	.500(12.7)	.750(20)	1.00(25.4)
Encoder Height	Initial Height in(mm)	0.160(4)	0.160(4)	0.325(8)	0.325(8)
	Pierce Height in(mm)	0.250(6)	0.250(6)	0.450(11)	0.450(11)
	Cutting Height in(mm)	0.250(6)	0.250(6)	0.450(11)	0.450(11)
Height Readings	Arc Voltage (standoff)	145	145	159	175
Timers (seconds)	Pierce Delay	0.5	0.5	0.7	0.9
	Auto Height Delay	0.6	0.6	0.9	1.1
Setup Parameters Pressure @ Flow	Plasma Start Gas (N ₂)	25 psi	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas (N ₂)	LOW 4	LOW 4	LOW 4	LOW 4
	Shield Pressure Mix (N ₂ CH ₄)	29 psi	27 psi	22 psi	19 psi
		0.8 bar	0.8 bar	0.6 bar	0.5 bar
	Primary Shield Gas (N ₂)	4.3	3.6	3.6	3.2
	Shield Mix Gas (CH ₄)	1.3	1.1	1.1	1.1
Travel Speed	IPM	75	65	35	25
	MM/MIN	1905	1651	889	635
Kerf Width	Inches	.110	.110	.130	.110
	Millimeters	2.8	2.8	3.3	2.8
Amps	Amperes	220	220	220	220

Notes:

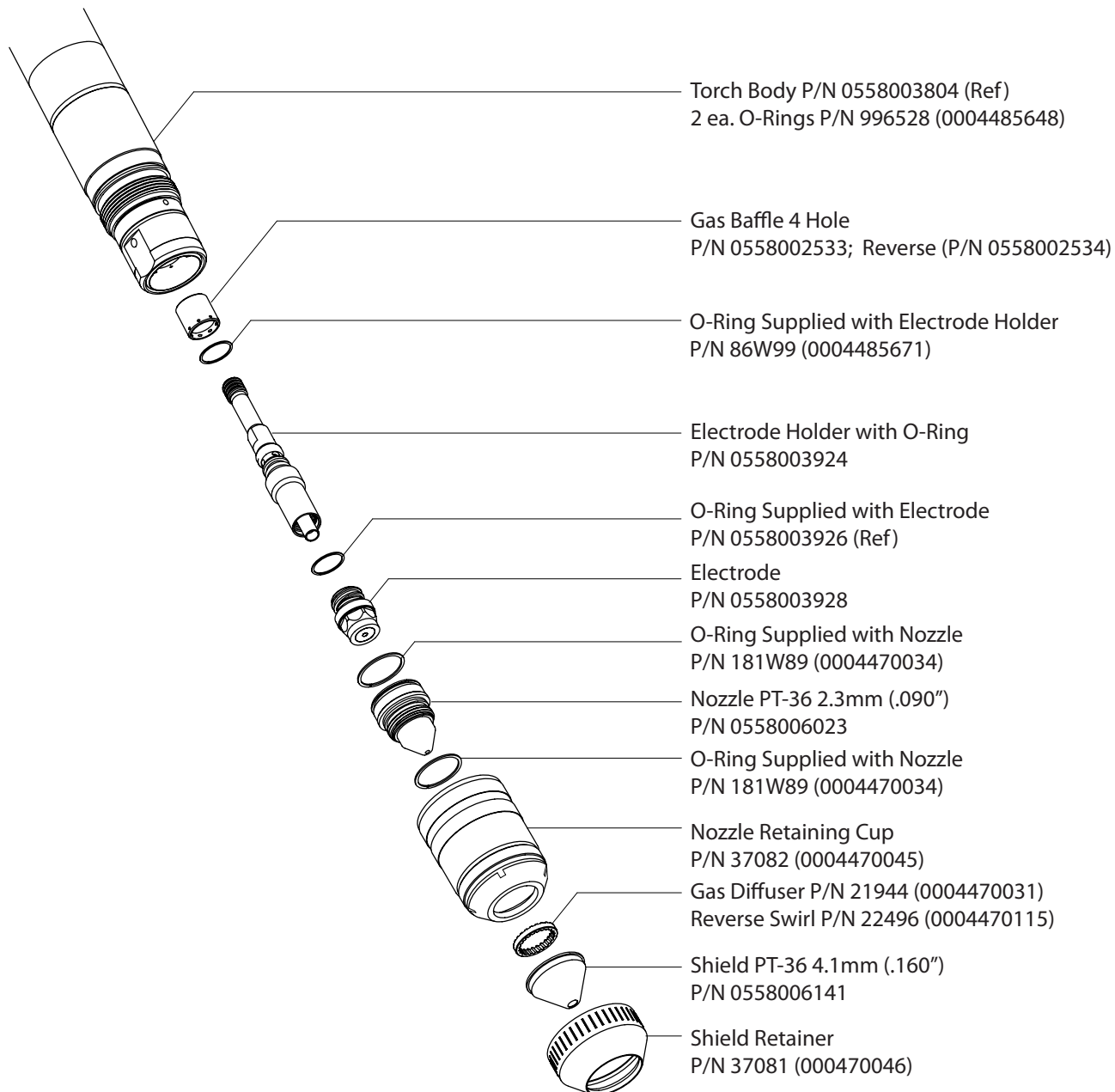
- Pilot Arc Set to LOW.
- Cutting nozzle, P/N 0558006020.
- PG-1 Proportional Valve
- PG-2 MFC

PT-36 CUT DATA



PLASMARC™ Cutting Torch
ESP-1000 Plasma System
Production

Material:	Stainless Steel
Amperes:	220
Start Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Cut Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Primary Shield Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Shield Mix Gas :	NONE



PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

220 Amperes Stainless Steel Production

Material Thickness	in(mm)	.250(6.3)	.375(9.5)	.500(12.7)	.750(20)	1.00(25.4)
Encoder Height	Initial Height in(mm)	0.160(4)	0.160(4)	0.160(4)	0.300(8)	.300(8)
	Pierce Height in(mm)	0.250(6)	0.250(6)	0.250(6)	.450(11)	.450(11)
	Cutting Height in(mm)	0.250(6)	0.250(6)	0.250(6)	.450(11)	.450(11)
Height Readings	Arc Voltage (standoff)	142	144	145	158	175
Timers (seconds)	Pierce Delay	0.5	0.5	0.5	0.7	0.9
	Auto Height Delay	0.6	0.6	0.6	0.9	1.1
Setup Parameters Pressure @ Flow	Plasma Start Gas (N ₂)	25 psi	25 psi	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas (N ₂)	LOW 4	LOW 4	LOW 4	LOW 4	LOW 4
	Shield Pressure (N ₂)	37 psi	35 psi	33 psi	33 psi	18 psi
		2.6 bar	2.4 bar	2.2 bar	2.2 bar	1.2 bar
	Primary Shield Gas (N ₂)	5.2	5.1	4.8	4.2	3.2
	Shield Mix Gas (NONE)	NONE	NONE	NONE	NONE	NONE
Travel Speed	IPM	110	100	80	45	35
	MM/MIN	2794	2540	2032	1143	889
Kerf Width	Inches	.100	.110	.110	.110	.130
	Millimeters	2.5	2.8	2.8	2.8	3.3
Amps	Amperes	220	220	220	220	220

Notes:

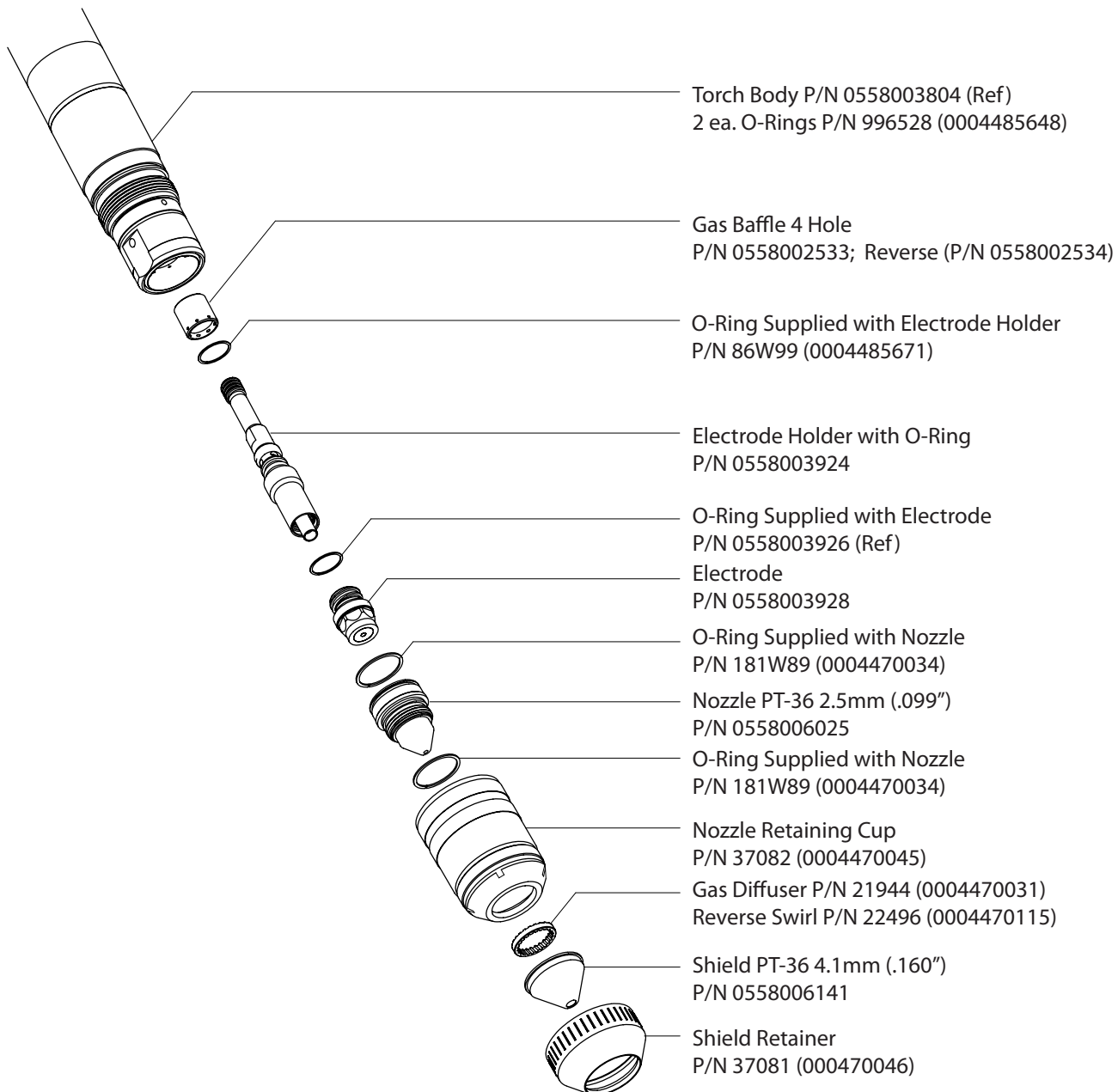
- Pilot Arc Set to LOW.
- Cutting nozzle, P/N 0558006023.
- PG-1 Proportional Valve
- PG-2 MFC

PT-36 CUT DATA



PLASMARC™ Cutting Torch
ESP-1000 Plasma System
Production

Material:	Stainless Steel
Amperes:	260
Start Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Cut Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Primary Shield Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Shield Mix Gas :	NONE



PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

260 Amperes Stainless Steel Production

Material Thickness	in(mm)	.250(6.3)	.375(9.5)	.500(12.7)	.750(20)	1.00(25.4)
Encoder Height	Initial Height in(mm)	0.160(4)	0.160(4)	0.160(4)	0.160(4)	.340(9)
	Pierce Height in(mm)	0.250(6)	0.250(6)	0.250(6)	0.250(6)	.502(13)
	Cutting Height in(mm)	0.250(6)	0.250(6)	0.250(6)	0.250(6)	.502(13)
Height Readings	Arc Voltage (standoff)	150	155	160	170	192
Timers (seconds)	Pierce Delay	0.5	0.5	0.5	0.5	0.7
	Auto Height Delay	0.6	0.6	0.6	0.6	0.9
Setup Parameters Pressure @ Flow	Plasma Start Gas (N ₂)	25 psi	25 psi	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas (N ₂)	52 psi @ LOW 5	52 psi @ LOW 5	52 psi @ LOW 5	52 psi @ LOW 5	52 psi @ LOW 5
		3.59 bar @ LOW 5	3.59 bar @ LOW 5	3.59 bar @ LOW 5	3.59 bar @ LOW 5	3.59 bar @ LOW 5
	Shield Pressure (N ₂)	14 psi	14 psi	14 psi	14 psi	21 psi
		1.0 bar	1.0 bar	1.0 bar	1.0 bar	1.4 bar
	Primary Shield Gas (N ₂)	2.6	2.6	2.6	2.6	3.6
	Shield Mix Gas (NONE)	NONE	NONE	NONE	NONE	NONE
Travel Speed	IPM	90	75	65	40	25
	MM/MIN	2286	1905	1651	1016	635
Kerf Width	Inches	.110	.100	.100	.130	.180
	Millimeters	2.8	2.5	2.5	3.3	4.6
Amps	Amperes	260	260	260	260	260

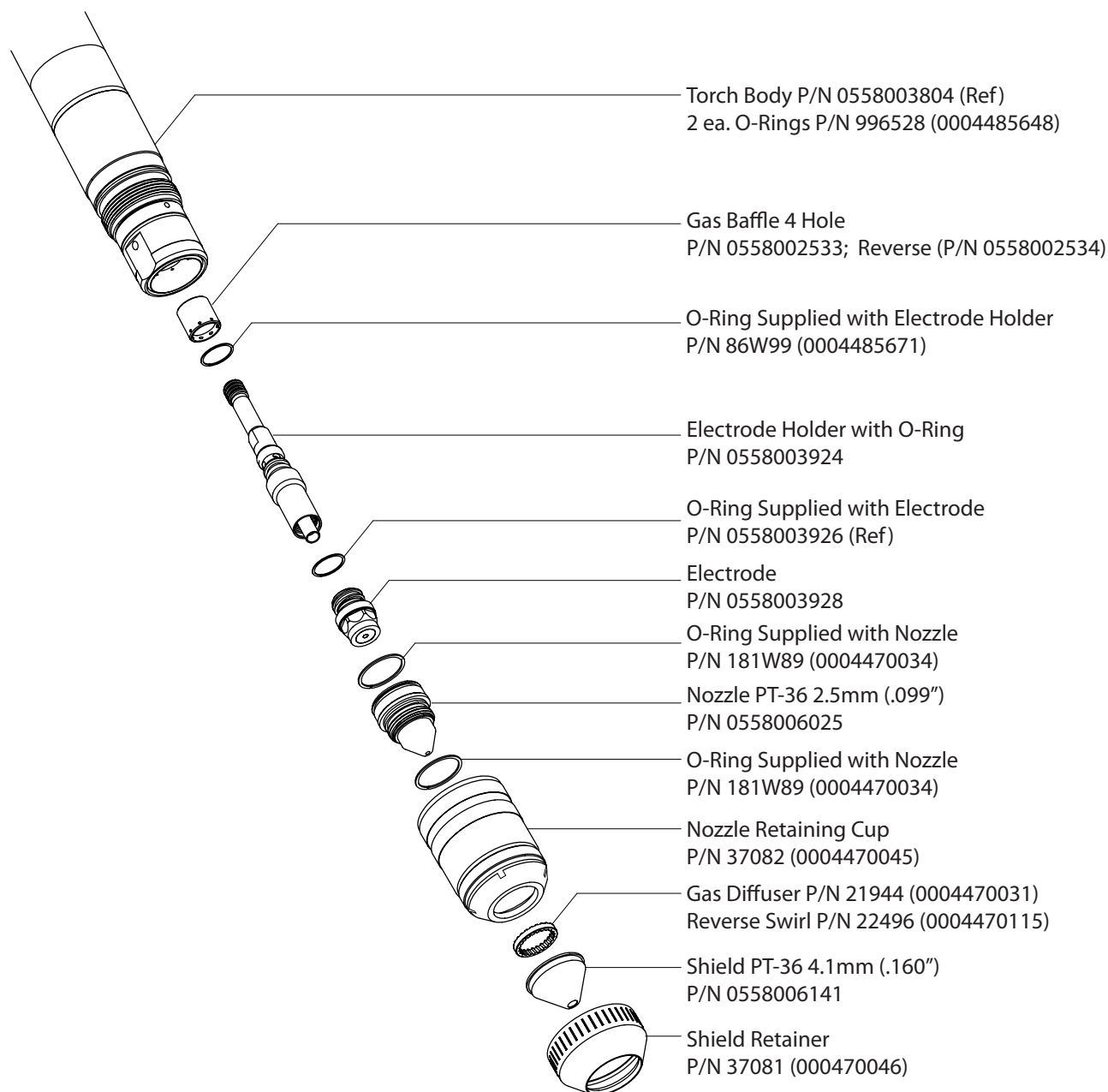
Notes:

- Pilot Arc Set to LOW.
- Cutting nozzle, P/N 0558006025.
- PG-1 Proportional Valve
- PG-2 MFC

PT-36 CUT DATA

ESAB[®] PT-36
PLASMARC™ Cutting Torch
ESP-1000 Plasma System
Production

Material:	Stainless Steel
Amperes:	260
Start Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Cut Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Primary Shield Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Shield Mix Gas :	Methane (CH ₄) @ 100 psi / 6.8 bar



PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

260 Amperes Stainless Steel Production

Material Thickness	in(mm)	.250(6.3)	.375(9.5)	.500(12.7)	.750(20)	1.00(25.4)
Encoder Height	Initial Height in(mm)	0.160(4)	0.160(4)	0.160(4)	0.160(4)	.340(8.6)
	Pierce Height in(mm)	0.250(6)	0.250(6)	0.250(6)	0.250(6)	.502(12.8)
	Cutting Height in(mm)	0.250(6)	0.250(6)	0.250(6)	0.250(6)	.502(12.8)
Height Readings	Arc Voltage (standoff)	150	155	165	170	192
Timers (seconds)	Pierce Delay	0.5	0.5	0.5	0.5	0.7
	Auto Height Delay	0.6	0.6	0.6	0.6	0.9
Setup Parameters Pressure @ Flow	Plasma Start Gas (N ₂)	25 psi	25 psi	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas (N ₂)	52 psi @ LOW 5	52 psi @ LOW 5	52 psi @ LOW 5	52 psi @ LOW 5	52 psi @ LOW 5
		3.59 bar @ LOW 5	3.59 bar @ LOW 5	3.59 bar @ LOW 5	3.59 bar @ LOW 5	3.59 bar @ LOW 5
	Shield Pressure Mix (N ₂ CH ₄)	13 psi	13 psi	13 psi	13 psi	5 psi
		0.9 bar	0.9 bar	0.9 bar	0.9 bar	0.3 bar
	Primary Shield Gas (N ₂)	1.7	2.5	1.7	1.7	1.0
	Shield Mix Gas (CH ₄)	2.0	2.6	2.2	2.0	1.0
Travel Speed	IPM	90	75	65	40	25
	MM/MIN	2286	1905	1651	1016	635
Kerf Width	Inches	.110	.100	.125	.145	.180
	Millimeters	2.8	2.5	3.2	3.7	4.6
Amps	Amperes	260	260	260	260	260

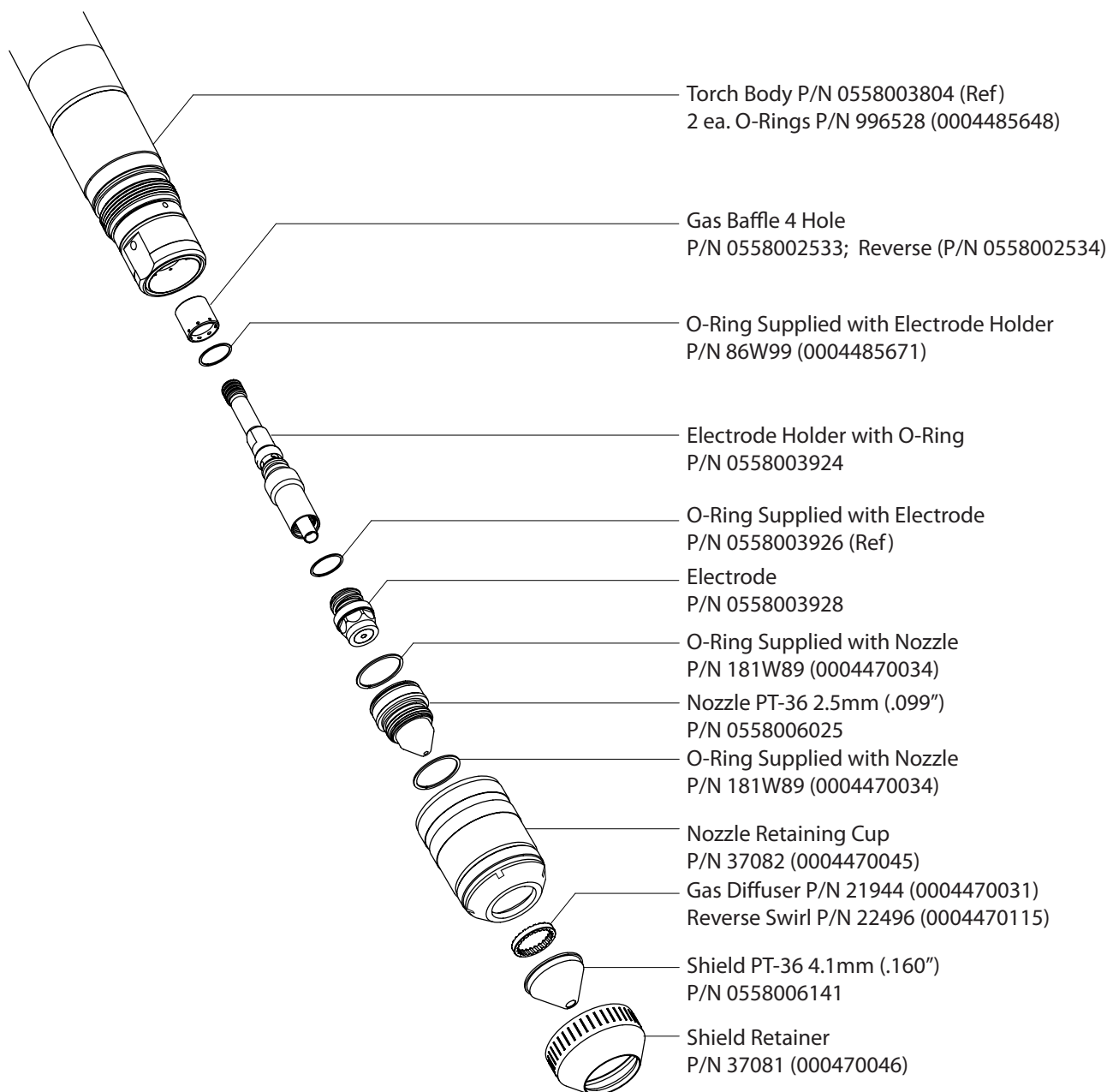
Notes:

- Pilot Arc Set to LOW.
- Cutting nozzle, P/N 0558006025.
- PG-1 Proportional Valve
- PG-2 MFC

PT-36 CUT DATA

ESAB **PT-36**
PLASMARC™ Cutting Torch
ESP-1000 Plasma System
Precision

Material:	Stainless Steel
Amperes:	260
Start Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Cut Gas:	Hydrogen 35% Argon 65% (H-35) @ 100 psi / 6.8 bar
Primary Shield Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Shield Mix Gas :	NONE



PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

260 Amperes Stainless Steel Precision

Material Thickness	in(mm)	.375(10)	.500(12.7)	.625(16)
Encoder Height	Initial Height in(mm)	0.160(4)	0.160(4)	0.160(4)
	Pierce Height in(mm)	0.250(6)	0.250(6)	0.250(6)
	Cutting Height in(mm)	0.250(6)	0.250(6)	0.250(6)
Height Readings	Arc Voltage (standoff)	151	157	160
Timers (seconds)	Pierce Delay	0.5	0.5	0.6
	Auto Height Delay	0.6	0.6	0.7
Setup Parameters Pressure @ Flow	Plasma Start Gas (N₂)	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas (H-35)	65 psi @ LOW 0	65 psi @ LOW 0	65 psi @ LOW 0
	Shield Pressure (N₂)	19 psi	19 psi	19 psi
		1.3 bar	1.3 bar	1.3 bar
	Primary Shield Gas (N₂)	3.5	3.5	3.5
	Shield Mix Gas (NONE)	NONE	NONE	NONE
Travel Speed	IPM	75	65	55
	MM/MIN	1905	1651	1397
Kerf Width	Inches	.167	.150	.157
	Millimeters	4.2	3.8	4.0
Amps	Amperes	260	260	260

Notes:

- Pilot Arc Set to LOW.
- Cutting nozzle, P/N 0558006025.
- PG-1 Proportional Valve
- PG-2 MFC

PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

260 Amperes Stainless Steel Precision

Material Thickness	in(mm)	.750(20)	1.000(25.4)	1.250(31.8)
Encoder Height	Initial Height in(mm)	0.160(4)	0.200(5)	0.200(5)
	Pierce Height in(mm)	0.250(6)	0.450(11)	0.450(11)
	Cutting Height in(mm)	0.250(6)	0.450(11)	0.450(11)
Height Readings	Arc Voltage (standoff)	166	180	185
Timers (seconds)	Pierce Delay	0.6	1.2	1.5
	Auto Height Delay	0.7	1.4	1.7
Setup Parameters Pressure @ Flow	Plasma Start Gas (N₂)	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas (H-35)	65 psi @ LOW 0	65 psi @ LOW 0	65 psi @ LOW 0
	Shield Pressure (N₂)	19 psi	19 psi	19 psi
		1.3 bar	1.3 bar	1.3 bar
	Primary Shield Gas (N₂)	3.5	3.5	3.5
	Shield Mix Gas (NONE)	NONE	NONE	NONE
Travel Speed	IPM	45	30	25
	MM/MIN	1143	762	635
Kerf Width	Inches	.157	.186	.186
	Millimeters	4.0	4.7	4.7
Amps	Amperes	260	260	260

Notes:

- Pilot Arc Set to LOW.
- Cutting nozzle, P/N 0558006025.
- PG-1 Proportional Valve
- PG-2 MFC

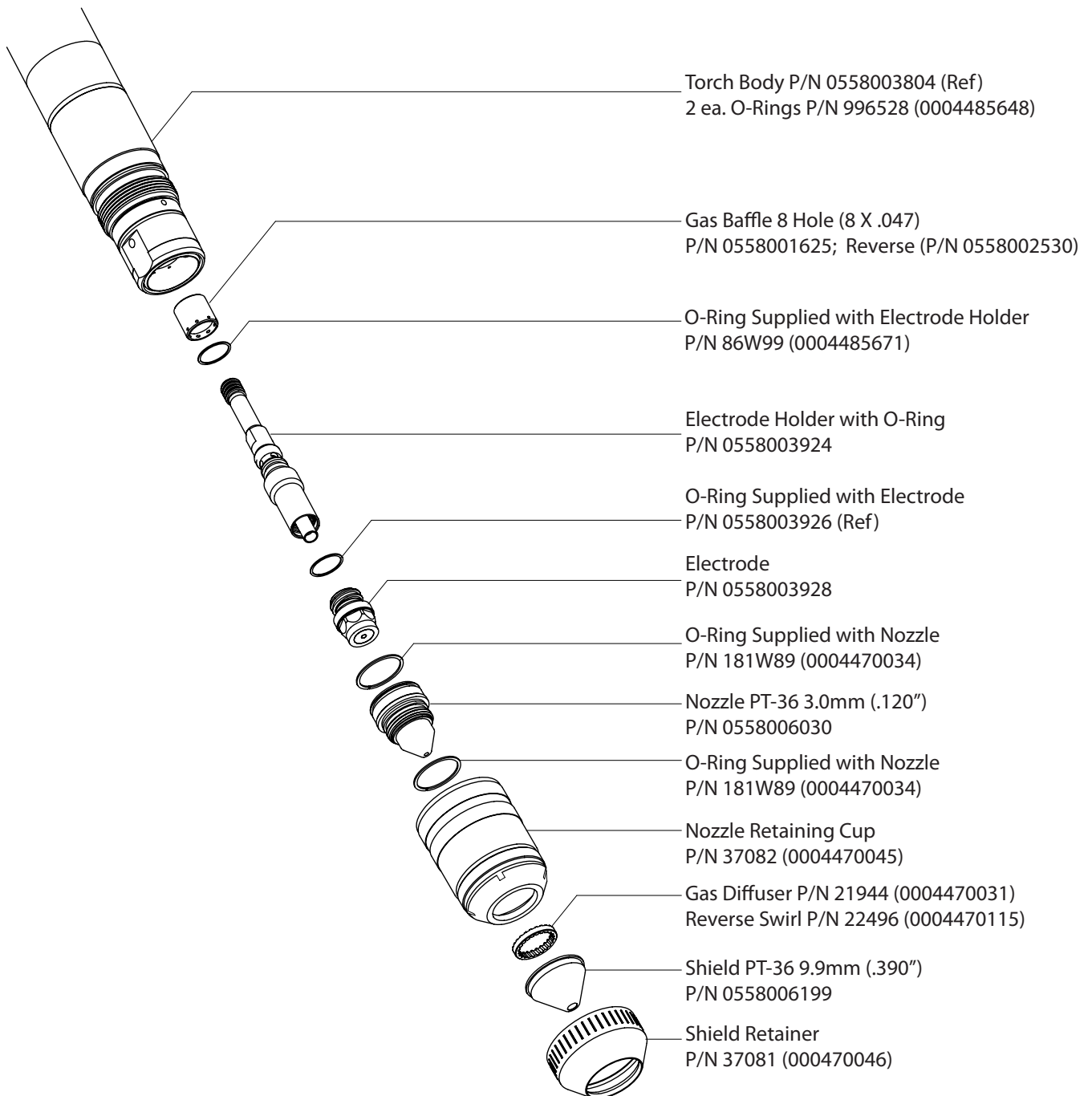
PT-36 CUT DATA



PT-36

PLASMARC™ Cutting Torch
ESP-1000 Plasma System
Production

Material:	Stainless Steel
Amperes:	360
Start Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Cut Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Primary Shield Gas:	Air @ 100 psi / 6.8 bar
Shield Mix Gas :	NONE



PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

360 Amperes Stainless Steel Production

Material Thickness	in(mm)	0.250(6.3)	0.375(9.5)	0.500(12.7)
Encoder Height	Initial Height in(mm)	0.375(9.5)	0.375(9.5)	0.500(12.7)
	Pierce Height in(mm)	0.625(15.9)	0.625(15.9)	0.625(15.9)
	Cutting Height in(mm)	0.400(10.2)	0.400(10.2)	0.400(10.2)
Height Readings	Arc Voltage (standoff)	157	163	170
Timers (seconds)	Pierce Delay	0	0.1	0.4
	Auto Height Delay	0.5	0.5	0.5
Setup Parameters Pressure @ Flow	Plasma Start Gas (N₂)	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas (N₂)	LOW 5	LOW 5	LOW 5
	Shield Pressure	39 psi	39 psi	39 psi
		2.7 bar	2.7 bar	2.7 bar
	Primary Shield Gas (Air)	5.4	5.4	5.4
	Shield Mix Gas (NONE)	NONE	NONE	NONE
Travel Speed	IPM	230	150	125
	MM/MIN	5842	3810	3175
Kerf Width	Inches	.100	.105	.125
	Millimeters	2.5	2.7	3.2
Amps	Amperes	360	360	360

Notes:

- Pilot Arc Set to HIGH.
- Cutting nozzle, P/N 0558006030.
- PG-1 Proportional Valve
- PG-2 MFC

PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

360 Amperes Stainless Steel Production

Material Thickness	in(mm)	0.625(15.9)	0.750(20)	1.000(25.4)	1.250(31.8)
Encoder Height	Initial Height in(mm)	0.625(15.9)	0.625(15.9)	0.750(19.1)	0.750(19.1)
	Pierce Height in(mm)	0.700(17.8)	0.800(20.3)	0.800(20.3)	0.800(20.3)
	Cutting Height in(mm)	0.400(10.2)	0.500(12.7)	0.500(12.7)	0.600(15.2)
Height Readings	Arc Voltage (standoff)	175	180	195	205
Timers (seconds)	Pierce Delay	0.4	0.4	1.0	1.0
	Auto Height Delay	0.6	0.6	0.7	0.8
Setup Parameters Pressure @ Flow	Plasma Start Gas (N₂)	25 psi	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas (N₂)	LOW 5	LOW 5	LOW 5	LOW 5
	Shield Pressure	39 psi	39 psi	39 psi	39 psi
		2.7 bar	2.7 bar	2.7 bar	2.7 bar
	Primary Shield Gas (Air)	7.0	7.0	7.0	7.0
	Shield Mix Gas (NONE)	NONE	NONE	NONE	NONE
Travel Speed	IPM	95	75	45	25
	MM/MIN	2413	1905	1143	635
Kerf Width	Inches	.125	.135	.145	.175
	Millimeters	3.2	3.4	3.7	4.4
Amps	Amperes	360	360	360	360

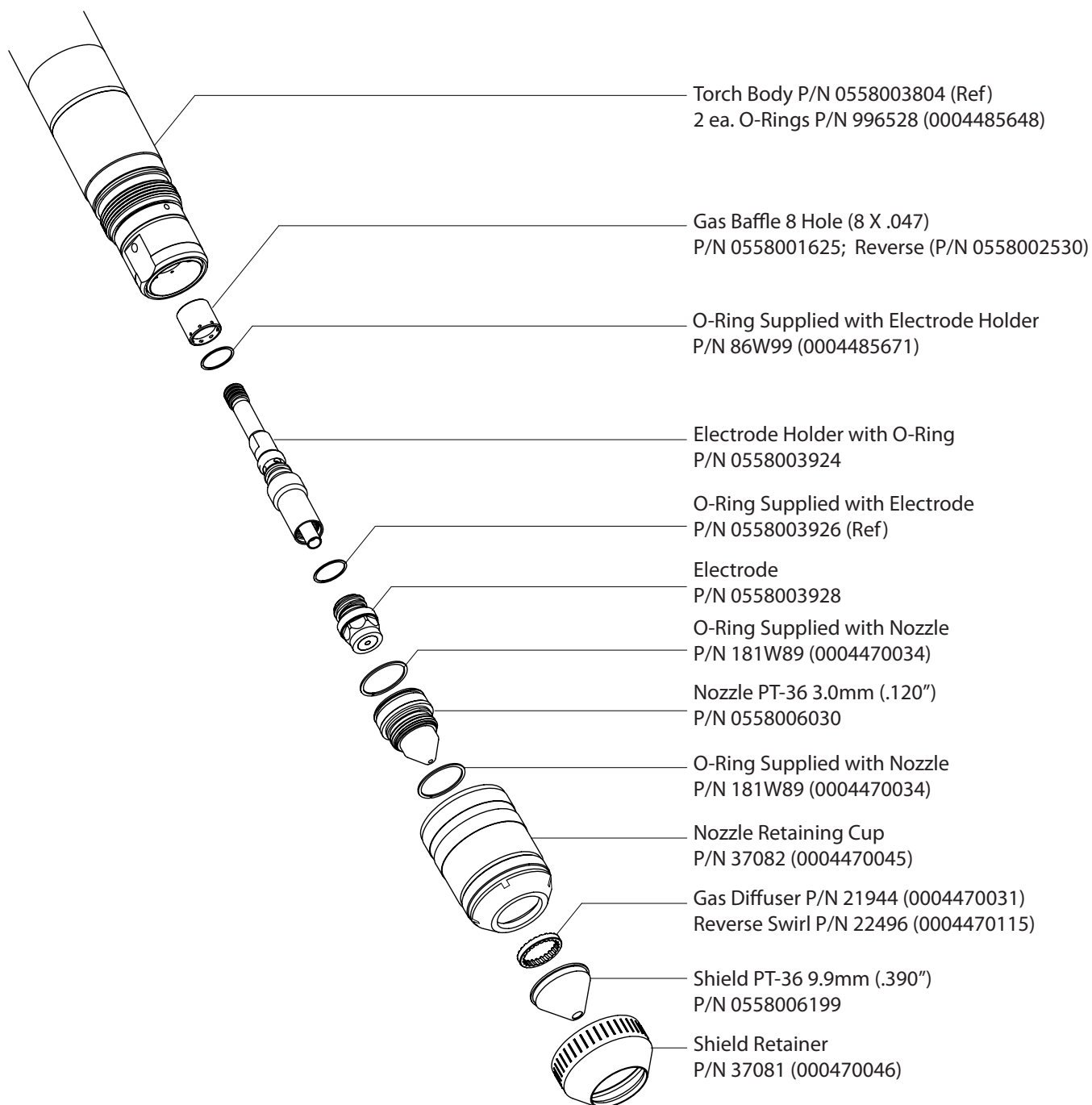
1. Notes:

- Pilot Arc Set to HIGH.
- Cutting nozzle, P/N 0558006030.
- PG-1 Proportional Valve
- PG-2 MFC

PT-36 CUT DATA

ESAB [®] **PT-36**
PLASMARC™ Cutting Torch
ESP-1000 Plasma System
Production

Material:	Stainless Steel
Amperes:	360
Start Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Cut Gas:	Hydrogen 35% Argon 65% (H-35) @ 100 psi / 6.8 bar
Primary Shield Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Shield Mix Gas :	NONE



PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

360 Amperes Stainless Steel Production

Material Thickness	in(mm)	0.500(12.7)	0.750(20)	1.000(25.4)	1.250(31.8)	1.500(38.1)
Encoder Height	Initial Height in(mm)	0.500(12.7)	0.625(15.9)	0.750(19.1)	0.750(19.1)	0.750(19.1)
	Pierce Height in(mm)	0.700(17.8)	0.700(17.8)	1.000(25.4)	1.000(25.4)	1.000(25.4)
	Cutting Height in(mm)	0.400(10.2)	0.400(10.2)	0.400(10.2)	0.500(12.7)	0.625(15.9)
Height Readings	Arc Voltage (standoff)	177	183	190	200	225
Timers (seconds)	Pierce Delay	0.6	0.8	1.0	1.2	1.2
	Auto Height Delay	0.5	0.5	0.5	0.7	0.8
Setup Parameters Pressure @ Flow	Plasma Start Gas (N₂)	25 psi	25 psi	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas (H-35)	HIGH 0	HIGH 0	HIGH 0	HIGH 0	HIGH 0
	Shield Pressure	39 psi	39 psi	39 psi	39 psi	39 psi
		2.7 bar	2.7 bar	2.7 bar	2.7 bar	2.7 bar
	Primary Shield Gas (N₂)	5.8	5.8	5.8	5.8	5.8
	Shield Mix Gas (NONE)	NONE	NONE	NONE	NONE	NONE
Travel Speed	IPM	80	45	30	20	15
	MM/MIN	2032	1143	762	508	381
Kerf Width	Inches	.175	.225	.250	.300	.345
	Millimeters	4.4	5.7	6.4	7.6	8.8
Amps	Amperes	360	360	360	360	360

Notes:

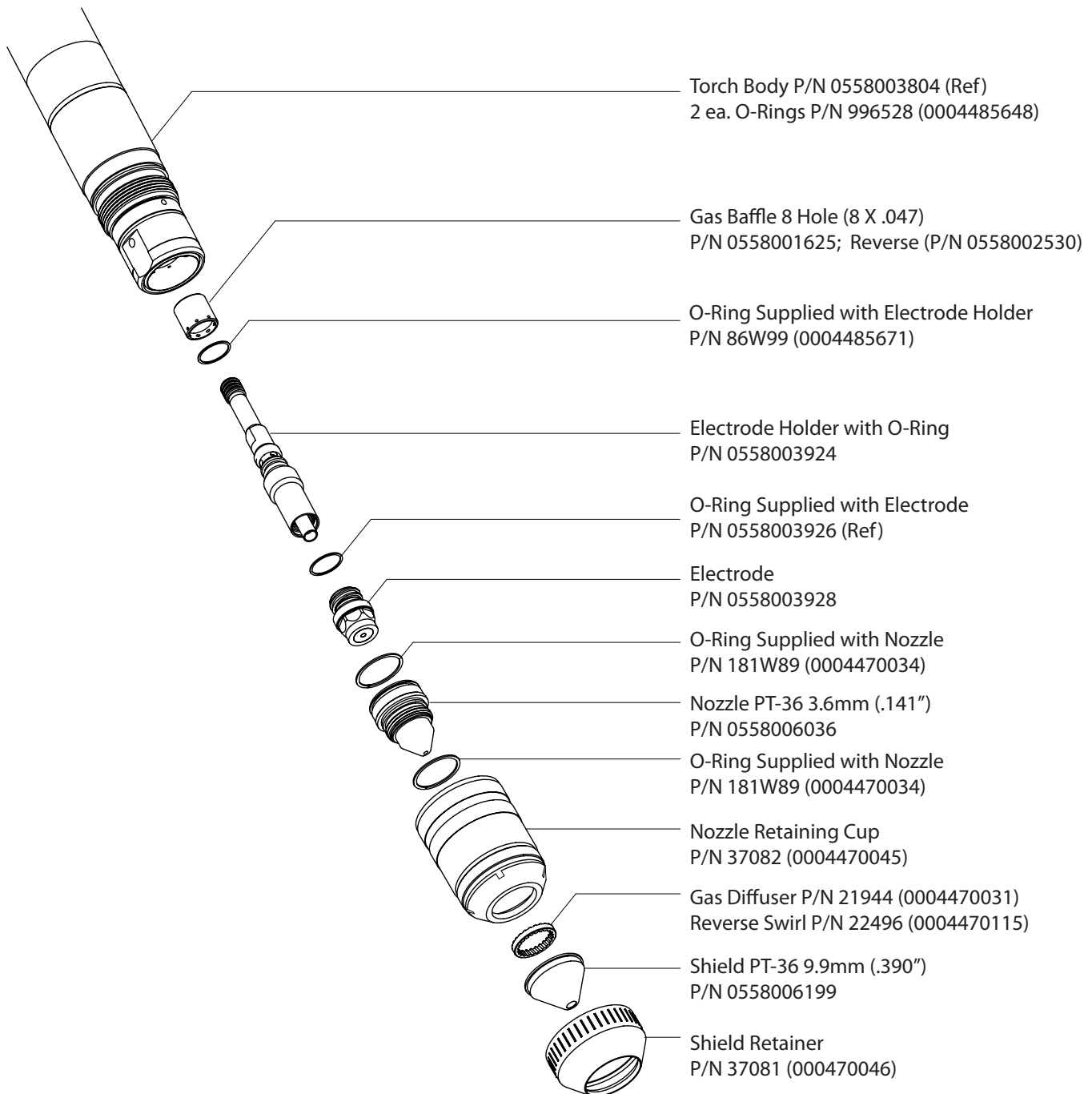
- Pilot Arc Set to HIGH.
- Cutting nozzle, P/N 0558006030.
- PG-1 Proportional Valve
- PG-2 MFC

PT-36 CUT DATA



PLASMARC™ Cutting Torch
ESP-1000 Plasma System
Production

Material:	Stainless Steel
Amperes:	450
Start Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Cut Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Primary Shield Gas:	Air @ 100 psi / 6.8 bar
Shield Mix Gas :	NONE



PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

450 Amperes Stainless Steel Production

Material Thickness	in(mm)	0.750(20)	1.000(25.4)	1.250(31.8)	1.500(38.1)
Encoder Height	Initial Height in(mm)	0.625(15.9)	0.625(15.9)	0.625(15.9)	0.625(15.9)
	Pierce Height in(mm)	0.750(20)	0.750(20)	0.800(20.3)	0.800(20.3)
	Cutting Height in(mm)	0.375(9.5)	0.375(9.5)	0.375(9.5)	0.500(12.7)
Height Readings	Arc Voltage (standoff)	156	150	165	175
Timers (seconds)	Pierce Delay	0.3	0.5	0.5	0.7
	Auto Height Delay	0.5	0.6	0.7	0.8
Setup Parameters Pressure @ Flow	Plasma Start Gas (N ₂)	25 psi	25 psi	25 psi	25 psi
		1.7 bar	1.7 bar	1.7 bar	1.7 bar
	Plasma Cut Gas (N ₂)	LOW 7	LOW 7	LOW 7	LOW 7
	Shield Pressure	31 psi	31 psi	31 psi	31 psi
		2.1 bar	2.1 bar	2.1 bar	2.1 bar
	Primary Shield Gas (Air)	5.8	5.8	5.8	5.8
	Shield Mix Gas (NONE)	NONE	NONE	NONE	NONE
Travel Speed	IPM	100	70	52	33
	MM/MIN	2540	1778	1321	383
Kerf Width	Inches	.175	.180	.185	.196
	Millimeters	4.4	4.6	4.7	5.0
Amps	Amperes	450	450	450	450

Notes:

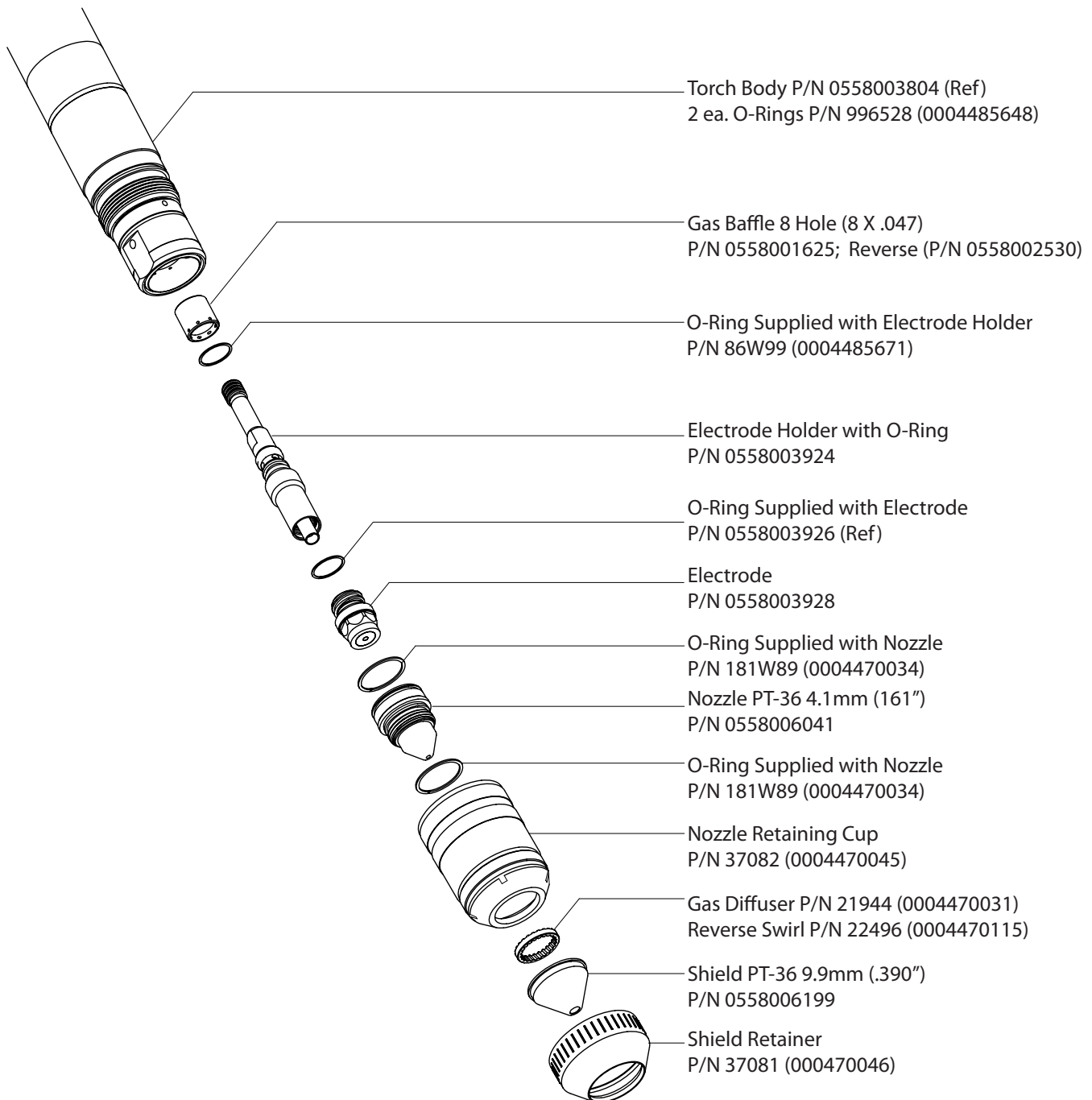
- Pilot Arc Set to HIGH.
- Cutting nozzle, P/N 0558006036.
- Remove O2 hose, install N2 / O2 adaptor, connect AIR supply to adaptor.
- PG-1 Proportional Valve
- PG-2 MFC

PT-36 CUT DATA



PLASMARC™ Cutting Torch
ESP-1000 Plasma System
Production

Material:	Stainless Steel
Amperes:	600
Start Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Cut Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Primary Shield Gas:	Air @ 100 psi / 6.8 bar
Shield Mix Gas :	NONE



PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

600 Amperes Stainless Steel Production

Material Thickness	in(mm)	1.000(25.4)	1.500(38.1)
Encoder Height	Initial Height in(mm)	0.625(15.9)	0.625(15.9)
	Pierce Height in(mm)	0.750(20)	0.800(20.3)
	Cutting Height in(mm)	0.500(12.7)	0.500(12.7)
Height Readings	Arc Voltage (standoff)	160	163
Timers (seconds)	Pierce Delay	0.8	1.1
	Auto Height Delay	0.6	0.7
Setup Parameters Pressure @ Flow	Plasma Start Gas (N ₂)	27 psi	27 psi
		1.9 bar	1.9 bar
	Plasma Cut Gas (N ₂)	HIGH 0	HIGH 0
	Shield Pressure	35 psi	35 psi
		2.4 bar	2.4 bar
	Primary Shield Gas (Air)	5.8	5.8
	Shield Mix Gas (NONE)	NONE	NONE
Travel Speed	IPM	70	40
	MM/MIN	1778	1016
Kerf Width	Inches	.175	.183
	Millimeters	4.4	4.6
Amps	Amperes	600	600

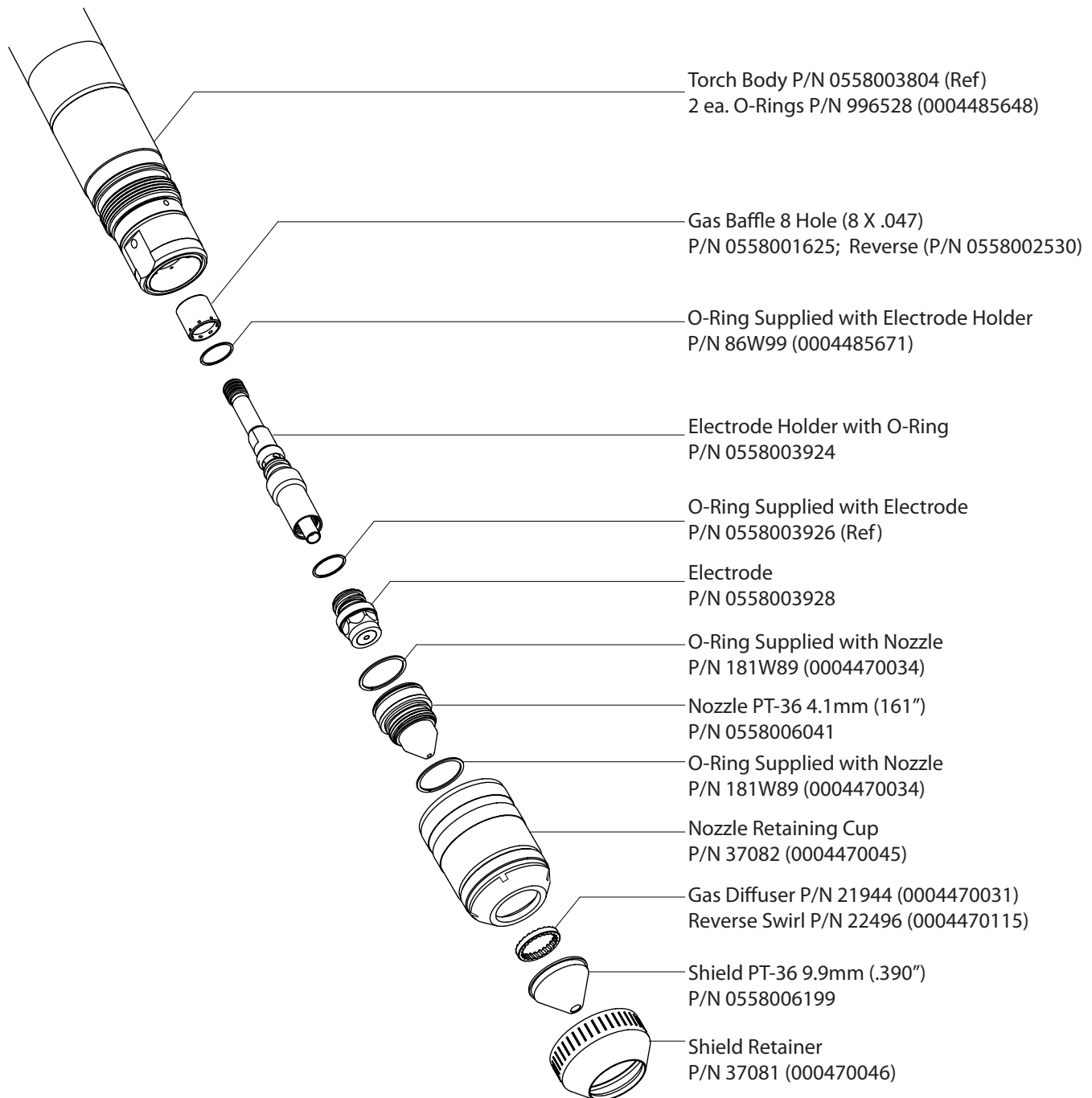
Notes:

- Pilot Arc Set to HIGH.
- Cutting nozzle, P/N 0558006041.
- Remove O2 hose, install N2 / O2 adaptor, connect AIR supply to adaptor.
- PG-1 Proportional Valve
- PG-2 MFC

PT-36 CUT DATA

ESAB [®] **PT-36**
PLASMARC™ Cutting Torch
ESP-1000 Plasma System
Production

Material:	Stainless Steel
Amperes:	600
Start Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Cut Gas:	Hydrogen 35% Argon 65% (H-35) @ 100 psi / 6.8 bar
Primary Shield Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Shield Mix Gas :	NONE



PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

600 Amperes Stainless Steel Production

Material Thickness	in(mm)	1.000(25.4)	1.500(38.1)	2.000(50.8)	3.000(76.2)
Encoder Height	Initial Height in(mm)	0.750(19.1)	0.750(19.1)	*0.750(19.1)	*0.750(19.1)
	Pierce Height in(mm)	1.000(25.4)	1.000(25.4)	*1.000(25.4)	*1.000(25.4)
	Cutting Height in(mm)	0.500(12.7)	0.625(15.9)	0.750(19.1)	0.750(19.1)
Height Readings	Arc Voltage (standoff)	163	186	204	206
Timers (seconds)	Pierce Delay	1.0	1.1	1.4	1.7
	Auto Height Delay	0.5	0.6	0.8	0.9
Setup Parameters Pressure @ Flow	Plasma Start Gas (N₂)	20 psi	20 psi	20 psi	20 psi
		1.38 bar	1.38 bar	1.38 bar	1.38 bar
	Plasma Cut Gas (H-35)	HIGH 4	HIGH 4	HIGH 4	HIGH 4
	Shield Pressure	35 psi	35 psi	35 psi	35 psi
		2.4 bar	2.4 bar	2.4 bar	2.4 bar
	Primary Shield Gas (N₂)	5.8	5.8	5.8	5.8
	Shield Mix Gas (NONE)	NONE	NONE	NONE	NONE
Travel Speed	IPM	40	18	12	9
	MM/MIN	1016	457	305	229
Kerf Width	Inches	.303	.346	.380	.383
	Millimeters	7.7	8.8	9.7	9.7
Amps	Amperes	600	600	600	600

Notes:

- Pilot Arc Set to HIGH.
- Cutting nozzle, P/N 0558006041.
- *When cutting these thicknesses, use a creep speed.
- PG-1 Proportional Valve
- PG-2 MFC

PT-36
m3 Plasma System
Process Data
for Production
Thick Plate

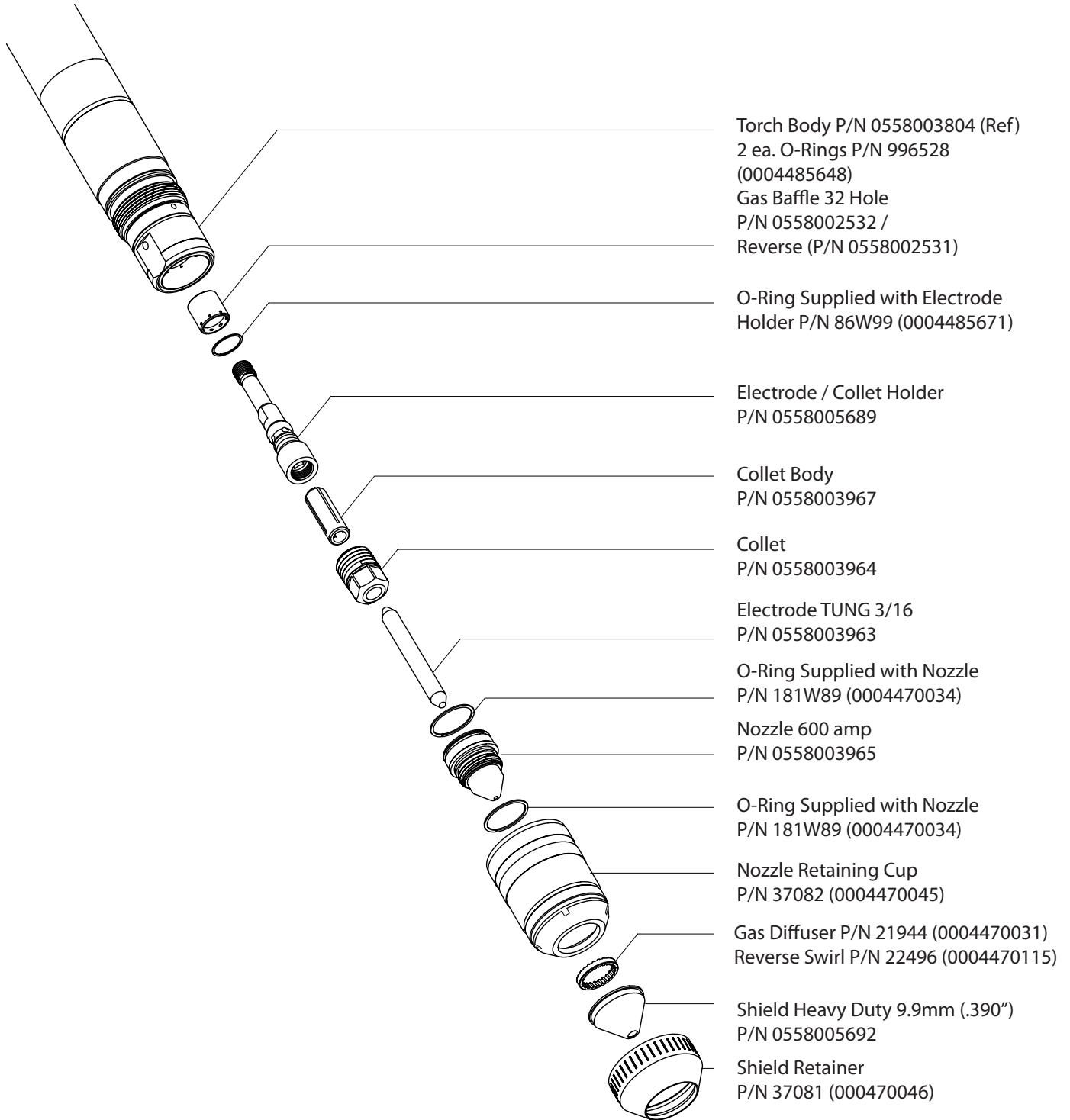
PT-36 CUT DATA



PT-36

PLASMARC™ Cutting Torch
ESP-1000 Plasma System
Production Thick Plate
(Divergent Bore)

Material:	Aluminum
Amperes:	600
Start Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Cut Gas:	Hydrogen 35% Argon 65% (H-35) @ 100 psi / 6.8 bar
Primary Shield Gas:	Air @ 100 psi / 6.8 bar
Shield Mix Gas :	NONE



PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

600 Amperes Aluminum Production Thick Plate

Material Thickness	in(mm)	4.000(101.6)	6.875(174.6)
Encoder Height	Initial Height in(mm)	0.750(19.1)	0.750(19.1)
	Pierce Height in(mm)	0.750(19.1)	0.750(19.1)
	Cutting Height in(mm)	0.750(19.1)	0.750(19.1)
Height Readings	Arc Voltage (standoff)	215	230
Timers (seconds)	Pierce Delay	N/A	N/A
	Auto Height Delay	0.5	0.5
Setup Parameters Pressure @ Flow	Plasma Start Gas (N₂)	22 psi	22 psi
		1.5 bar	1.5 bar
	Plasma Cut Gas (H-35)	HIGH 1	HIGH 1
	Shield Pressure	23 psi	23 psi
		1.6 bar	1.6 bar
	Primary Shield Gas (Air)	4.3	4.3
	Shield Mix Gas (NONE)	NONE	NONE
Travel Speed	IPM	15	8
	MM/MIN	381	203
Lead in / Lead out Speed	IPM	6 IPM for .5"	3 IPM for .5"
	MM/MIN	152 mm/min for 12.7 mm	76 mm/min for 12.7 mm
Kerf Width	Inches	.500*	.625*
	Millimeters	13	16
Amps	Amperes	600	600

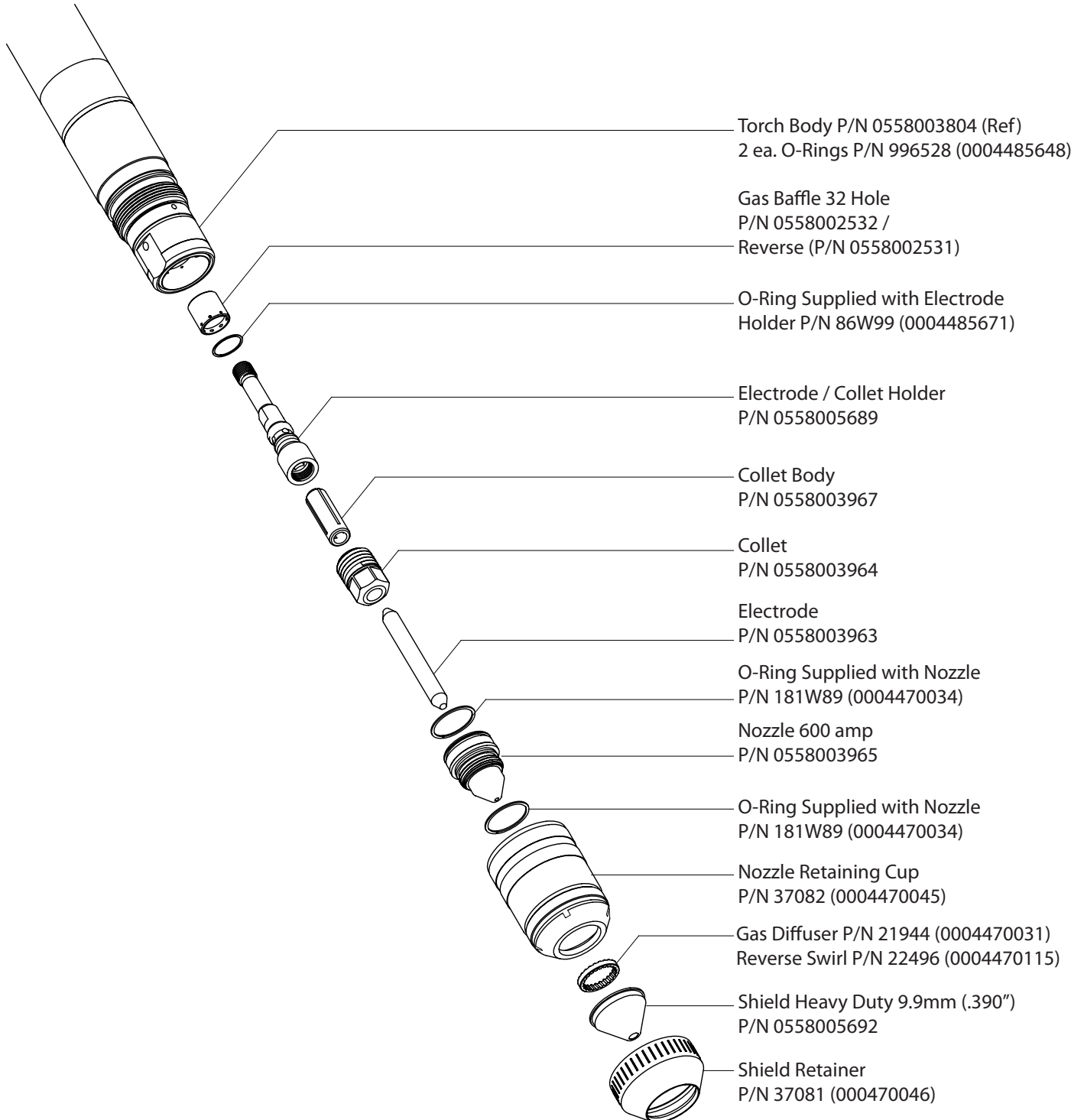
Notes:

- Pilot Arc Set to HIGH.
- Cutting nozzle, P/N 0558003965.
- *Kerf estimated.
- EPP-600 - Capable of 650 amperes . Disconnect Box must sized for correct fuse - 460 volts requires 300 amp fuse.
- PG-1 Proportional Valve
- PG-2 MFC

PT-36 CUT DATA

ESAB® PT-36
PLASMARC™ Cutting Torch
ESP-1000 Plasma System
Production Thick Plate
(Divergent Bore)

Material:	Stainless Steel
Amperes:	600
Start Gas:	Nitrogen (N ₂) @ 100 psi / 6.8 bar
Cut Gas:	Hydrogen 35% Argon 65% (H-35) @ 100 psi / 6.8 bar
Primary Shield Gas:	Air @ 100 psi / 6.8 bar
Shield Mix Gas :	NONE



PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

600 Amperes Stainless Steel Production Thick Plate

Material Thickness	in(mm)	2.375(60.3)	2.750(69.9)	3.000(76.2)
Encoder Height	Initial Height in(mm)	0.750(19.1)	0.750(19.1)	0.750(19.1)
	Pierce Height in(mm)	0.750(19.1)	0.750(19.1)	0.750(19.1)
	Cutting Height in(mm)	0.500(12.7)	0.500(12.7)	0.500(12.7)
Height Readings	Arc Voltage (standoff)	156	140	138
Timers (seconds)	Pierce Delay	0	0	0
	Auto Height Delay	1.0	1.0	1.0
Setup Parameters Pressure @ Flow	Plasma Start Gas (N₂)	22 psi	22 psi	22 psi
		1.5 bar	1.5 bar	1.5 bar
	Plasma Cut Gas (H-35)	HIGH 1	LOW 7	LOW 7
	Shield Pressure	23 psi	20 psi	20 psi
		1.6 bar	1.4 bar	1.4 bar
	Primary Shield Gas (Air)	4.3	3.6	3.6
	Shield Mix Gas (NONE)	NONE	NONE	NONE
Travel Speed	IPM	16	13	13
	MM/MIN	406	330	330
Lead in / Lead out Speed	IPM	16	10	10
	MM/MIN	406	254	254
Kerf Width	Inches			
	Millimeters			
Amps	Amperes	600	600	600

* Notes:

- Pilot Arc Set to HIGH.
- Cutting nozzle, P/N 0558003965.
- PG-1 Proportional Valve
- PG-2 MFC

PT-36 CUT DATA



PT-36 ESP-1000 Plasma System Process Data

600 Amperes Stainless Steel Production Thick Plate

Material Thickness	in(mm)	5.750(146.1)	6.000(152.4)	6.250(158.8)
Encoder Height	Initial Height in(mm)	1.000(25.4)	1.000(25.4)	1.000(25.4)
	Pierce Height in(mm)	1.000(25.4)	1.000(25.4)	1.000(25.4)
	Cutting Height in(mm)	0.750(19.1)	0.875(22.2)	0.750(19.1)
Height Readings	Arc Voltage (standoff)	210	205	210
Timers (seconds)	Pierce Delay	0	0	0
	Auto Height Delay	1.5	1.5	2.0
Setup Parameters Pressure @ Flow	Plasma Start Gas (N₂)	22 psi	22 psi	22 psi
		1.5 bar	1.5 bar	1.5 bar
	Plasma Cut Gas (H-35)	HIGH 1	HIGH 1	HIGH 1
	Shield Pressure	23 psi	23 psi	23 psi
		1.6 bar	1.6 bar	1.6 bar
Travel Speed	Primary Shield Gas (Air)	4.3	4.3	4.3
	Shield Mix Gas (NONE)	NONE	NONE	NONE
Lead in / Lead out Speed	IPM	4.5	4.5	3
	MM/MIN	114	114	76
Kerf Width	IPM	2	2	2
	MM/MIN	51	51	51
Amps	Inches			
	Millimeters			
Amps	Amperes	600	600	600

1. * Notes:

- Pilot Arc Set to HIGH.
- Cutting nozzle, P/N 0558003965.
- PG-1 Proportional Valve
- PG-2 MFC

REVISION HISTORY

1. Original preliminary release - 02/2007 - manual created from info taken from 0558004718, F15-646, 0558005872.
2. Official release - 08/2007.

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