



VL3015 & VL3515 Spot Luminaires

02.9679.0010



PHILIPS
VARI***LITE**

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Dallas, Texas 75238 USA

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VL3015 & VL3515 Spot Luminaires Service Manual

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How To Obtain Warranty Service

A copy of the Vari-Lite Limited Warranty was included in the shipping package for this VARI***LITE** product.

To obtain warranty service, please contact customer service at 1-877-VARI-LITE (1-877-827-4548), +1-214-647-7880, or entertainment.service@philips.com and request a Return Material Authorization (RMA) for warranty service. You will need to provide the model and serial number of the item being returned, a description of the problem or failure and the name of the registered user or organization. If available, you should have your sales invoice to establish the date of sale as the beginning of the warranty period.

Once you obtain the RMA, pack the unit in a secure shipping container or in its original packing box. Fill out the RMA form included at the end of this manual and place in shipping container along with a copy of your invoice (if available). Write the RMA number legibly on or near the shipping address label and return the unit, freight prepaid to:

Philips Vari-Lite
10911 Petal Street
Dallas, Texas 75238 USA
Attention: Warranty Service (RMA# _____)

As stated in the warranty, it is required that the shipment be insured and FOB our service center*.



Note: *When returning products to Philips Vari-Lite for repairs (warranty or out-of-warranty) from a country other than the USA, “Philips Lighting Controls Division”, must appear in the address block as the Importer of Record (IOR) on all shipping documentation, Commercial Invoices, etc. This must be done in order to clear customs in a timely manner and prevent returns.

Compliance Notice

FCC This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when this equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with Vari-Lite system, service, and safety guidelines, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his/her own expense.



Declaration of Conformity

We, Philips Lighting B.V. 10911 Petal Street, Dallas, Texas 75238 USA, declare under our responsibility for the products:

Product Range	Professional Stage Luminaire
Product Code	VL3015 Spot, VL3515 Spot

The designated products are in conformity with the essential requirements of the following European Directives and harmonized standards:

Low Voltage Directive (LVD), 2006/95/EC

EN 60589-2-17:1984+A1:1987+A2:1990 used in conjunction with 60598-1:2008/A11:2009

Electromagnetic Compatibility Directive (EMC), 2004/108/EC

EN 55022:2010, EN55024:2010

Safety Notice

It is extremely important to read ALL safety information and instructions provided in this manual and any accompanying documentation before installing and operating the products described herein. Heed all cautions and warnings during installation and use of this product.

Safety symbols used throughout this manual are as follows:



CAUTION advising of potential damage to product.



WARNING advising of potential injury or death to persons.

GENERAL INFORMATION PERTAINING TO PROTECTION AGAINST ELECTRICAL SHOCK, FIRE, EXPOSURE TO EXCESSIVE UV RADIATION, AND INJURY TO PERSONS CAN BE FOUND BELOW.

WARNING:

INSTRUCTIONS FOR CONTINUED PROTECTION AGAINST FIRE

1. VARI*LITE luminaires have been designed for use with specific lamp types. VL3015 & VL3515 Spot Luminaires require an Osram HMI 1200 W/S metal halide lamp. Installing another type of lamp may be hazardous.
2. Luminaires may be mounted on any type of surface as long as mounting instructions are followed. See instructions detailed in this manual.
3. Note distance requirement from combustible materials or illuminated objects for VARI*LITE luminaires.

WARNING:

INSTRUCTIONS FOR CONTINUED PROTECTION AGAINST ELECTRICAL SHOCK

1. VARI*LITE luminaires are designed for dry locations only. Exposure to rain or moisture may damage luminaire.
2. Disconnect power before servicing any VARI*LITE equipment.
3. Servicing to be performed by qualified personnel only.

WARNING:

INSTRUCTIONS FOR CONTINUED PROTECTION AGAINST EXCESSIVE EXPOSURE TO UV RADIATION

1. Many VARI*LITE luminaires use a lamp that produces UV radiation. DO NOT look directly at lamp.
2. It is hazardous to operate luminaires without lens or shield. Shields, lenses, or ultraviolet screens shall be changed if they have become visibly damaged to such an extent that their effectiveness is impaired. For example, by cracks or deep scratches.

WARNING:

INSTRUCTIONS FOR PROTECTION AGAINST INJURY TO PERSONS

1. Exterior surfaces of the luminaire will be hot during operation. Use appropriate safety equipment (gloves, eye protection, etc.) when handling and adjusting hot equipment and components.
2. Luminaires will have a hot lamp when operating. Disconnect power and allow lamp to cool before replacing.
3. Arc lamps emit ultraviolet radiation which can cause serious skin burn and eye inflammation. Additionally, arc lamps operate under high pressure at very high temperatures. Should the lamp break, there can exist a danger of personal injury and/or fire from broken lamp particles being discharged.
4. Wear eye protection when relamping.
5. Appropriate safety equipment (gloves, eye protection) should be used when handling damaged lamps.
6. If lamp is touched with bare hands, clean lamp with denatured alcohol and wipe with lint-free cloth before installing or powering up the luminaire.
7. The lamp shall be changed if it has become damaged or thermally deformed.

WARNING:

RF INTERFERENCE

1. This is a Class A product. In a domestic environment this product may cause radio interference, in which case, the user may be required to take adequate measures.

ARC LAMP CHARACTERISTIC CONSIDERATIONS

1. Arc lamps require a period of time to relight after a power interruption or a severe voltage dip. In some cases, the lamp will automatically relight after it has cooled depending on Lamp Power-Up State configuration setting.
2. Burning position is universal.

Sicherheitshinweise

Es ist äußerst wichtig, ALLE Sicherheitsinformationen und -hinweise in diesem Handbuch und dem beiliegenden Informationsmaterial zu lesen, bevor Sie die hierin beschriebenen Produkte installieren bzw. bedienen. Halten Sie bei der Installation und dem Einsatz dieses Produkts alle Warnhinweise und Vorsichtsmaßnahmen ein.

Folgende Sicherheitssymbole werden in diesem Handbuch verwendet:



VORSICHT - weist auf möglichen Produktschaden hin.



WARNUNG - weist auf mögliche Körperverletzung und Lebensbedrohung hin.

NACHSTEHEND FINDEN SIE ALLGEMEINE HINWEISE ÜBER SICHERHEITSVORKEHRUNGEN GEGEN ELEKTROSCHOCK, FEUER, ÜBERHÖHTE UV-STRAHLUNG UND KÖRPERVERLETZUNGEN.

WARNUNG:

HINWEISE ZUM FEUERSCHUTZ

1. VARI***LITE** -Scheinwerfer sind ausschließlich für den Einsatz mit bestimmten Lampentyps. Achten Sie auf den Lampentyp (Osram HMI 1200 W/S metal halide lamp), bevor Sie die jeweiligen Lampen ersetzen. Die Installation eines anderen Lampentyps kann gefährlich sein.
2. Scheinwerfer können auf jeder beliebigen Oberfläche montiert werden, solange Sie die Montageanweisungen befolgen. Detaillierte Hinweise finden Sie in diesem Handbuch.
3. Beachten Sie die Einhaltung des erforderlichen Sicherheitsabstandes der VARI***LITE** -Scheinwerfer von brennbarem Material oder beleuchteten Objekten.

WARNUNG:

HINWEISE ZUM SCHUTZ GEGEN ELEKTROSCHOCK

1. VARI***LITE** -Scheinwerfer eignen sich ausschließlich für trockene Standorte. Regen oder Feuchtigkeit können die Scheinwerfer beschädigen.
2. Unterbrechen Sie die Stromzufuhr, bevor Sie mit der Arbeit an VARI***LITE** -Geräten beginnen.
3. Die Geräte sollten nur von qualifiziertem Personal gewartet werden.

WARNUNG:

HINWEISE ZUM SCHUTZ GEGEN ÜBERHÖHTE UV-STRAHLUNG

1. Viele VARI*LITE -Scheinwerfer verwenden die Lampentyp, der UV-Strahlen abgibt. SCHAUEN SIE NICHT direkt in die Lampe.
2. Es ist gefährlich, Leuchten ohne Linsen oder Blenden zu bedienen. Blenden, Linsen oder Ultraviolettsschirme müssen ausgetauscht werden, sofern deren Schutzwirkung durch sichtbare Beschädigung (z. B. Sprünge oder Schrammen) eingeschränkt ist.

WARNUNG:

HINWEISE ZUM SCHUTZ GEGEN KÖRPERVERLETZUNGEN

1. Bei Betrieb sind die Außenflächen der Scheinwerfer heiß. Verwenden Sie bei der Bedienung von aufgeheizter Apparatur die jeweils geeignete Sicherheitsausrüstung (Handschuhe, Augenschutz etc.).
2. Bei Betrieb der Scheinwerfer ist die Lampe heiß. Unterbrechen Sie die Stromzufuhr und lassen Sie die Lampe abkühlen, wenn Sie diese austauschen.
3. Bogenlampen senden ultraviolette Strahlen aus, die Hautverbrennungen und Augenentzündungen verursachen können. Der Betrieb von Bogenlampen erfolgt unter Hochdruck und bei hohen Temperaturen. Sollte die Lampe zerbrechen, besteht die Gefahr von Körperverletzung bzw. von Feuer, das von Lampenteilen ausgelöst werden kann.
4. Tragen Sie beim Austausch der Lampen einen Augenschutz.
5. Die geeignete Sicherheitsausrüstung (Handschuhe, Augenschutz) sollte beim Umgang mit beschädigten Lampen verwendet werden.
6. Wenn die Lampe mit bloßen Händen berührt wird, reinigen Sie sie mit denaturiertem Alkohol und einem flusenfreien Tuch, bevor Sie die Scheinwerfer installieren oder in Betrieb nehmen.
7. Wenn die Lampe beschädigt oder durch Hitzeeinwirkung deformiert ist, muß diese ausgetauscht werden.

WARNUNG:

HF-INTERFERENZ

1. Es handelt sich um ein Produkt der Klasse A. In einer Wohnumgebung kann das Produkt Hochfrequenzstörungen verursachen. In diesem Fall müssen eventuell geeignete Maßnahmen getroffen werden.

BESONDERHEITEN VON BOGENLAMPEN

1. Bogenlampen benötigen eine gewisse Zeitdauer, um nach einem Stromausfall oder einem Spannungsgefälle wieder aufzuleuchten. In einigen Fällen wird die Lampe nach Abkühlung automatisch wieder aufleuchten, je nach der Systemkonfigurationseinstellung des Lampeneinschaltungsstatus.
2. Die Brennposition ist Universal.

Notes de sécurité

Avant de procéder à l'installation des produits décrits dans ce guide et de les mettre en marche, il est extrêmement important de lire TOUS les renseignements et TOUTES les directives de sécurité contenues dans ce guide ainsi que toute documentation jointe. Tenir compte de tous les avertissements et suivre toutes les précautions pendant l'installation et l'utilisation de cet appareil.

Les symboles de sécurité utilisés dans ce guide sont les suivants :



ATTENTION Ce symbole annonce que l'appareil risque d'être endommagé.



AVERTISSEMENT Ce symbole annonce qu'il y a risque d'accident grave ou même fatal.

CETTE SECTION CONTIENT DES INFORMATIONS GÉNÉRALES POUR SE PROTÉGER CONTRE LES DÉCHARGES ÉLECTRIQUES, LES INCENDIES, L'EXPOSITION EXCESSIVE AUX RAYONS UV ET TOUT AUTRE ACCIDENT POUVANT ENTRAÎNER DES BLESSURES.

AVERTISSEMENT:

DIRECTIVES POUR SE PROTÉGER CONTRE LES INCENDIES

1. Les luminaires VARI***LITE** ont été conçus pour être utilisés uniquement avec certaines type de lampes. Vérifier le type de lampe (Osram HMI 1200 W/S metal halide lamp) avant de remplacer les lampes. L'installation d'un autre type de lampe peut poser un danger.
2. Les luminaires peuvent être fixés sur tout type de surface tant que les directives de montage sont respectées. Voir les explications détaillées dans ce guide.
3. Vérifier la distance à respecter entre les matériaux combustibles ou les objets illuminés et les luminaires VARI***LITE**.

AVERTISSEMENT:

DIRECTIVES POUR SE PROTÉGER CONTRE LES DÉCHARGES ÉLECTRIQUES

1. Les luminaires VARI***LITE** sont conçus pour une utilisation au sec uniquement. Une exposition à la pluie et à l'humidité risque d'endommager le luminaire.
2. Débrancher l'appareil avant de procéder à la révision de tout matériel VARI***LITE**.
3. Les révisions doivent être effectuées uniquement par des personnes qualifiées.

AVERTISSEMENT:

DIRECTIVES POUR SE PROTÉGER CONTRE UNE EXPOSITION EXCESSIVE AUX RAYONS UV

1. Plusieurs luminaires VARI*LITE utilisent une lampe qui produit des rayons UV. NE PAS fixer son regard sur la lampe.
2. L'utilisation des luminaires sans lentille ou blindage pose des risques. Tous blindages, lentilles ou écrans ultraviolet visiblement endommagés au point que leur efficacité en est affectée doivent être remplacés, par exemple s'il y a des fissures ou de profondes rayures.

AVERTISSEMENT:

DIRECTIVES POUR SE PROTÉGER CONTRE LES ACCIDENTS POUVANT ENTRAÎNER DES BLESSURES

1. Les surfaces externes du luminaire deviennent brûlantes quand l'appareil est en marche. Pour manœuvrer ou ajuster des appareils brûlants et leurs composants, se protéger suffisamment (gants, protection pour les yeux, etc.).
2. La lampe du luminaire est brûlante lorsqu'il est en marche. Débrancher le courant et attendre que la lampe ait refroidi avant de la remplacer.
3. Les lampes à arc émettent des rayons ultraviolets pouvant causer de graves brûlures sur la peau et une inflammation des yeux. De plus, les lampes à arc fonctionnent sous haute tension à de très hautes températures. Si la lampe se casse, les particules de la lampe cassée peuvent causer blessures et/ou incendie en s'éparpillant.
4. Se protéger les yeux pour remplacer la lampe.
5. Utiliser des appareils de protection appropriés (gants, protection des yeux) pour manier des lampes endommagées.
6. Si la lampe a été touchée avec des mains nues, la nettoyer avec de l'alcool dénaturé et l'essuyer avec un chiffon non-pelucheux avant d'installer ou de brancher le luminaire.
7. Si la lampe a été endommagée ou a reçu une déformation thermique, elle doit être remplacée.

AVERTISSEMENT:

INTERFÉRENCE RF

1. Cet appareil est de Classe A. Dans un environnement domestique, cet appareil peut causer des interférences radio, et si c'est le cas, l'utilisateur peut avoir à prendre des mesures adéquates.

CONSIDÉRATIONS DES CARACTÉRISTIQUES DE LAMPES À ARC

1. Après une interruption de courant ou une baisse importante de voltage, les lampes à arc mettent du temps avant de se rallumer. Dans certains cas, la lampe se rallumera automatiquement après s'être refroidie. Cela dépend de la manière dont le système est réglé pour le statut de mise en marche de la lampe.
2. La position Brûler est Universelle.

Aviso sobre Seguridad

Es muy importante leer TODA la información e instrucciones sobre seguridad que se indica en este manual así como en los documentos adjuntos antes de instalar y operar los productos descritos. Se debe prestar atención a todos los avisos y advertencias durante la instalación y uso de este producto.

Los símbolos de seguridad usados en este manual son los siguientes:



CUIDADO, indica posibles daños al producto.



ADVERTENCIA, indica posibles lesiones o muerte a las personas.

LA INFORMACIÓN GENERAL RELACIONADA A LA PROTECCIÓN CONTRAGOLPES DE CORRIENTE ELÉCTRICA, INCENDIO, EXPOSICIÓN EXCESIVA A RADIACIÓN ULTRA VIOLETA Y LESIONES A LAS PERSONAS SE PUEDE ENCONTRAR SEGUIDAMENTE:

ADVERTENCIA:

INSTRUCCIONES PARA PROTECCIÓN CONTINUA CONTRA INCENDIO

1. Las luminarias VARI***LITE** han sido diseñadas para ser usadas solamente con algunas lámparas. Tome nota del tipo de lámpara (Osram HMI 1200 W/S metal halide lamp) antes de reemplazarla. Instalación de otro tipo de lámpara puede ser peligroso.
2. Las luminarias se pueden instalar en cualquier tipo de superficie siempre que se sigan las instrucciones de instalación. Vea las instrucciones detalladas en este manual.
3. Tome nota de los requerimientos de distancia de materiales combustibles u objetos iluminados para las luminarias VARI***LITE** .

ADVERTENCIA:

INSTRUCCIONES PARA PROTECCIÓN CONTINUA CONTRA CHOQUE ELÉCTRICO

1. Las luminarias VARI***LITE** están diseñadas solamente para lugares secos. La exposición a la lluvia o humedad pueden dañar la luminaria.
2. Desconecte la energía antes de dar servicio a cualquier equipo de VARI***LITE** .
3. El servicio debe ser realizado solamente por personal calificado.

ADVERTENCIA:

INSTRUCCIONES PARA PROTECCIÓN CONTINUA CONTRA LA EXPOSICIÓN EXCESIVA DE RADIACIÓN ULTRA VIOLETA

1. Muchas luminarias VARI*LITE usan un tipo de lámpara que produce radiación UV. NO mire directamente a la lámpara.
2. Es peligroso operar luminarias sin lentes o protectores. Debe cambiar los protectores, lentes o pantallas ultravioletas si se aprecia que han sido dañadas, y que su efectividad pudiera estar deteriorada. Por ejemplo, si tuvieran rajaduras o raspaduras profundas.

ADVERTENCIA:

INSTRUCCIONES PARA PROTECCIÓN CONTRA LESIONES DE PERSONAS

1. Las superficies exteriores de las luminarias están calientes durante su operación. Use un equipo de seguridad apropiado (guantes, protección para los ojos, etc.) cuando haga ajustes en el equipo y componentes que están calientes.
2. Cuando las luminarias están en operación la lámpara estará muy caliente. Desconecte la energía y deje que la lámpara se enfríe antes de reemplazarla.
3. Las lámparas de arco emiten radiaciones ultravioletas que pueden ocasionar serias quemaduras a la piel e inflamación a los ojos. Además, las lámparas de arco operan a alta presión y muy alta temperatura. Si la lámpara se rompe, puede existir el peligro de lesiones al personal o un incendio ocasionado por las partículas de la lámpara rota que se caen.
4. Use protección para los ojos cuando vuelve a colocar una lámpara nueva.
5. Use un equipo de seguridad apropiado (guantes, protección para los ojos, etc.) cuando trabaje con lámparas dañadas.
6. Si toca la lámpara con las manos, limpie la lámpara con alcohol desnaturalizado y con tela sin pelusas antes de instalar o volver a conectar la luminaria.
7. Cambie la lámpara si está dañada o deformada termicamente.

ADVERTENCIA:

INTERFERENCIA RF

1. Este es un producto de Clase A. En el ambiente de la casa este producto puede ocasionar radiointerferencia, en cuyo caso, el usuario debe tomar las medidas adecuadas.

CONSIDERACIONES SOBRE LAS CARACTERÍSTICAS DE LA LÁMPARA DE ARCO

1. Las lámparas de arco requieren un período de tiempo para volver a iluminarse después de una interrupción de energía o de una severa caída de voltaje. En algunos casos, la lámpara se volverá a iluminar en forma automática después que se ha enfriado dependiendo de la configuración del sistema de energía de la lámpara.
2. La posición de encendido es universal.

安全性に関する注意事項

ここに記載されている製品を取り扱う場合は、まず本マニュアルおよび付属のマニュアルの安全性に関する情報と説明をすべてお読みください。また、実際に本製品を取り付けたり使用する際には、すべての注意事項および警告に留意して作業してください。

本マニュアルでは、以下の安全マークを使用しています。



注意：製品に損傷を与える危険性があります。



警告：人身事故につながる危険性があります。

感電、火災、UV 放射に対する過度の露出、および人身事故を防ぐための一般的な情報については、以下の説明をお読みください。

警告：

火災の発生を防ぐためのヒント

1. VARI***LITE**® 照明器具は、ランプを使用するように設計されています。ランプを交換する際は、ランプの種類（など）を確認するようにしてください。他の種類のランプを取り付けると危険です。
2. 照明器具は、本マニュアルの指示に従って操作するかぎり、どのようなタイプの表面にでも取り付けることができます。詳細については、本マニュアルを参照してください。
3. ヒューズを交換する場合は、同じヒューズ（同じ種類、同じクラス）を使用してください。
4. VARI***LITE**® 照明器具は、可燃性物質または他の光源から必要な距離だけ離して配置してください。

警告：

感電を防ぐためのヒント

1. VARI***LITE**® 照明器具は、乾燥した環境で使用するよう設計されています。雨で濡れる場所や湿気の多い場所に取り付けると、照明器具が傷むことがあります。
2. VARI***LITE**® 照明器具を修理点検する場合は、必ず先に電源を切ってください。
3. 照明器具の修理点検は、資格を持つ技師のみが行うようにしてください。

警告：

過度の UV 放射にさらされないためのヒント

1. VARI*LITE® 照明器具の多くは、UV 放射を生ずる HID タイプのランプを使用しています。ランプを直視することは避けてください。
2. レンズまたはシールドを使わずに照明器具を点灯すると危険です。レンズ、シールド、紫外線画面は、ひび割れや深い引っかき傷などにより、その効力が損なわれるようになったら取り替えるようにします。

警告：

人身事故を防ぐためのヒント

1. 照明器具が点灯しているときは、その外側が熱くなります。熱くなった器具やコンポーネントを取り扱う際には、適切な防具（手袋や保護用眼鏡）を使用してください。
2. 照明器具が点灯しているときは、そのランプが熱くなります。ランプを交換する場合は、照明器具の電源を切り、ランプの温度が下がるまで待ってください。ランプの裏ぶたをあけると、遮断スイッチが働いて、ランプの電源が切れる場合があります。
3. アーク灯は紫外線を放射します。この紫外線によって、ひどい火傷を負ったり、目の炎症を起こすことがあります。さらに、アーク灯は、高圧高温の状態で光を発します。そのため、万一アーク灯が破損すると、飛び散った破片で人身事故や火災が発生する危険性があります。
4. 再点灯するときには、保護用眼鏡を着用してください。
5. 損傷したランプを取り扱う場合は、適切な防具（手袋や保護用眼鏡）を着用してください。
6. 手袋を着用せずに直接手でランプを触った場合は、変性アルコールを使ってランプをきれいにし、糸くずの出ない布で拭いてから照明器具を取り付け、電源を入れるようにします。
7. 傷がついたランプや熱によって変形したランプは取り替えてください。

警告：

RF 干渉

1. 本製品は Class A に分類されます。本製品は、家庭環境において無線干渉を起こす可能性があります。その場合、使用者は適切な処置を取らなければならないことがあります。

アーク灯の特性

1. 停電後または大きな電圧ディップ後にアーク灯を再点灯する場合は、しばらく時間をおくようにしてください。Lamp Power-Up State) システム設定によっては、温度が下がったときに自動的に再点灯される場合もあります。
2. アーク灯は点光源です。

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Introduction

About This Manual

This manual provides descriptions, repair procedures, and illustrated parts breakdowns for all configurations of the VL3015 & VL3515 Spot Luminaires. The manual is intended for use by Vari-Lite personnel and Authorized VARI*Lite Service Centers and technicians only.



WARNING: It is important to read ALL accompanying safety and installation instructions to avoid damage to the product and potential injury to yourself or others.

This manual covers the following models:

Model	Part Number	Source
VL3015 Spot Luminaire	20.9679.0001	1500 Watt Arc
VL3515 Spot Luminaire	20.9679.0002	1500 Watt Arc



Note: Performing maintenance procedures may void the product warranty. Refer to the Vari-Lite Limited Warranty card included in the product shipping package for more information.

Additional Documentation

For complete installation and operation instructions, refer to the VL3015 & VL3515 Spot Luminaire User's Manual. This manual is only available in electronic (PDF) format:

- VL3015 & VL3515 Spot Luminaire User's Manual (02.9679.0002)

Note: The user's manual is available on the Philips Vari-Lite web site at www.vari-lite.com in the Product Downloads Section.

For more information regarding DMX512 systems, refer to the DMX512/1990 & AMX 192 Standards publication available from United States Institute for Theatre Technology, Inc. (USITT).

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www.usitt.org

Customer Service

Our Goal

At Vari-Lite, we are committed to providing you the highest quality in customer service. Our comprehensive resources are available to help your business succeed and ensure you get the full benefit of being a Vari-Lite customer. Whether your needs are telephone troubleshooting assistance, product training or technical service, our full-time staff of experienced professionals are on-hand to provide support.

How to Reach Us

For assistance in your area, call the dealer from which your product(s) was purchased.

or

Contact an Authorized Service Center.

or

Contact the Vari-Lite Customer Service Department, 9am - 6pm CST Monday through Friday, at the following:

phone: 1-877-VARI-LITE (1-877-827-4548)

e-mail: entertainment.service@philips.com

Additional Resources

For additional resources and documentation, please visit our website at www.vari-lite.com and follow the Support link.

Technical Bulletins and Notices

Technical bulletins concerning the latest changes to VARI*LITE equipment are issued from the Dallas, Texas USA office. They are documentation supplements that contain procedures for equipment upgrades, retrofits, and repairs not found in the existing manuals. Operator technical bulletins are also issued to document changes in control software. Technical bulletins are integrated into the appropriate equipment manuals as those manuals are revised. Bulletins are categorized by assembly or subassembly, and identified by a number such as S3K-001 (Series 3000 Luminaires Technical Bulletin number 1).

Technical notices are also issued from the Dallas, Texas USA office. They are non-procedural documents that contain information regarding product support issues, current equipment problems, software bugs, and documentation corrections. All technical notices begin with the prefix TN and are numbered sequentially, such as TN-138 (Tech Notice number 138).

CHAPTER 1.

Description

This chapter contains descriptions of luminaire features and components.

- **Features**
- **Components**
- **Principles of Operation**



Features

Standard Features

All VL3015 & VL3515 Spot Luminaires have the following standard features:

- **Color System:** A three-filter CYM cross-fading mechanism. A fixed color wheel with six interchangeable color filters and continuous wheel rotation for additional effects. It includes a variable CTO color temperature correction wheel.
- **Zoom Optics:** A 13-element 6:1 zoom optics system, covering a range from 10° to 60°.
- **Intensity Control:** Full field dimming designed for smooth timed fades as well as quick dimming effects.
- **Strobe:** High-performance dual blade strobe system capable of ultra-fast operation.
- **Edge and Pattern Focus:** Variable beam focus to soften edges of gobos or spots. Remarkable depth of field capability allows morphing effects between all pattern and effects wheels.
- **Pan and Tilt:** Smooth, time-controlled continuous motion by way of three-phase stepper motor systems.
- **Range:** Pan - 540°, Tilt - 270°.
- **Accuracy:** 0.3° resolution.
- **Source:** 1500W Short Arc Lamp / Color Temperature: 6000K / CRI: 90

Specific Features

The following are specific features of each luminaire covered in this manual:

VL3015 Spot Luminaire

- **Beam Size Control:** A mechanical iris provides continuous beam size control for rapid and smooth timed beam angle changes.
- **Rotating Gobo Wheels:** Three gobo/effects wheels combine to provide 14 rotatable, indexable gobo positions. Each wheel also has one open position.

VL3515 Spot Luminaire

- **Shutter Control:** A four-blade shutter mechanism that allows the blades to be operated independently or in unison on two planes for a clear and crisp image. The entire mechanism can rotate 50° in either direction.
- **Rotating Gobo Wheels:** One gobo/effects wheel provides five rotatable, indexable gobo positions and one open position.
- **Fixed Gobo Wheel:** One fixed gobo/effects wheel provides six positions for standard or custom gobos and one open position.

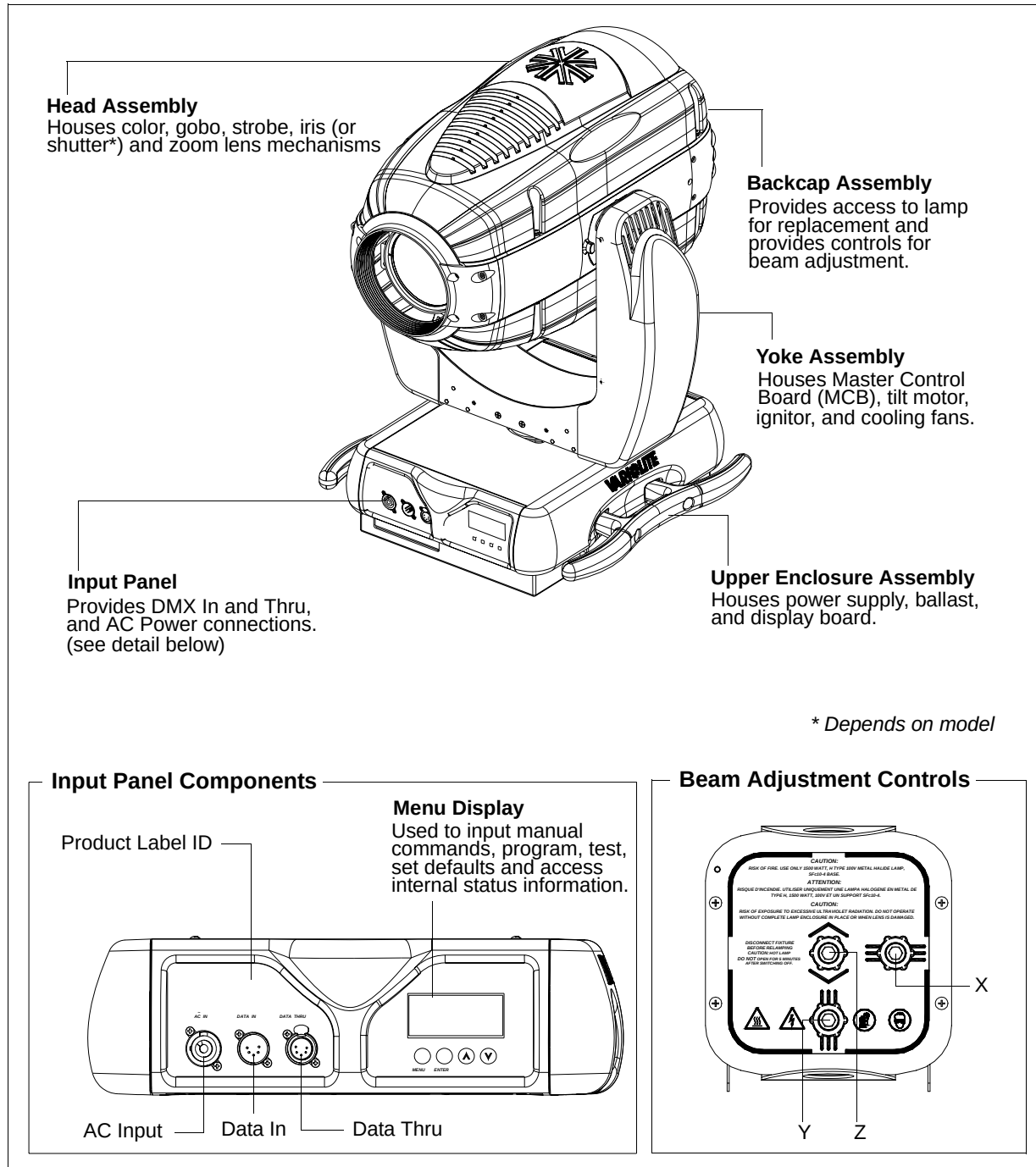
Technical Specifications

For additional technical specifications and information, please refer to VL3015 & VL3515 Spot Luminaires User's Manual (02.9679.0002) and the individual product specification sheets. These documents can be found in the product downloads section of the Vari-Lite web site at www.vari-lite.com.

Components

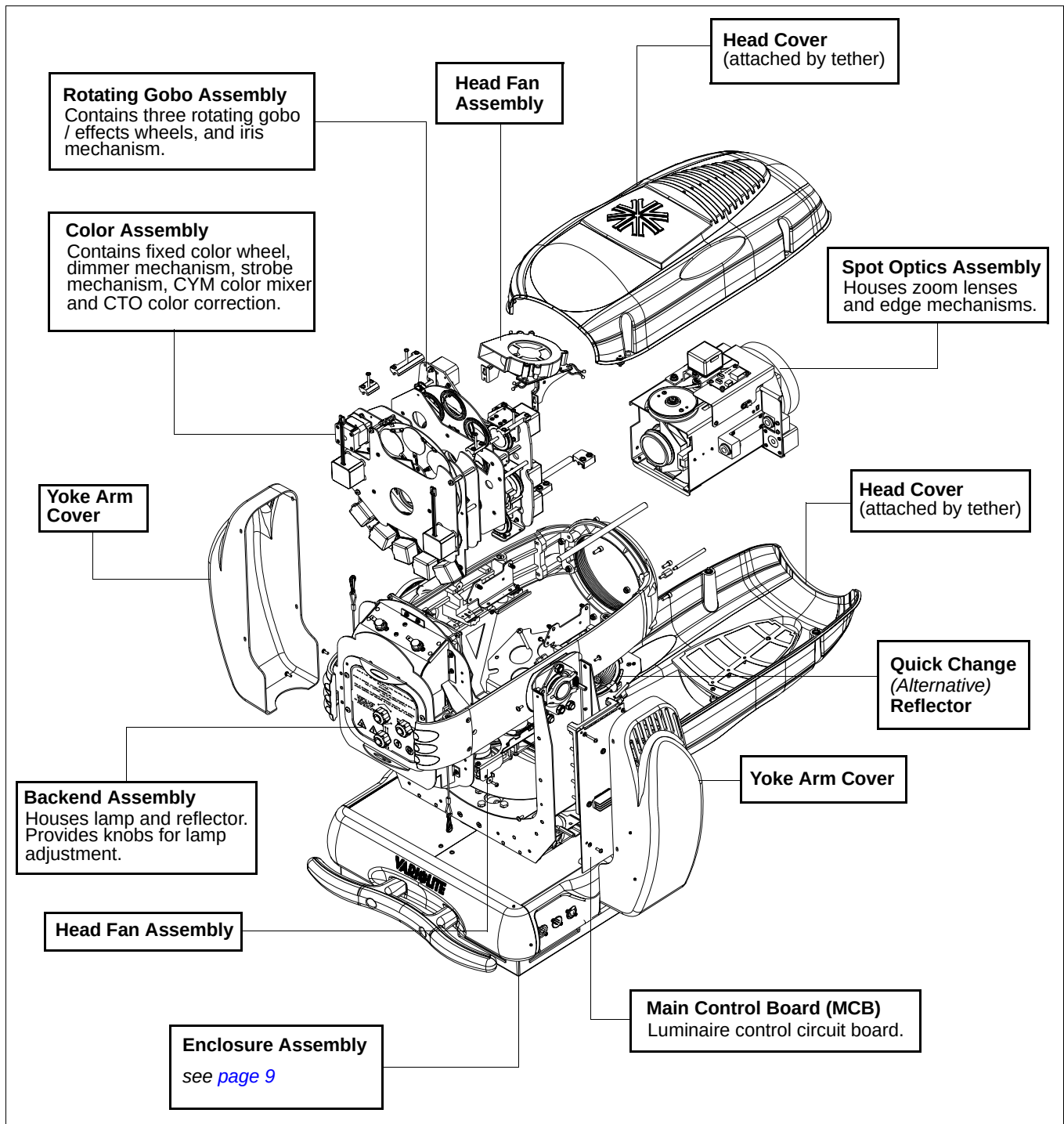
External Luminaire Components

The following illustration shows the external luminaire components and controls.



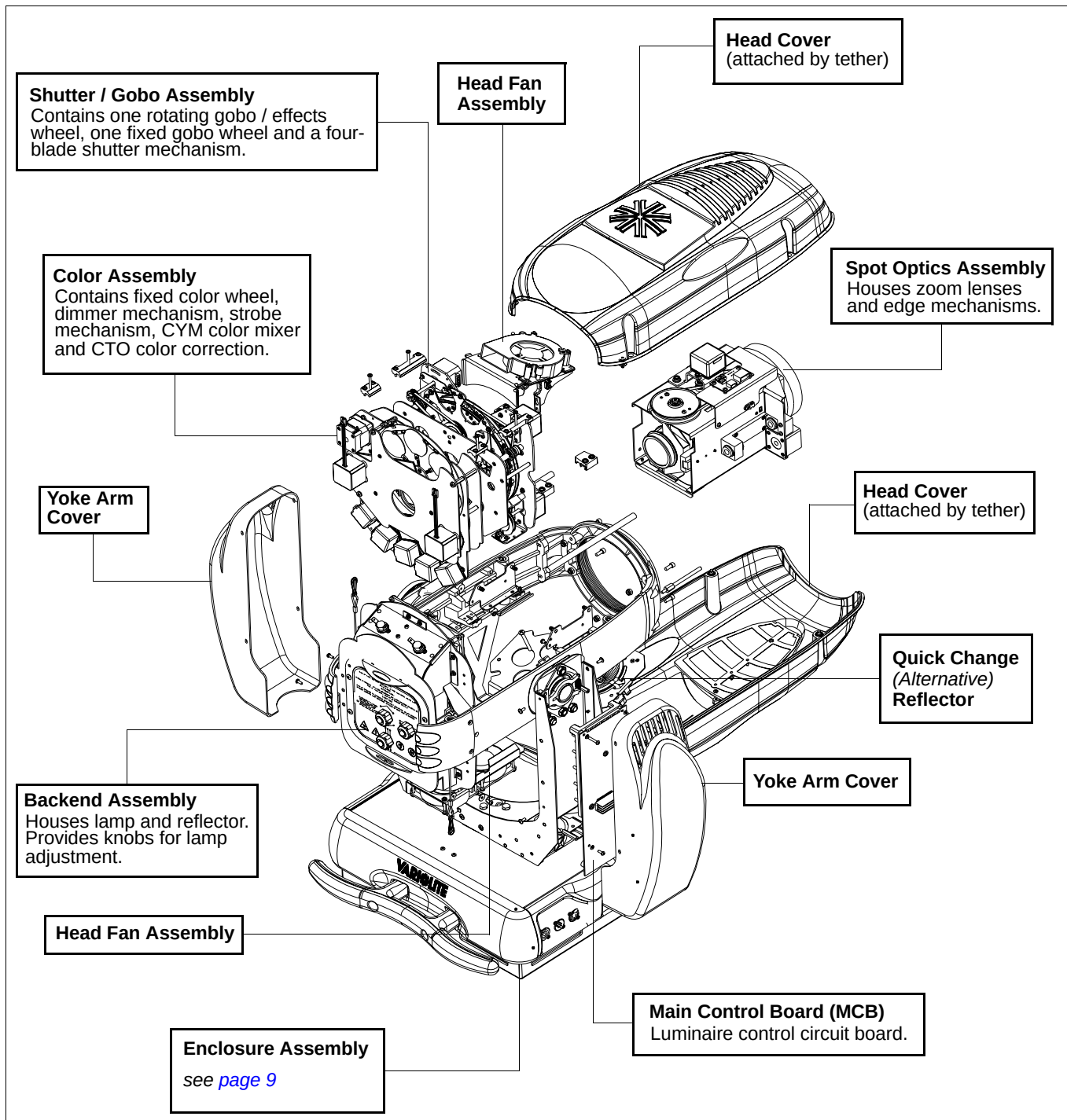
VL3015 Spot Luminaire Head and Yoke Components

The following illustration shows the major sub-assemblies which are located in the luminaire head and yoke assemblies.



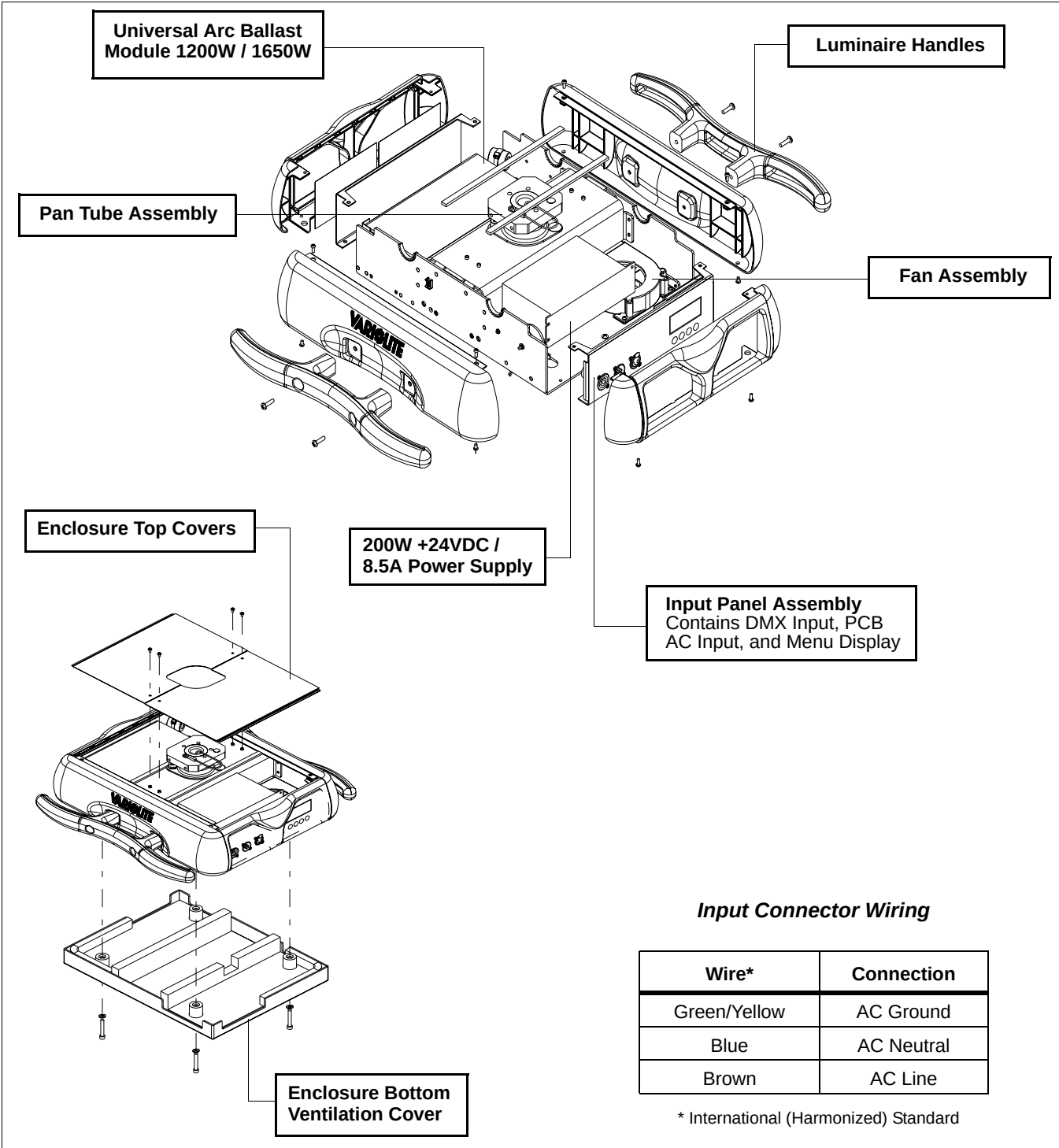
VL3515 Spot Luminaire Head and Yoke Components

The following illustration shows the major sub-assemblies which are located in the luminaire head and yoke assemblies.



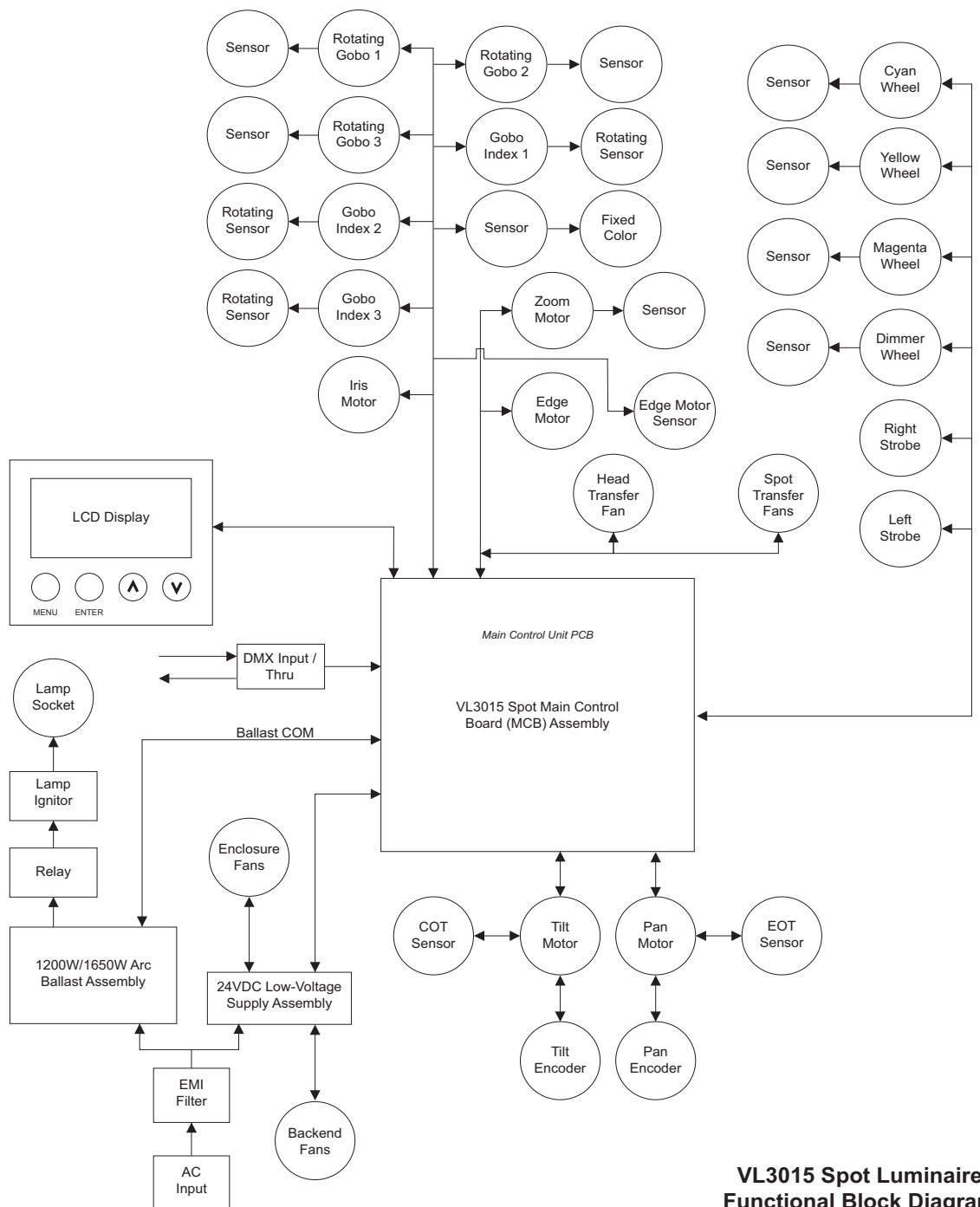
Enclosure Components

The following illustration shows the major sub-assemblies which are located in the luminaire enclosure assembly. (Yoke and head assemblies not shown for clarity.)



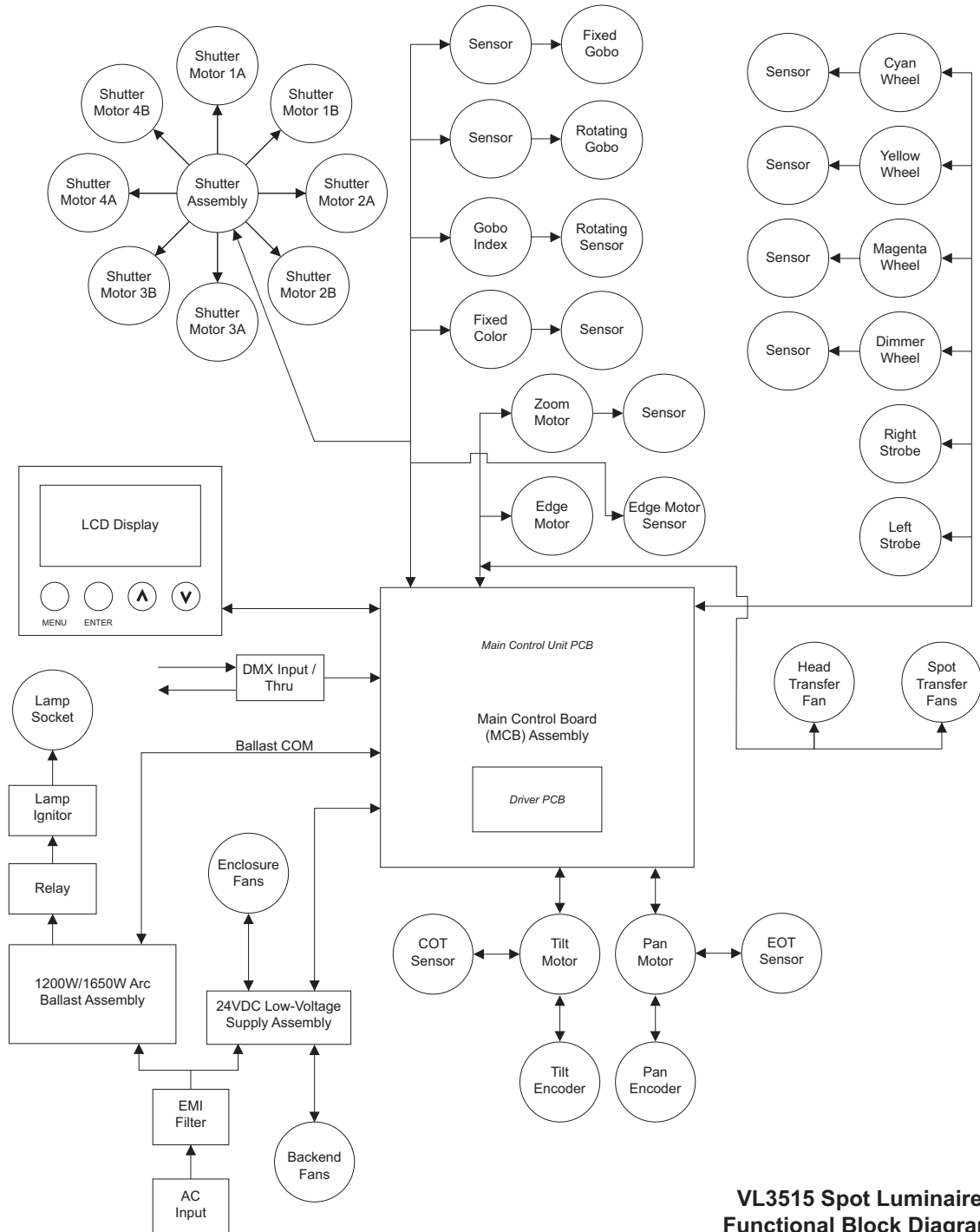
Principles of Operation

VL3015 Spot Luminaire Functional Block Diagram



**VL3015 Spot Luminaire
Functional Block Diagram**

VL3515 Spot Luminaire Functional Block Diagram



Notes

CHAPTER 2.

Maintenance

This chapter contains test, service, and standard maintenance procedures.

- **Testing**
- **Troubleshooting**
- **Maintenance Procedures**



WARNING: All maintenance procedures are to be performed with power removed from the luminaire. Never remove cover or backcap while lamp is in operation.



WARNING: Maintenance, repairs, and adjustments should only be performed by a qualified, factory-trained service technician at an Authorized VARI*LITE Service Center.



SERVICE

Testing

Luminaire Self-Tests

The luminaire is capable of running self tests by using the TEST menu functions. For detailed instructions regarding the luminaire's self-test function, refer to the VL3015 & VL3515 Spot Luminaire User's Manual (02.9679.0002). This manual is available on the Vari-Lite web site, in the product download section, at www.vari-lite.com.

Calibration Sequence - VL3015 Spot Luminaire

Note: This calibration sequence is only for the VL3015 spot luminaire only. For the VL3515 spot luminaire, refer to [“Calibration Sequence - VL3515 Spot Luminaire” on page 15](#).

The following is an outline of the luminaire's standard calibration sequence:

Phase 1

- Strobe

Phase 2

- Tilt
- Gobo1
- Gobo2
- Gobo3

Phase 3

- Gobo1 Index
- Gobo2 Index
- Gobo3 Index
- Color Wheel
- Dimmer

Phase 4

- Edge
- CTO
- Cyan
- Yellow
- Magenta

Phase 5

- Pan
- Zoom
- Beam

Calibration Sequence - VL3515 Spot Luminaire

Note: This calibration sequence is only for the VL3515 spot luminaire only. For the VL3015 spot luminaire, refer to [“Calibration Sequence - VL3015 Spot Luminaire” on page 14.](#)

The following is an outline of the luminaire’s standard calibration sequence:

Phase 1

- Tilt
- Strobe
- Rotating Shutter Assembly
- Color Wheel

Phase 2

- Dimmer
- Shutter Frame 1A
- Shutter Frame 1B
- Shutter Frame 2A
- Shutter Frame 2B

Phase 3

- Shutter Frame 3A
- Shutter Frame 3B
- Shutter Frame 4A
- Shutter Frame 4B

Phase 4

- Edge
- CTO
- Yellow
- Magenta

Phase 5

- Pan
- Zoom
- Cyan

Phase 6

- Index 1
- Rotating Gobo
- Fixed Gobo

Auto Recalibration

Most mechanisms with sensors will check their sensor when at a zero position, if the sensor is not detected within 3 seconds, the mechanism will recalibrate. This applies to all except pan and tilt, and zoom and edge. Pan and tilt are corrected continuously if required by encoders fitted to the motor shaft.



Note: Colors (CTO and CYM) will only auto recalibrate when the dimmer has been closed for 3 seconds.

Partial Recalibration

It is possible to recalibrate sections of the luminaire from a console. This allows greater flexibility and speed by only forcing a recalibration on specific mechanisms. Partial recalibration values (on the control channel) are as follows:

- Hold DMX value 102 for 3 seconds then 0 recal color: Color wheel, CYM, CTO, Dimmer
- Hold DMX value 114 for 3 seconds then 0 recal gobos: Gobo wheels and Index
- Hold DMX value 128 for 3 seconds then 0 recal lenses: Edge, Zoom, and Shutter
- Hold DMX value 140 for 3 seconds then 0 recal Dimmer and Strobe

Sensor Testing

Most mechanisms within the VL3500™ luminaires are equipped with either optical or magnetic sensors. The VL3500™ luminaire master control board (MCB) has labeled test points for reading DC voltages at each sensor. Testing is best performed with a digital voltmeter for sensor readings or an Oscilloscope for pan/tilt encoder readings. The values can be used to determine whether a circuit is opening correctly or needs further troubleshooting.

Guidelines:

- The values will change depending on whether the sensor reading is Open or Closed.
- The values will be different depending on the type of sensor: optical or magnetic.
- As a general rule, if a change occurs from 5v to 0v or visa versa, then it is working.
- An Open reading occurs when the sensor is not aligned - tab not at sensor (typically a non-zero DMX value).
- A Closed reading occurs when the sensor is aligned -tab in or at sensor (typically a zero DMX value).
- Optical sensors read high when the sensor is Closed.
- Magnetic sensors read Low when the sensor is Closed.
- High value - 5 volts (typically 4.9 volts).
- Low value - 0 volts, or up to approximately 0.2 volts.

Notes regarding specific mechanisms:

- The four color mixers will read high when the tab is in the optical sensor.
- The fixed color wheel will read low when the magnet is at the sensor and high at other times.
- The zoom and edge will read high when the sensor is closed, or the tab is in the sensor.

- The gobo wheel reads low when the magnet is at the sensor.
- The gobo index/rotation reads low when the slot is in the sensor.
- Pan and tilt sensors read high when the tab is in the sensor. The mechanism calibrates to the edge and its tab covers 50% of travel. Pan and tilt encoders are best read with a scope to read the encoder ticks.

Notes regarding lamp control:

- The douse command applies a PWM signal to the out line (which can be metered with a simple DC voltage multi meter and will read approx. 4vdc). When the lamp on command is given, this will change depending on which lamp level is selected within the menu or from the console (refer to the VL3015 & VL3515 Spot Luminaire User's Manual). On at full power will be one-half (1/2) PWM (which will meter at approximately 2vdc). On at Medium Power (1200W) will be no PWM signal (0vdc). On at Standby power will be one-quarter (1/4) PWM (which will meter at approximately 1vdc). When the douse command is given the reading should change back to the full PWM (which again will meter at approximately 4vdc). Likewise, the standby circuit goes to standby when approximately 3vdc is received on the standby line. Equally, if approximately 3vdc is applied to the standby line, the lamp will go into standby mode, and if the full PWM is applied to the out line, the lamp will douse.

Troubleshooting

Error Messages - VL3015 Spot Luminaire

Note: Table 2-1, “Error Messages - VL3015 Spot Luminaire,” on page 18 is only for the VL3015 spot luminaire only. For the VL3515 spot luminaire, refer to [“Error Messages - VL3515 Spot Luminaire” on page 19](#).

If a problem occurs during luminaire calibration, at the end of the calibration sequence the Menu Display will cycle through any applicable error message(s), one at a time until the end of the list is reached. To review the error messages again, it will be necessary to access them using the Status function. (Refer to [“Troubleshooting Guide” on page 20](#) for a list of possible causes and remedies associated with the error messages.)

To access error messages:

- Step 1. Press [Menu].
- Step 2. Press [Up] / [Down] arrows until Fixture appears. Press [Enter].
- Step 3. Press [Up]/ [Down] arrows to access Status. Press [Enter]. (Display will now scroll through any error messages or display OK if no errors.)

Table 2-1: Error Messages - VL3015 Spot Luminaire

Display	Message...
OK	No Errors Found
Pan/No Sens	Pan sensor not found.
Pan/Encoder/Fail	Pan encoder failure.
Tilt/No Sens	Tilt sensor not found.
Tilt/Encoder/Fail	Tilt encoder failure.
Index1/No Sens	Gobo 1 Index sensor not found.
Gobo1/No Sens	Rotating Gobo 1 sensor not found.
Index2/No Sens	Gobo 2 Index sensor not found.
Gobo2/No Sens	Rotating Gobo 2 sensor not found.
Index3/No Sens	Gobo 3 Index sensor not found.
Gobo3/No Sens	Rotating Gobo 3 sensor not found.
Dimmer/No Sens	Dimmer sensor not found.
Blue/No Sens	Blue sensor not found.
Amber/No Sens	Amber sensor not found.
Magenta/No Sens	Magenta sensor not found.
ColWheel/No Sens	Color wheel sensor not found.
CTO/No Sens	CTO sensor not found.
Zoom/No Sens	Zoom sensor not found.
Edge/No Sens	Edge sensor not found.

Error Messages - VL3515 Spot Luminaire

Note: Table 2-1, “Error Messages - VL3015 Spot Luminaire,” on page 18 is only for the VL3515 spot luminaire only. For the VL3015 spot luminaire, refer to [“Error Messages - VL3015 Spot Luminaire” on page 18.](#)

If a problem occurs during luminaire calibration, at the end of the calibration sequence the Menu Display will cycle through any applicable error message(s), one at a time until the end of the list is reached. To review the error messages again, it will be necessary to access them using the Status function. (Refer to [“Troubleshooting Guide” on page 20](#) for a list of possible causes and remedies associated with the error messages.)

To access error messages:

- Step 1. Press [Menu].
- Step 2. Press [Up] / [Down] arrows until Fixture appears. Press [Enter].
- Step 3. Press [Up]/ [Down] arrows to access Status. Press [Enter]. (Display will now scroll through any error messages or display OK if no errors.)

Table 2-2: Error Messages - VL3515 Spot Luminaire

Display	Message...
OK	No Errors Found
Pan/No Sens	Pan sensor not found.
Pan/Encoder/Fail	Pan encoder failure.
Tilt/No Sens	Tilt sensor not found.
Tilt/Encoder/Fail	Tilt encoder failure.
Index1/No Sens	Gobo 1 Index sensor not found.
Gobo1/No Sens	Rotating Gobo 1 sensor not found.
Fixed Gobo2/No Sens	Fixed Gobo sensor not found.
Dimmer/No Sens	Dimmer sensor not found.
Blue/No Sens	Blue sensor not found.
Amber/No Sens	Amber sensor not found.
Magenta/No Sens	Magenta sensor not found.
ColWheel/No Sens	Color wheel sensor not found.
CTO/No Sens	CTO sensor not found.
Zoom/No Sens	Zoom sensor not found.
Edge/No Sens	Edge sensor not found.



WARNING: As with any repairs or maintenance to Vari-Lite luminaires, service should only be performed by a trained and qualified service technician or at an Authorized Vari-Lite Service facility.

Troubleshooting Guide

If a problem is suspected, try recalibrating the luminaire to prompt an error message. Refer to “[Error Messages - VL3015 Spot Luminaire](#)” on page 18 or “[Error Messages - VL3515 Spot Luminaire](#)” on page 19 (depending on which product you have) for more information. The chart below provides possible causes and remedies for each message.

Table 2-3: Troubleshooting Guide

Message	Symptom	Description	Possible Cause and Remedy
n/a	No response to DMX data	DMX Failure	MCB connector disconnected... - check MCB DATA IN connection.
n/a	Lamp douses frequently	Lamp Douse	Fan failure... - check fans for proper connection and operation.
n/a	Lamp will not strike	Lamp Strike Failure	Lamp cutout switch disengaged... - check lamp cutout switches at lamp box and fan ducts. Bad lamp... - replace lamp. Low input voltage... - check input power (must be 200 to 264 VAC)
No Sens	No control, continuous recalibration, and/or mechanism at wrong position	Mechanism failed to find sensor (reported for Blue, Amber, Magenta, Col-Wheel, CTO, Gobo1, Index1, Gobo2, Zoom and Edge)	Motor power not connected... - connect motor power. Sensor not connected... - connect sensor. Interconnect board not connected securely... - check connection, inspect for bent pins. Movement restricted or impeded... - remove obstruction, check cable routing, and/or check voltage at MCB test point.
n/a	Luminaire does not power-up	No power	Not plugged in... - ensure A/C cable is connected to power source. - ensure A/C cable properly constructed.
Pan/Encoder/Fail	Luminaire will not pan	Pan Encoder Failure	MCB pan/tilt connector disconnected... - connect MCB pan/tilt connector (J8). Pan motor disconnected - connect pan motor power. Encoder faulty... - replace pan end-of-travel/encoder sensor assembly.

Table 2-3: Troubleshooting Guide (Continued)

Message	Symptom	Description	Possible Cause and Remedy
Pan No Sens	Luminaire will not pan	Pan Sensor Not Found	EOT flag attached to large pulley is not engaging the EOT sensor... - ensure flag is attached to the large pulley. - ensure that flag passes through the sensor at a depth sufficient to engage the sensor beam. Pan belt disconnected, extremely loose or not installed properly... - properly install belt between pan motor and large pulley.
Tilt/ Encoder/ Fail	Luminaire will not tilt	Tilt Encoder Failure	MCB pan/tilt connector disconnected... - connect MCB pan/tilt connector (J8). Tilt motor disconnected - connect tilt motor power. Encoder faulty... - replace tilt end-of-travel/encoder sensor assembly.
Tilt No Sens	Luminaire will not tilt	Tilt Sensor Not Found	EOT flag attached to large pulley is not engaging the EOT sensor... - ensure flag is attached to the large pulley. - ensure that flag passes through the sensor at a depth sufficient to engage the sensor beam. Tilt belt disconnected, extremely loose or not installed properly... - properly install belt between tilt motor and large pulley.
n/a	Color, dimmer or strobe mechanisms will not move	Color, Dimmer, or Strobe Failure	MCB connector disconnected... - check MCB connector at J11. Check Interconnect board.
n/a	Zoom/Edge or beam spreader mechanisms will not move	Zoom/Edge or Beam Spreader Failure	MCB connector disconnected... - check MCB connector at J10. Check Interconnect board.
n/a	Gobo or iris mechanisms will not move	Gobos or Iris Failure	MCB connector disconnected... - check MCB connector at J9. Check Interconnect board.
n/a	Self tests will not run or software download does not work.	DMX Data Input	Detecting DMX data... - disconnect DMX input cable.
n/a	Erratic control of luminaire	DMX Termination	No DMX termination or termination not correct... - check DMX terminator.

Maintenance Procedures



WARNING: As with any repairs or maintenance to VARI*LITE luminaires, service should only be performed by a trained and qualified service technician or at an Authorized Vari-Lite Service facility.

Lamp Replacement

Vari-Lite Part No: 71.9686.1502



WARNING: Ensure that power is removed from luminaire when installing lamp.



CAUTION: Wear cotton gloves or other covering while installing lamp. Touching lamp glass with bare fingers will leave oil and may cause the lamp to explode or reduce lamp life. If touched, use alcohol and cotton cloth to thoroughly clean glass portion of lamp.

To replace lamp:

- Step 1. Ensure power is removed from luminaire.
- Step 2. At rear of luminaire head, loosen four 1/4-turn screws and slide lamp box back and out (it is hinged).
- Step 3. One side at a time, using a small flat-blade screwdriver, carefully pry lamp from socket and remove current lamp.
- Step 4. Position new lamp with dimple side down. One side at a time, press lamp into socket clips. Ensure lamp is seated fully in place.
- Step 5. Close lamp box and re-tighten 1/4-turn screws.
- Step 6. Align lamp as detailed in [“Align Lamp” on page 23](#).



CAUTION:

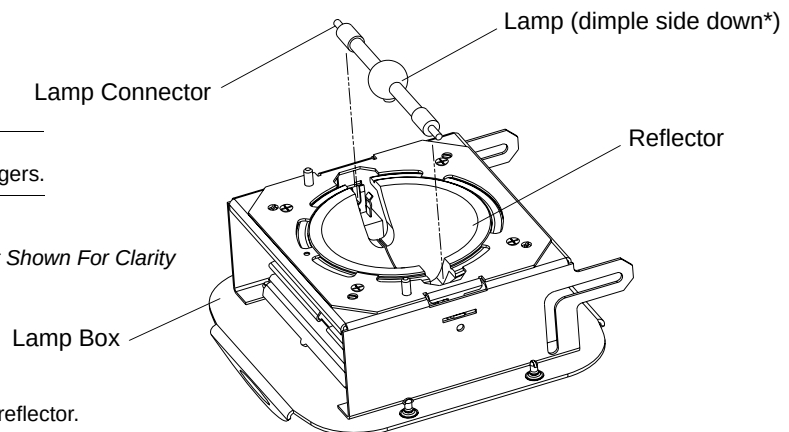
Allow lamp to cool before servicing.



CAUTION:

Do not touch lamp or reflector with bare fingers.

Luminaire Head Not Shown For Clarity



NOTE: *Dimple, on lamp, towards reflector.

Figure 2-1: Installing Lamp

Align Lamp

The design of the VL3015 & VL3515 Spot Luminaire optical system allows for a flat or peaked field. A flat field is one where there is no detectable hot spot and a peaked field is one where the intensity of the beam is greater at the center of the beam than at the perimeter.

After a new lamp or an alternative reflector (refer [“Reflector Change”](#) on page 24) is installed, it will be necessary to align the lamp to optimize the beam. Knobs located at the luminaire’s backcap will allow adjustment.



WARNING: Backcap and adjustment knobs will be HOT during lamp operation. Wear gloves to prevent burns.

To align lamp:

- Step 1. Power-up luminaire.
- Step 2. At Menu Display, select **Lamp** from Test menu (refer to the luminaire menu system in the user’s manual). If using console, set intensity to 100%, open beam size iris and focus for hard edge.
- Step 3. Position beam on a white wall at a distance of 10 to 20 feet.
- Step 4. At backcap, using X, Y and Z adjustment knobs, adjust beam as required.

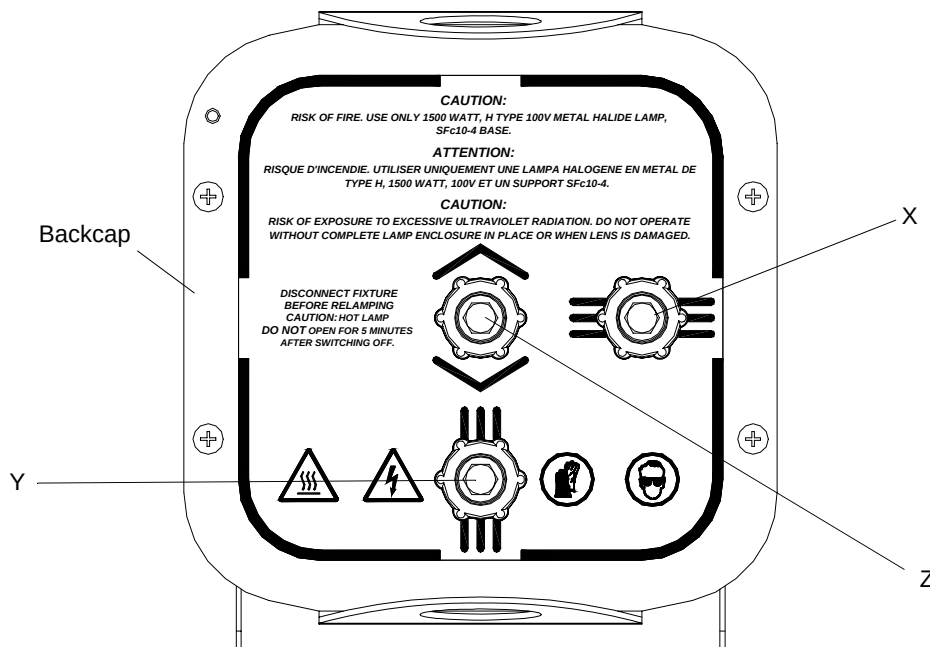


Figure 2-2: Aligning Lamp - Lamp Alignment Knobs

Reflector Change

The VL3015 Spot and VL3515 Spot luminaires come with both a Peaked and Flat Field Reflector. Users can choose between either reflector as desired.

Note: The unit, when shipped from the factory, has the **Peaked Reflector** installed in the unit's hot box and the **Flat Field Reflector** stored in the luminaire head assembly underneath the bottom head cover.

Tools:

#2 Phillips and Flat screwdrivers



WARNING: Remove power from luminaire before performing maintenance. Reflectors will be extremely HOT after operation. Allow to cool before removing and replacing.



CAUTION: Do not touch reflectors with bare fingers. Wear cotton gloves or other covering while removing and replacing. To clean, refer to cleaning instructions found in the user's manual.

To change the reflector:

- Step 1. Remove power from luminaire.
- Step 2. Place luminaire on enclosure on a flat and steady work surface.
- Step 3. Rotate head so bottom head cover is facing up. Bottom head cover is determined by the orientation of the back cap text. When the text is in the correct orientation, the bottom head is the lower head cover.
- Step 4. Remove bottom head cover by loosening four 1/4-turn screws as shown in [Figure 2-3](#).

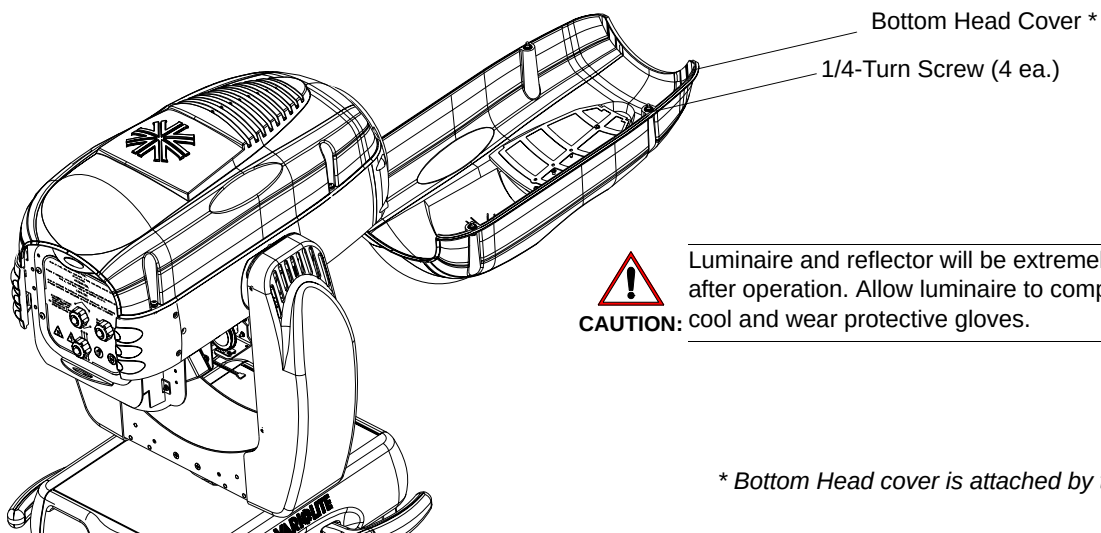


Figure 2-3: Bottom Head Cover Removal

- Step 5. As shown in [Figure 2-4](#), remove stored reflector by removing acorn nut and foam washer securing reflector in luminaire head assembly. Set reflector aside on a soft clean cloth.

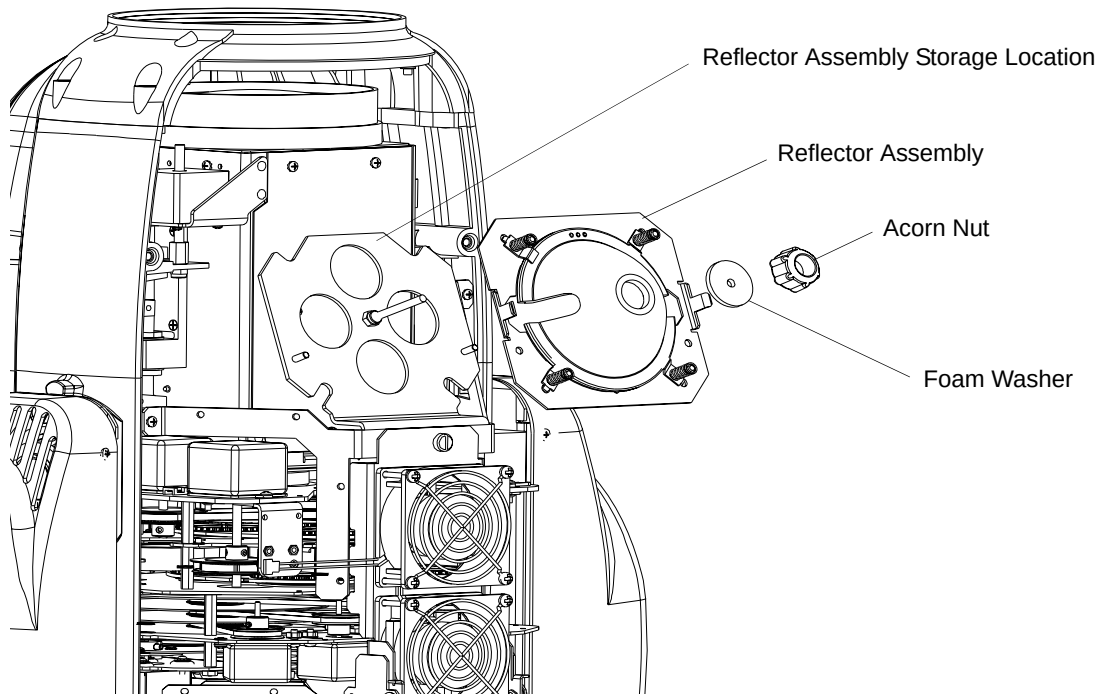


Figure 2-4: Reflector Removal (From Storage Location)

- Step 6. As shown in [Figure 2-5](#), at rear of luminaire head (hot box assembly), loosen four 1/4-turn screws and slide lamp box back and out (it is hinged).
- Step 7. One side at a time, using a small flat-blade screwdriver, carefully pry lamp from socket and remove lamp. Set lamp aside on a soft clean cloth.

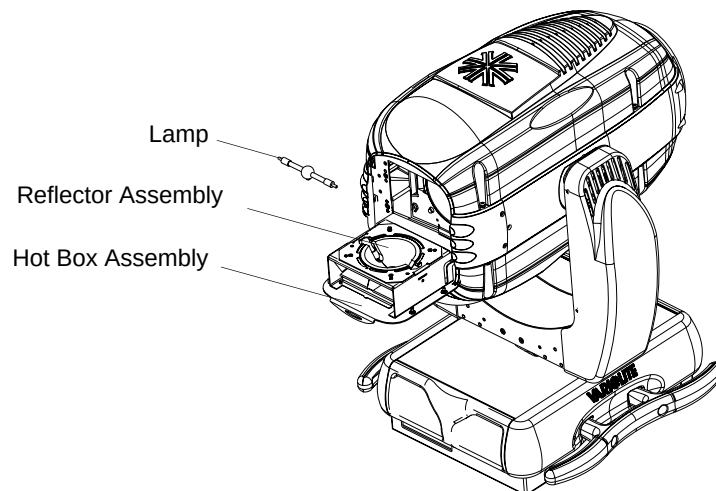


Figure 2-5: Lamp Removal

- Step 8. Using a flat screwdriver, remove current reflector from hot box assembly as follows:
- Press tabs (one on each side) securing reflector assembly into hot box (as shown in [Figure 2-6](#)), inwards to release reflector assembly.
 - Gently pull reflector assembly straight up and away from hot box assembly.



CAUTION:

You must remove lamp before removing reflector assembly. Do not touch reflector with bare fingers. Wear cotton gloves.

Reflector Assembly

Hot Box Assembly

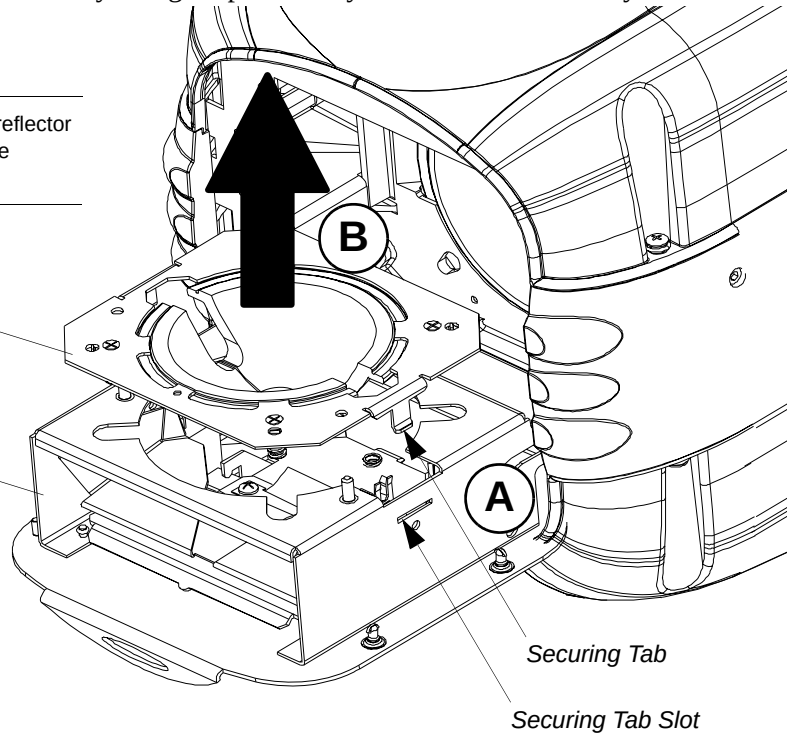


Figure 2-6: Reflector Removal

- Step 9. Install replacement reflector by positioning reflector into hot box assembly and press into place (press only on the metal portion of the reflector assembly, not the reflector itself). Securing tabs will engage hot box assembly holding the reflector in place.
- Step 10. Reinstall lamp with dimple side down. One side at a time, press lamp into socket clips. Ensure lamp is seated fully in place.
- Step 11. Close lamp box and re-tighten 1/4-turn screws.



CAUTION: In next step, do not over tighten nut or damage to reflector may occur!

- Step 12. Install removed reflector in storage location in luminaire head as illustrated in [Figure 2-4](#). Make sure the foam washer is between the reflector assembly and the acorn nut.
- Step 13. Reinstall bottom head cover.
- Step 14. Align lamp as detailed in [“Align Lamp” on page 23](#).

Gobo Replacement - Gobo Wheels 1, 2, and 3



WARNING: Remove power from luminaire before performing maintenance. Gobos may be HOT after operation. Allow to cool before replacing.



WARNING: Users of VARI*LITE luminaires should not install or use metal gobos. The use of metal gobos in any VARI*LITE product may damage the luminaire and could void the luminaire's warranty.

To remove and replace a gobo:

Step 1. Remove power from luminaire.

Step 2. Remove appropriate head cover by loosening four 1/4-turn screws:

a. For VL3015 spot luminaires:

1) To access Wheel 1 and 3, remove bottom cover as shown in [Figure 2-7](#).

2) To access Wheel 2, remove top cover as shown in [Figure 2-7](#)

b. For VL3515 spot luminaires:

1) To access Fixed Gobo Wheel, remove bottom cover as shown in [Figure 2-7](#).

2) To access Rotating Gobo Wheel, remove top cover as shown in [Figure 2-7](#).

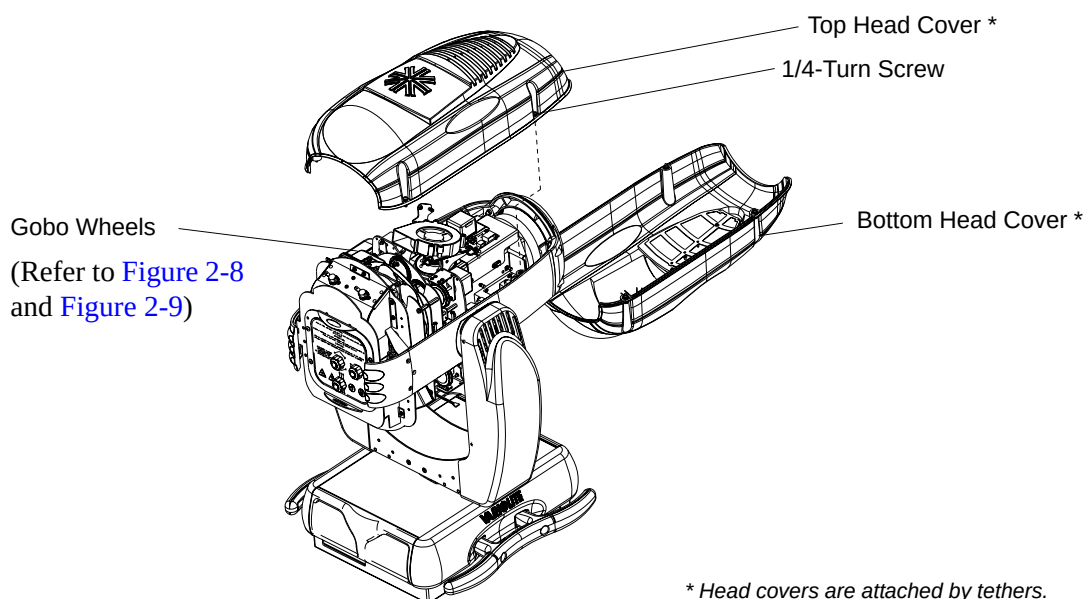


Figure 2-7: Head Cover Removal

Step 3. If accessing Wheel 1 or 3, also raise hinged fan assembly.

Step 4. Rotate gobo wheel until required gobo position is accessible.



CAUTION: Do not push on gobo glass. Press on gobo carrier only.



CAUTION: Do not touch gobos with bare fingers. Wear cotton gloves or other covering while replacing. Clean with glass cleaner and soft cloth if required.

- Step 5. As shown in [Figure 2-8](#), for Gobo Wheels 1, 2 and 3 (VL3015 spot) and Rotating Gobo Wheel (VL3515 spot):
- Remove current gobo by carefully pressing on edges of gobo carrier with fingers, pressing gobo toward front end of luminaire (*toward lens*), and out of wheel.
 - Install new gobo as follows:
 - Align three tabs on gobo carrier with three notches in wheel (*gobo can only be oriented in one direction*).
 - Insert gobo carrier into wheel, ensuring that carrier snaps into place.
 - Close fan assembly and tighten captive screw.
 - Replace covers.

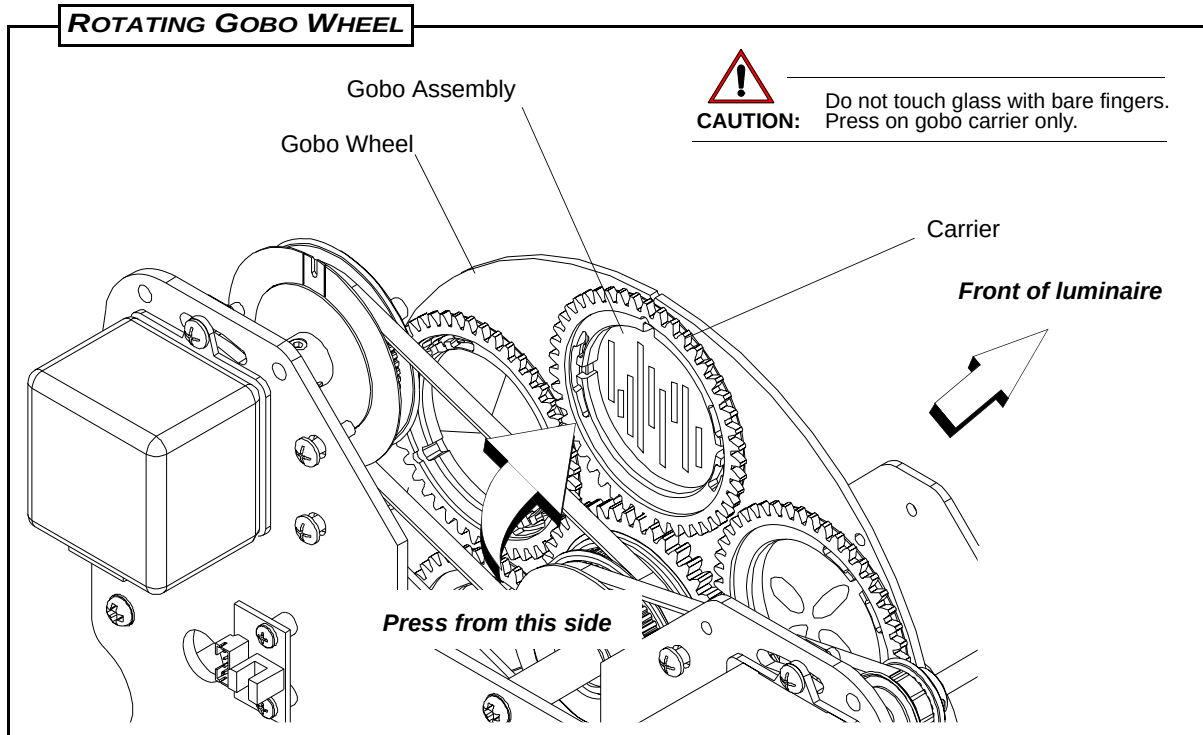


Figure 2-8: Rotating Gobo Wheel - Gobo Replacement

- Step 6. For Fixed Gobo Wheel (VL3515 spot):
- Release (open) spring retaining clip as shown in [Figure 2-9](#).
 - Slide gobo out of gobo wheel.
 - Slide new gobo in wheel (*note, be sure key on gobo carrier fits into slot*).

- d. Reinstall (close) gobo spring retaining clip. Ensure clips are positioned correctly and clear position sensor.
- e. Replace covers.

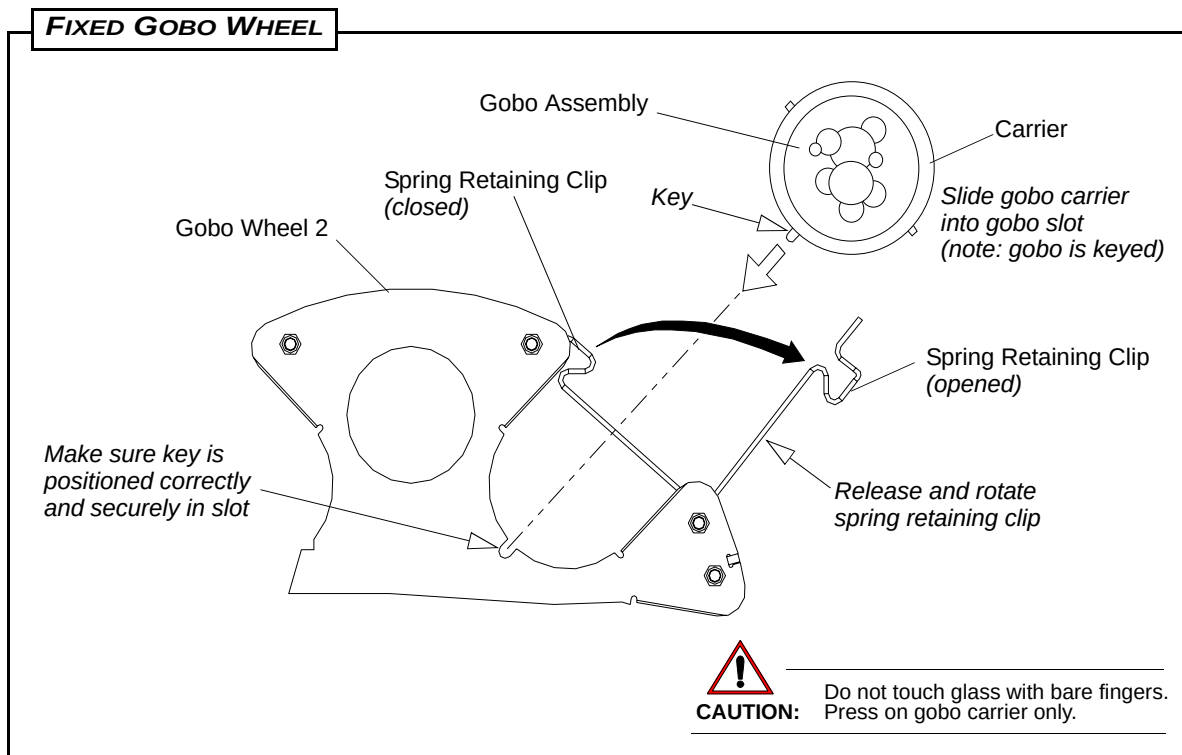


Figure 2-9: Fixed Gobo Wheel - Gobo Replacement

Color Filter Replacement



WARNING: Remove power from luminaire before performing maintenance. Filters may be HOT after operation. Allow to cool before replacing.

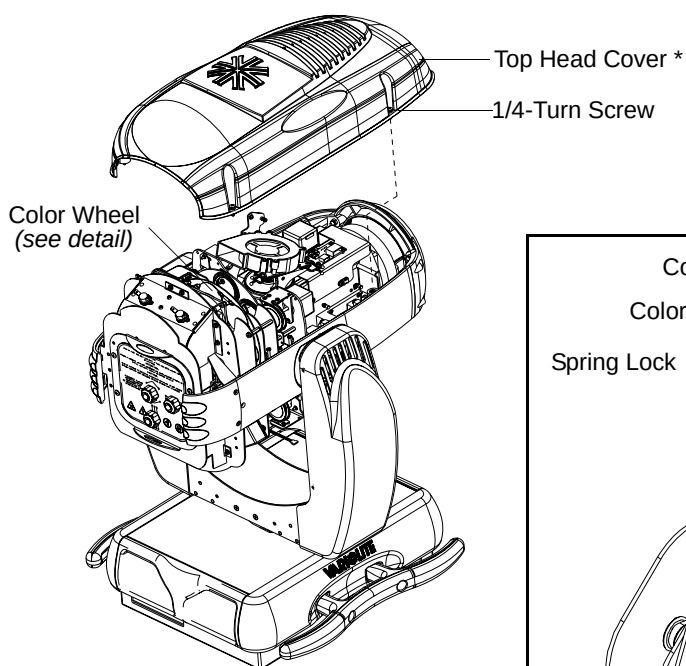
To remove and replace a color filter:

- Step 1. Remove power from luminaire.
- Step 2. Remove top head cover by loosening four 1/4-turn screws as shown in [Figure 2-10](#).



CAUTION: Do not touch filters with bare fingers. Wear cotton gloves or other covering while replacing. Clean with glass cleaner and soft cloth if required.

- Step 3. Rotate color wheel until required filter position is accessible.
- Step 4. Press spring lock back until color filter is free and remove filter.
- Step 5. Install new filter (*note, filter must be installed with coating side towards lamp*) ensuring that it is securely in position.
- Step 6. Replace head cover.



* Head covers are attached by tethers.



CAUTION: Do not touch filter with bare fingers. Wear cotton gloves.

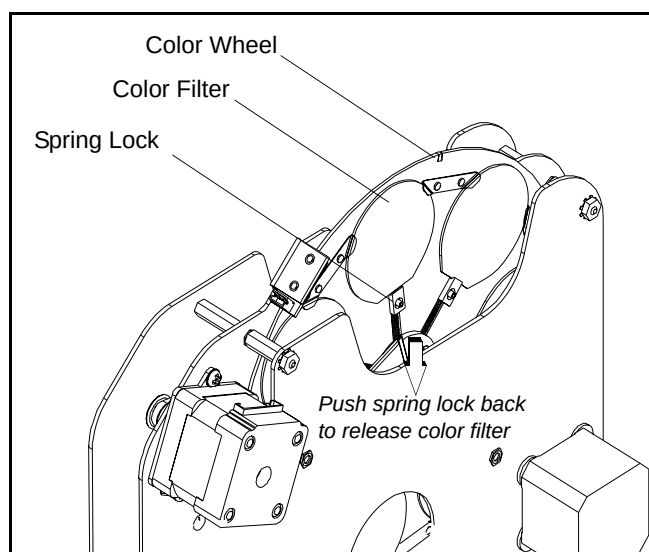


Figure 2-10: Color Filter Replacement

Ballast Assembly Replacement

Vari-Lite Part No: 69.9679.1216

To remove and replace ballast assembly:

- Step 1. Using console or internal menus, run lens as far to the rear as possible.
- Step 2. Remove power from luminaire.



WARNING: You must remove all power from luminaire before performing maintenance. Fixture may be very HOT after operation. Allow it to cool completely before performing any maintenance.

- Step 3. At each top enclosure cover, remove two 6-32 x 1/4" PPB screws and remove cover.
- Step 4. In each corner from top, remove four 6-32 x 3/8" PPZ screws.



CAUTION: Be careful not to damage lens during next step.

- Step 5. Carefully lay luminaire on its side, ensuring that lens does not come into contact with any surface.
- Step 6. At bottom of enclosure, remove four 1/4-20 x 1-5/8" socket screws and 1/4" split lock washers and remove ventilation cover.

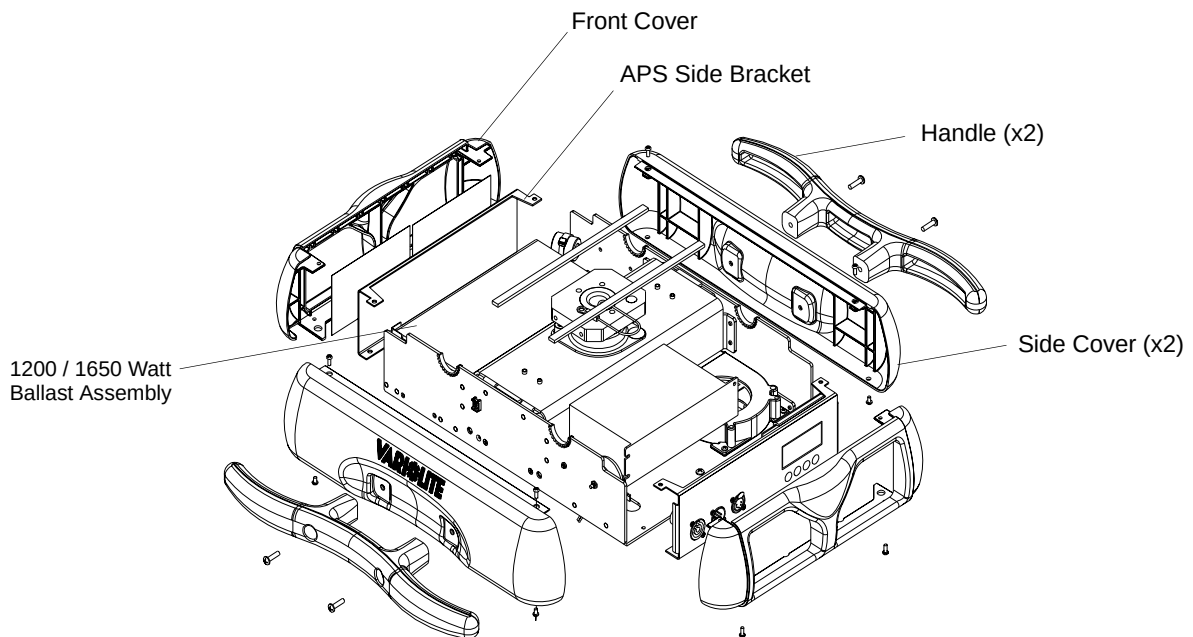


Figure 2-11: Ballast Cover / Handle Removal

- Step 7. Remove both handles by removing two 10-32 x 3/4" PPB screws at each.
- Step 8. At enclosure bottom, remove four 6-32 x 1/4" PPB screws and both side covers.

- Step 9. At enclosure bottom, remove two 6-32 x 3/8" PPB screws, APS side bracket and front cover from ballast side.
- Step 10. At bottom of enclosure, disconnect exhaust fan cable.
- Step 11. At exhaust fan, remove four 8/32 x 3/8" screws. Remove exhaust fan from enclosure assembly.
- Step 12. At ballast, disconnect following cable assemblies:
- Lamp wires
 - AC input
 - Control wiring
- Step 13. Pull lamp wires through ferrite core.
- Step 14. At bottom of enclosure, remove three 8-32x3/8" PFZ screws and four 8/32x3/8" PPZ screws which secure ballast module to enclosure.
- Step 15. Remove ballast module.
- Step 16. Install replacement assembly by performing previous steps in reverse order.

NOTE:

Some components not shown for clarity.

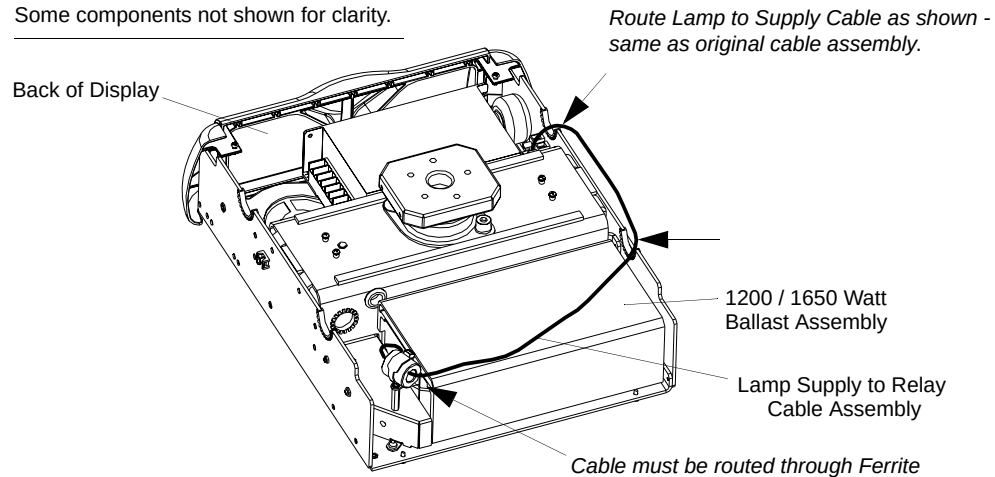


Figure 2-12: Ballast Replacement

Color/Dimmer/Strobe Assembly Replacement

Vari-Lite Part No: 21.9679.0402

To remove and replace color/dimmer/strobe assembly:

Step 1. Remove power from luminaire.



WARNING: You must remove all power from luminaire before performing maintenance. Fixture may be very HOT after operation. Allow it to cool completely before performing any maintenance.

Step 2. Remove top head cover by loosening four 1/4 turn captive stud connectors.

Note: The top cover is easily identified as follows - maneuver head so the printing on the label on the rear of the head assembly is oriented correctly.

Step 3. Disconnect wiring harness from interconnect PCB.

Step 4. Remove interconnect PCB by pushing top of PCB off studs.

Step 5. Loosen four captive screws (two per clamp). (Note: Do NOT remove long phillips head screw, it serves as a handle.)

Step 6. Pull assembly straight up and out of luminaire.

Step 7. Replace assembly by performing previous steps in reverse order.

Note: Always tighten MCB-side clamps FIRST when installing.

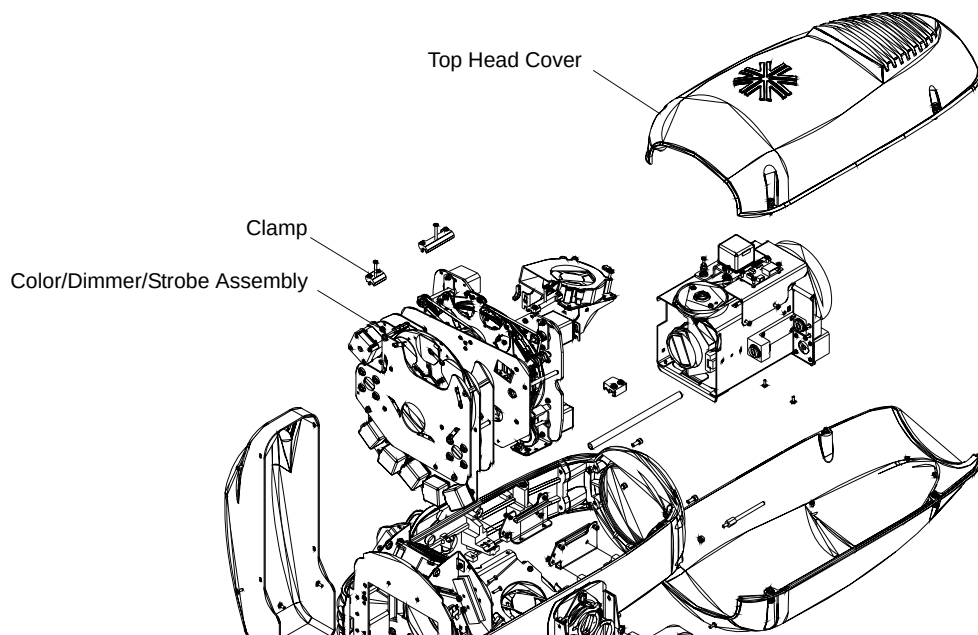


Figure 2-13: Color/Dimmer/Strobe Assembly Replacement

Main Control Board (MCB) Replacement

Vari-Lite Part No: 24.9679.0730 (VL3015 Only)

Vari-Lite Part No: 24.9679.1730 (VL3515 Only)

To remove and replace main control board (MCB):

Step 1. Remove power from luminaire.



WARNING: You must remove all power from luminaire before performing maintenance. Fixture may be very HOT after operation. Allow it to cool completely before performing any maintenance.



Note: To determine which yoke leg is which without having to remove the covers, rotate yoke counterclockwise until it stops, then look at the luminaire while facing the input panel. The tilt-side leg is the leg to the left; the board-side leg is the leg to the right.

Step 2. At board-side leg, remove yoke leg cover by removing four 6-32x3/8" PTB screws.



CAUTION: Always use anti-static precautions when working with PCBs.

Step 3. Only VL3515 spot luminaires only:

- a. Disconnect wiring harness connectors J2 (on daughter board) J8, J9, J10 and J11.
- b. Remove two 6-32 x 3/8" PPZ screws and remove daughter board.

Step 4. At MCB:

- a. *On VL3015 luminaires:* Remove two 6-32 x 3/4" PPZ screws and gently tilt MCB away from yoke assembly.
- b. *On VL3515 luminaires:* remove to 6-32 x 1/4" standoffs and gently tilt MCB away from yoke assembly

Step 5. Disconnect wiring harness connectors J1, J2, J3, J4, and J12 at back of MCB.

Step 6. Install replacement assembly by performing previous steps in reverse order.

Step 7. Configure using menu functions as necessary.

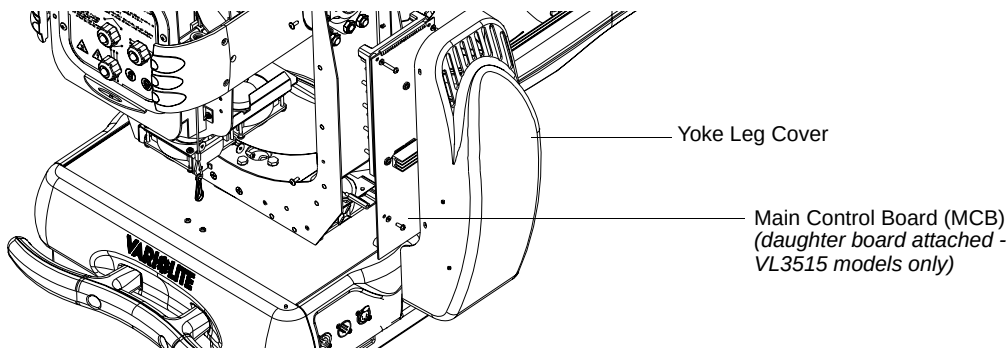


Figure 2-14: Main Control Board (MCB) Replacement

Ignitor Board Replacement

Vari-Lite Part No: 24.9661.3126

To remove and replace ignitor board assembly:

Step 1. Remove power from luminaire.



WARNING: You must remove all power from luminaire before performing maintenance. Fixture may be very HOT after operation. Allow it to cool completely before performing any maintenance.

Step 2. At tilt-side leg, remove yoke leg cover by removing four 6-32x3/8" PTB screws.



CAUTION: Always use anti-static precautions when working with PCBs.

Step 3. Disconnect ignitor PCB wires by removing four screws which secure wire ring terminals to PCB and remove ignitor PCB.



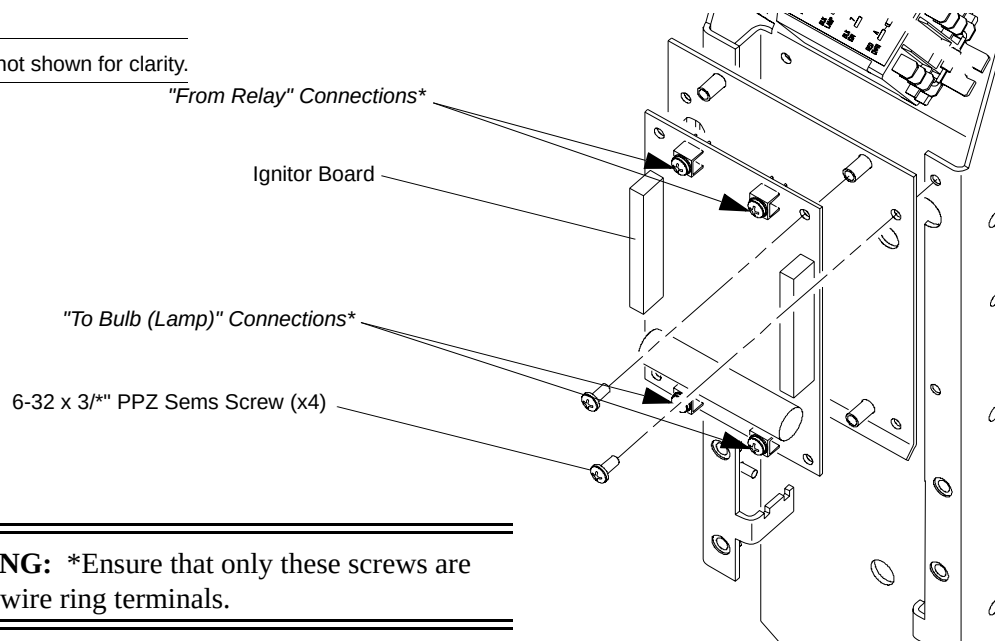
WARNING: Ensure that only these screws are used for wire ring terminals (removed in Step 3). DO NOT USE SUBSTITUTES!

Step 4. Remove four 6-32 x 3/8" LG PPZ SEMS screws and remove ignitor PCB.

Step 5. Replace by performing previous steps in reverse.

Note: Make sure and orient ignitor properly (as shown in [Figure 2-15](#)).

NOTE: _____
Some components not shown for clarity.



WARNING: *Ensure that only these screws are used for wire ring terminals.

Figure 2-15: Ignitor Board Replacement

Pan Motor Assembly/Pan Belt Replacement

Vari-Lite Part No: 21.9678.8864 (Pan Motor)

Vari-Lite Part No: 54.2055.0001 (Pan Belt)

To remove and replace pan motor assembly / pan belt:

Step 1. Using console or internal menus, run lens as far to the rear as possible.

Step 2. Remove power from luminaire.



WARNING: You must remove all power from luminaire before performing maintenance. Fixture may be very HOT after operation. Allow it to cool completely before performing any maintenance.

Step 3. At each top enclosure cover, remove two 6-32x1/4" PPB screws and remove cover.

Step 4. In each corner from top, remove four 6-32x3/8" PPZ screws.



CAUTION: Be careful not to damage lens during next step.

Step 5. Carefully lay luminaire on its side, ensuring that lens does not come into contact with any surface.

Step 6. At bottom of enclosure, remove four 1/4-20 x 1-5/8" socket screws and 1/4" split lock washers and remove ventilation cover.

Step 7. Remove pan motor side handle by removing two 10-32 x 3/4" PPB screws.

Step 8. At enclosure bottom, remove two 6-32 x 1/4" PPB screws and pan motor side cover.

Step 9. At side of enclosure, remove two 6-32 x 3/8" PFZ screws and two 6-32 KEPS nuts that hold two cable saddles. Pull wiring out of way of pan motor.

Step 10. Loosen (but do not remove) four 10-32 x 3/4" SCB Cap screws.

Step 11. Move pan motor assembly toward pan pulley and remove belt.

Step 12. Remove four 10-32 x 3/4" SCB Cap screws.

Step 13. Pull assembly out (be mindful of tension springs).

Step 14. Disconnect wiring.

Step 15. Replace by performing previous steps in reverse order.



Note: Make sure wiring is not pinched during installation. When tightening four 10-32 x 3/4" SCB Cap screws that mount Pan Motor Assembly, you must tighten in a CLOCKWISE pattern starting with screw in lower left-hand side from spring.

Repair/Replacement Procedure (Pan Belt)

Step 1. Using console or internal menus, run lens as far to the rear as possible.

Step 2. Remove power from luminaire.



WARNING: You must remove all power from luminaire before performing maintenance. Fixture may be very HOT after operation. Allow it to cool completely before performing any maintenance.

Step 3. At each top enclosure cover, remove two 6-32x1/4" PPB screws and remove cover.

Step 4. Disconnect the following cable assemblies:

- a. Disconnect lamp wire from J202 and J203.
- b. Disconnect DC wire from LVS.
- c. Disconnect DMX wire from DMX PCB.
- d. Disconnect Display wire from Display.
- e. Remove ground wire from chassis.

Step 5. Remove pan motor assembly. See ["To remove and replace pan motor assembly / pan belt:"](#) on page 36.

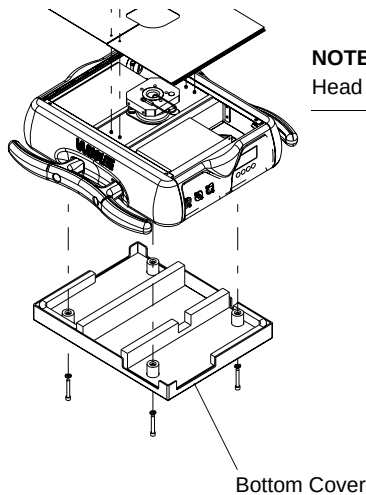
Step 6. Pass wire through routing hole in chassis

Step 7. Remove belt.

Step 8. Replace by performing previous steps in reverse.



Note: Make sure wiring is not pinched during installation. When tightening four 10-32x3/4" SCB Cap screws that mount Pan Motor Assembly, you must tighten in a CLOCKWISE pattern starting with screw in lower left-hand side from spring.



NOTE: _____
Head not shown for clarity.

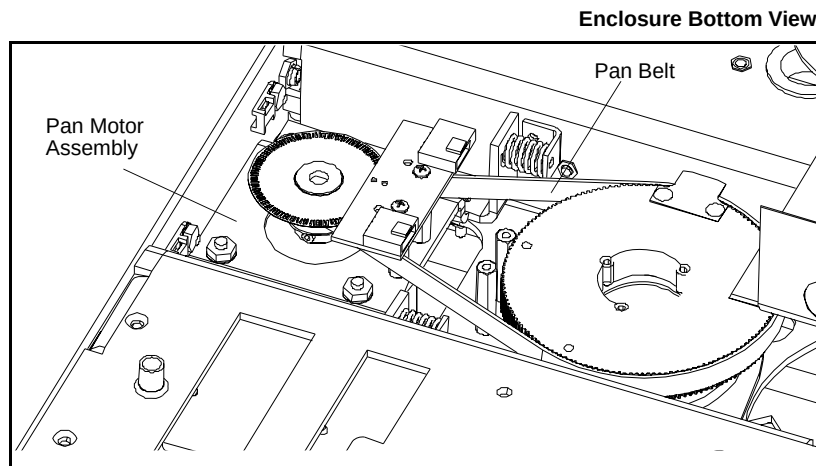


Figure 2-16: Pan Motor Assembly Replacement

Pan Encoder PCB Replacement

Vari-Lite Part No: 24.9678.5000

To remove and replace pan encoder PCB:

- Step 1. Using console or internal menus, run lens as far to the rear as possible.
- Step 2. Remove power from luminaire.



WARNING: You must remove all power from luminaire before performing maintenance. Fixture may be very HOT after operation. Allow it to cool completely before performing any maintenance.

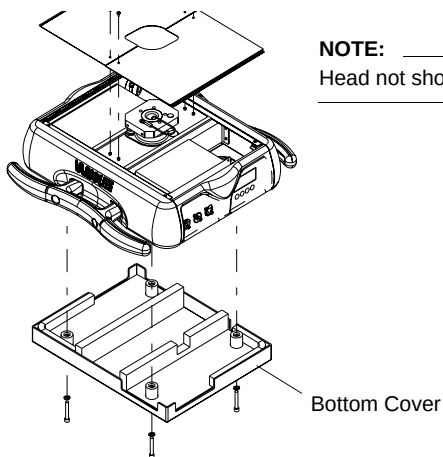


CAUTION: Be careful not to damage lens during next step.

- Step 3. Carefully lay luminaire on its side, ensuring that lens does not come into contact with any surface.
- Step 4. At bottom of enclosure, remove four 1/4-20 x 1-5/8" socket screws and 1/4" split lock washers and remove ventilation cover.
- Step 5. At encoder PCB, remove two 4-40 x 1/4" PPZ screws.
- Step 6. Disconnect wiring from encoder board.
- Step 7. Replace by performing previous steps in reverse order.



Note: Make sure the encoder disk passes through the optical sensor.



NOTE: Head not shown for clarity.

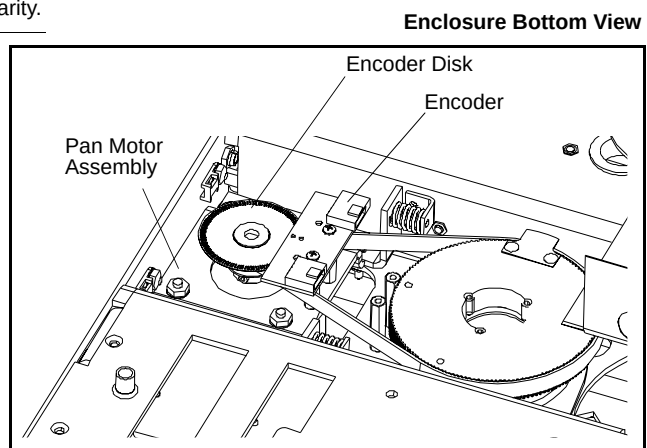


Figure 2-17: Pan Encoder PCB Replacement

Pan EOT Sensor Replacement

Vari-Lite Part No: 23.9678.0687

To remove and replace pan EOT sensor:

- Step 1. Using console or internal menus, run lens as far to the rear as possible.
- Step 2. Remove power from luminaire.

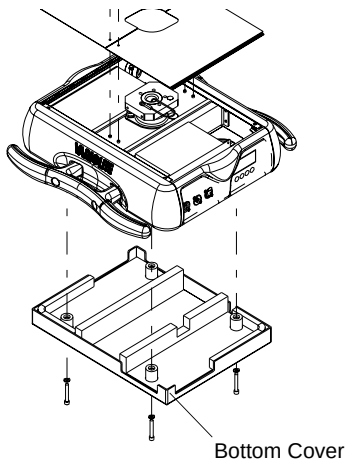


WARNING: You must remove all power from luminaire before performing maintenance. Fixture may be very HOT after operation. Allow it to cool completely before performing any maintenance.



CAUTION: Be careful not to damage lens during next step.

- Step 3. Carefully lay luminaire on its side, ensuring that lens does not come into contact with any surface.
- Step 4. At bottom of enclosure, remove four 1/4-20 x 1-5/8" socket screws and 1/4" split lock washers and remove ventilation cover.
- Step 5. At pan sensor, remove two 6-32 x 3/8" PPZ screws.
- Step 6. Disconnect wiring from encoder PCB and remove sensor.
- Step 7. Replace sensor by performing previous steps in reverse order.



NOTE:
Head not shown for clarity.

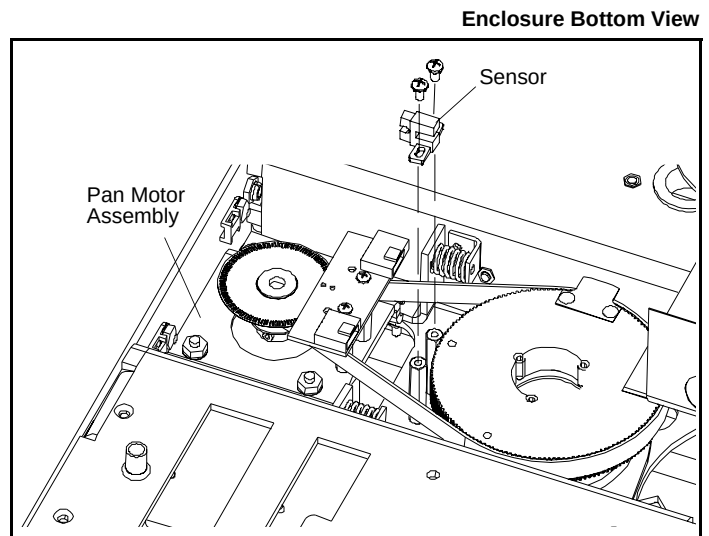


Figure 2-18: Pan EOT Sensor Replacement

Power Supply (LVS) Replacement

Vari-Lite Part No: 69.3176.0201

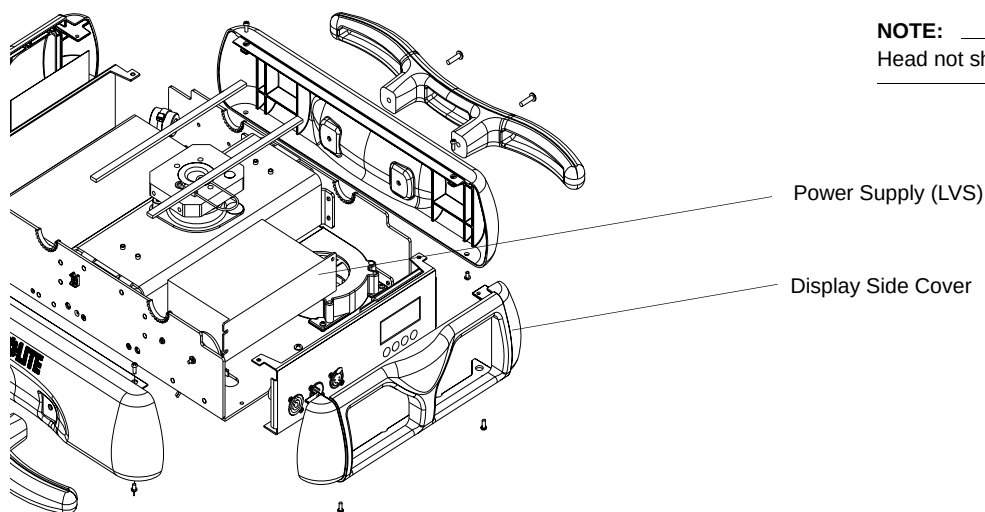
To remove and replace LVS:

Step 1. Remove power from luminaire.



WARNING: You must remove all power from luminaire before performing maintenance. Fixture may be very HOT after operation. Allow it to cool completely before performing any maintenance.

Step 2. At enclosure, remove two 6-32 x 1/4" LG PPZ screws from display side cover and remove cover.



NOTE: _____
Head not shown for clarity.

Figure 2-19: Power Supply (LVS) Replacement

Step 3. At power supply, disconnect wiring (including ground wire):

Location	Connector
N	White AC Wires
L	Black AC Wires
V +	Red DC Wires
V +	Red DC Wires
V -	Black DC Wires
V -	Black DC Wires

Step 4. Remove one 6-32 x 3/8" LG PPZ screw.

Step 5. Loosen two 6-32 x 3/8" LG PPZ screws and slide LVS towards upper enclosure fan to remove.

Step 6. Replace by performing previous steps in reverse order.

Gobo/Iris Assembly Replacement

Vari-Lite Part No: 21.9679.0200 (VL3015 Spot)

To remove and replace gobo/iris assembly:

Step 1. Run Edge to full forward position (DMX 255).

Step 2. Remove power from luminaire.



WARNING: You must remove all power from luminaire before performing maintenance. Fixture may be very HOT after operation. Allow it to cool completely before performing any maintenance.

Step 3. Remove top head cover by loosening four quarter-turn captive locking screws. Top cover is identifiable as the cover on top when back label is such that words are displayed correct side up.

Note: Before disconnecting any wiring/cables, make note of all wire/cable routing.

Step 4. Disconnect head cable from Color Assembly Interconnect PCB, remove wiring from Transfer Fan clips.

Step 5. Disconnect Transfer Fan and aperture fan wiring from Zoom Interconnect PCB.

Step 6. Disconnect wiring harness from Interconnect PCB.

Step 7. Remove interconnect PCB by gently pushing top of PCB off studs.

Step 8. At Gobo / Iris Assembly clamps, loosen four 6-32 captive screws (two per clamp) and remove clamp. (Note: the large Phillips screw in the middle is used as a handle, DO NOT try to loosen that screw).

Step 9. Pull Gobo / Iris Assembly straight out of fixture.

Step 10. Replace by performing previous steps in reverse order.

Note: Always tighten MCB-side clamps FIRST when installing.

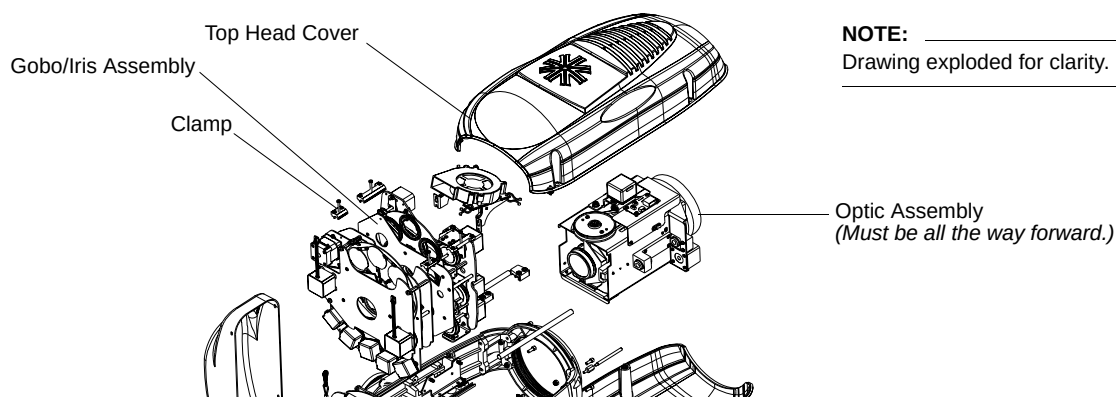


Figure 2-20: Gobo/Iris Assembly Replacement

Gobo/Shutter Assembly Replacement

Vari-Lite Part No: 21.9679.1200 (VL3515 Spot)

To remove and replace gobo/shutter assembly:

- Step 1. Run Edge to full forward position (DMX 255).
Step 2. Remove power from luminaire.



WARNING: You must remove all power from luminaire before performing maintenance. Fixture may be very HOT after operation. Allow it to cool completely before performing any maintenance.

- Step 3. Remove top head cover by loosening four quarter-turn captive locking screws. Top cover is identifiable as the cover on top when back label is such that words are displayed correct side up.

Note: Before disconnecting any wiring/cables, make note of all wire/cable routing.

- Step 4. Disconnect head cable from Color Assembly Interconnect PCB, remove wiring from Transfer Fan clips.
Step 5. Disconnect Transfer Fan and aperture fan wiring from Zoom Interconnect PCB.
Step 6. Disconnect head cables from Gobo / Shutter Assembly Interconnect PCB.
Step 7. At Gobo / Shutter Assembly clamps, loosen four 6-32 captive screws (two per clamp) and remove clamp. (Note: the large Phillips screw in the middle is used as a handle, DO NOT try to loosen that screw).
Step 8. Pull Gobo / Shutter Assembly straight out of fixture.
Step 9. Replace by performing previous steps in reverse order.

Note: Always tighten MCB-side clamps FIRST when installing.

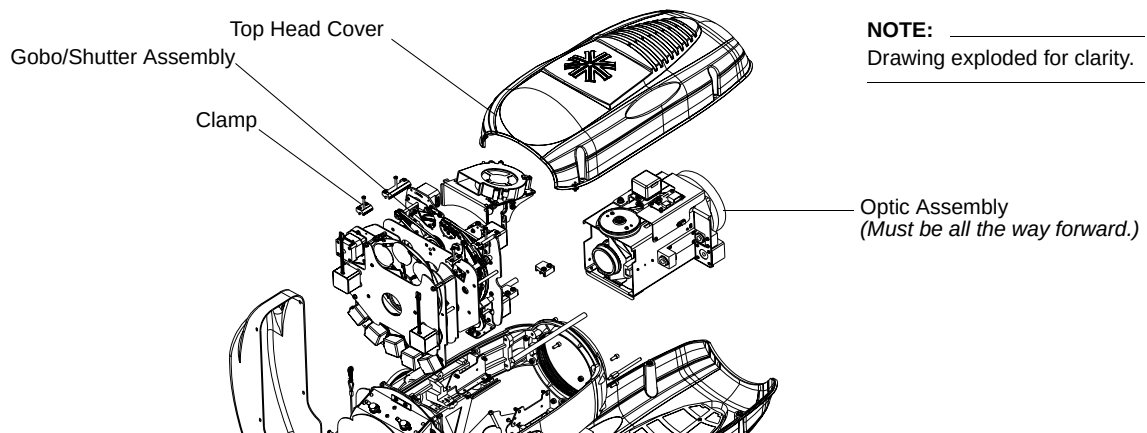


Figure 2-21: Gobo/Shutter Assembly Replacement

Spot Optic Assembly Replacement

Vari-Lite Part No: 22.9678.0103

To remove spot optics assembly:

Step 1. Remove power from luminaire.



WARNING: You must remove all power from luminaire before performing maintenance. Fixture may be very HOT after operation. Allow it to cool completely before performing any maintenance.

- Step 2. Remove both top and bottom head covers by loosening four quarter-turn captive locking screws.
- Step 3. Disconnect wiring for transfer fan and aperture fan wiring, and color/gobo fans as well as head cable from zoom interconnect PCB.
- Step 4. Cut case tie wrap holding zoom harness to optics assembly
- Step 5. Remove appropriate assembly for fixture:
- For VL3015 fixtures:* remove Gobo/Iris Assembly. (See [“Gobo/Iris Assembly Replacement” on page 41.](#))
 - For VL3515 fixtures:* remove Gobo/Shutter Assembly. (See [“Gobo/Shutter Assembly Replacement” on page 42.](#))
- Step 6. Remove one 8-32 Hex Nut from Actuator shaft.



CAUTION: Lens will move freely. Be careful not to drop or damage lens.

- Step 7. Loosen 8 captive 6-32 screws from the four mounting clamps (two per clamp).
- Step 8. Free Actuator shaft from casting.
- Step 9. Carefully pull Optics Assembly from fixture.

To install spot optics assembly:

- Step 1. Thread Actuator shaft into motor until hex head of shaft touches motor.
- Step 2. Insert guide rods into bearings.
- Step 3. Carefully place optics assembly back into fixture.
- Step 4. Align guide rods to be flush with lamp side bracket.
- Step 5. Install but **DO NOT** tighten four mounting clamps.
- Step 6. Tighten the actuator motor side clamps **FIRST**. Then tighten opposite side.
- Step 7. Check that optics assembly moves freely. If it binds, loosen the mounting clamps and reset guides. Repeat until lens moves freely.
- Step 8. Install 8-32 Hex nut on actuator shaft.

Step 9. Finish by performing steps, in “To remove spot optics assembly:” on page 43, in reverse order.



Note: Test edge function. If binding, lead screw is not straight. Loosen nut and retighten. To prevent binding, thread edge screw all the way into linear actuator motor before re-installing. Secure right-side optic assembly clamps first when re-installing.

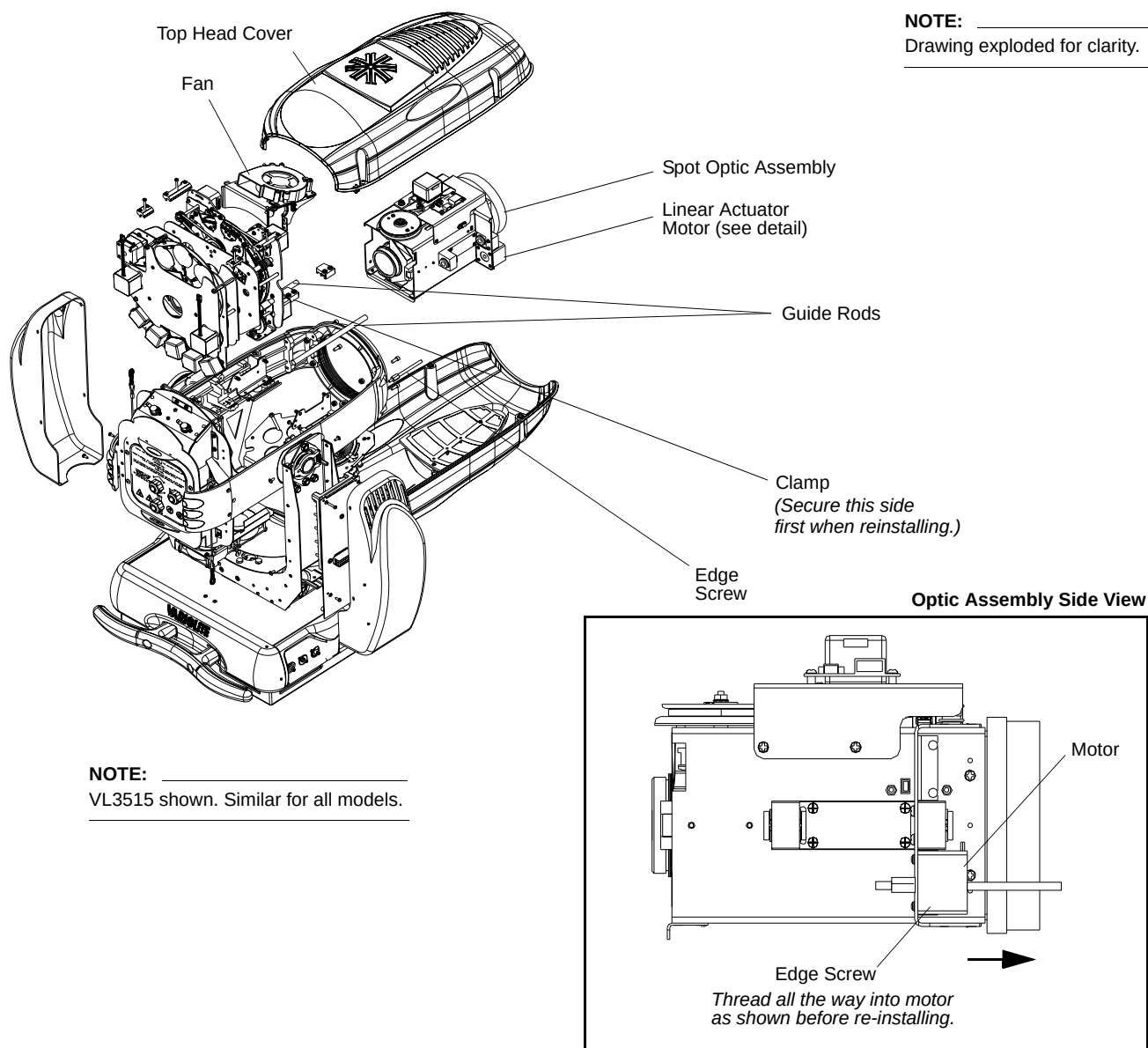


Figure 2-22: Spot Optic Assembly Replacement

Tilt Motor Assembly and Tilt Belt Replacement

Vari-Lite Part No: 21.9678.8765 (Tilt Motor)

Vari-Lite Part No: 54.2055.0001 (Tilt Belt)

To remove and replace tilt motor:

Step 1. Remove power from luminaire.



WARNING: You must remove all power from luminaire before performing maintenance. Fixture may be very HOT after operation. Allow it to cool completely before performing any maintenance.

Step 2. At tilt-side leg, remove yoke leg cover by removing four 6-32 x 3/8" PTB screws.

Step 3. At tilt motor assembly, loosen four 10-32 x 1/2" PPZ screws.

Step 4. Remove belt from tilt pulley.

Step 5. Remove four 10-32 x 1/2" PPZ screws. Be mindful of tensioning springs.

Step 6. Disconnect wiring and remove tilt assembly.

Step 7. Replace by performing previous steps in reverse order.



Note: Make sure wiring is not pinched during installation. When tightening four 10-32 x 1/2" PPZ screws that mount Pan Motor Assembly, you must tighten in a CLOCKWISE pattern starting with screw in lower left-hand side from spring.

To remove and replace tilt motor belt:

Step 1. Remove power from luminaire.



WARNING: You must remove all power from luminaire before performing maintenance. Fixture may be very HOT after operation. Allow it to cool completely before performing any maintenance.

Step 2. At tilt-side leg, remove yoke leg cover by removing four 6-32x3/8" PTB screws.

Step 3. At tilt motor assembly, loosen four 10-32x1/2" PPZ screws.

Step 4. Remove belt from tilt pulley.

Step 5. Remove four 10-32 x 1/2" PPZ screws. Be mindful of tensioning springs.

Step 6. Disconnect the following wiring and remove tilt assembly:

- a. Disconnect lamp wire from ignitor.
- b. Disconnect black wire from relay.
- c. Remove ignitor assembly mounting bracket (leave ignitor attached to bracket) by removing three 6-32x3/8" PPZ screws and 1/4" standoff.
- d. Disconnect ground wire from stud using 3/8" nut driver.
- e. At interconnect, disconnect 80MM fan wiring.

Step 7. Remove belt.

Step 8. Replace by performing previous steps in reverse order.



WARNING: Make sure wiring is not pinched during installation. When tightening four 10-32 x 1/2" PPZ screws that mount Pan Motor Assembly, you must tighten in a **CLOCKWISE** pattern starting with screw in lower left-hand side from spring.

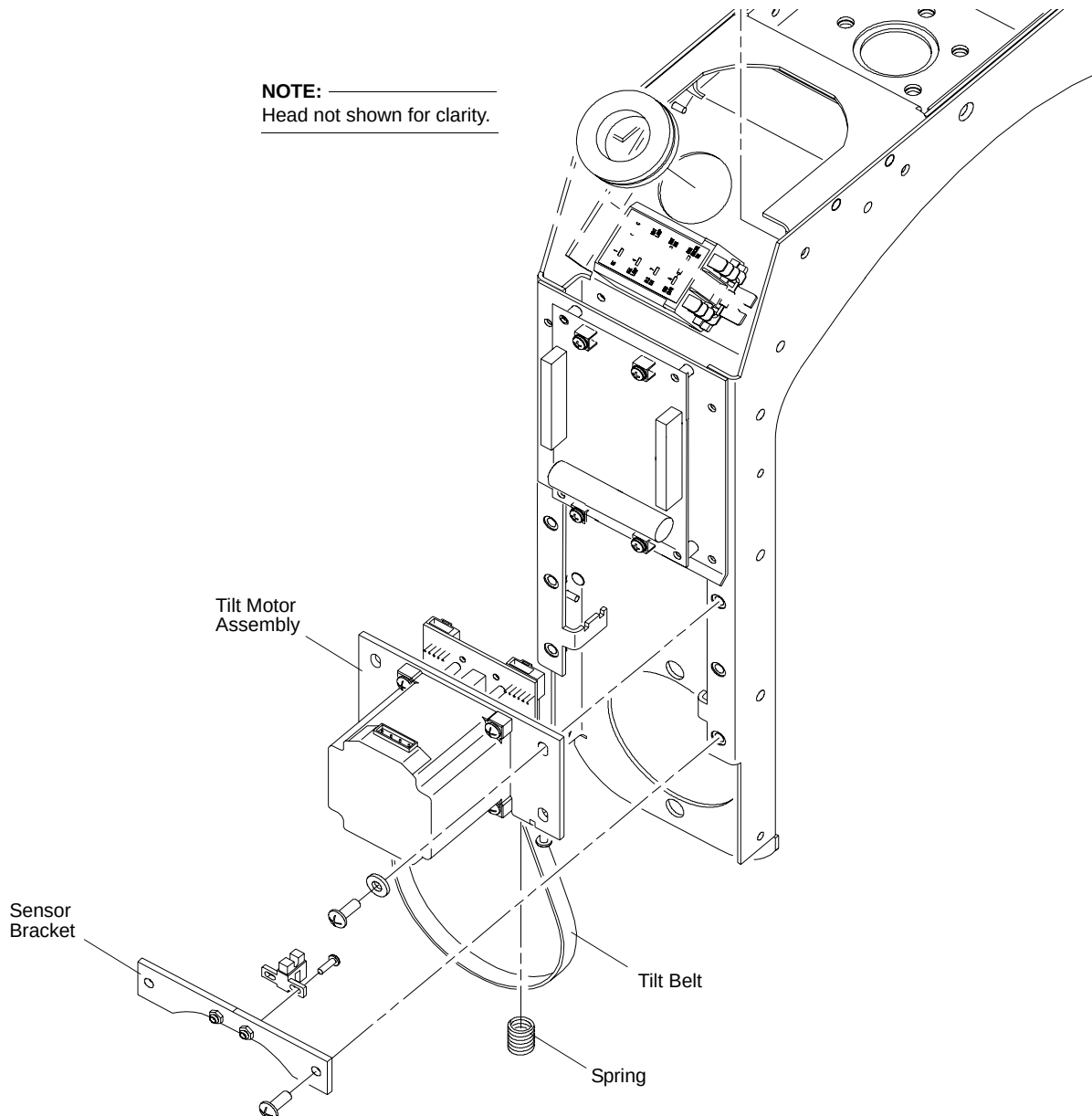


Figure 2-23: Tilt Motor Assembly Replacement

Tilt Encoder PCB Replacement

Vari-Lite Part No: 24.9661.5000

To remove and replace tilt encoder PCB:

Step 1. Remove power from luminaire.



WARNING: You must remove all power from luminaire before performing maintenance. Fixture may be very HOT after operation. Allow it to cool completely before performing any maintenance.

Step 2. At tilt-side leg, remove yoke leg cover by removing four 6-32x3/8" PTB screws.

Step 3. At tilt motor assembly, loosen four 10-32x1/2" PPZ screws.

Step 4. Remove belt from tilt pulley.

Step 5. Remove four 10-32x1/2" PPZ screws. Be mindful of tensioning springs.

Step 6. Disconnect wiring and remove tilt assembly.

Step 7. On tilt assembly, remove two 4-40x1/4" LG PPZ screws and remove encoder PCB.

Step 8. Replace by performing steps 2 through 7 in reverse order.



Note: Make sure encoder disk passes through sensor when installing encoder PCB and wiring is not pinched during installation. When tightening four 10-32x1/2" PPZ screws that mount Pan Motor Assembly, you must tighten in a CLOCKWISE pattern starting with screw in lower left-hand side from spring.

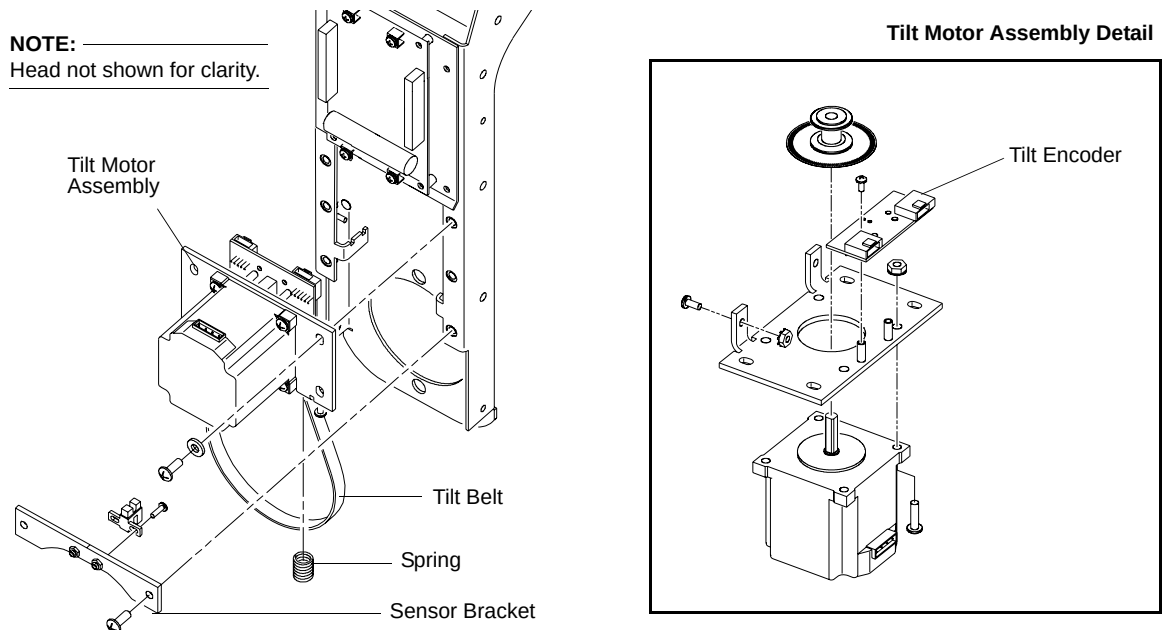


Figure 2-24: Tilt Encoder PCB Replacement

Tilt EOT Sensor Replacement

Vari-Lite Part No: 23.9661.1253

To remove and replace tilt EOT sensor:

Step 1. Remove power from luminaire.



WARNING: You must remove all power from luminaire before performing maintenance. Fixture may be very HOT after operation. Allow it to cool completely before performing any maintenance.

Step 2. At tilt-side leg, remove yoke leg cover by removing four 6-32 x 3/8" PTB screws.

Step 3. At sensor bracket, remove two 10-32 x 1/2" PPZ screws and remove bracket.

Step 4. Disconnect wiring from Tilt Encoder PCB.

Step 5. At sensor, remove two 6-32 x 3/8" PPZ screws and remove sensor from bracket.

Step 6. Replace by performing previous steps in reverse order.

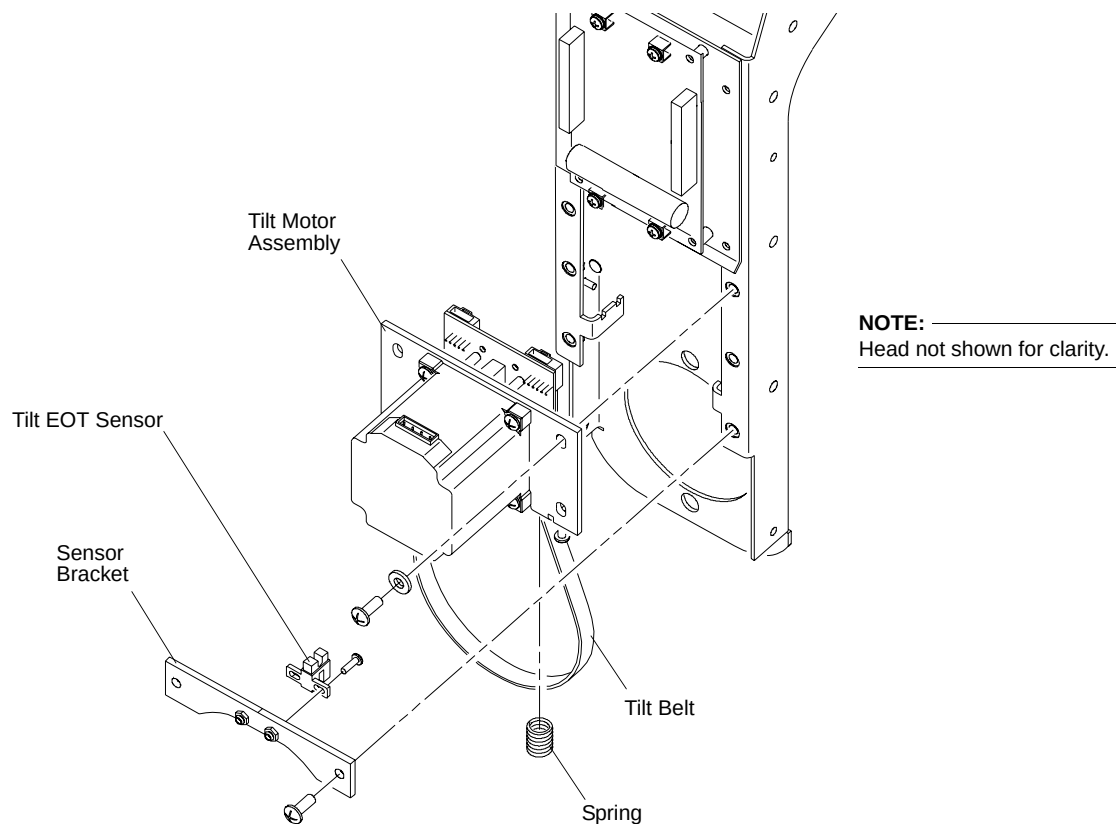


Figure 2-25: Tilt EOT Sensor Replacement

Gobo Timing Adjustments

The index timing belt must be aligned so that the mechanism "clocks" properly. This belt is installed around the index gear (top gear) of the gobo wheel. The wheel position belt is installed around the wheel position gear (bottom gear) of the gobo wheel, and does not require alignment. Each belt is also routed around one motor pulley.

For the following steps, refer to [Figure 2-27](#) and [Figure 2-28](#).

To time gobo wheels:

- Step 1. Align all holes in wheels as shown below.
- Step 2. Insert a 3" long #4 or M3 screw (or 0.125" diameter pin) completely through aligned holes in wheel and bulkhead plates as shown. This will lock the wheels in the "open" position.

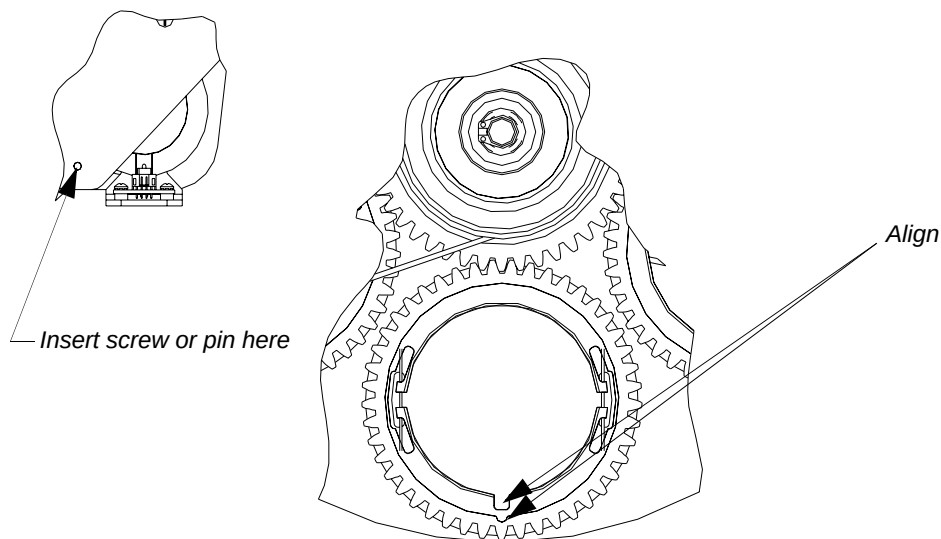


Figure 2-26: Gobo Wheel - Timing Adjustments

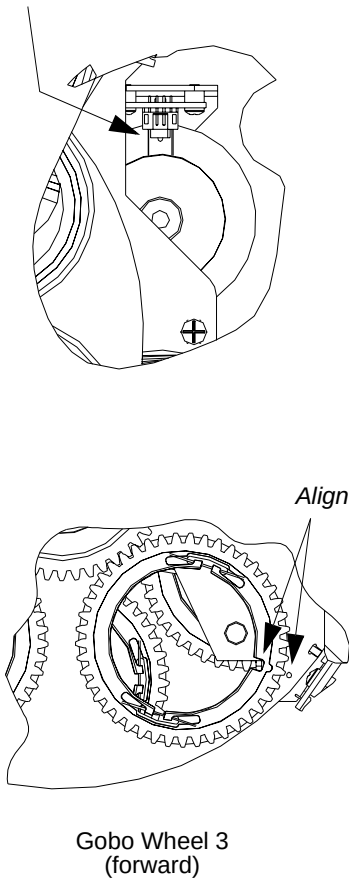
- Step 3. To time Gobo Wheel 1 (VL3015 spot) or Rotating Gobo Wheel (VL3515 spot), first align outside planet gear timing mark with notch in wheel. Loosen index belt just enough to slip teeth and rotate index pulley to center slot in optical sensor. Reset tension on belt and verify that pulley slot is still centered in sensor and sensor is centered between two guide marks on pulley flange.
- Step 4. To time Gobo Wheel 2 (VL3015 spot only), first align outside planet gear timing mark with mark in sun gear. Notch in wheel should be centered between opposite planet gear teeth. Loosen index belt just enough to slip teeth and rotate index pulley to center slot in optical sensor. Reset tension on belt and verify that pulley slot is still centered in sensor and sensor is centered between two guide marks on pulley flange.
- Step 5. To time Gobo Wheel 3 (VL3015 spot only), first align planet gear timing mark with hole in wheel. Loosen index belt just enough to slip teeth and rotate index pulley to center slot in optical sensor as shown. Reset tension on belt and verify that pulley slot is still centered in sensor and sensor is centered between two guide marks on pulley flange.

Gobo Timing Adjustments (continued)

- 1) Position index pulley so large flange is centered in optical sensor
- 2) Insert a 3" long #4 or M3 screw (or 0.125" diameter pin) completely through aligned holes in wheels and both bulkheads as shown. This will lock the wheels in the "open" position.
- 3) Adjust individual wheels as follows...

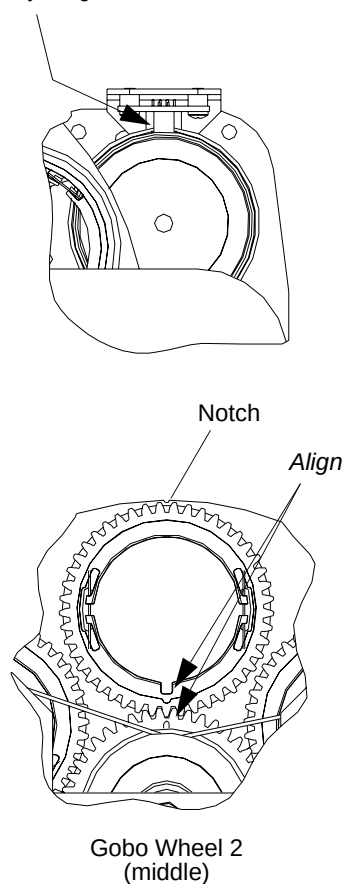
Wheel 3 (VL3015)

First align planet gear timing mark with hole in wheel. Loosen index belt just enough to slip teeth and rotate index pulley to center slot in optical sensor. Reset tension on belt and verify that pulley slot is still centered in sensor and sensor is centered between two guide marks on pulley flange.



Wheel 2 (VL3015)

First align outside planet gear timing mark with mark in sun gear. Notch in wheel should be centered between opposite planet gear teeth. Loosen index belt just enough to slip teeth and rotate index pulley to center slot in optical sensor. Reset tension on belt and verify that pulley slot is still centered in sensor and sensor is centered between two guide marks on pulley flange.



Wheel 1 (VL3015) / Rotating Gobo Wheel (VL3515)

First align outside planet gear timing mark with notch in wheel. Loosen index belt just enough to slip teeth and rotate index pulley to center slot in optical sensor. Reset tension on belt and verify that pulley slot is still centered in sensor and sensor is centered between two guide marks on pulley flange.

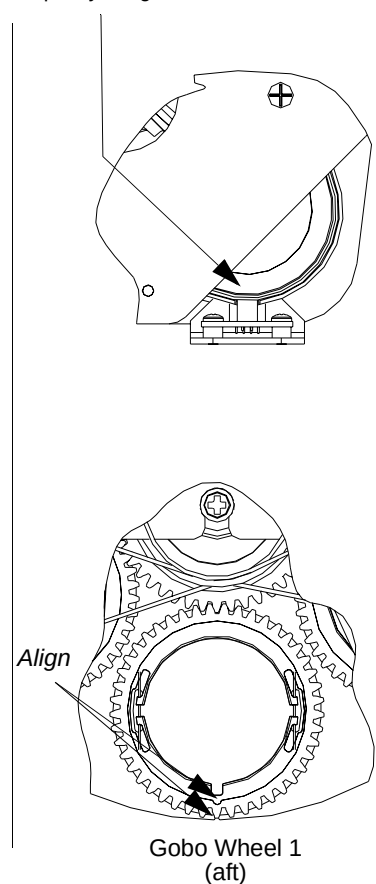


Figure 2-27: Gobo Timing Adjustments

Gobo Gear Planet Alignment

Each gear of the gobo wheel assembly must be aligned so that the gobos will index correctly. Use the following procedure to re-align the gears in the event the gobo wheel is disassembled.

To re-align gobo gears:

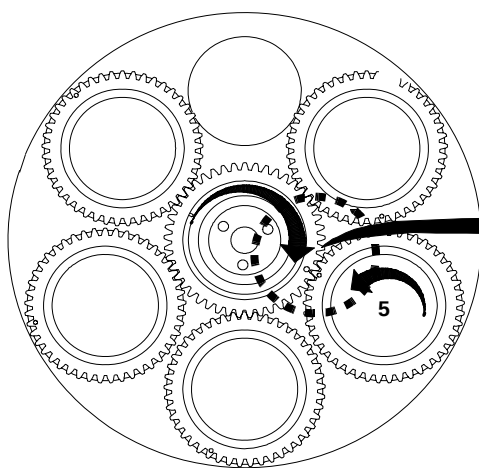
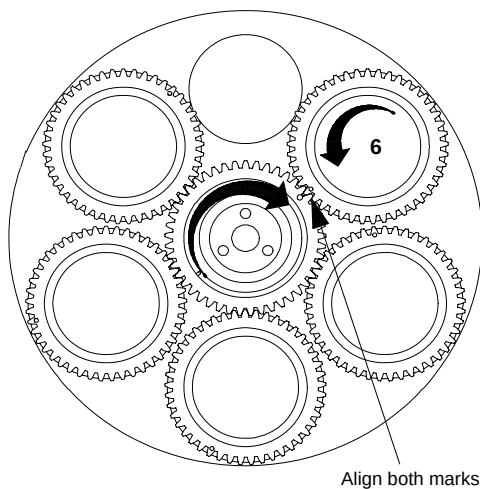
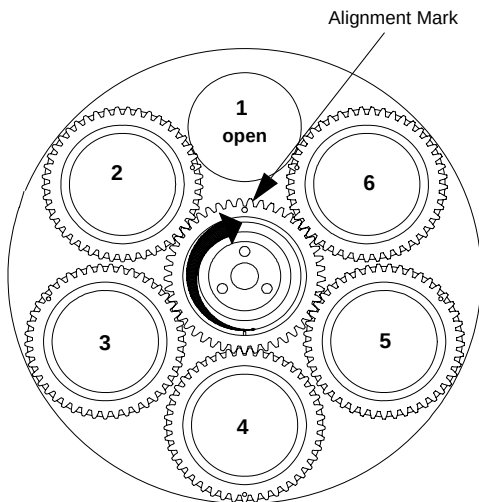
- Step 1. Place center (sun) gear at starting point so that timing mark is directly facing Position 1 (open) as shown in [Figure 2-28](#).
- Step 2. Set Position 6 planet gear as follows:
- Step 3. Rotate center gear clockwise until timing mark is directly facing Position 6.
- Step 4. Lift edge of center gear slightly (so that it will not turn), while at same time rotating Position 6 gear until timing mark is directly across from center gear timing mark. Lower center gear into place and verify alignment.
- Step 5. Set remaining planet gears by following same procedure. When all gears are aligned, rotate center gear in full rotation to verify alignments and to verify that assembly spins freely. When rotating, marks should align perfectly at each gear as they pass. Adjust as necessary and recheck. There should be no drag in the movement.

- See next page for further instructions -

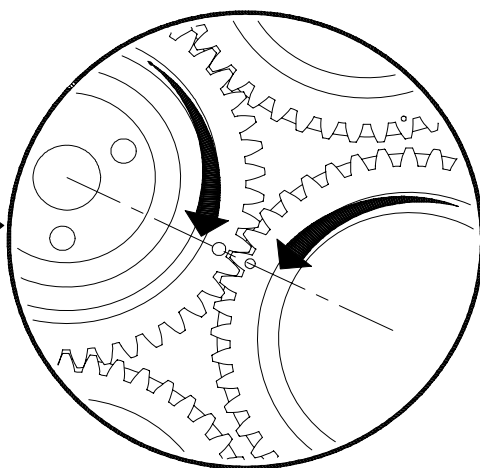
Gobo Gear Planet Alignment (continued)

1) Start with center gear timing mark facing Position 1 (open).

2) Rotate center gear clockwise until timing mark is directly across from Position 6. Rotate Position 6 gear until timing marks align.



3) Align remaining gobo gears using the same method.



4) Verify alignment of all marks and adjust as necessary.

Figure 2-28: Aligning Gobo Planet Gears

CHAPTER 3.

Illustrated Parts Breakdown

This chapter contains illustrated parts breakdowns for all VL3015 & VL3515 Spot Luminaire assemblies.

- **Drawing Trees**
- **Top Assembly**
- **Head Assembly**
- **Yoke Assembly**
- **Enclosure Assembly**
- **Cable Assemblies**



SERVICE

Drawing Trees

VL3015 Spot Luminaire

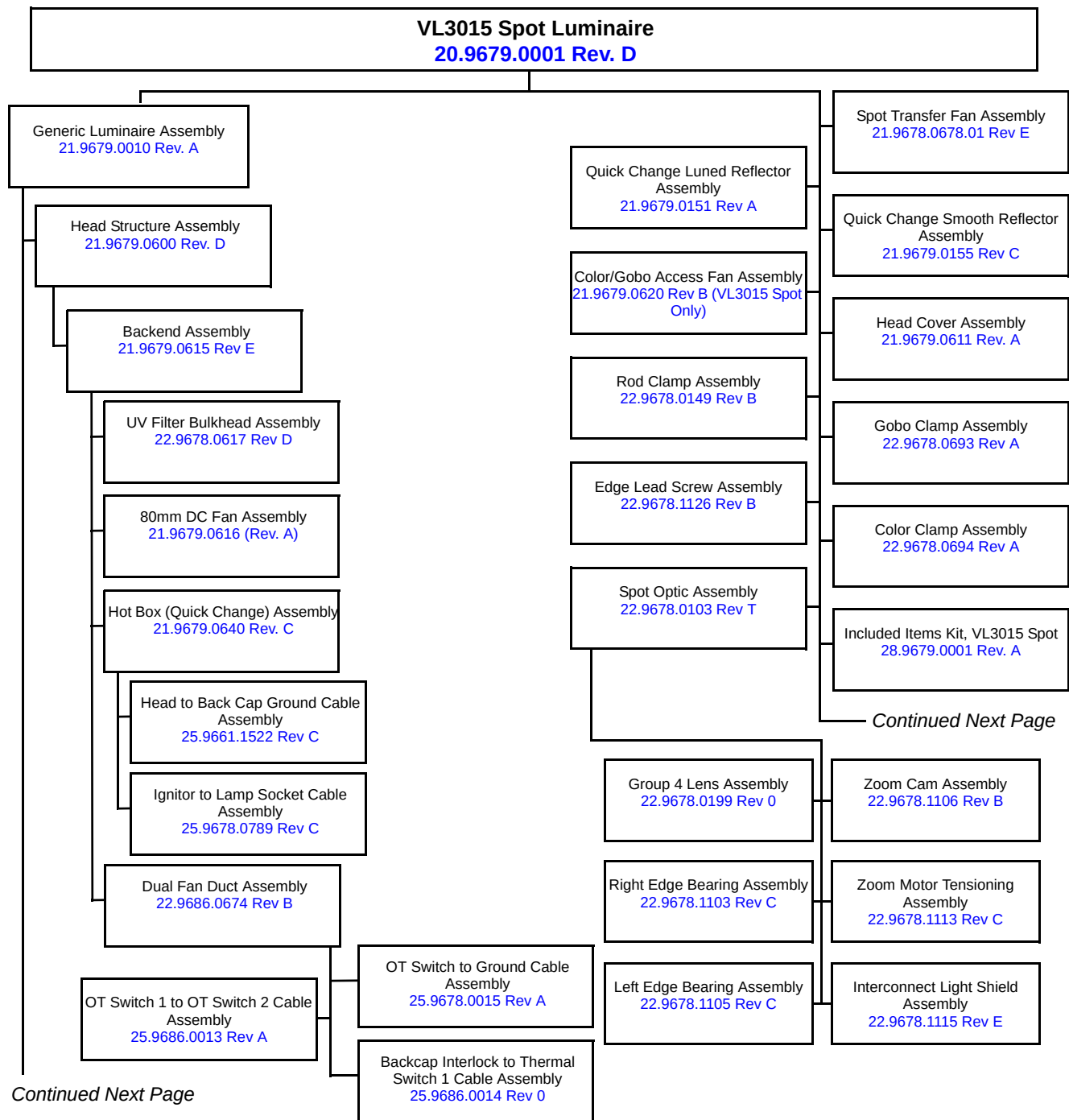
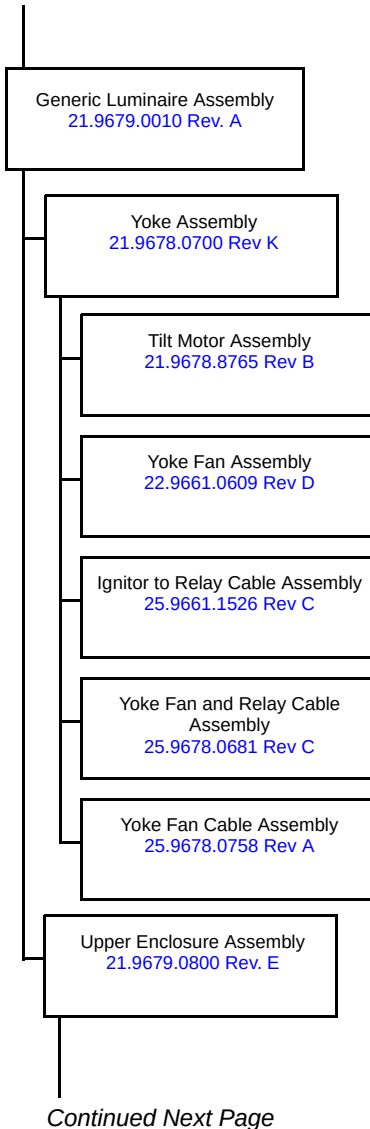


Figure 3-1: VL3015 Spot Luminaire Subassembly Drawing Tree Part 1

VL3015 Spot Luminaire (continued)

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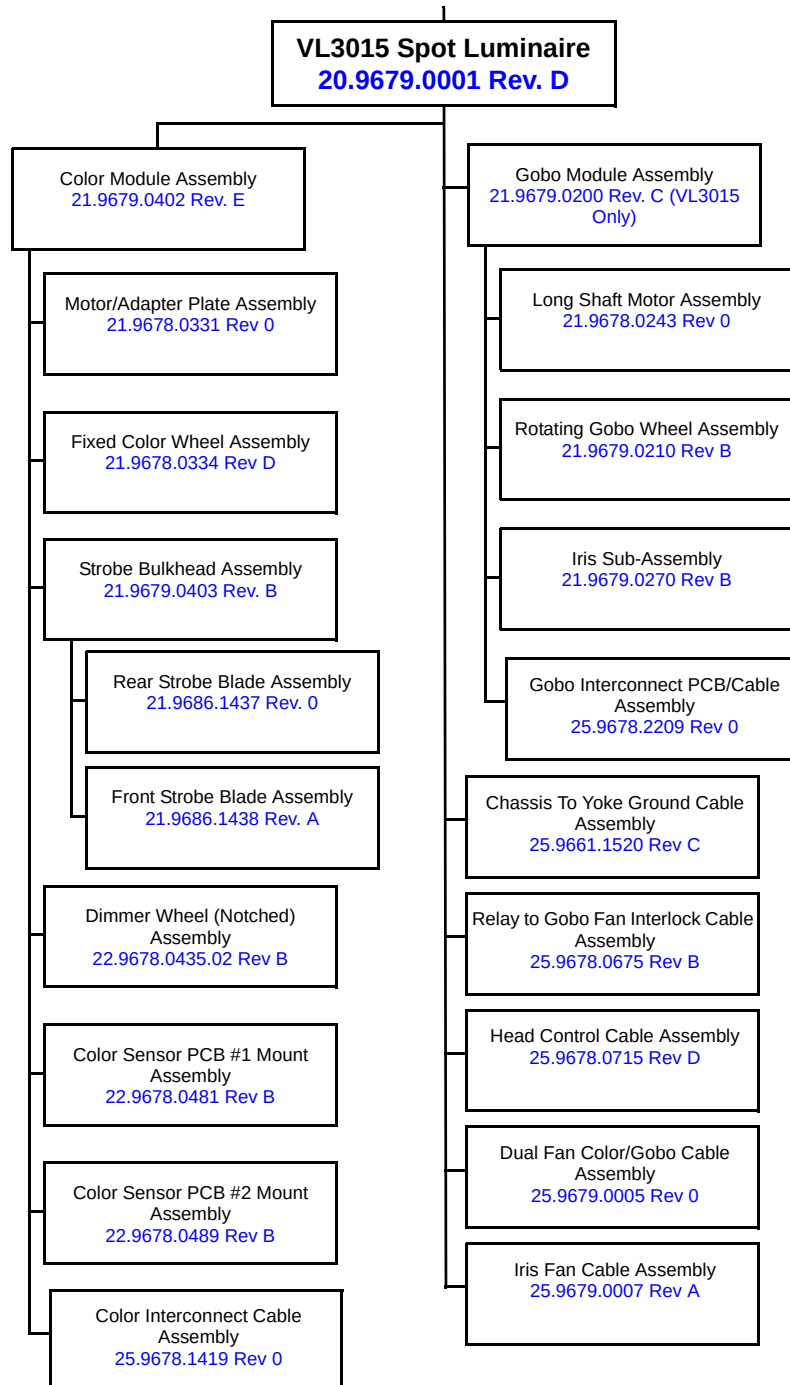


Figure 3-2: VL3015 Spot Luminaire Subassembly Drawing Tree Part 2

VL3015 Spot Luminaire (continued)

Continued From Previous Page

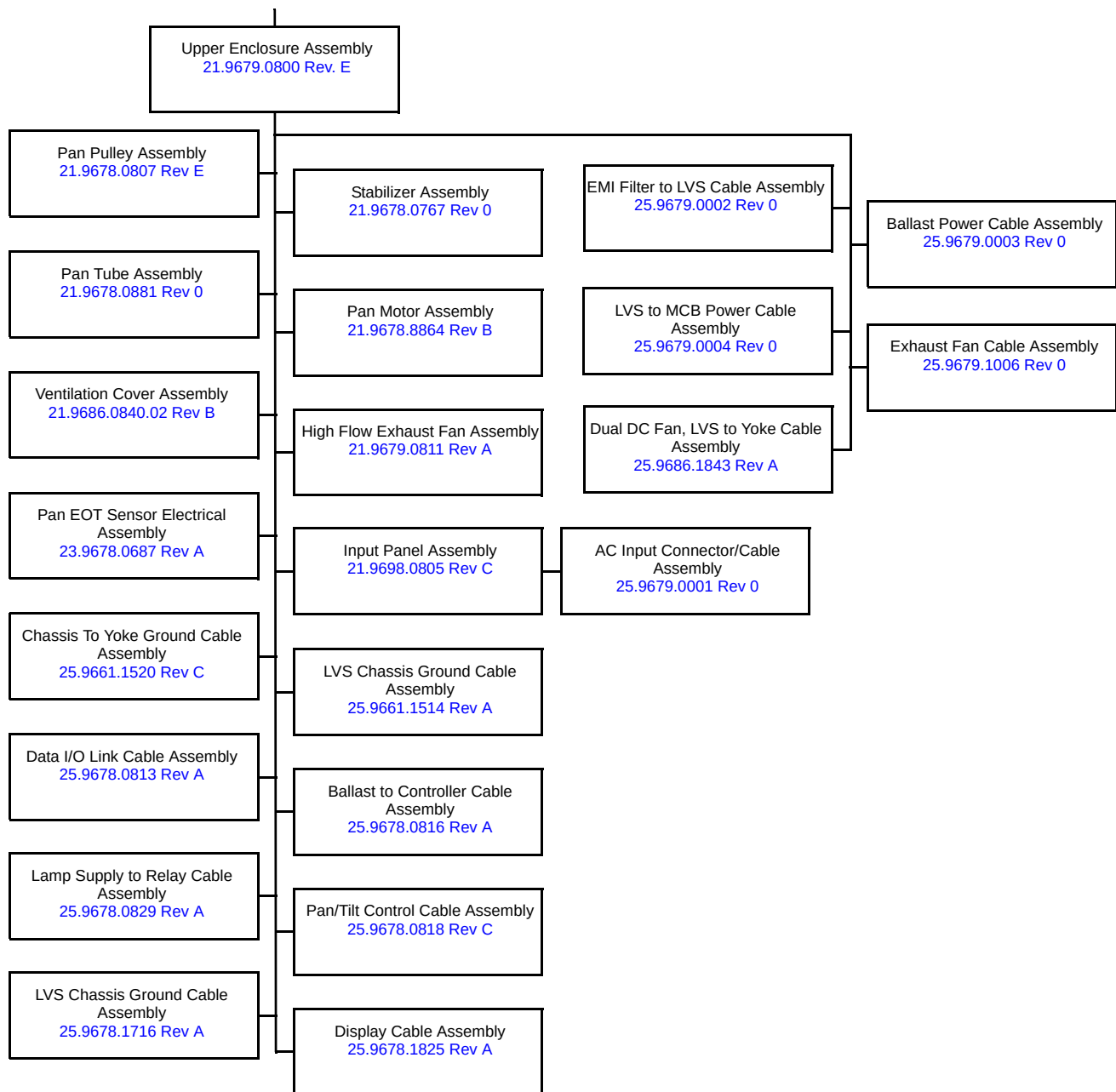


Figure 3-3: VL3015 Spot Luminaire Subassembly Drawing Tree Part 3

VL3515 Spot Luminaire

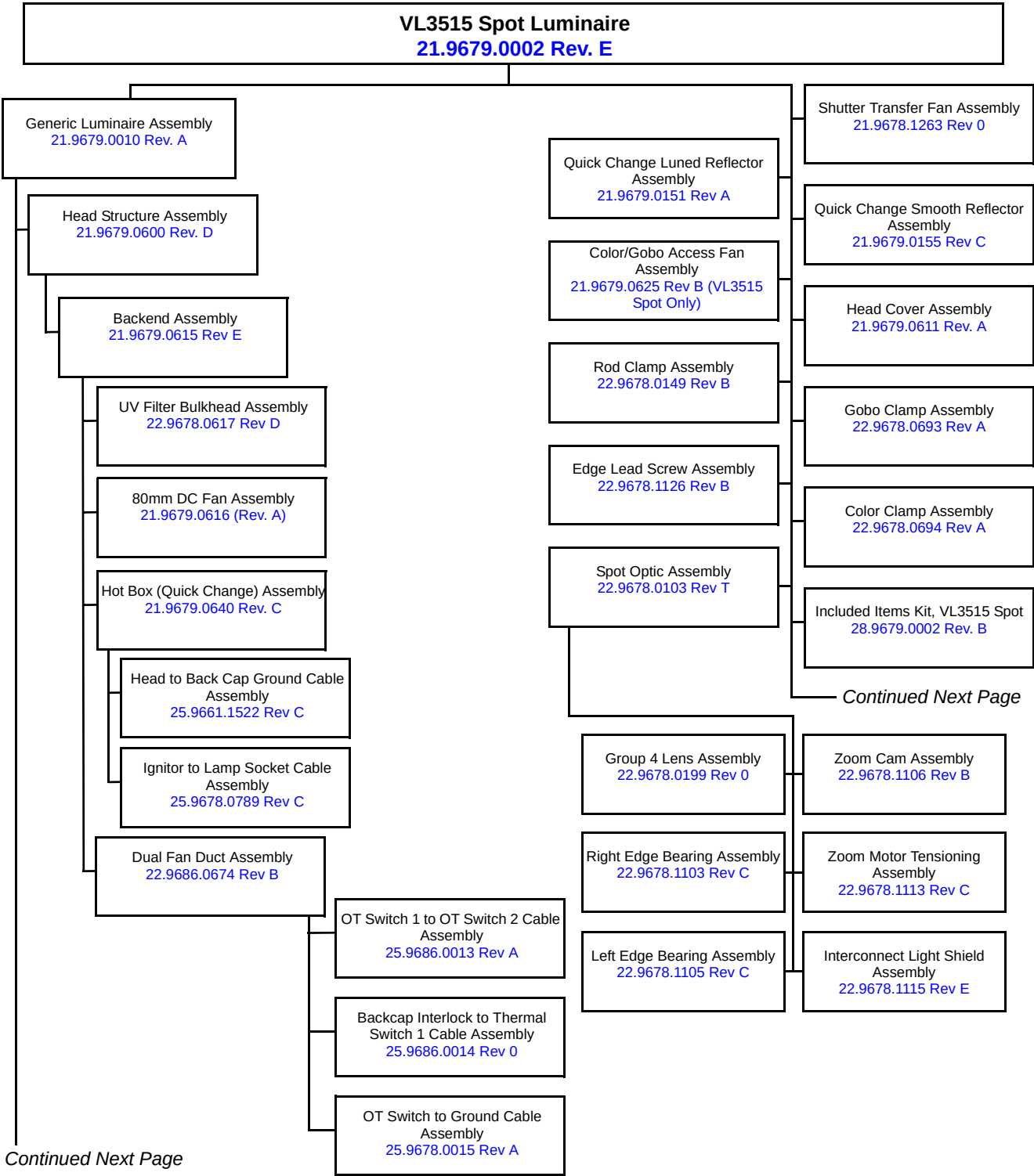


Figure 3-4: VL3515 Spot Luminaire Subassembly Drawing Tree Part 1

VL3515 Spot Luminaire (continued)

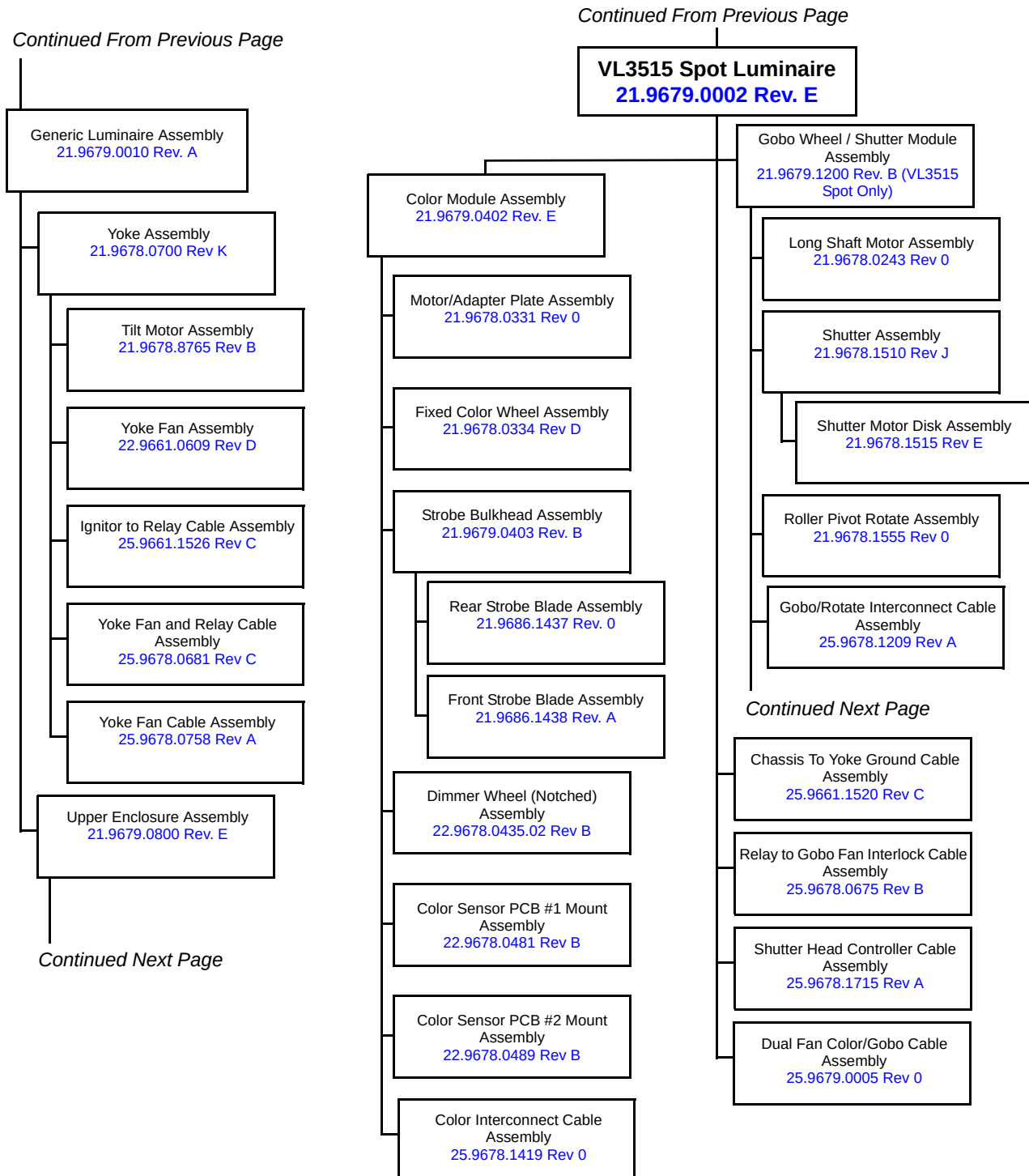
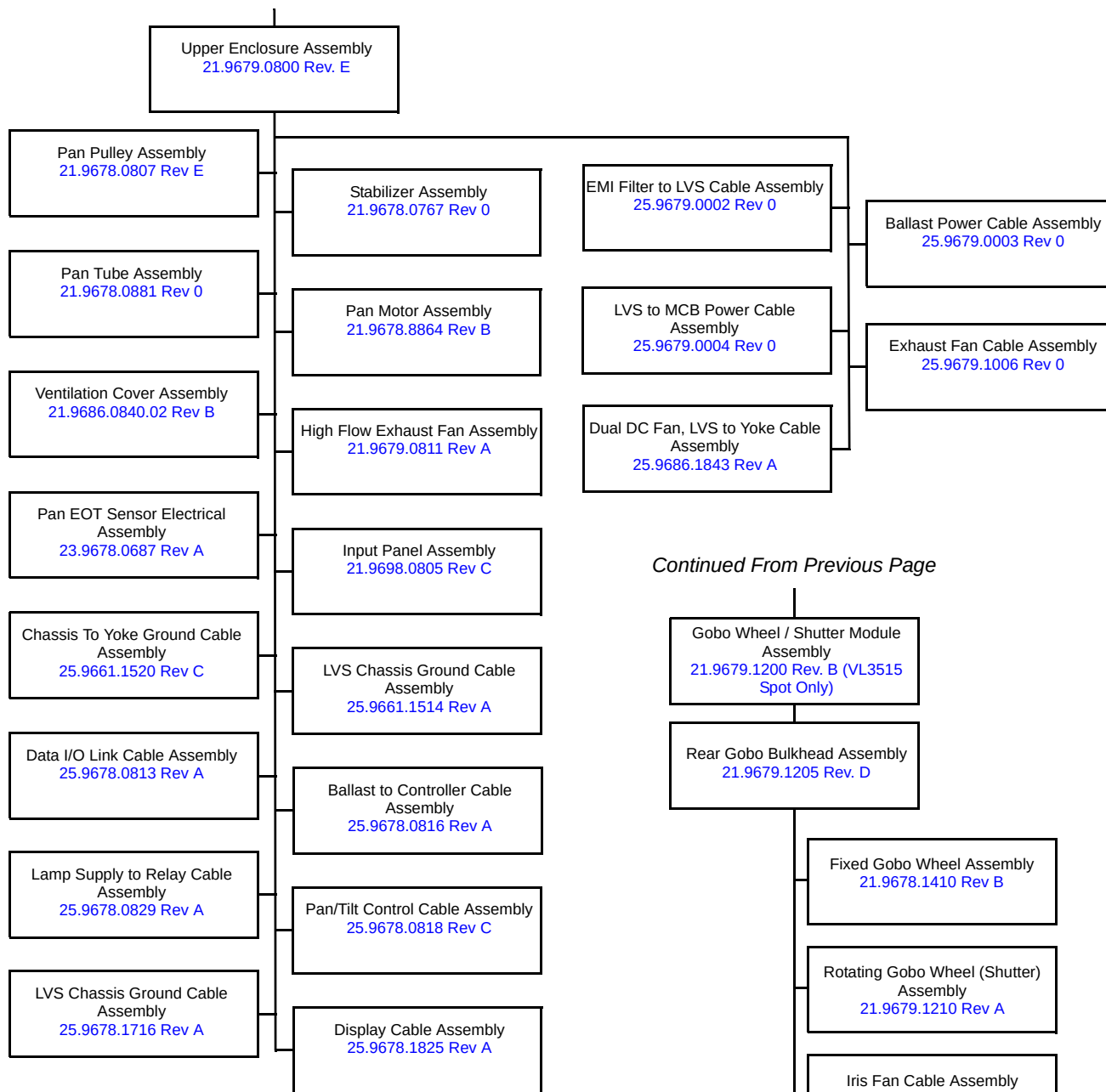


Figure 3-5: VL3515 Spot Luminaire Subassembly Drawing Tree Part 2

VL3515 Spot Luminaire (continued)

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Figure 3-6: VL3515 Spot Luminaire Subassembly Drawing Tree Part 3

Top Assembly

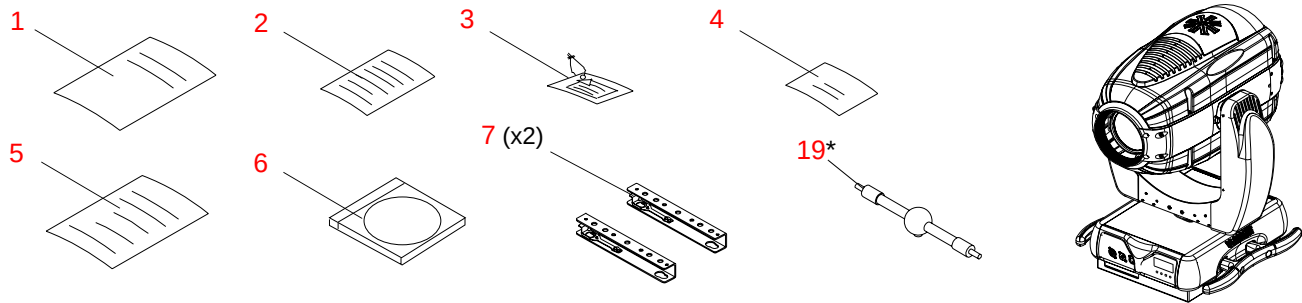
Included Items Kit, VL3015 Spot

28.9679.0001 Rev. A

Refer to [Figure 3-7](#).

No.	Item	Qty.	UM.	Description
1	02.8001.0001	1	EA	PRODUCT SUPPORT SHEET, VARI-LITE CUSTOMER SERVICE
2	02.8052.0001	1	EA	CARD, LIMITED WARRANTY
3	02.8406.0001	1	EA	TAG, LAMP NOTICE
4	02.8700.0001	1	EA	CARD, PRODUCT REGISTRATION
5	02.9679.0001	1	EA	UNPACK/QUICK START SHEET, VL3015 / VL3515
-	04.4037.0001	5	EA	LABEL, 2.5 X .5 BARCODE (not shown)
-	07.9686.0001	1	EA	CARDBOARD SHIPPING BOX (not shown)
6	08.3015.0001	1	EA	CD-ROM, VL3015/VL3515 PRODUCT DOCUMENTATION, USER
7	22.9661.1636	2	EA	FAB ASSY, BRACKET TRUSS HOOK
8	41.6030.7029	1	EA	GOBO ASSY, ALPHA RAYS (POS 1-2)
9	41.6030.5011	1	EA	GOBO ASSY, NIGHT SKY (POS 1-3)
10	41.6030.5523	1	EA	GOBO ASSY, TRIBAL BREAKUP (POS 1-4)
11	41.6030.7002	1	EA	GOBO ASSY, PEBBLES (POS 1-5)
12	41.6030.8503	1	EA	GAG ASSY, GLACIER (POS 1-6)
13	41.6030.5503	1	EA	GOBO ASSY, PALM LEAVES (POS 2-2)
14	41.6030.7018	1	EA	GOBO ASSY, SHOCK BREAKUP (POS 2-3)
15	41.6030.4211	1	EA	GOBO ASSY, UNEVEN BARS, (POS 2-4)
16	41.6030.8509	1	EA	GAG ASSY, ICE BLOCKS (POS 2-5)
17	41.6030.8506	1	EA	GAG ASSY, DROPLETS (POS 2-6)
-	41.6030.8003	1	EA	GAG ASSY, 3 FACET PRISM (POS 3-2) (not shown)
18	41.6030.8801	1	EA	GOBO ASSY, MULTI-COLOR CIRCLES (POS 3-3)
19	41.6030.7014	1	EA	GOBO ASSY, TRIANGLE BREAKUP (POS 3-4)
20	41.6030.6011	1	EA	GOBO ASSY, CIRCLE OF OVALS (POS 3-5)
21	71.9686.1502	1	EA	LAMP, 1500 WATT SHORT ARC, DOUBLE-ENDED, HTI 1500 D7/60

Included Items Kit, VL3015 Spot (continued)



8 Alpha Rays	9 Night Sky	10 Tribal Breakup	11 Pebbles	12 Glacier Gag
13 Palm Leaves	14 Shock Breakup	15 Uneven Bars	16 Ice Blocks Gag	17 Droplets Gag
18 Multi-Color Circles	19 Triangle Breakup	20 Circle of Ovals		

Figure 3-7: Included Items Kit, VL3015 Spot



Note: * = Do not handle lamp with bare hands. When handling, it is best to wear clean cotton gloves in order to keep the lamp's glass as dirt and grease free as possible.

Included Items Kit, VL3515 Spot

28.9679.0002 Rev. B

Refer to [Figure 3-8](#).

No.	Item	Qty.	UM.	Description
1	02.8001.0001	1	EA	PRODUCT SUPPORT SHEET, VARI-LITE CUSTOMER SERVICE
2	02.8052.0001	1	EA	CARD, LIMITED WARRANTY
3	02.8406.0001	1	EA	TAG, LAMP NOTICE
4	02.8700.0001	1	EA	CARD, PRODUCT REGISTRATION
5	02.9679.0001	1	EA	UNPACK/QUICK START SHEET, VL3015 / VL3515
-	04.4037.0001	5	EA	LABEL, 2.5 X .5 BARCODE (not shown)
-	07.9686.0001	1	EA	CARDBOARD SHIPPING BOX (not shown)
6	08.3015.0001	1	EA	CD-ROM, VL3015/VL3515 PRODUCT DOCUMENTATION, USER
7	22.9661.1636	2	EA	FAB ASSY, BRACKET TRUSS HOOK
8	41.6030.7029	1	EA	GOBO ASSY, ALPHA RAYS (POS 1-2)
9	41.6030.5011	1	EA	GOBO ASSY, NIGHT SKY (POS 1-3)
10	41.6030.5523	1	EA	GOBO ASSY, TRIBAL BREAKUP (POS 1-4)
11	41.6030.8801	1	EA	GOBO ASSY, MULTI-COLOR CIRCLES (POS 1-5)
12	41.6030.8503	1	EA	GAG ASSY, GLACIER (POS 1-6)
13	41.6030.5503	1	EA	GOBO ASSY, PALM LEAVES (POS 2-2)
14	41.6030.7018	1	EA	GOBO ASSY, SHOCK BREAKUP (POS 2-3)
15	41.6030.7014	1	EA	GOBO ASSY, TRIANGLE BREAKUP, (POS 2-4)
16	41.6030.8509	1	EA	GAG ASSY, ICE BLOCKS (POS 2-5)
17	41.6030.7002	1	EA	GAG ASSY, PEBBLES (POS 2-6)
18	41.6030.6011	1	EA	GOBO ASSY, CIRCLE OF OVALS (POS 2-7)
19	71.9686.1502	1	EA	LAMP, 1500 WATT SHORT ARC, DOUBLE-ENDED, HTI 1500 D7/60

Included Items Kit, VL3015 Spot (continued)

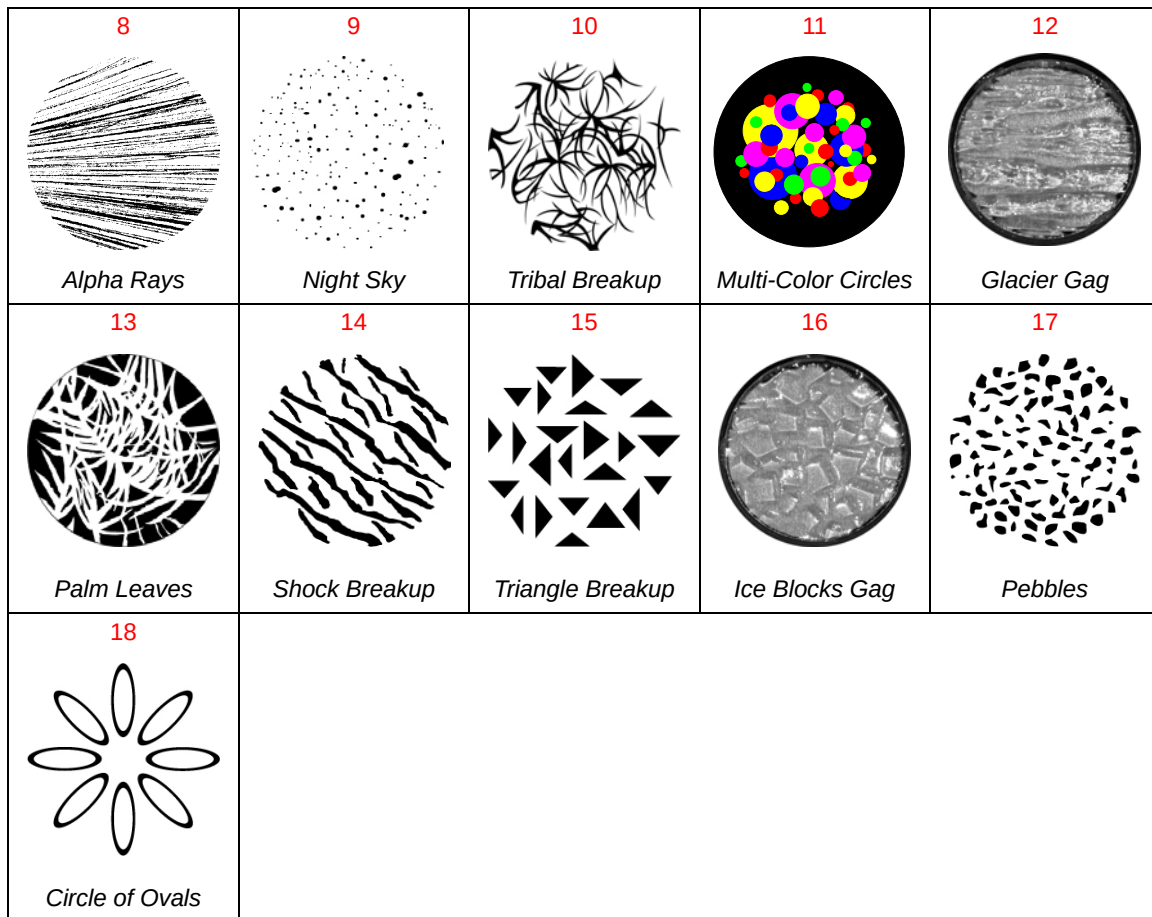
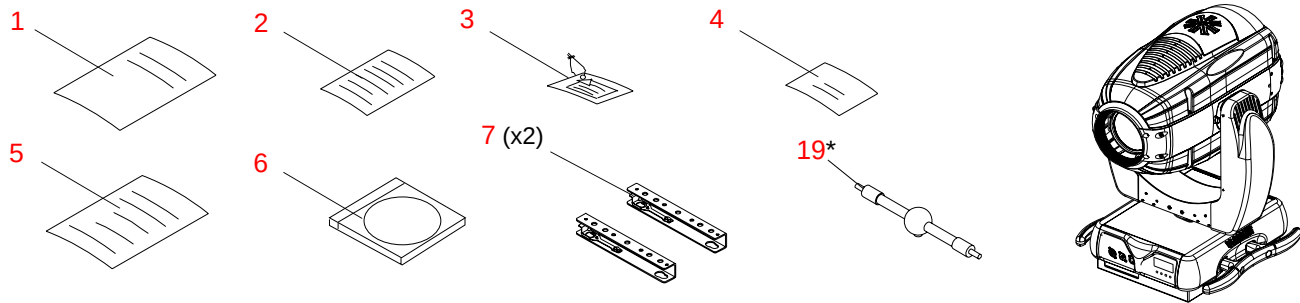


Figure 3-8: Included Items Kit, VL3015 Spot



Note: * = Do not handle lamp with bare hands. When handling, it is best to wear clean cotton gloves in order to keep the lamp's glass as dirt and grease free as possible.

VL3015 Spot Luminaire

20.9679.0001 Rev. D

Refer to [Figure 3-9](#)

No.	Item	Qty.	UM.	Description
-	02.8405.0001	1	EA	AC DANGER TAG, VL3000 (not shown)
-	04.9661.0033.01	1	EA	LABEL, WARNING - 2000 SERIES (not shown)
-	04.9661.0039	1	EA	LABEL, LINE CORD WARNING (not shown)
-	04.9679.0061	1	EA	LABEL, AC INPUT RATING VL3015 (not shown)
-	10.9678.0609	1	EA	FRONT FILTER, FOAM, ZOOM (not shown)
1	10.9678.0645	1	EA	KNOB, LAMP ADJUST, MOLDED
2	10.9678.0670	1	EA	INTERCONNECT PCB MOUNT, CYM
3	10.9678.0671	1	EA	INTERCONNECT PCB MOUNT, RG
4	10.9679.0123	1	EA	PAD, AUX REFLECTOR MOUNT
5	10.9686.0617	1	EA	YOKE CROSSMEMBER, HEAT SHIELD
6	10.9686.0732	2	EA	COVER, YOKE, THERMOFORM
7	21.9678.0678.01	1	EA	TRANSFER FAN ASSY, SPOT
8	21.9679.0010	1	EA	ASSY, GENERIC LUMINAIRE, VL3015
9	21.9679.0151	1	EA	REFLECTOR ASSY, LUNED, QUICK CHANGE
-	21.9679.0155	1	EA	REFLECTOR ASSY, SMOOTH, QUICK CHANGE (not shown)
10	21.9679.0200	1	EA	ASSY, GOBO MODULE
11	21.9679.0402	1	EA	ASSY, COLOR MODULE
12	21.9679.0620	1	EA	FAN ASSY, COLOR/GOBO ACCESS, VL3015
13	21.9679.0611	2	EA	ASSY, HEAD COVER
14	22.9678.0103	1	EA	ASSY, SPOT OPTICS
15	22.9678.0149	4	EA	ROD CLAMP ASSEMBLY
16	22.9678.0693	2	EA	ASSY, GOBO CLAMP
17	22.9678.0694	2	EA	ASSY, COLOR CLAMP
18	22.9678.1126	1	EA	LEAD SCREW ASSY, EDGE
19	24.9679.0730	1	EA	MCB ASSY, MAIN CONTROLLER, VL3015
-	25.9661.1520	1	EA	CABLE ASSY, CHASSIS TO YOKE GROUND (not shown)
-	25.9678.0675	1	EA	CABLE ASSY, RELAY TO GOBO INTERLOCK SWITCH (not shown)
-	25.9678.0715	1	EA	CABLE ASSY, HEAD CONTROLLER (not shown)
-	25.9679.0005	1	EA	CABLE ASSY, COLOR/GOBO DUAL FAN (not shown)
-	25.9679.0007	1	EA	CABLE ASSY, VL3015 IRIS FAN ADAPTER (not shown)
-	28.9679.0001	1	EA	INCLUDED ITEM KIT, VL3015 SPOT (not shown)

No.	Item	Qty.	UM.	Description
20	53.2001.0003	5	EA	NUT, 10-32 HEX SS NYLON INSERT
21	53.2202.0008	1	EA	NUT, 8-32 HEX SS NYLON INSERT
22	53.6523.0013	8	EA	SCREW, 6-32 X 3/8" PTB
23	53.6558.0001	2	EA	SCREW, 6-32 X 3/8" PPZ
24	53.6558.0007	4	EA	SCREW, 6-32 X 1/4" PPZ SEMS
25	53.6558.0009	4	EA	SCREW, 6-32 X 3/8" PPZ SEMS
26	53.6558.0016	2	EA	SCREW, 6-32 X 3/4" PPZ SEMS
27	53.6563.0001	1	EA	SCREW, 10-32 X 2.00" PPZ
28	53.6579.0001	4	EA	SCREW, 10-32 X 1/2" SCB
29	55.2150.0002	2	EA	STANDOFF, 1/4" HEX 6-32 X 1.187" MF
30	55.2284.0001	2	EA	CARD GUIDE, 3" LONG, SNAP IN
31	55.6573.0001	2	EA	SHAFT, 10MM X 200MM HR C 62
32	55.6677.0033	4	EA	WASHER, 0.281" OD, 0.125" ID, 0.032" THK
33	55.6677.0042	4	EA	WASHER, TEFLON, 0.50" OD
-	55.6699.0003	0.830	FT	SLEEVING, 1/2" NOM.DIA. POLY (not shown)
-	55.6699.0004	1.16	FT	SLEEVING, 3/4" NOM.DIA. POLY (not shown)

VL3015 Spot Luminaire (continued)

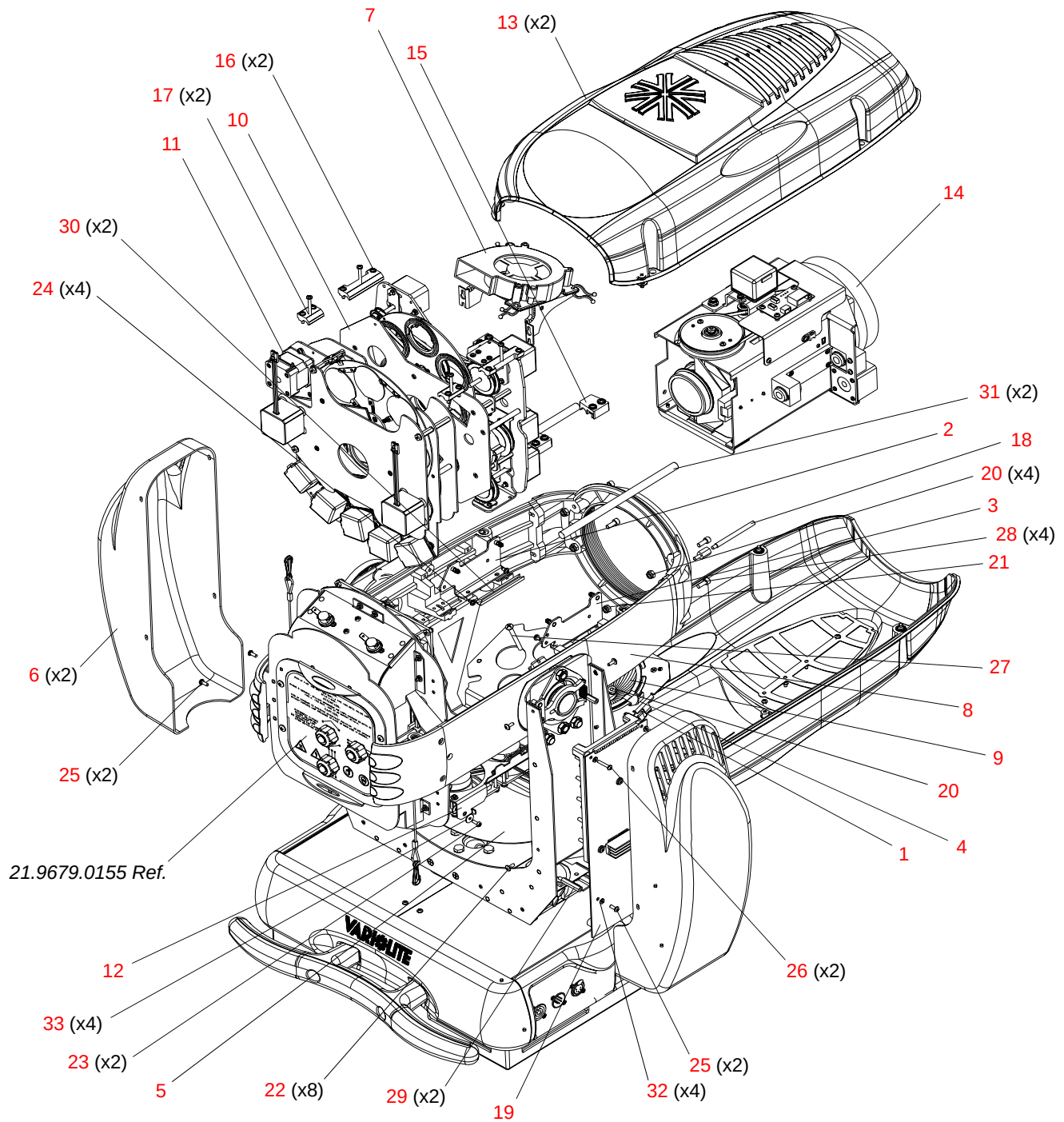


Figure 3-9: VL3015 Spot Luminaire

VL3515 Spot Luminaire

21.9679.0002 Rev. E

Refer to [Figure 3-10](#)

No.	Item	Qty.	UM.	Description
-	02.8405.0001	1	EA	AC DANGER TAG, VL3000 (not shown)
-	04.9661.0033.01	1	EA	LABEL, WARNING - 2000 SERIES (not shown)
-	04.9661.0039	1	EA	LABEL, LINE CORD WARNING (not shown)
-	04.9679.0062	1	EA	LABEL, AC INPUT RATING VL3515 (not shown)
-	10.9678.0609	1	EA	FRONT FILTER, FOAM, ZOOM (not shown)
1	10.9678.0645	1	EA	KNOB, LAMP ADJUST, MOLDED
2	10.9678.0670	1	EA	INTERCONNECT PCB MOUNT, CYM
3	10.9678.0671	1	EA	INTERCONNECT PCB MOUNT, RG
4	10.9679.0123	1	EA	PAD, AUX REFLECTOR MOUNT
5	10.9686.0617	1	EA	YOKE CROSSMEMBER, HEAT SHIELD
6	10.9686.0732	2	EA	COVER, YOKE, THERMOFORM
7	21.9679.0151	1	EA	REFLECTOR ASSY, LUNED, QUICK CHANGE
8	21.9678.1246	1	EA	ASSY, CABLE INTERCONNECT, SHUTTER
9	21.9678.1263	1	EA	TRANSFER FAN ASSY, SHUTTER
10	21.9679.0010	1	EA	ASSY, GENERIC LUMINAIRE, VL3015
-	21.9679.0155	1	EA	REFLECTOR ASSY, SMOOTH, QUICK CHANGE (not shown)
11	21.9679.0402	1	EA	ASSY, COLOR MODULE
12	21.9679.0611	2	EA	ASSY, HEAD COVER
13	21.9679.0625	1	EA	FAN ASSY, COLOR/GOBO ACCESS, VL3515
14	21.9679.1200	1	EA	ASSY, GOBO/SHUTTER MODULE
15	22.9678.0103	1	EA	ASSY, SPOT OPTICS
16	22.9678.0149	4	EA	ROD CLAMP ASSEMBLY
17	22.9678.0693	2	EA	ASSY, GOBO CLAMP
18	22.9678.0694	2	EA	ASSY, COLOR CLAMP
19	22.9678.1126	1	EA	LEAD SCREW ASSY, EDGE
20	24.9679.1730	1	EA	MCB ASSY, SHUTTER CONTROLLER, VL3515
-	25.9661.1520	1	EA	CABLE ASSY, CHASSIS TO YOKE GROUND (not shown)
-	25.9678.0675	1	EA	CABLE ASSY, RELAY TO GOBO INTERLOCK SWITCH (not shown)
-	25.9678.1715	1	EA	CABLE ASSY, HEAD CONTROLLER, SHUTTER (not shown)
-	25.9679.0005	1	EA	CABLE ASSY, COLOR/GOBO DUAL FAN (not shown)
-	28.9679.0002	1	EA	INCLUDED ITEM KIT, VL3515 SHUTTER (not shown)

VARILITE* - VL3015 & VL3515 SPOT LUMINAIRES SERVICE MANUAL**

No.	Item	Qty.	UM.	Description
21	53.2001.0003	5	EA	NUT, 10-32 HEX SS NYLON INSERT
22	53.2202.0008	1	EA	NUT, 8-32 HEX SS NYLON INSERT
23	53.6523.0013	8	EA	SCREW, 6-32 X 3/8" PTB
24	53.6558.0001	2	EA	SCREW, 6-32 X 3/8" PPZ
25	53.6558.0007	4	EA	SCREW, 6-32 X 1/4" PPZ SEMS
26	53.6558.0009	4	EA	SCREW, 6-32 X 3/8" PPZ SEMS
27	53.6558.0016	2	EA	SCREW, 6-32 X 3/4" PPZ SEMS
28	53.6563.0001	1	EA	SCREW, 10-32 X 2.00" PPZ
29	53.6579.0001	4	EA	SCREW, 10-32 X 1/2" SCB
30	55.2141.0001	2	EA	STANDOFF, 5/16" HEX 6-32 X 7/16" LG MF
31	55.2150.0002	2	EA	STANDOFF, 1/4" HEX 6-32 X 1.187" MF
32	55.2284.0001	2	EA	CARD GUIDE, 3" LONG, SNAP IN
33	55.6573.0001	2	EA	SHAFT, 10MM X 200MM HR C 62
34	55.6677.0033	4	EA	WASHER, 0.281" OD, 0.125" ID, 0.032" THK
35	55.6677.0042	4	EA	WASHER, TEFLON, 0.50" OD
-	55.6699.0003	0.830	FT	SLEEVING, 1/2" NOM.DIA. POLY (not shown)
-	55.6699.0004	1.16	FT	SLEEVING, 3/4" NOM.DIA. POLY (not shown)

VL3515 Spot Luminaire (continued)

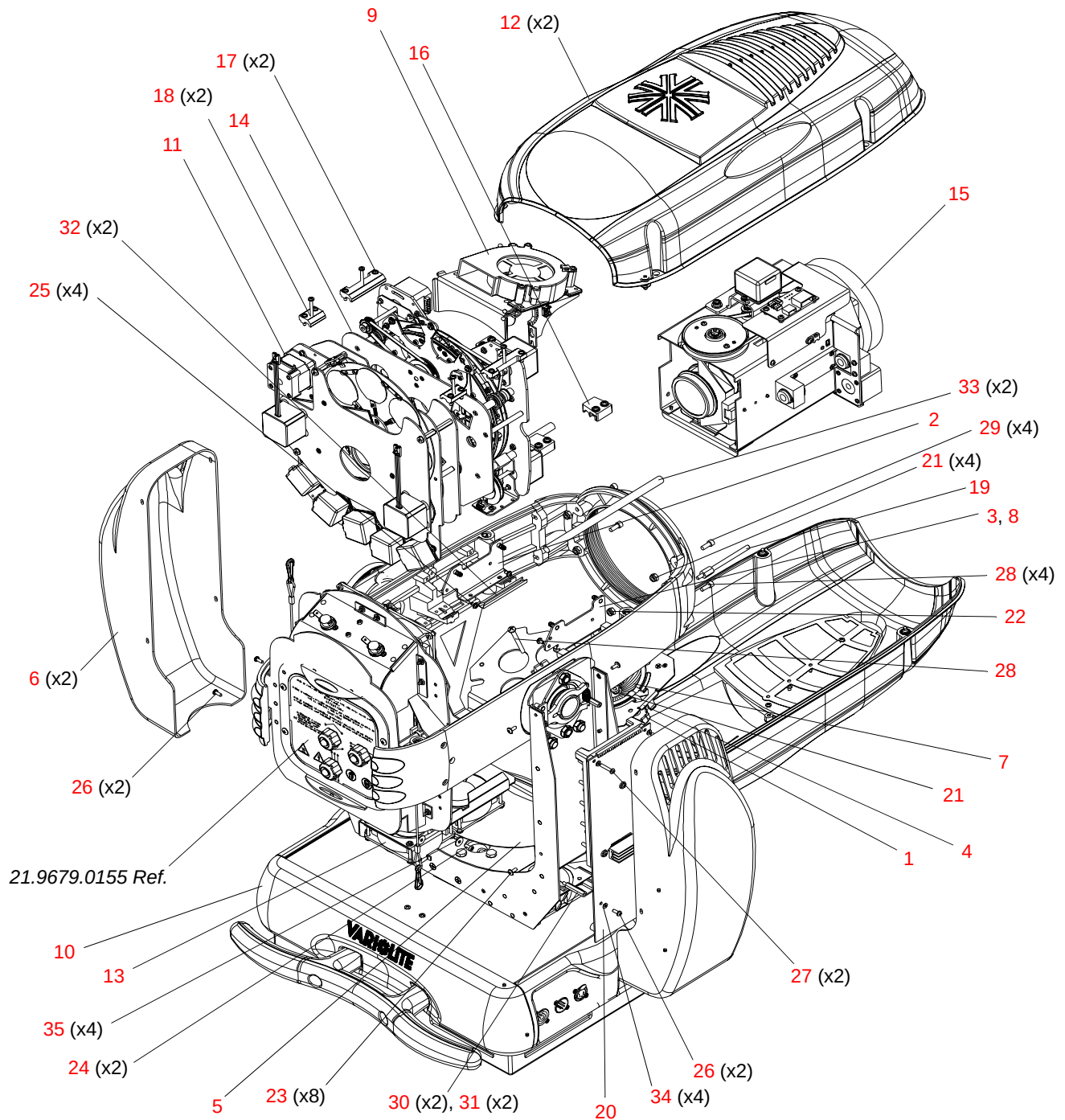


Figure 3-10: VL3515 Spot Luminaire

Generic Luminaire Assembly

21.9679.0010 Rev. A

Refer to [Figure 3-11](#)

No.	Item	Qty.	UM.	Description
1	21.9678.0700	1	EA	ASSY, YOKE
2	21.9678.0707	1	EA	ASSY, TILT PULLEY
2a	- 10.9678.0750	1	EA	TIMING PULLEY, 150 TOOTH
2b	- 10.9678.0754	1	EA	FLAG, CENTER OF TRAVEL, TILT
2c	- 53.6530.0006	3	EA	RIVET, 1/8" OD POP 0.188 - 0.250GL
3	21.9678.0767	1	EA	ASSEMBLY, STABILIZER
3a	- 10.9678.0757	1	EA	STABILIZER, 1.377 DIA
3b	- 10.9678.0762	1	EA	BRACKET, STABILIZER
3c	- 53.6610.0003	1	EA	SCREW, 6-32 X 7/16" PPZ
3d	- 55.6568.0075	1	EA	SPRING, EXTSN 0.375" OD 1.00" LG 0.041" WIRE DIA
4	21.9679.0600	1	EA	ASSY, HEAD
5	21.9679.0800	1	EA	ASSY, UPPER ENCLOSURE
6	53.2019.0004	4	EA	NUT, 3/8-16 X 0.500" LG H X HD GRADE 5 BLK
7	53.6505.0020	5	EA	BOLT, 1/4-28 X 3/4" HX HD GRD 8
8	53.6505.0026	4	EA	BOLT, 1/4-28 X 3/4" HX HD GRD 8 ZINC PLT
9	53.6539.0001	4	EA	WASHER, 3/8" SPLIT LOCK
10	53.6542.0001	1	EA	SCREW, 6-32 X 5/16" PFB
11	53.6553.0008	4	EA	SCREW, 10-32 X 9/16" PFB
12	53.6667.0005	3	EA	SCREW, 10-32 X 3/8" LG SET CUP
13	54.1206.0014	2	EA	RING, RETAINING, 1.375" SHAFT 1.291" GRV DIA
14	54.1255.0001	2	EA	BEARING ASSY, BLACK FLUSH MOUNT
15	54.2055.0001	1	EA	BELT, TIMING, S2M 210 GROOVE, 9 MM
16	55.6549.0001	5	EA	WASHER, 1/4" SPLIT LOCK
17	55.6799.0001	2	EA	SHIM, 1.375" ID, 1.875" OD, 0.010" THK
18	55.6799.0002	2	EA	SHIM, 1.375" ID, 1.875" OD, 0.005" THK

Generic Luminaire Assembly (continued)

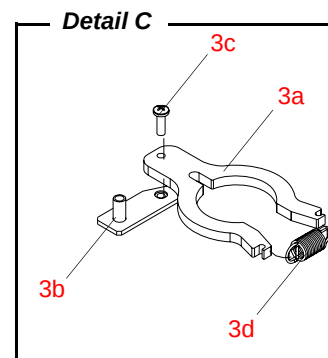
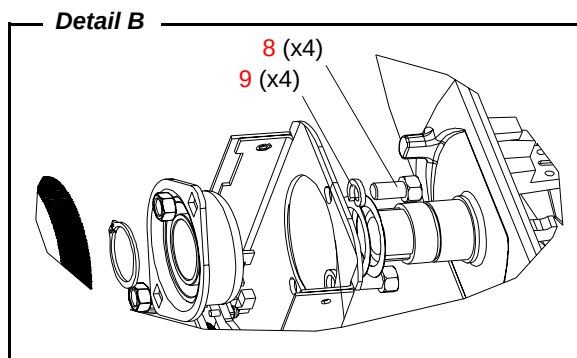
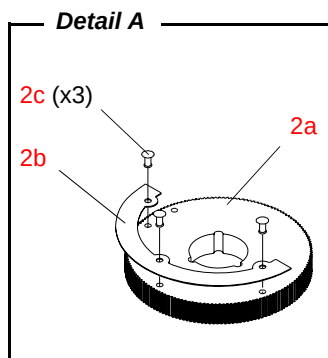
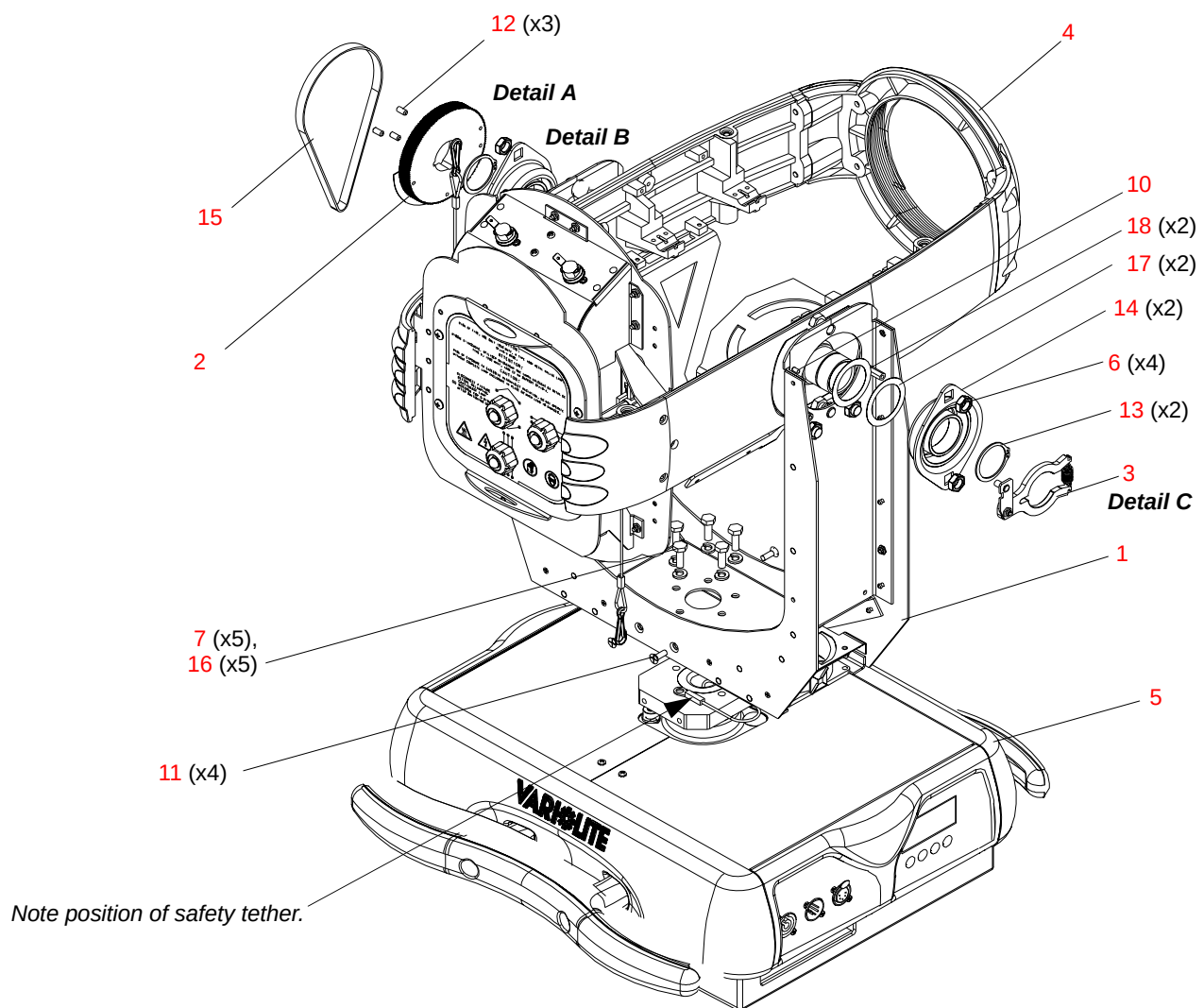


Figure 3-11: Generic Luminaire Assembly

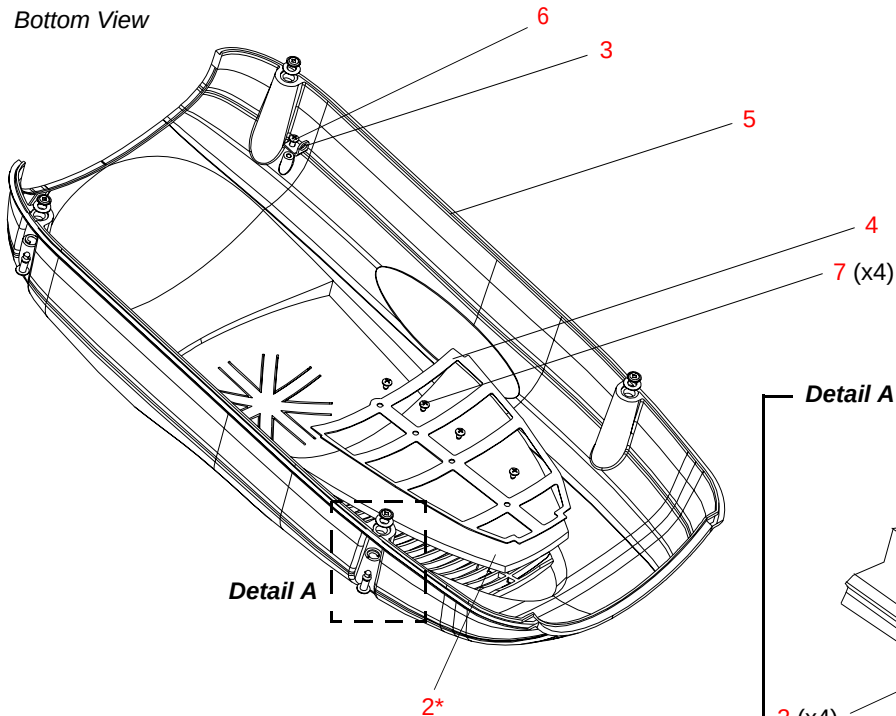
Head Cover Assembly

21.9679.0611 Rev. A

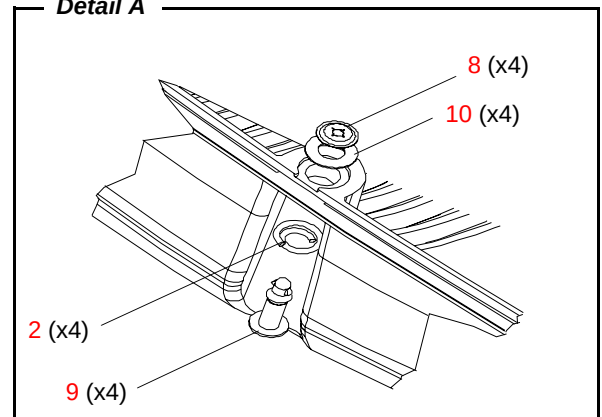
Refer to [Figure 3-12](#)

No.	Item	Qty.	UM.	Description
1	10.9678.0612	1	EA	HEAD COVER FOAM BAFFLE
2	10.9678.0649	4	EA	EJECTOR SPRING, BLACK OXIDE
3	10.9678.0674	1	EA	BRACKET, COVER TETHER
4	10.9686.1696	1	EA	FOAM FRAME, HEAD COVER
5	12.9679.0610	1	EA	HEAD COVER, PAINTED
6	53.6558.0003	1	EA	SCREW, 6-32 X 3/8" LG PPZ PLASTIC THD ROLL
7	53.5655.0250	4	EA	SCREW, 6-32 X 1/4" LG PPZ PLASTIC THD ROLL
8	55.2233.0016	4	EA	RETAINER, SPLIT RING
9	55.2233.0775	4	EA	STUD, 1/4 TURN OPR.775L STEEL
10	55.9676.0255	4	EA	WASHER, BELLEVILLE SPRING

Bottom View



Detail A



*Note, secure item 2 by driving four screws (item 7) through frame into foam to cover.

Figure 3-12: Head Cover Assembly

Spot Transfer Fan Assembly

21.9678.0678.01 Rev E

Refer to [Figure 3-13](#)

No.	Item	Qty.	UM.	Description
1	10.9678.0679	1	EA	TRANSFER FAN TRAY
2	23.9678.0695	1	EA	FAN ASSY, TRANSFER
3	53.6571.0003	3	EA	SCREW, 6-32 X 1-1/2" LG PPB
4	55.6543.0001	2.12	IN	GROMMET STRIP, SERRATED POLYETHYLENE
5	55.6769.0004	3	EA	TWIST-LOK 0.55" ID NOM WHT 85 C MAX FLAME RET

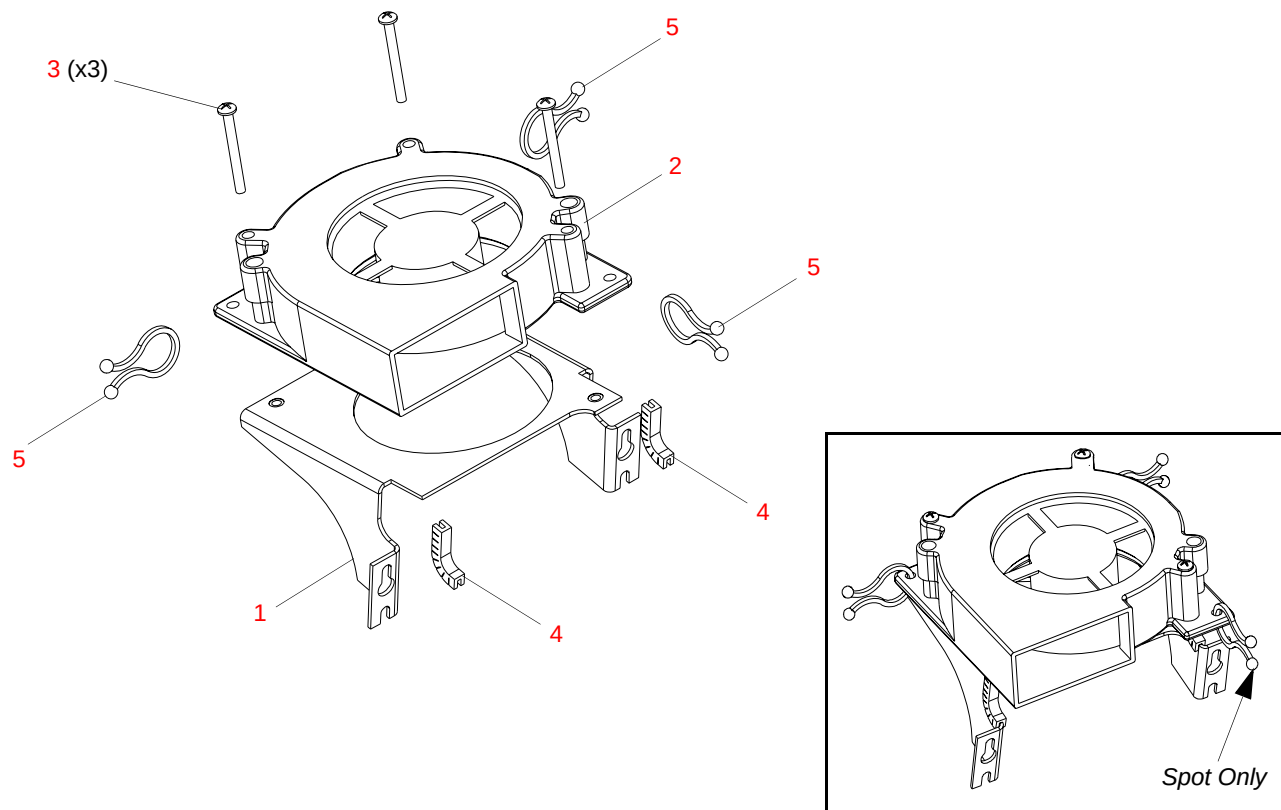


Figure 3-13: Spot Transfer Fan Assembly

Shutter Transfer Fan Assembly

21.9678.1263 Rev 0

Refer to [Figure 3-14](#)

No.	Item	Qty.	UM.	Description
1	10.9678.0679	1	EA	TRANSFER FAN TRAY
2	22.9678.1280	1	EA	SHIELD ASSY, SHUTTER ROTATE HARNESS
3	23.9678.0695	1	EA	ASSY, TRANSFER FAN
4	53.6558.0001	1	EA	SCREW, 6-32 X.375" LG PPZ
5	53.6571.0003	3	EA	SCREW, 6-32 X 1.500" LG PPB
6	55.2179.0001	1	EA	CABLE ANCHOR, #6 SCREW MOUNT
-	55.2186.0001	2	EA	CABLE TIE,.10" WD, 4" LG, SMALL (not shown)
7	55.6543.0001	2.12	IN	GROMMET STRIP, SERRATED POLYETHYLENE
8	55.6769.0004	2	EA	TWIST-LOK 0.55" ID NOM WHT 85 C MAX FLAME RET

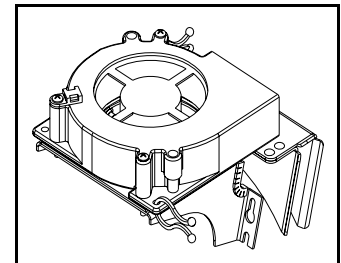
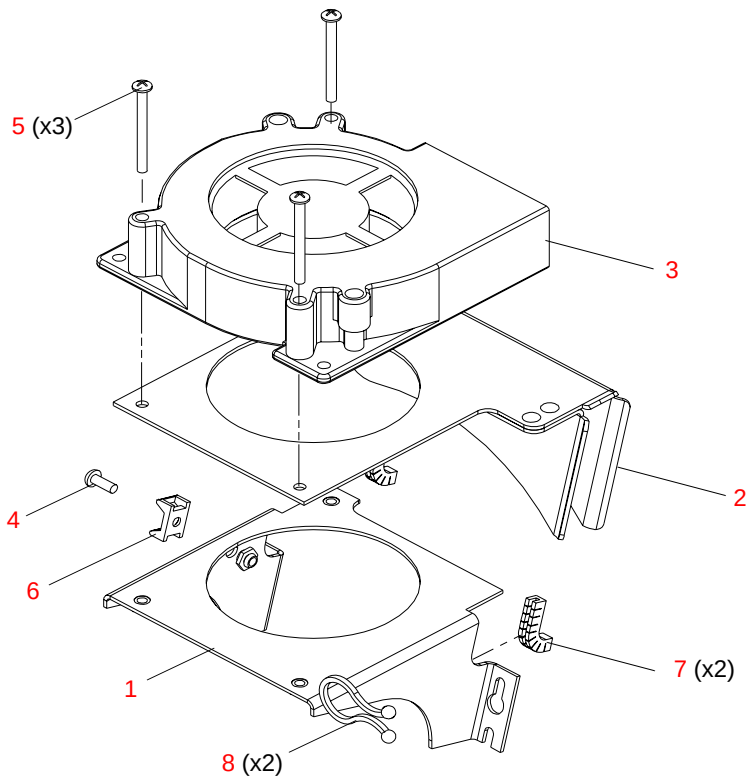


Figure 3-14: Shutter Transfer Fan Assembly

Color/Gobo Access Fan Assembly

21.9679.0620 Rev C (VL3015 Spot Only)

Refer to [Figure 3-15](#)

No.	Item	Qty.	UM.	Description
1	55.7016.0001	2	EA	FAN GUARD, 80MM, NICKEL PLATED
2	10.9678.1649	1	EA	FAN SHIELD, LAMP COOLING.
3	10.9679.0665	1	EA	FAN TRAY, COLOR/GOBO COOLING, VL3015
4	23.9679.0016	2	EA	FAN, TUBAXIAL, 80MM 24VDC, LAMP COOLING, LONG LIFE
5	53.6571.0002	8	EA	SCREW, 6-32 X 1-1/4" LG PPB

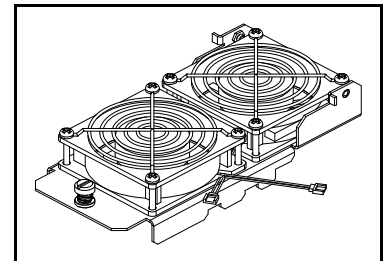
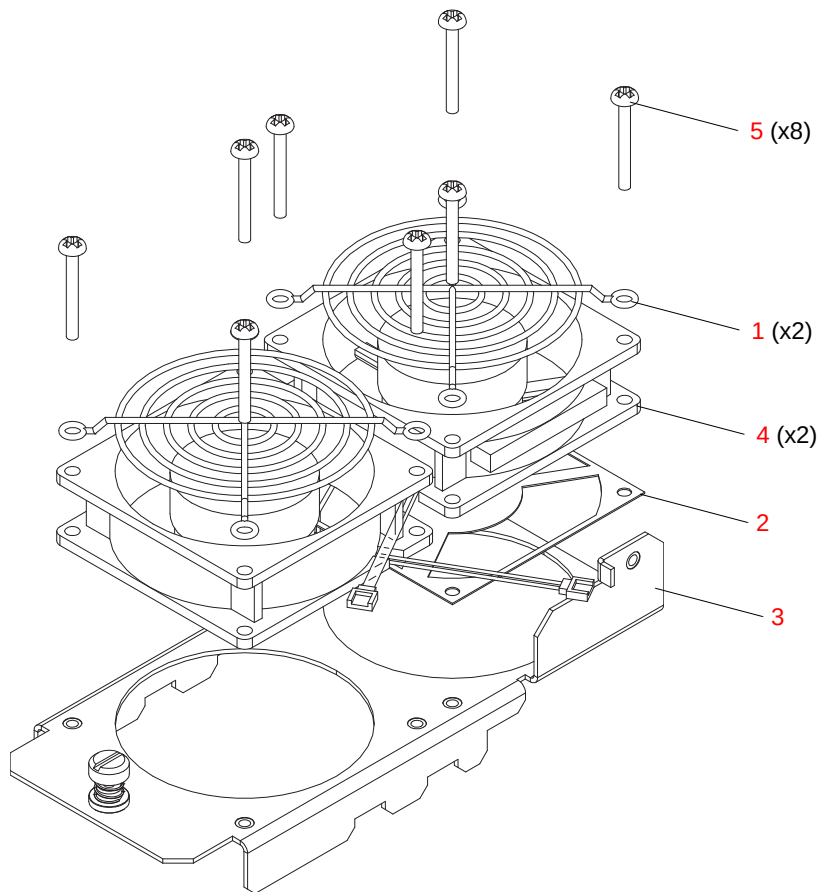


Figure 3-15: Color/Gobo Access Fan Assembly

Color/Gobo Access Fan Assembly

21.9679.0625 Rev C (VL3515 Spot Only)

Refer to [Figure 3-16](#)

No.	Item	Qty.	UM.	Description
1	55.7016.0001	2	EA	FAN GUARD, 80MM, NICKEL PLATED
2	10.9678.1649	1	EA	FAN SHIELD, LAMP COOLING, DC
3	10.9679.0667	1	EA	FAN TRAY, COLOR/GOBO COOLING, VL3515
4	23.9679.0016	2	EA	FAN, TUBAXIAL, 80MM 24VDC, LAMP COOLING, LONG LIFE
5	53.6571.0002	8	EA	SCREW, 6-32 X 1-1/4" LG PPB

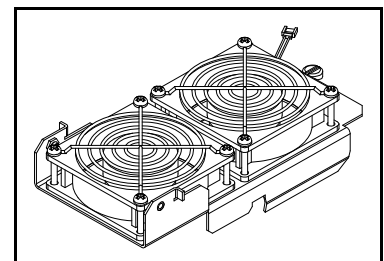
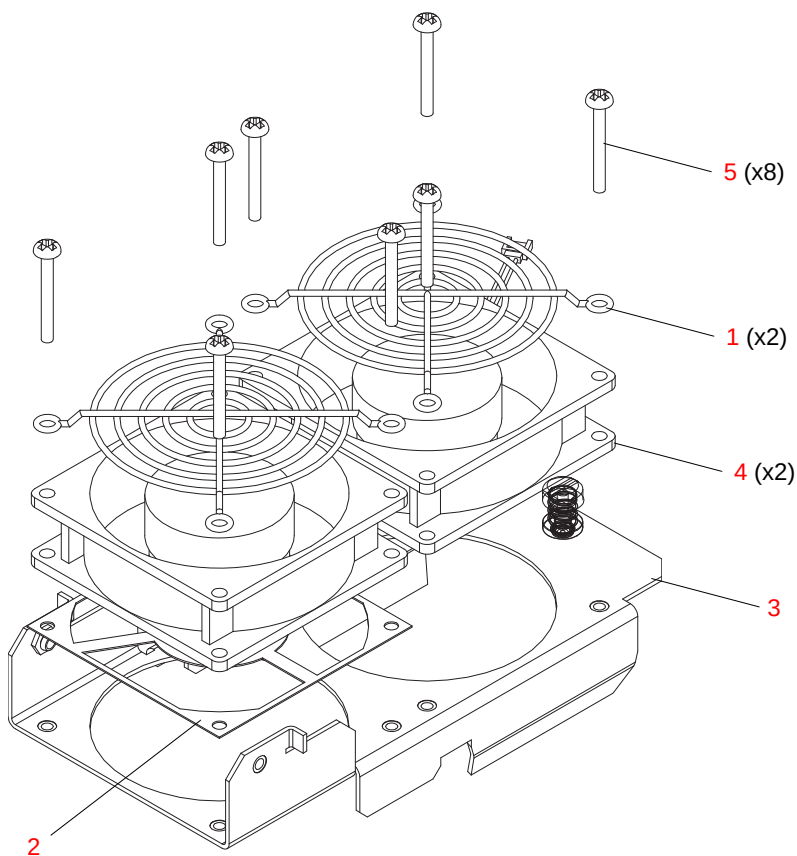


Figure 3-16: Color/Gobo Access Fan Assembly (VL3515 Only)

Quick Change Luned Reflector Assembly

21.9679.0151 Rev A

Refer to [Figure 3-17](#)

No.	Item	Qty.	UM.	Description
1	10.9678.2647	4	EA	CLAMP, PRIMARY REFLECTOR, SST
2	10.9679.0642	1	EA	REFLECTOR MOUNT, QUICK CHANGE
3	12.9678.8151	1	EA	REFLECTOR, HTG, VL3000 SERIES SPOT, LUNED
4	53.6582.0001	4	EA	SCREW, 6-32 X 3/4" PFZ
5	55.6568.0077	4	EA	SPRING, CPRSN, 0.30" OD, 0.035" ID, 0.875" LG, SS
6	55.6759.0003	4	EA	STANDOFF, PEM, 6-32 THD, 0.562" LG SS

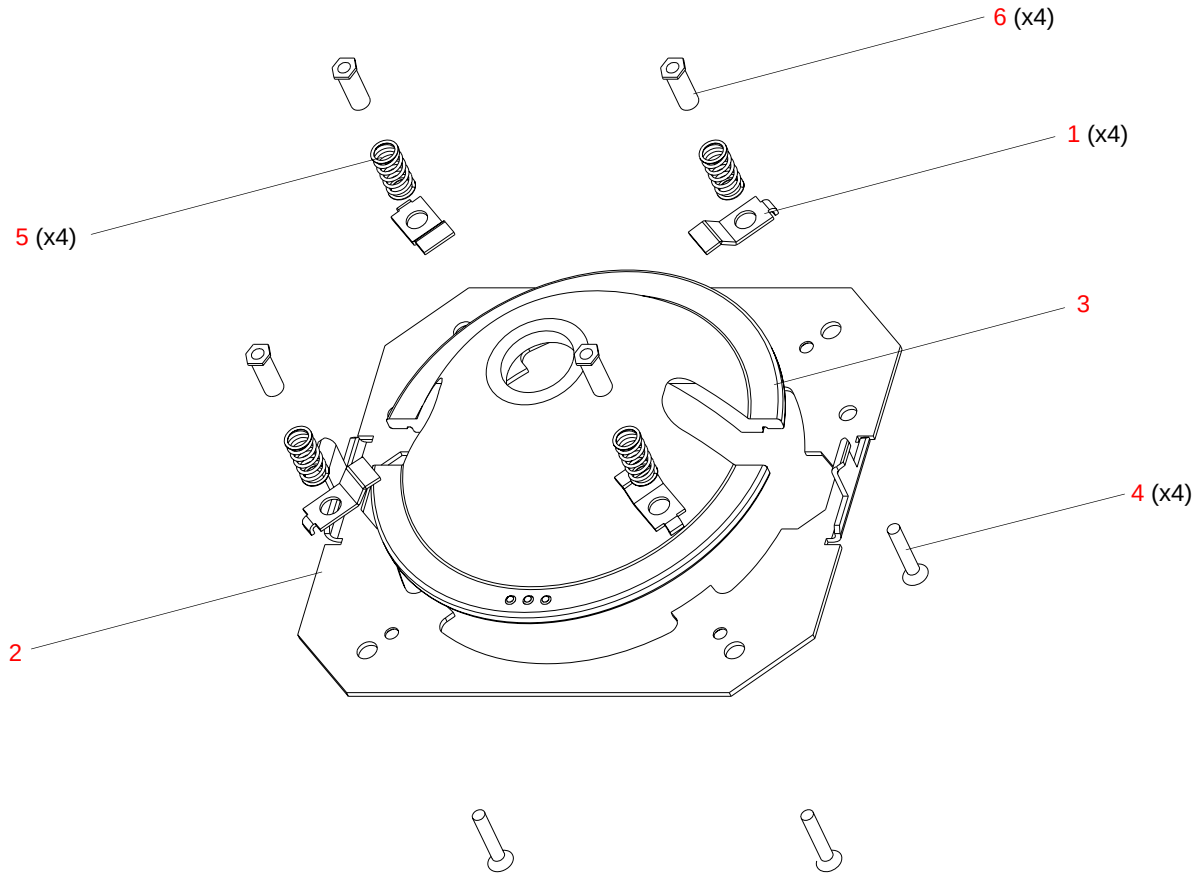


Figure 3-17: Quick Change Luned Reflector Assembly

Quick Change Smooth Reflector Assembly

21.9679.0155 Rev C

Refer to [Figure 3-18](#)

No.	Item	Qty.	UM.	Description
1	10.9678.2647	4	EA	CLAMP, PRIMARY REFLECTOR, SST
2	10.9679.0642	1	EA	REFLECTOR MOUNT, QUICK CHANGE
3	12.9678.8155	1	EA	REFLECTOR, HTG, VL3000 SERIES WASH, SMOOTH, CERAMIC
4	53.6582.0001	4	EA	SCREW, 6-32 X 3/4" PFZ
5	55.6568.0077	4	EA	SPRING, CPRSN, 0.30" OD, 0.035" ID, 0.875" LG, SS
6	55.6759.0003	4	EA	STANDOFF, PEM, 6-32 THD, 0.562" LG SS

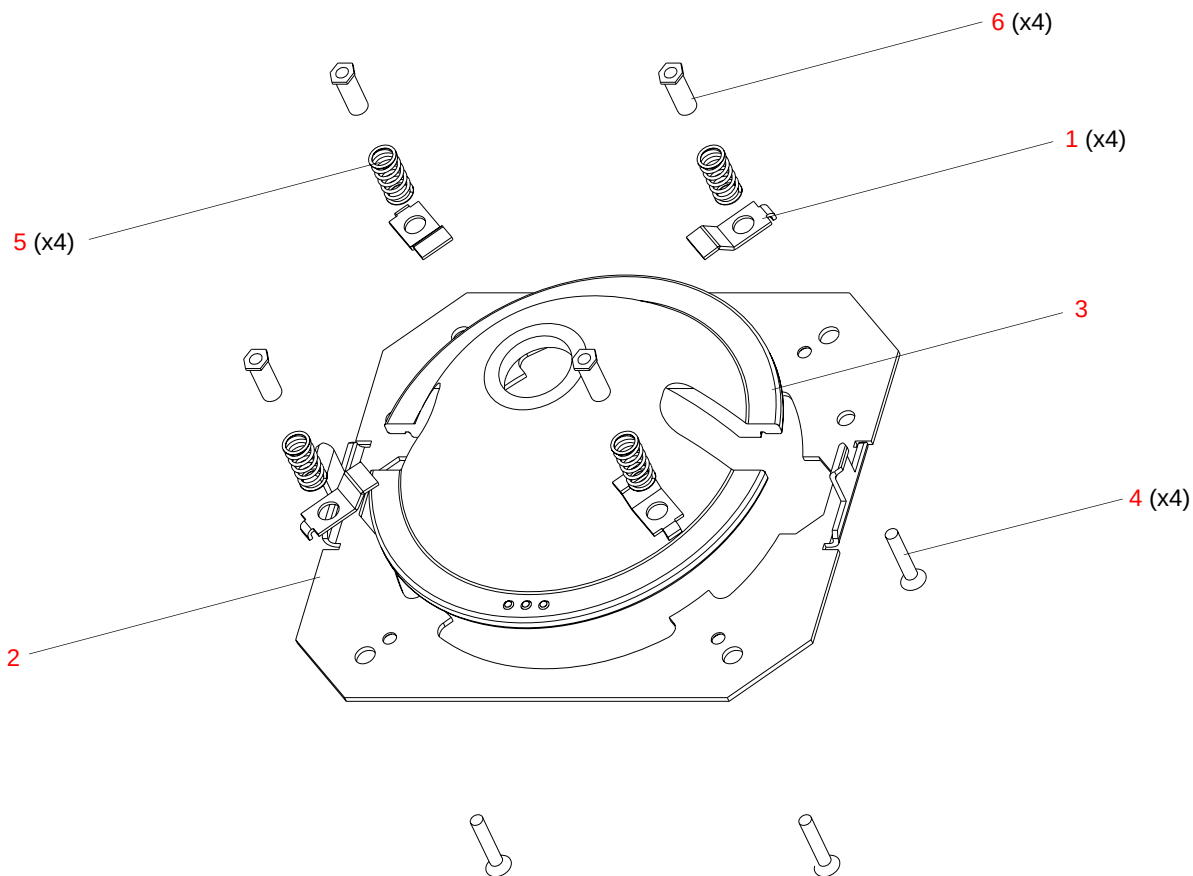


Figure 3-18: Quick Change Smooth Reflector Assembly

Head Assembly

Head Structure Assembly

21.9679.0600 Rev. D

Refer to [Figure 4-19](#)

No.	Item	Qty.	UM.	Description
1	10.9678.8620	1	EA	FRONT CASTING
2	10.9679.0124	1	EA	FAN SUPPORT CROSSMEMBER, FRONT
3	12.9678.8623	1	EA	RIGHT SIDE RAIL, MACHINED
4	12.9678.8625	1	EA	LEFT SIDE RAIL, MACHINED
5	21.9679.0615	1	EA	ASSY, BACKEND
6	53.6515.0001	6	EA	SCREW, 10-32 X 3/4" SCB
7	53.6515.1000	1	EA	SCREW, 10-32 X 1" SOCKET
8	53.6515.1125	3	EA	SCREW, 10-32 X 1.25" SOCKET
9	53.6558.0009	3	EA	SCREW, 6-32 X 3/8" LG PPZ SEMS

Head Structure Assembly (continued)

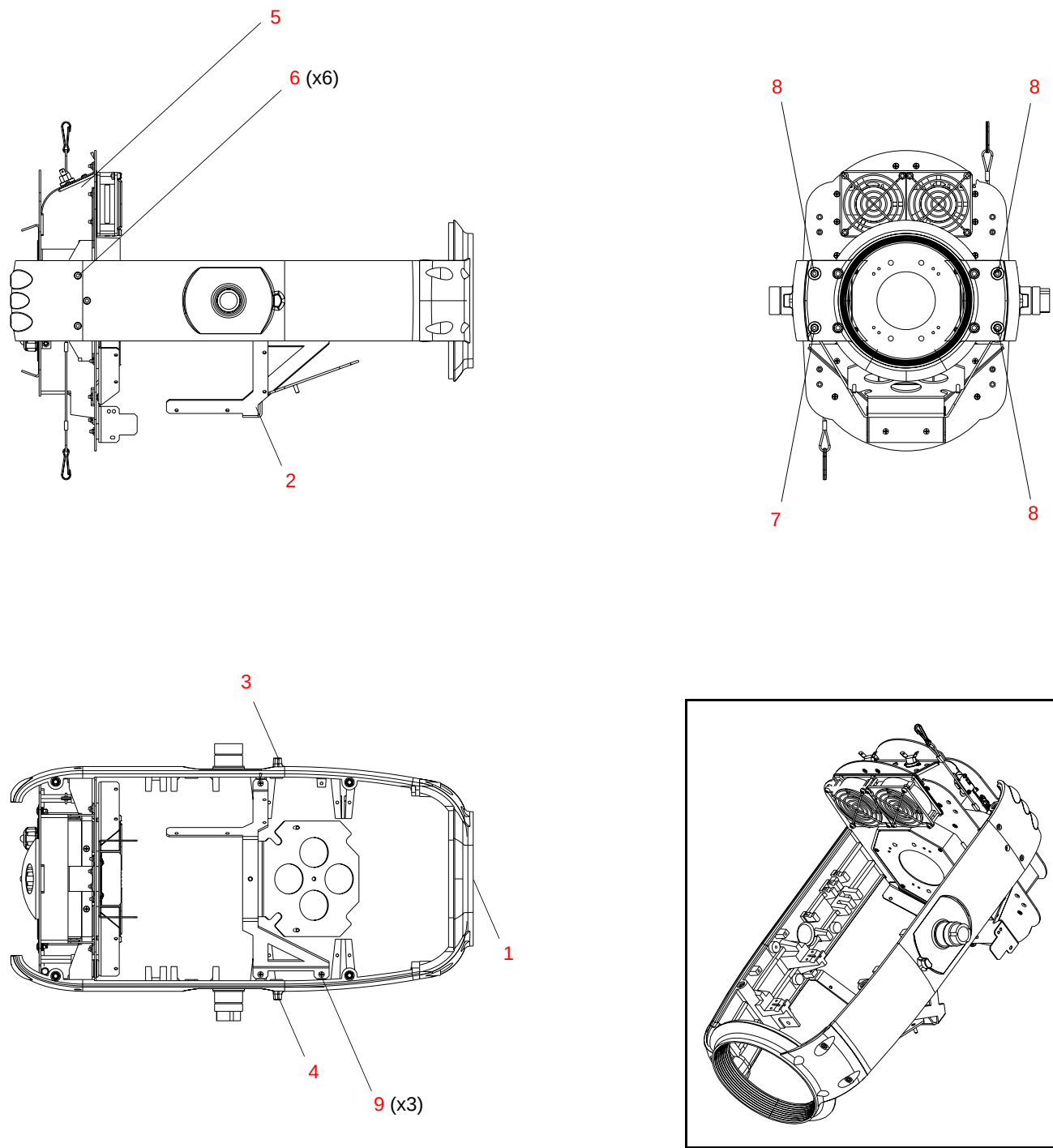


Figure 4-19: Head Structure Assembly

Backend Assembly

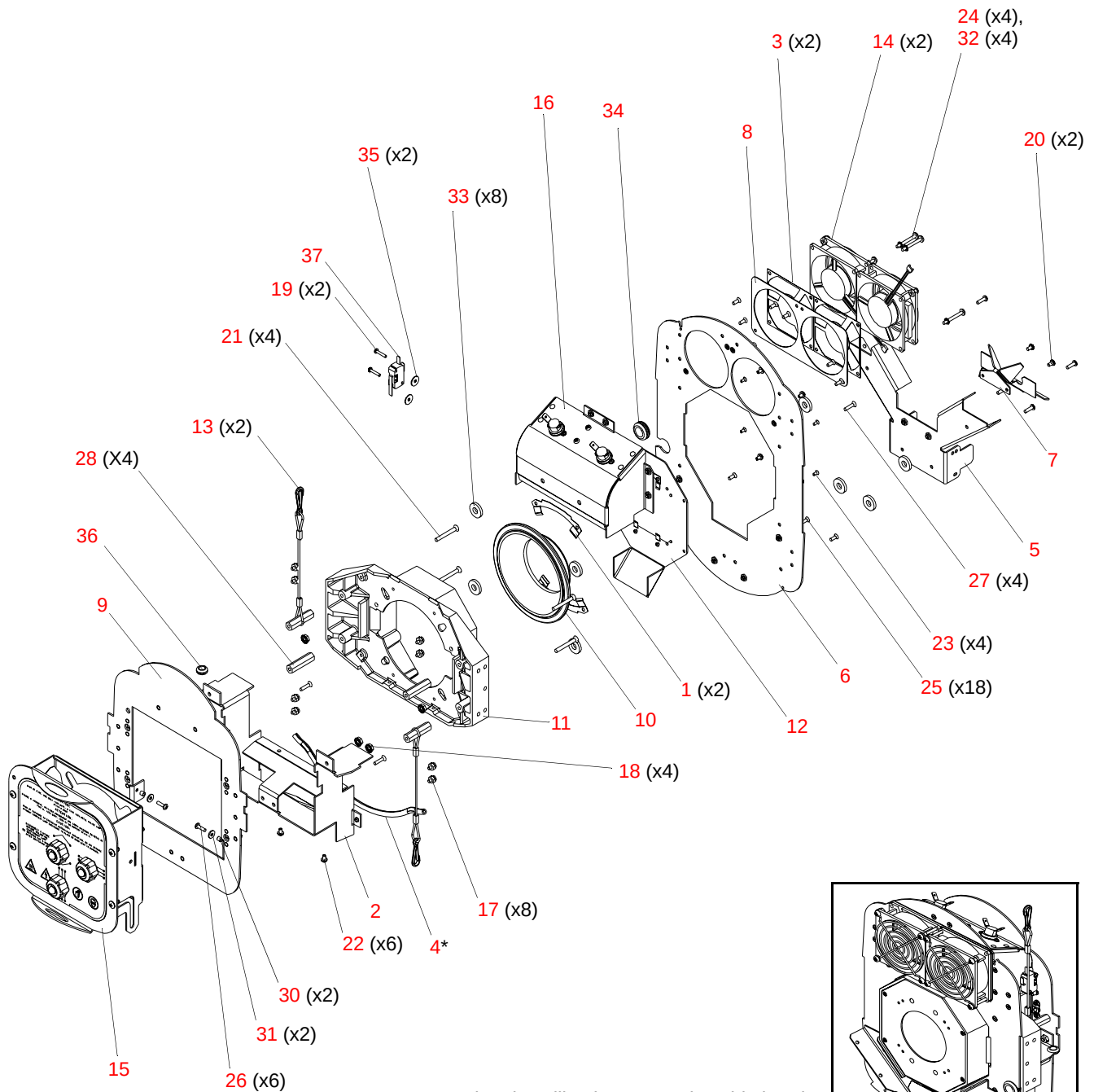
21.9679.0615 Rev E

Refer to [Figure 4-20](#)

No.	Item	Qty.	UM.	Description
1	10.9678.0637	2	EA	CLIP, RETRO-REFLECTOR
2	10.9678.0653	1	EA	LIGHT BAFFLE, EXHAUST
3	10.9678.1649	2	EA	FAN SHIELD, LAMP COOLING, DC
4	10.9679.0615	1	EA	SILICONE TUBING, HOT BOX SEAL
5	10.9679.0638	1	EA	AIR DIVERTER, STROBE MOTOR
6	10.9679.0671	1	EA	BULKHEAD, SEPARATION
7	10.9679.0680	1	EA	REFLECTOR ACCESS, AIR DIVERTER
8	10.9686.0659	1	EA	FAN INSULATOR, THIN
9	10.9698.0645	1	EA	BULKHEAD, EXHAUST
10	12.9678.0627	1	EA	REAR CROSS-CASTING, MACHINED
11	12.9678.8152	1	EA	RETRO-REFLECTOR
12	22.9678.0617	1	EA	ASSY, UV FILTER BULKHEAD
13	21.9678.0673	2	EA	TETHER ASSY, COVER
14	21.9679.0616	2	EA	ASSY, 80MM DC FAN W/ GRILL
15	21.9679.0640	1	EA	ASSY, HOT BOX, QUICK REFLECTOR CHANGE
16	22.9686.0674	1	EA	ASSY, DUAL FAN DUCT
17	53.2002.0001	8	EA	NUT, 6-32 KEPS ZINC PLATED
18	53.2004.0002	4	EA	NUT, 8-32 KEPS ZINC PLATED
19	53.6519.0001	2	EA	SCREW, 4-40 X 5/8" PPZ
20	53.6522.0001	2	EA	SCREW, 6-32 X 1/4" PPZ
21	53.6545.0009	4	EA	SCREW, 8-32 X 1-3/8" PFZ
22	53.6558.0007	6	EA	SCREW, 6-32 X 1/4" PPZ, SEMS
23	53.6559.0001	4	EA	SCREW, 4-40 X 1/4" PFZ
24	53.6571.0002	4	EA	SCREW, 6-32 X 1-1/4" LG PPB
25	53.6609.0001	18	EA	SCREW, 6-32 X 3/8" PFZ
26	53.6613.0001	6	EA	SCREW, 6-32 X 1/2" PPZ
27	53.6614.0003	4	EA	SCREW, 6-32 X 5/8" PFZ
28	55.2125.0003	4	EA	STANDOFF, HEX 4-40 THD
29	55.2186.0002	2	EA	CABLE TIE, 0.09" WD, 3.750" LG TEF
30	55.6506.0024	2	EA	SPACER, 0.188" OD X 0.140" ID X 0.188" THK ALUM
31	55.6528.0001	2	EA	WASHER, #6 FLAT, ZINC
32	55.6538.0001	4	EA	WASHER, #6 LOCK INTERNAL TOOTH

No.	Item	Qty.	UM.	Description
33	55.6538.0004	8	EA	WASHER, TEFLON, 0.312" X 0.750" X 0.125"
34	55.6541.0008	1	EA	GROMMET, 1/2" ID 7/8" OD 11/32" THK
35	55.6677.0042	2	EA	WASHER, TEFLON, 0.50" OD
36	55.6706.0001	1	EA	GROMMET, 9/32" ID 9/16" OD 1/4" THK SI
37	74.1099.0001	1	EA	SWITCH, MINIATURE, 150-DEG, 5 AMP

Backend Assembly (continued)



*Note, when installing item 4, apply a thin bead of Copper RTV the entire length of the slit. Secure to bulkhead (item 6) using item 9 (x2).

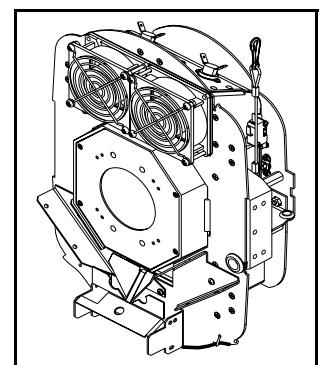


Figure 4-20: Backend Assembly

80mm DC Fan Assembly

21.9679.0616 (Rev. A)

Refer to [Figure 4-21](#)

No.	Item	Qty.	UM.	Description
1	40.7113.0015	1	EA	FAN, TUBEAXIAL 80MM 24VDC, HIGH
2	53.2002.0001	2	EA	NUT, 6-32 KEPS ZINC
3	53.6558.0001	2	EA	SCREW, 6-32 X 3/8" LG PPZ
4	55.7016.0001	1	EA	FAN GUARD, 80MM CHROME

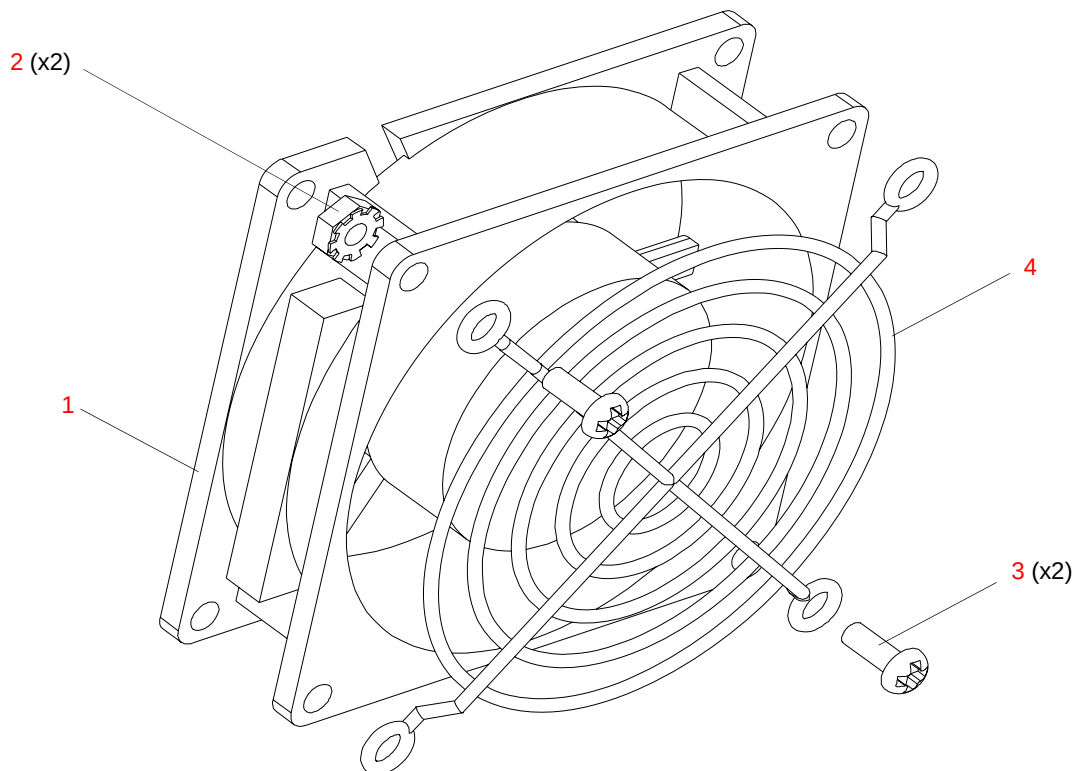


Figure 4-21: 80mm DC Fan Assembly

UV Filter Bulkhead Assembly

22.9678.0617 Rev D

Refer to [Figure 4-22](#)

No.	Item	Qty.	UM.	Description
1	10.9678.0634	1	EA	UV FILTER BULKHEAD
2	10.9678.0648	2	EA	CLIP, UV GLASS
3	41.9678.1160	1	EA	UV/IR FILTER, 3.00" X 3.00"
4	53.6530.0002	4	EA	RIVET, 1/8 OD POP,.063-.125 GRIP, ALUM

**Note: Install glass (item 3) with marks indicating IR coating side of filter facing up and located outside of circular cutout in bulkhead (Item 1).*

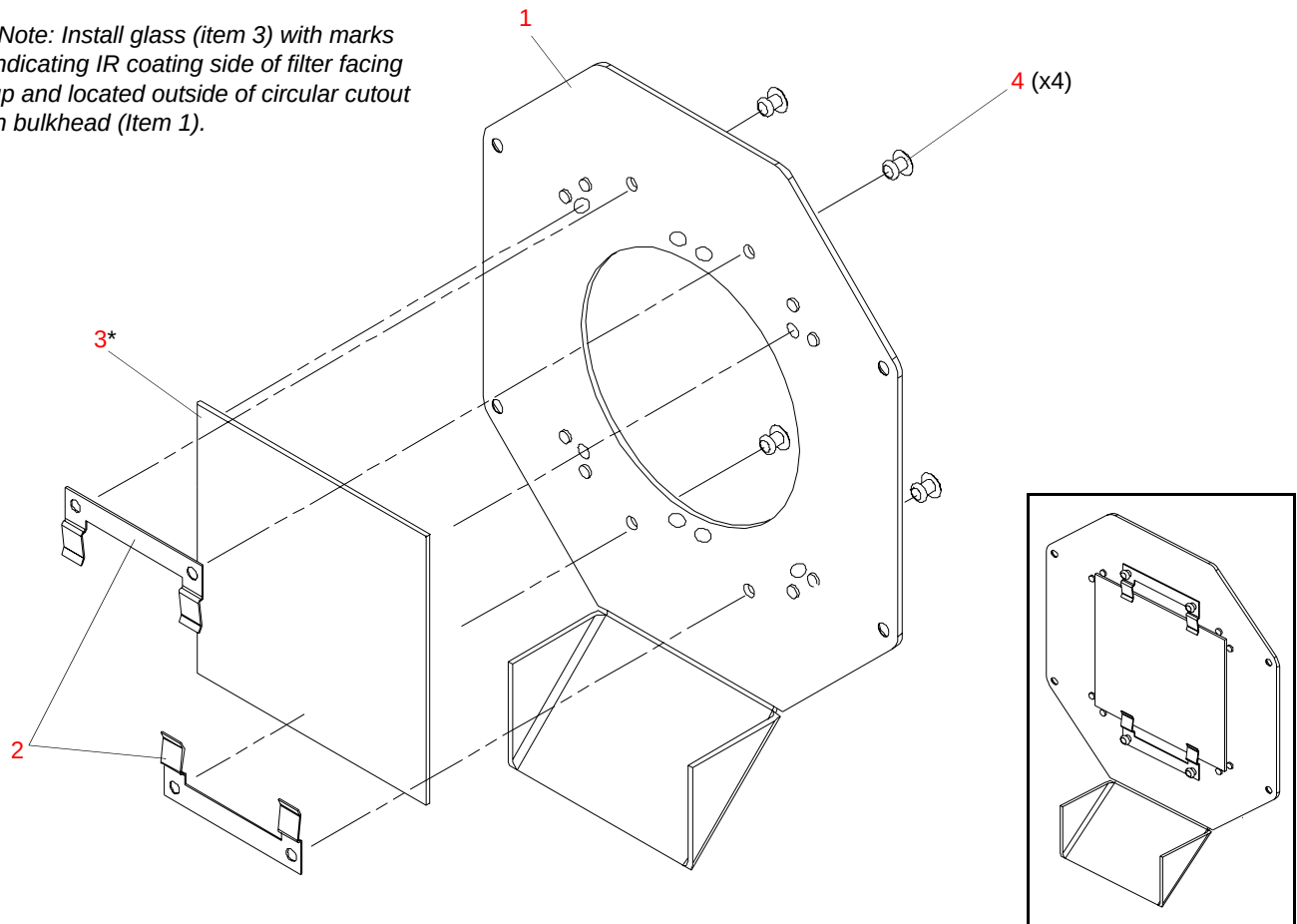


Figure 4-22: UV Filter Bulkhead Assembly

Hot Box (Quick Change) Assembly

21.9679.0640 Rev. C

Refer to [Figure 4-23](#)

No.	Item	Qty.	UM.	Description
1	10.9678.0043.04	1	EA	LABEL PLATE, VL3500 WASH BACKCAP, BLACK
2	10.9678.0643	1	EA	LAMP ADJUST STOP
3	10.9678.0645	3	EA	KNOB, LAMP ADJUST, MOLDED
4	10.9678.0646	1	EA	TILT PLATE, XYZ ADJUSTMENT
5	10.9679.0641	1	EA	HOT BOX, CHASSIS
6	10.9679.0644	1	EA	AIR DIVERTER, LAMP
7	10.9686.0642	1	EA	PLATE, BACKCAP
-	25.9661.1522	1	EA	CABLE ASSY, HEAD TO BACKCAP, GROUND (not shown)
-	25.9678.0789	1	EA	CABLE ASSY, IGNITOR TO LAMP SOCKET (not shown)
8	53.2030.0001	3	EA	NUT, ACORN 10-32 THD 3/8" W 3/16" THD DP BLK ZINC
9	53.5508.0375	2	EA	SCREW, 8-32 X 3/8" PPSS
10	53.6530.0013	8	EA	RIVET, 1/8" OD, 0.063" - 0.125" GL CSK HD ALUM
11	55.2233.0003	4	EA	RETAINER, PUSH-ON TYPE
12	55.2233.0007	4	EA	STUD, 1/4-TURN OPR 0.455" L STEEL BLACK ZINC
13	55.6546.0004	3	EA	WASHER, TEFLON, 0.201" ID X 0.438" OD, X 0.04" THK
14	55.6568.0077	3	EA	SPRING, CPRSN .300"OD .625"LG .035"WIRE DIA SS
15	71.2561.0002	1	EA	LAMPHOLDER, SFC10-4 WITH PREFOCUS

Hot Box (Quick Change) Assembly (continued)

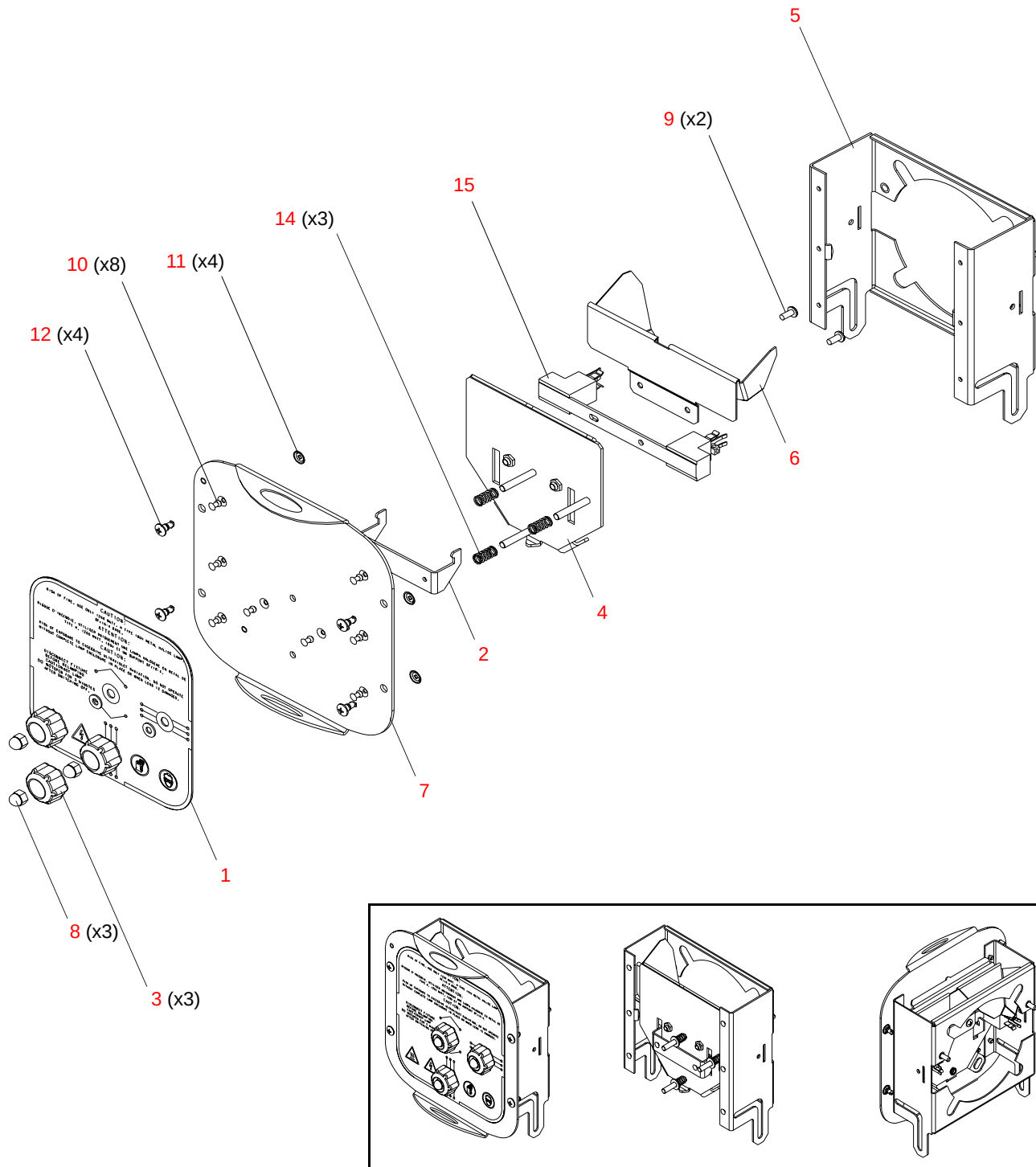


Figure 4-23: Hot Box (Quick Change) Assembly

Dual Fan Duct Assembly

22.9686.0674 Rev B

Refer to [Figure 4-24](#)

No.	Item	Qty.	UM.	Description
1	10.9686.0673	1	EA	TURNING VANE, FAN DUCT
2	10.9686.1672	1	EA	DUAL FAN DUCT
3	25.9678.0015	1	EA	CABLE ASSY, OT SWITCH TO GROUND
4	25.9686.0013	1	EA	CABLE ASSY, OT SWITCH 1 TO OT SWITCH 2
5	25.9686.0014	1	EA	CABLE ASSY, BACKCAP INTERLOK TO OT SWITCH 1
6	53.6558.0001	2	EA	SCREW, 6-32 X 3/8" PPZ
7	53.6604.0002	4	EA	SCREW, 4-40 X 1/4" THREAD FORMING
8	74.1090.0001	2	EA	THERMAL SWITCH, LIMIT, 199 DEG C

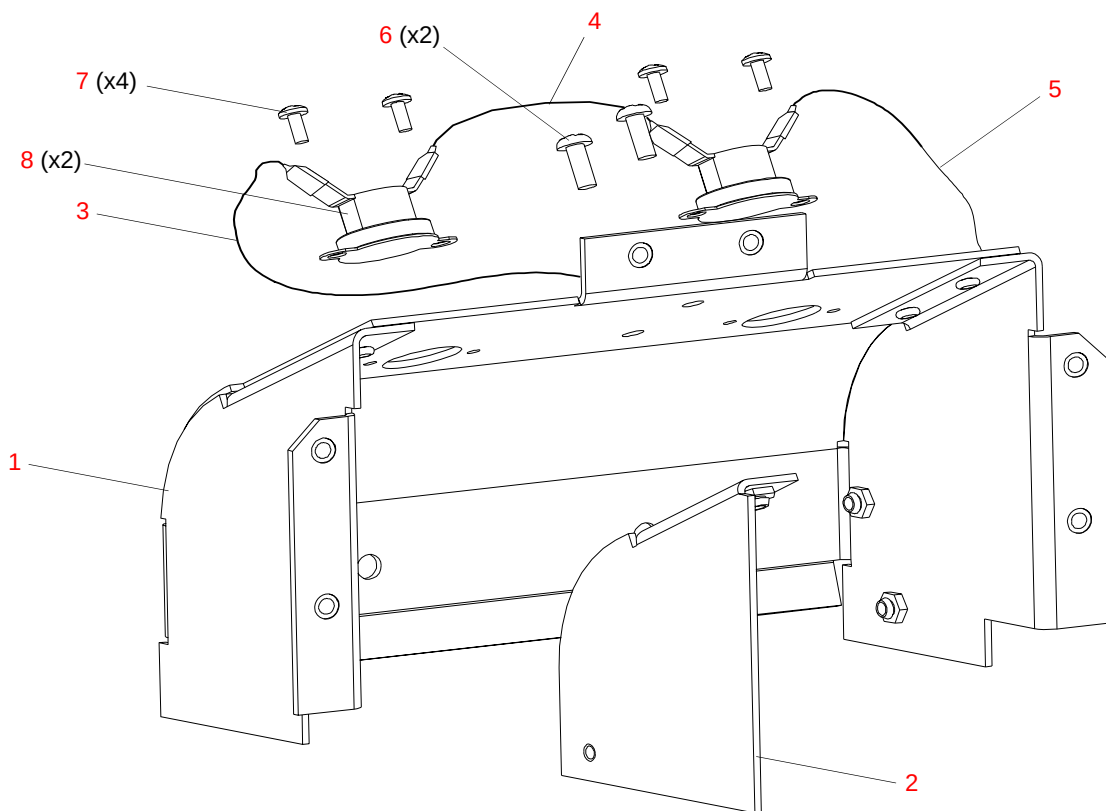


Figure 4-24: Dual Fan Duct Assembly

Gobo Module Assembly

21.9679.0200 Rev. C (VL3015 Only)

Refer to [Figure 4-25](#)

No.	Item	Qty.	UM.	Description
1	10.9678.0215	1	EA	BULKHEAD, GOBO MODULE, FRONT
2	10.9678.0216	1	EA	BULKHEAD, GOBO MODULE, REAR
3	10.9678.0225	4	EA	SHAFT, GOBO WHEEL
4	10.9678.0231	3	EA	MOTOR PULLEY W/ FLANGES
5	10.9678.0232	3	EA	PULLEY, GOBO DRIVE
6	10.9678.0244	2	EA	MOUNT, INDEX SENSOR, LONG
7	10.9678.0245	1	EA	MOUNT, INDEX SENSOR, SHORT
8	10.9678.0246	3	EA	MOTOR ADJUST PLATE
9	10.9678.0277	1	EA	SPACER, WHEEL/IRIS
10	10.9678.0457.02	2	EA	SPACER, COLOR WHEEL
11	10.9678.0457.04	1	EA	SPACER, COLOR WHEEL
12	21.9678.0243	2	EA	MOTOR ASSY, LONG SHAFT
13	21.9679.0210	2	EA	WHEEL ASSY, ROTATING GOBO, HI-TEMP
14	21.9679.0270	1	EA	SUB-ASSY, IRIS
15	21.9698.0211	1	EA	WHEEL ASSY, ROTATING EFFECTS, HI-TEMP
16	24.9663.1231	4	EA	PCB ASSY, INDEX SENSOR
17	24.9678.3240	3	EA	PCB ASSY, WHEEL POSITION SENSOR
18	25.9678.2209	1	EA	CABLE ASSY, INTERCONNECT, ROT GOBO MODULE (not shown)
19	44.9663.1202	2	EA	MOTOR, 17 2.42" SHAFT, 11.8 MH
20	44.9663.1766	2	EA	MOTOR, ZOOM/DIMMER
21	53.5558.0125	12	EA	SCREW, 8-32 X 0.125" SET SS
22	53.5638.0252	8	EA	SCREW, 6-32 X 1/4" L PFS UNDERCUT HD
23	53.6520.0001	8	EA	SCREW, 4-40 X 3/8" PPZ
24	53.6558.0009	4	EA	SCREW, 6-32 X 3/8" PPZ SEMS
25	53.6609.0001	4	EA	SCREW, 6-32 X 3/8" PFZ
26	53.6613.0001	16	EA	SCREW, 6-32 X 1/2" PPZ
27	53.6682.0002	6	EA	SCREW, 4-40 X 1/4" PPZ SEMS
28	54.2057.0001	3	EA	BELT, TIMING, MXL 0.080" PITCH 14
29	54.2058.0001	3	EA	BELT, TIMING, MXL 0.080" PITCH 16
30	55.2110.0002	1	EA	WASHER, 0.400" OD 0.260" ID 0.010" THK
31	55.2150.0002	4	EA	STANDOFF, 1/4" HEX 6-32 X 1.187" MF

VARILITE* - VL3015 & VL3515 SPOT LUMINAIRES SERVICE MANUAL**

No.	Item	Qty.	UM.	Description
32	55.2150.0003	4	EA	STANDOFF, 1/4" HEX 6-32 1.125" L
33	55.2178.0001	4	EA	CABLE ANCHOR MOUNT, #8 SCREW MOUNTING
34	55.6506.0025	1	EA	SPACER, 3/8" RND 1/8" LG 0.257" L
35	55.6506.0026	1	EA	SPACER, 3/8" RND 31/32" LG 0.257" L
36	55.6506.0030	1	EA	SPACER, 3/8" RND 3/8" LG 0.257" L
37	55.6520.0001	2	EA	WASHER, WAVE SPRING, 0.265" ID, 0.367"

Gobo Module Assembly (continued)

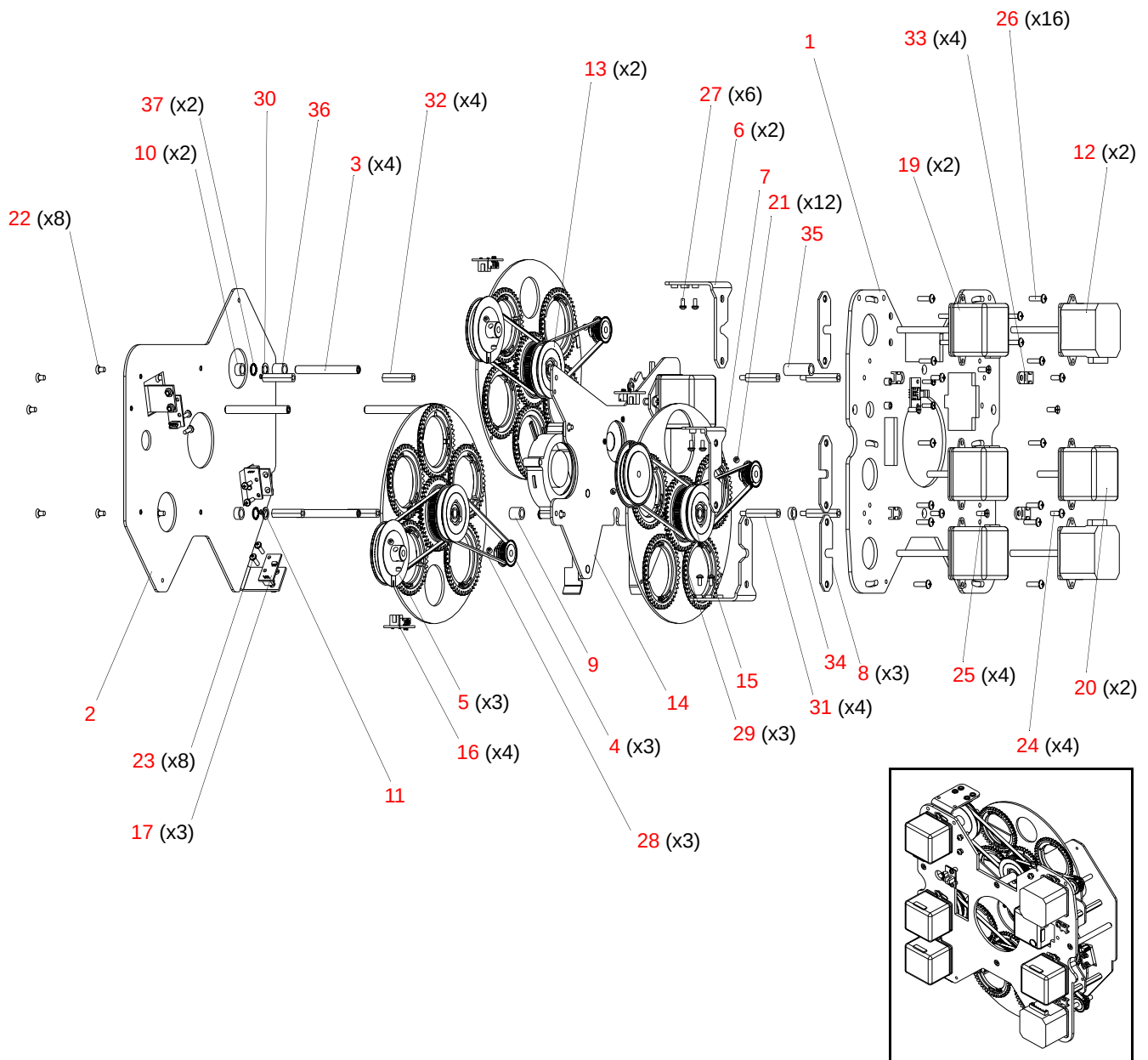


Figure 4-25: Gobo Module Assembly

Color Module Assembly

21.9679.0402 Rev. E

Refer to [Figure 4-25](#)

No.	Item	Qty.	UM.	Description
1	10.9678.0456	4	EA	SHAFT, COLOR WHEEL
2	10.9678.0457.02	2	EA	SPACER, COLOR WHEEL, L 0.190
3	10.9678.0457.03	3	EA	SPACER, COLOR WHEEL, L 0.123
4	10.9678.0457.04	3	EA	SPACER, COLOR WHEEL, L 0.031
5	10.9678.0457.07	1	EA	SPACER, COLOR WHEEL, L 0.357
6	10.9678.0485	5	EA	PULLEY, COLOR MOTOR
7	10.9679.0486	1	EA	BULKHEAD, FRONT, COLOR
8	10.9679.0324	1	EA	TIMING PULLEY, FIXED COLOR WHEEL
9	10.9679.0325	1	EA	DRIVE PULLEY, FIXED COLOR WHEEL
10	10.9679.0469	1	EA	BULKHEAD, REAR, COLOR
11	21.9678.0331	1	EA	ASSY, MOTOR/ADAPTER PLATE
12	21.9678.0334	1	EA	ASSY, FIXED COLOR WHEEL
13	21.9679.0403	1	EA	BULKHEAD, STROBE
14	22.9678.0335	1	EA	ASSY, BEARING BLOCK, FIXED WHEEL
	- 10.9678.0323	1	EA	WHEEL MOUNT
	- 54.1259.0004	2	EA	BEARING, RADIAL FLANGED, 0.25" ID, 0.625" OD
15	22.9678.0435.02	1	EA	ASSY, DIMMER WHEEL, NOTCHED
16	22.9678.0472.02	1	EA	ASSY, CYAN WHEEL, NOTCHED
17	22.9678.0474.02	1	EA	ASSY, YELLOW WHEEL, NOTCHED
18	22.9678.0476.02	1	EA	ASSY, MAGENTA WHEEL, NOTCHED
19	22.9678.0478.02	1	EA	ASSY, CTO WHEEL, NOTCHED
20	22.9678.0481	1	EA	MOUNT ASSY, COLOR SENSOR PCB #1
21	22.9678.0489	1	EA	MOUNT ASSY, COLOR SENSOR PCB #2
22	24.9678.3240	1	EA	PCB ASSY, WHEEL POSITION SENSOR
23	25.9678.1419	1	EA	CABLE ASSY, COLOR INTERCONNECT (not shown)
24	44.9678.0455	5	EA	COLOR MOTOR
25	53.2004.0002	1	EA	NUT, 8-32 KEPS ZINC PLATED
26	53.2200.0006	12	EA	NUT, 6-32 KEP, SS
27	53.5559.0250	12	EA	SCREW, SET, 6-40 X 0.25" CONE POINT
28	53.5638.0252	12	EA	SCREW, 6-32 X 1/4" PFS UNDERCUT
29	53.6558.0001	7	EA	SCREW, 6-32 X 3/8" PPZ

No.	Item	Qty.	UM.	Description
30	53.6597.0001	2	EA	SCREW, 4-40 X 3/16" PPZ
31	53.6608.0003	5	EA	SCREW, 6-32 X 3/16" LG PPZ
32	54.2059.0001	4	EA	BELT, TIMING, MXL PITCH 150 TOOTH
33	54.2060.0001	1	EA	BELT, TIMING, MXL PITCH 165 TOOTH
34	54.9679.0002	1	EA	BELT, TIMING, MXL, 155 GRV, 0.188" W, SIL/KEV
35	55.2132.0011	4	EA	STANDOFF, 1/4" HEX 6-32 X 1.093" L
36	55.2132.0012	4	EA	STANDOFF, 1/4" HEX 6-32 X 0.75" L
37	55.3303.0004	2	EA	WASHER, #4 LOCK INT TOOTH SS
38	55.3303.0006	6	EA	WASHER, #6 LOCK INT TOOTH SS
39	55.6503.0004	1	EA	WASHER, #8 FLAT ZINC
40	55.6520.0001	2	EA	WASHER, WAVE SPRING, 0.265" ID
41	55.6528.0001	2	EA	WASHER, #6 FLAT ZINC

Color Module Assembly (continued)

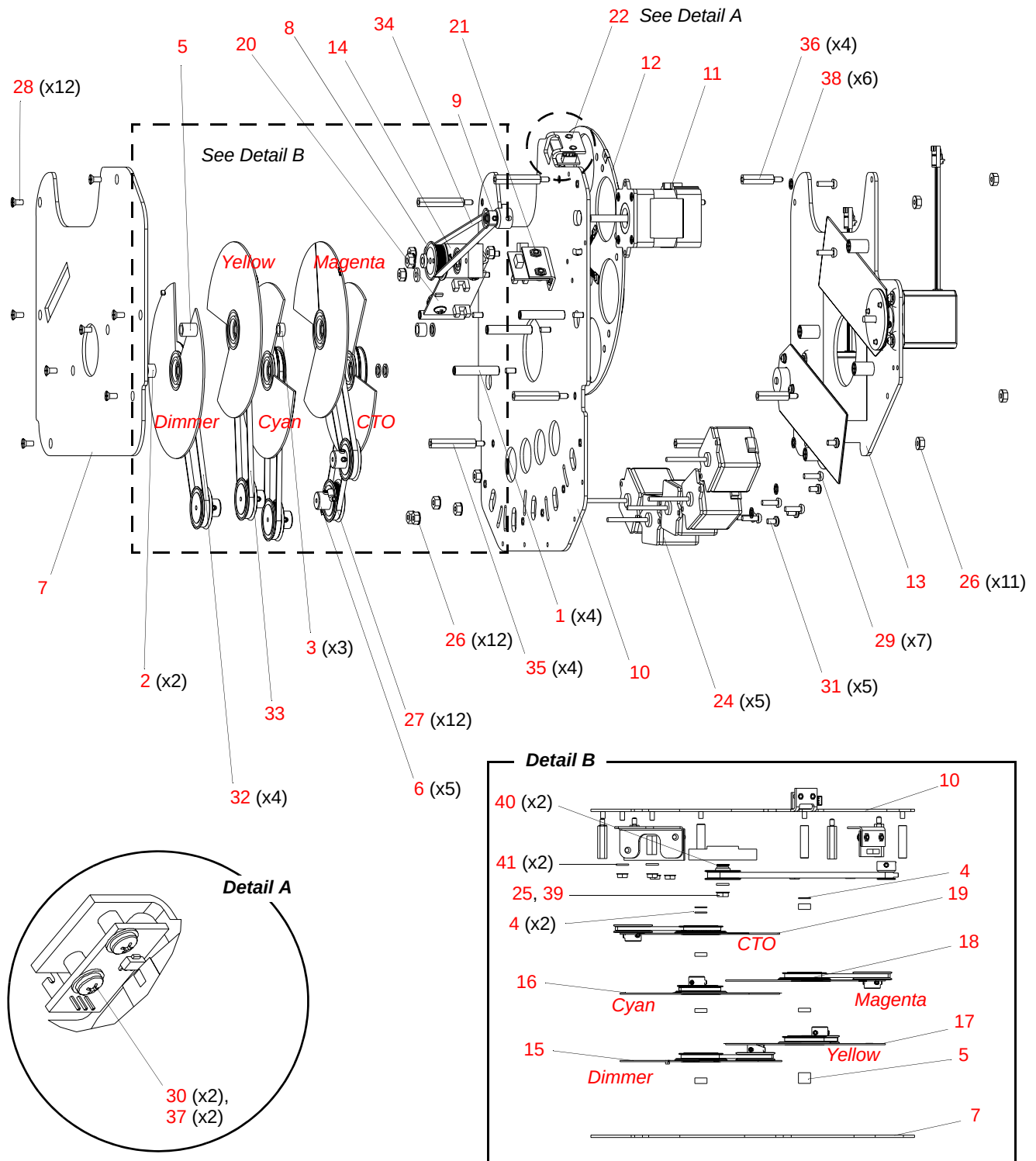


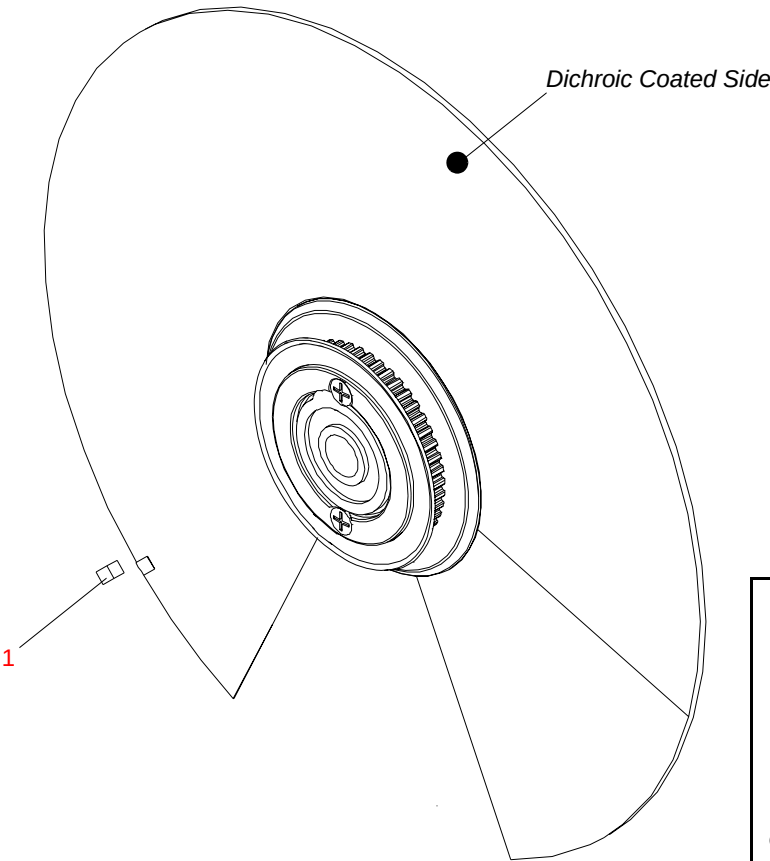
Figure 4-26: Color Module Assembly

Dimmer Wheel (Notched) Assembly

22.9678.0435.02 Rev B

Refer to [Figure 4-27](#)

No.	Item	Qty.	UM.	Description
1	55.2256.0001	1	EA	MAGNET, 2:17 SMCO 2MM X 2MM



Copper RTV Bead

Dimmer Wheel Magnet

Gluing Magnet to Dimmer Wheel Assembly

Step

1.

Make sure surface is clean and oil free

Step

2.

Apply High Temp Copper RTV to magnet as shown.

Step

3.

Place magnet on dimmer wheel assembly as shown.

Step

4.

Apply two fillet beads of NUVASIL RTV on long edges of magnet to secure in place.

Step

5.

Allow to cure in for at least 24 hours at room temperature. For best results, run through a UV curing oven twice. .

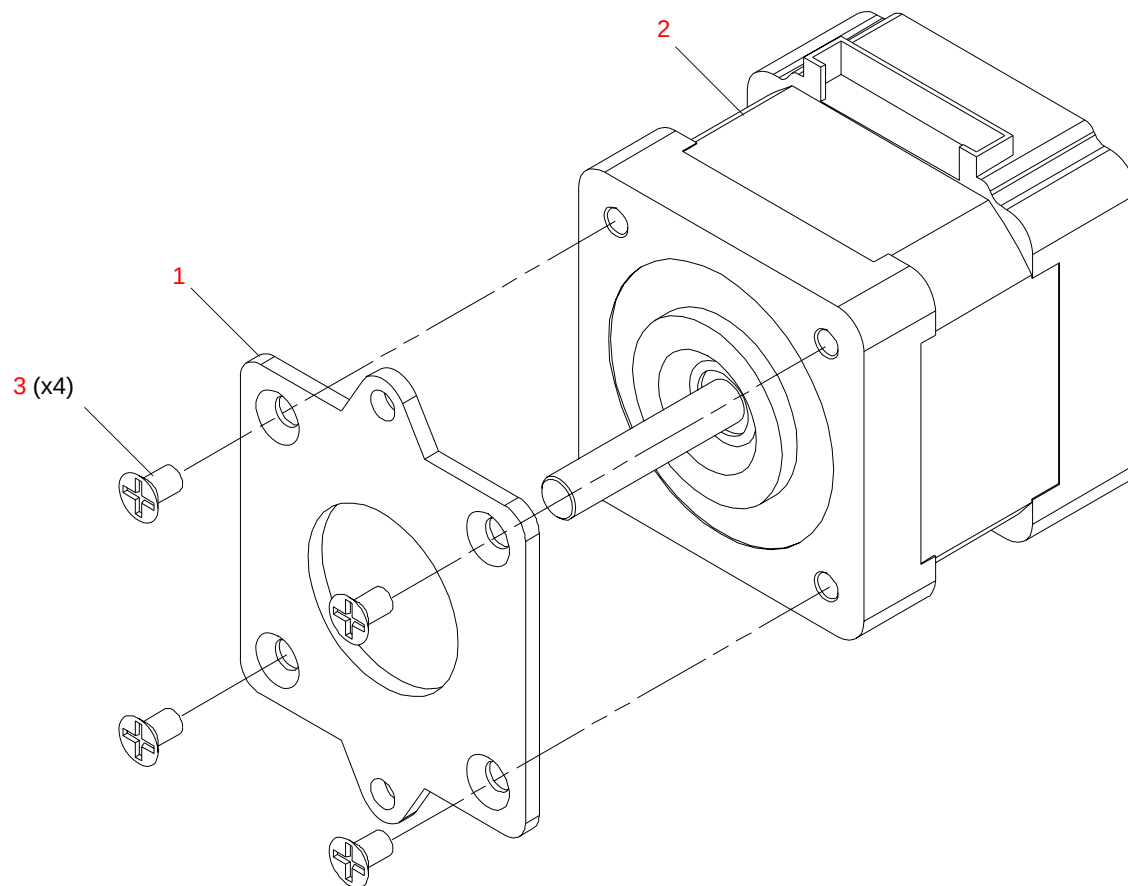
Figure 4-27: Dimmer Wheel (Notched) Assembly

Motor/Adapter Plate Assembly

21.9678.0331 Rev 0

Refer to [Figure 4-28](#)

No.	Item	Qty.	UM.	Description
1	10.9678.0330	1	EA	PLATE, MOTOR ADAPTER
2	44.5031.0001	1	EA	MOTOR, STEPPER 42MM X 40MM,10
3	53.6513.0002	4	EA	SCREW, 3MM X 5MM LG PFZ METR



Note orientation of adapter plate in relation to the motor.

Figure 4-28: Motor/Adapter Plate Assembly

Fixed Color Wheel Assembly

21.9678.0334 Rev D

Refer to [Figure 4-29](#)

No.	Item	Qty.	UM.	Description
1	10.9678.0322	1	EA	SPIN SHAFT, COLOR WHEEL
2	10.9678.0332	6	EA	SLIDING RETAINER
3	10.9678.0333	6	EA	RETAINER CLIP
4	22.9678.1336	1	EA	FAB ASSY, FIXED WHEEL/CLIP
5	41.9678.0305.01	1	EA	COLOR FILTER, DEEP RED VL3000
6	41.9678.0305.02	1	EA	COLOR FILTER, KELLY GREEN VL3000
7	41.9678.0305.03	1	EA	COLOR FILTER, CONGO BLUE VL3000
8	41.9678.0305.04	1	EA	COLOR FILTER, MAGENTA VL3000
9	41.9678.0305.05	1	EA	COLOR FILTER, ORANGE VL3000
10	41.9678.0305.06	1	EA	COLOR FILTER, DARK FUSHIA VL3000
11	53.6534.0001	6	EA	RIVET, 3/32"OD POP 3/32 GRIP RANGE
12	53.6608.1857	3	EA	SCREW, 6-32 X 3/16"LG PFSS
13	55.2256.0001	1	EA	MAGNET, 2:17 SMCO 2MM X 2MM X 3MM
14	55.6568.0076	6	EA	SPRING, CPRSN 0.120"OD 0.750"LG
15	10.9678.0250	1	EA	MAGNET TAPE

Fixed Color Wheel Assembly (continued)

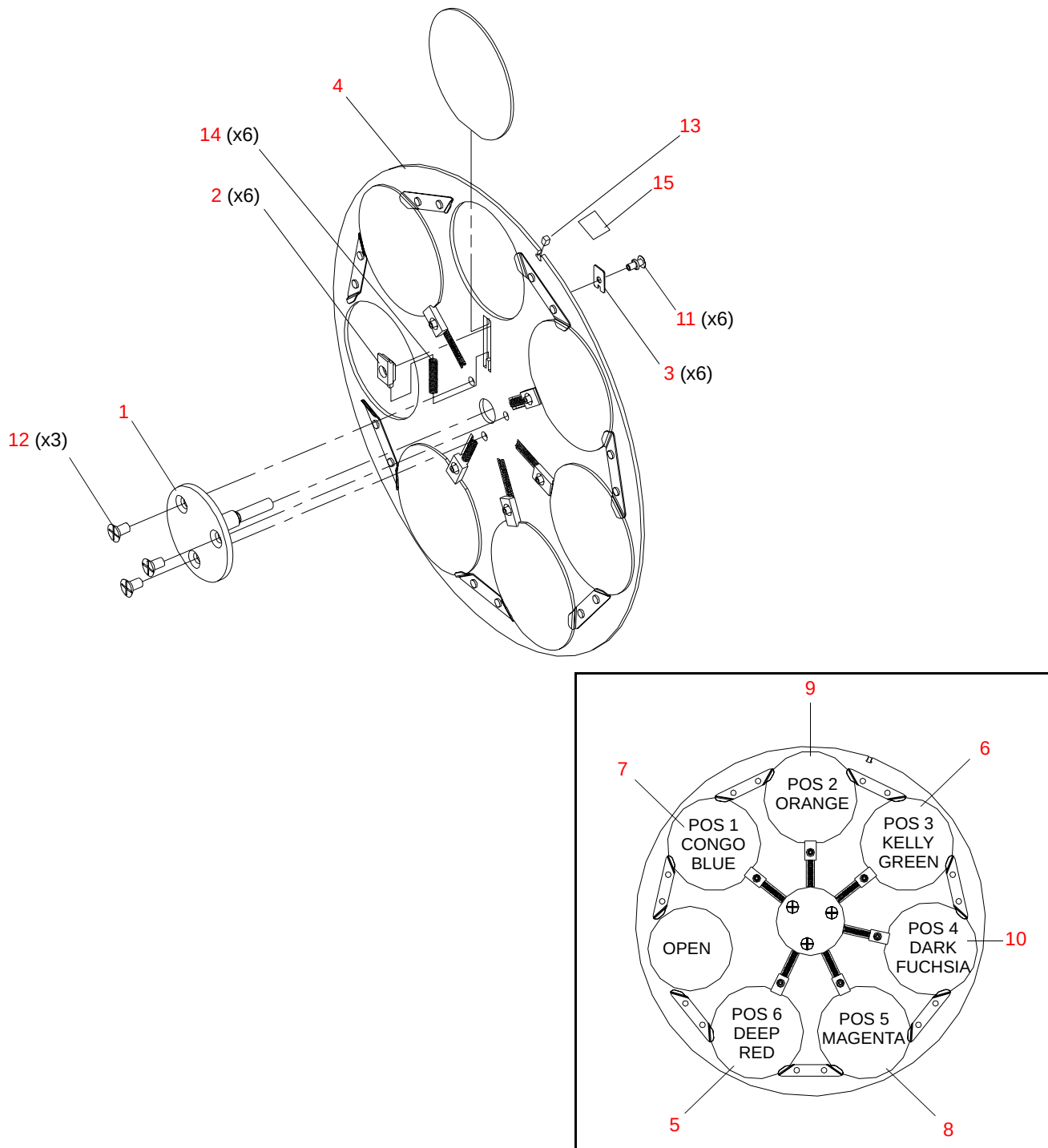


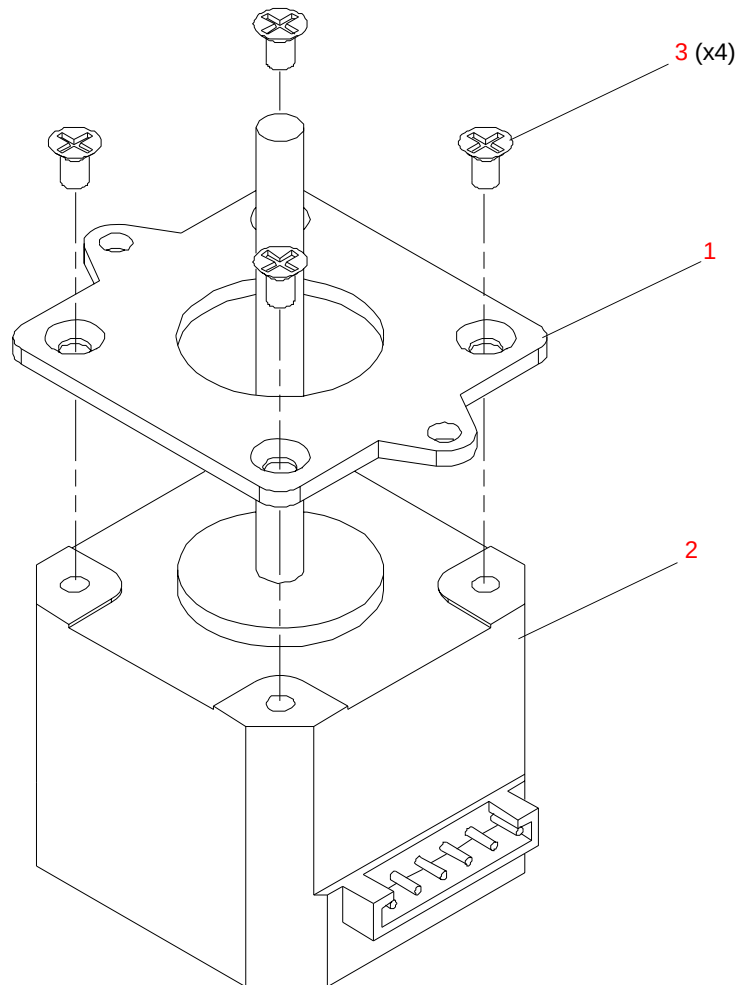
Figure 4-29: Fixed Color Wheel Assembly

Long Shaft Motor Assembly

21.9678.0243 Rev 0

Refer to [Figure 4-30](#)

No.	Item	Qty.	UM.	Description
1	10.9678.0330	1	EA	PLATE, MOTOR ADAPTER
2	44.9678.0249	1	EA	MOTOR, STEPPER 42MM X 34MM 60MM SHAFT
3	53.6513.0002	4	EA	SCREW, 3MM X 5MM LG PFZ METRIC



Note orientation of adapter plate in relation to the motor.

Figure 4-30: Long Shaft Motor Assembly

Rotating Gobo Wheel Assembly

21.9679.0210 Rev B

Refer to [Figure 4-31](#)

No.	Item	Qty.	UM.	Description
1	10.9663.1211	10	EA	SPACER, TEFLON, GOBO GEAR
2	10.9663.1240	5	EA	BEARING, GOBO WHEEL BORE
3	10.9678.0220	1	EA	PLATE, ROTATING GOBO WHEEL
4	10.9678.0224	5	EA	RETAINING RING, PLANET
5	10.9678.0250	1	EA	MAGNET TAPE
6	22.9678.0230	5	EA	ASSY, PLANET GEAR
7	22.9698.0232	1	EA	ASSY, SUN GEAR/HUB, BEARING
8	53.6659.0002	3	EA	SCREW, 2-56 X 1/4" PPZ
9	55.2256.0001	1	EA	MAGNET, 2:17 SMCO 2MM X 2MM X 3MM

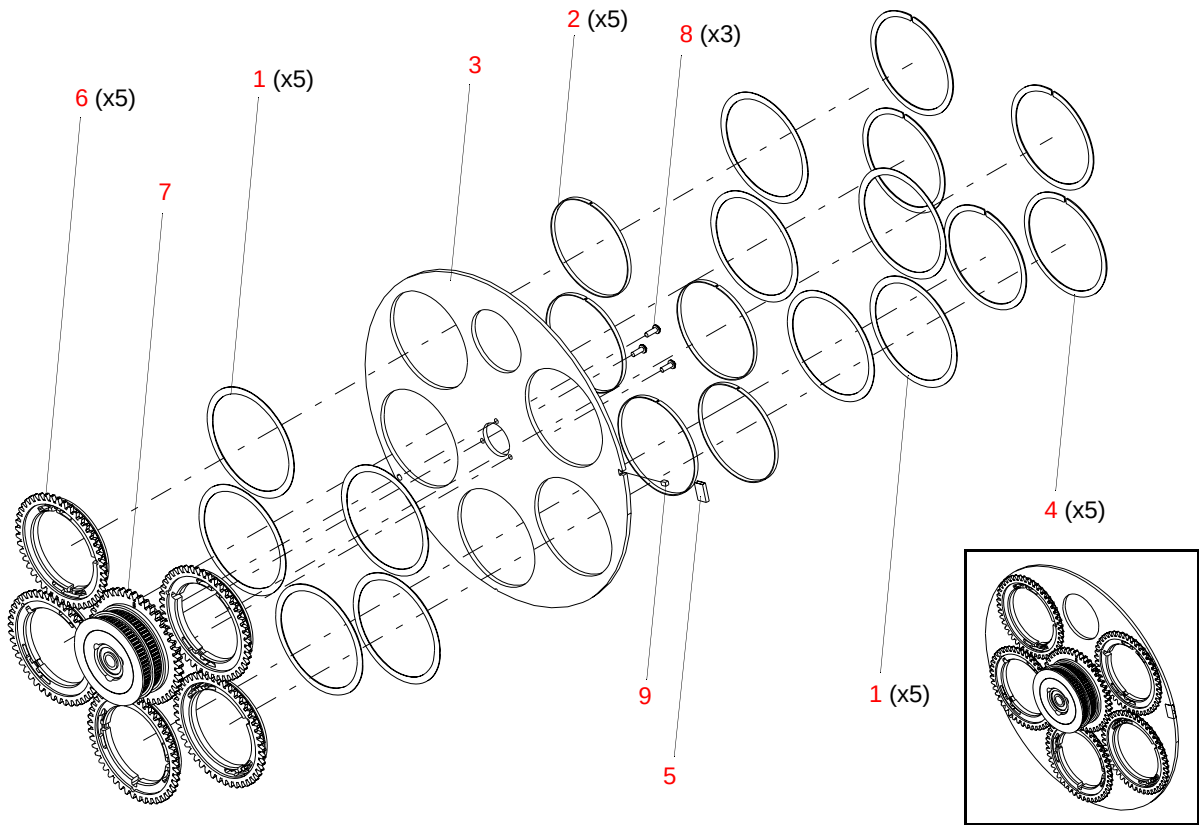


Figure 4-31: Rotating Gobo Wheel Assembly

Rotating Effects Wheel Assembly

21.9698.0211 Rev A

Refer to [Figure 4-31](#)

No.	Item	Qty.	UM.	Description
1	10.9663.1211	8	EA	SPACER, TEFLON, GOBO GEAR
2	10.9663.1240	4	EA	BEARING, GOBO WHEEL BORE
3	10.9678.0221	1	EA	PLATE, ROTATING EFFECTS WHEEL
4	10.9678.0224	4	EA	RETAINING RING, PLANET
5	10.9678.0250	1	EA	MAGNET TAPE
6	22.9678.0230	4	EA	ASSY, PLANET GEAR
7	22.9698.0232	1	EA	ASSY, SUN GEAR/HUB, BEARING
8	53.6659.0002	3	EA	SCREW, 2-56 X 1/4" PPZ
9	55.2256.0001	1	EA	MAGNET, 2:17 SMCO 2MM X 2MM X 3MM

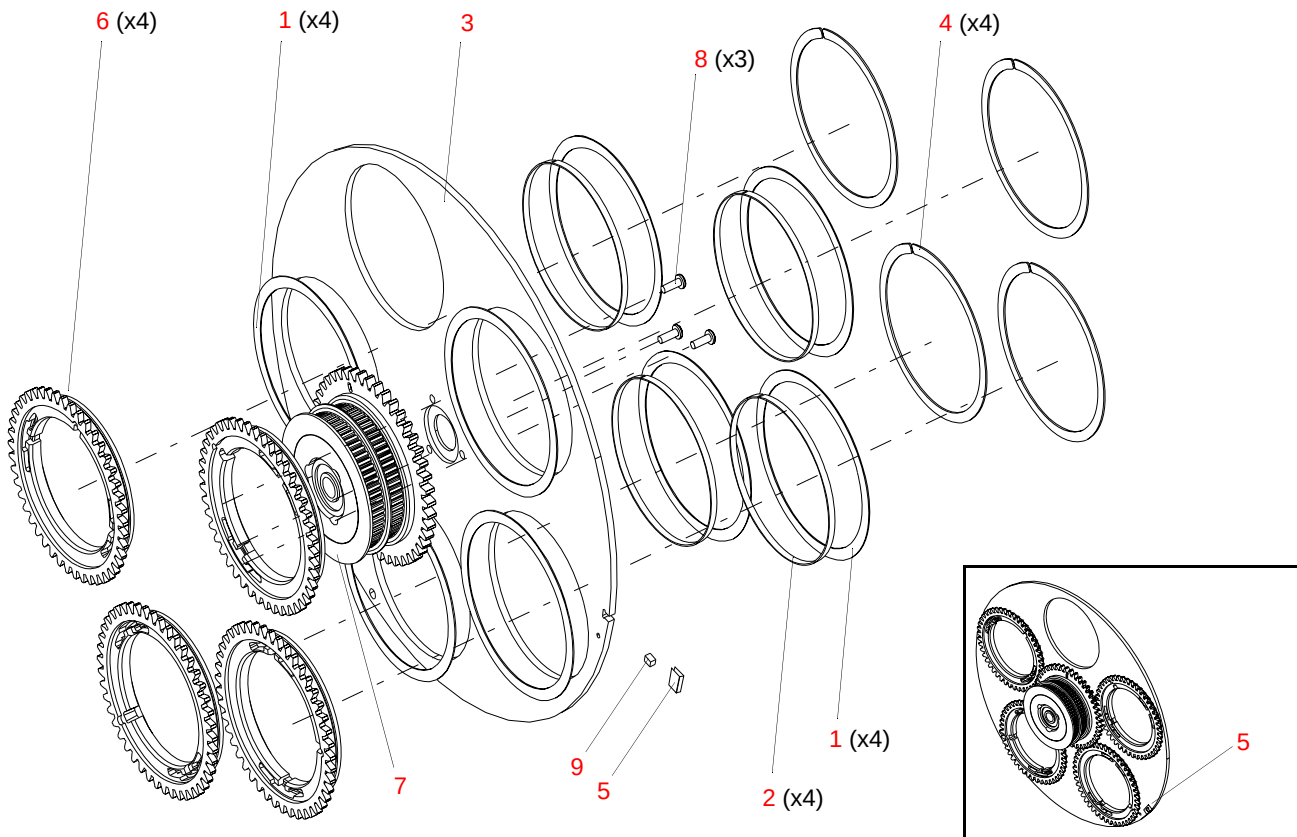


Figure 4-32: Rotating Effects Wheel Assembly

Iris Sub-Assembly

21.9679.0270 Rev B

Refer to [Figure 4-33](#)

No.	Item	Qty.	UM.	Description
1	10.9678.0273	1	EA	MOTOR MOUNT, IRIS
2	10.9678.0276	1	EA	CRANK,, IRIS
3	10.9678.0279	1	EA	DIVERTER, GOBO AIR
4	10.9678.0280	1	EA	ADJUSTABLE IRIS STOP
5	10.9679.0272	1	EA	BULKHEAD, IRIS
6	10.9679.0278	1	EA	AIR DIVERTER, GOBO
7	22.9678.0271	1	EA	LINK ASSY, IRIS
7a	53.6605.0004	1	EA	STUD, 2-56 X 1.0" FULL THD SST
7b	54.1217.0005	2	EA	QUICK LINK, 2-56, SPRING STEEL
8	22.9678.0275	1	EA	ASSY, IRIS
9	23.9686.1444	1	EA	ASSY, BLOWER
10	44.9678.0278	1	EA	MOTOR, 17, LUG ORIENTED CONN, 0.94 SHAFT
11	53.5560.0250	2	EA	SCREW, SET, 8-32 X 1/4" L
12	53.6530.0013	4	EA	RIVET, 1/8" CSK, 0.25" GRP
13	53.6558.0001	2	EA	SCREW, 6-32 X 3/8" PPZ
14	53.6609.0500	3	EA	SCREW, 6-32 X 1/2" PFZ
15	53.6613.0875	2	EA	SCREW, 6-32 X 7/8" PPZ
16	53.6659.0008	3	EA	SCREW, 2-56 X 3/16" PFZ
17	55.2211.0002	1	EA	STANDOFF, 1/4" RND, 6-32, 0.188" LG FF
18	55.6538.0005	4	EA	WASHER, 0.25" OD, 0.65" ID, 0.015" THK TEFLON



Note: When installing the Adjustable Iris Stop (item 4), it is required to set the iris size limit for the closed position. The internal diameter of the iris when CLOSED (*the smallest iris size*) should be 0.265" (17/64") or 6.7 mm.

To set iris size limit:

- Step 1. Insert either **(a)** a caliper set to 0.265" (6.7 mm) or **(b)** a 17/64" drill bit into the iris.
- Step 2. Close iris leaves until touching tool.
- Step 3. Set Adjustable Iris Stop (item 4) to limit the travel of the Iris Crank (item 2) in this direction.
- Step 4. Tighten screws mounting stop.

Iris Sub-Assembly (continued)

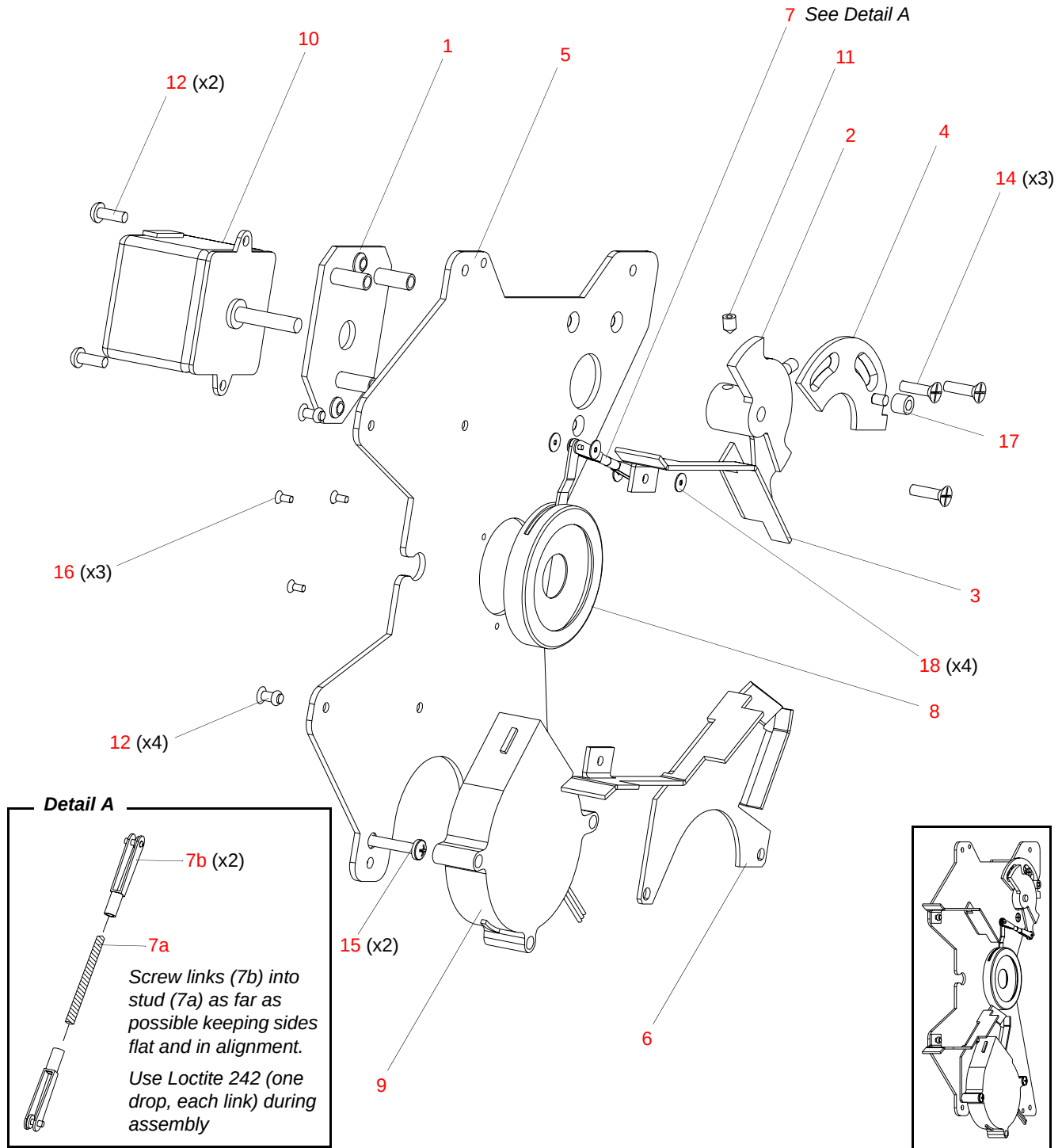


Figure 4-33: Iris Sub-Assembly

Color Sensor PCB #1 Mount Assembly

22.9678.0481 Rev B

Refer to [Figure 4-34](#)

No.	Item	Qty.	UM.	Description
1	10.9678.0482	1	EA	PCB MOUNT, COLOR SENSOR #1
2	24.9678.3480	1	EA	PCB ASSY, COLOR SENSOR #1
3	53.6558.0001	2	EA	SCREW, 6-32 X 3/8" PPZ
4	55.3303.0006	2	EA	WASHER, #6 LOCK INT.Tooth SS

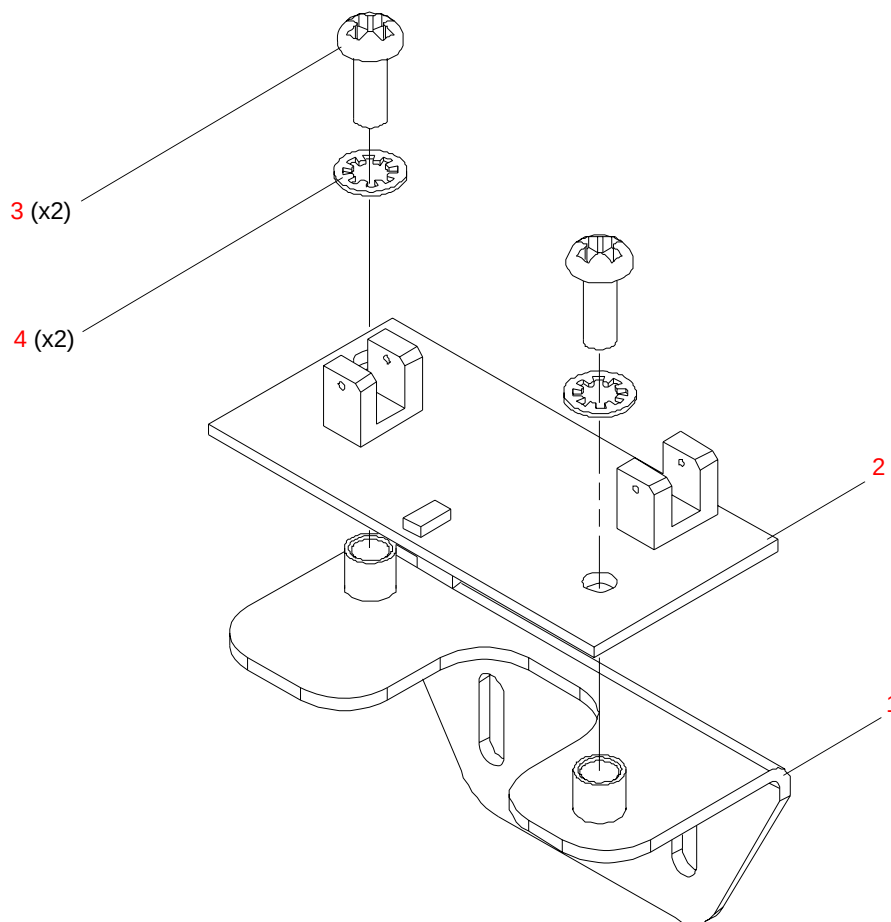


Figure 4-34: Color Sensor #1 PCB Mount Assembly

Color Sensor PCB #2 Mount Assembly

22.9678.0489 Rev B

Refer to [Figure 4-35](#)

No.	Item	Qty.	UM.	Description
1	10.9678.0452	1	EA	PCB MOUNT, COLOR SENSOR #2
2	24.9678.3454	1	EA	PCB ASSY, COLOR SENSOR #2
3	53.6558.0007	2	EA	SCREW, 6-32 X 1/4" SEMS

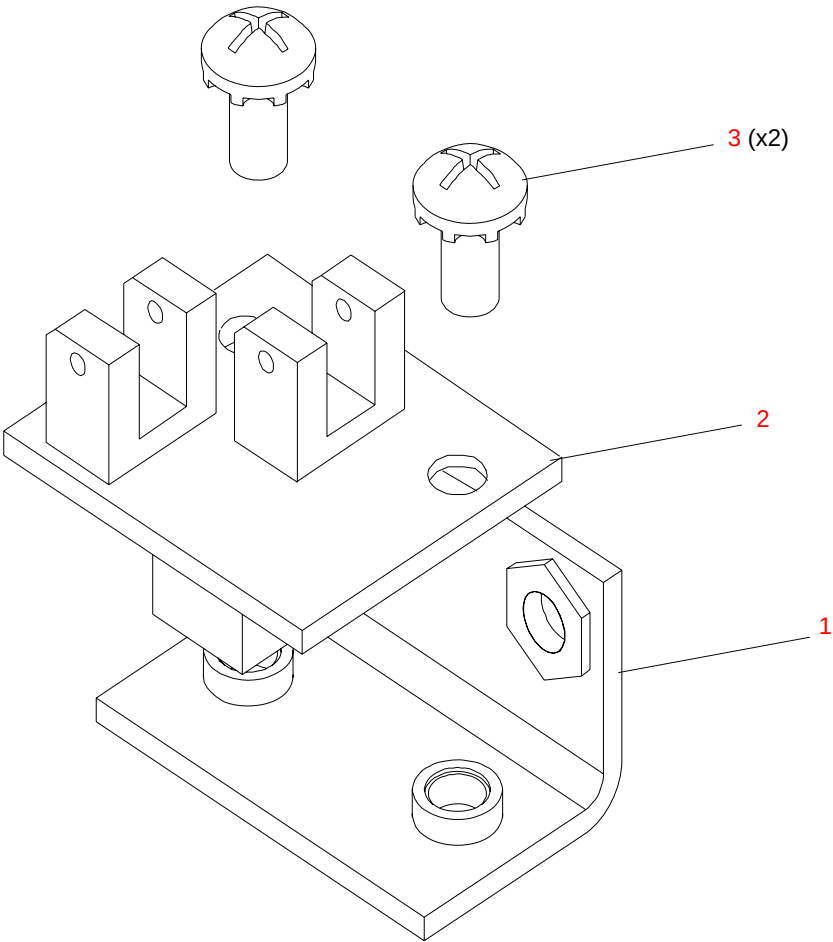


Figure 4-35: Color Sense PCB #2 Mount Assembly

Gobo Wheel / Shutter Module Assembly

21.9679.1200 Rev. B (VL3515 Spot Only)

Refer to [Figure 4-36](#)

No.	Item	Qty.	UM.	Description
1	10.9678.0128	1	EA	PULLEY, ZOOM MOTOR
2	10.9678.0231	2	EA	PULLEY, MOTOR, GOBO WHEEL DRIVE
3	10.9678.0232	1	EA	PULLEY, INDEX DRIVE, 64 GROOVE
4	10.9678.0225	6	EA	SHAFT, GOBO WHEEL
5	10.9678.0246	3	EA	ADJUST PLATE, MOTOR
6	10.9678.1215	1	EA	BULKHEAD, SHUTTER MODULE, FRONT
7	10.9678.1244	1	EA	MOUNT, INDEX SENSOR
8	10.9678.1558	1	EA	SPRING, TENSION, SHUTTER ROTATE
9	21.9678.0243	2	EA	MOTOR ASSY, LONG SHAFT
10	21.9678.1510	1	EA	ASSY, SHUTTER
11	21.9678.1555	2	EA	ASSY, ROLLER PIVOT, ROTATE
12	21.9679.1205	1	EA	BULKHEAD ASSY, REAR GOBO WHEEL
13	22.9678.1550	4	EA	ROLLER ASSY, SHUTTER ROTATE
14	24.9663.3231	2	EA	PCB ASSY, INDEX SENSOR, ROHS
15	44.9663.1202	1	EA	MOTOR, LONG, SHAFT
16	44.9663.1766	1	EA	MOTOR, MEDIUM SHAFT
-	25.9678.1209	1	EA	CABLE ASSY, GOBO/ROTATE, INTERCONNECT (not shown)
17	53.5558.0125	8	EA	SCREW, 8-32 X 0.125" SET SS
18	53.5638.0252	6	EA	SCREW, 6-32 X 3/8" PFZ UNDERCUT HD
19	53.6520.0375	2	EA	SCREW, 4-40 X 3/8" PPZ SEMS
20	53.6558.0001	4	EA	SCREW, 6-32 X 3/8" LG PPZ
21	53.6558.0009	4	EA	SCREW, 6-32 X 3/8" PPZ SEMS
22	53.6609.0001	6	EA	SCREW, 6-32 X 3/8" PFZ
23	53.6613.0001	8	EA	SCREW, 6-32 X 1/2" PPZ
24	53.6682.0002	2	EA	SCREW, 4-40 X 1/4" PPZ SEMS
25	54.1259.0004	2	EA	BEARING, FLANGED 0.25" ID, 0.625" OD, 0.0005 RP
26	54.2062.0001	1	EA	BELT, TIMING MXL 0.08" P 160 GRV, 1/8" W POL/KVLR
27	55.2178.0001	4	EA	CABLE ANCHOR MOUNT, #8 SCREW MOUNTING
28	55.6506.0001	1	EA	SPACER, 3/8" RND, 0.297" LG, 0.257" ID, THRU AL
29	55.6506.0030	1	EA	SPACER, 3/8" RND, 3/8" LG, 0.257" ID, THRU AL
30	55.6506.0032	1	EA	SPACER, 3/8" RND, 1-1/16" LG, 0.257" ID, THRU AL
31	55.6506.0033	4	EA	SPACER, 3/8" RND, 1-1/8" LG, 0.257" ID, THRU AL

No.	Item	Qty.	UM.	Description
32	55.6520.0001	4	EA	WASHER, WAVE SPRING, 0.265" ID, 0.367" OD, 0.006" THK

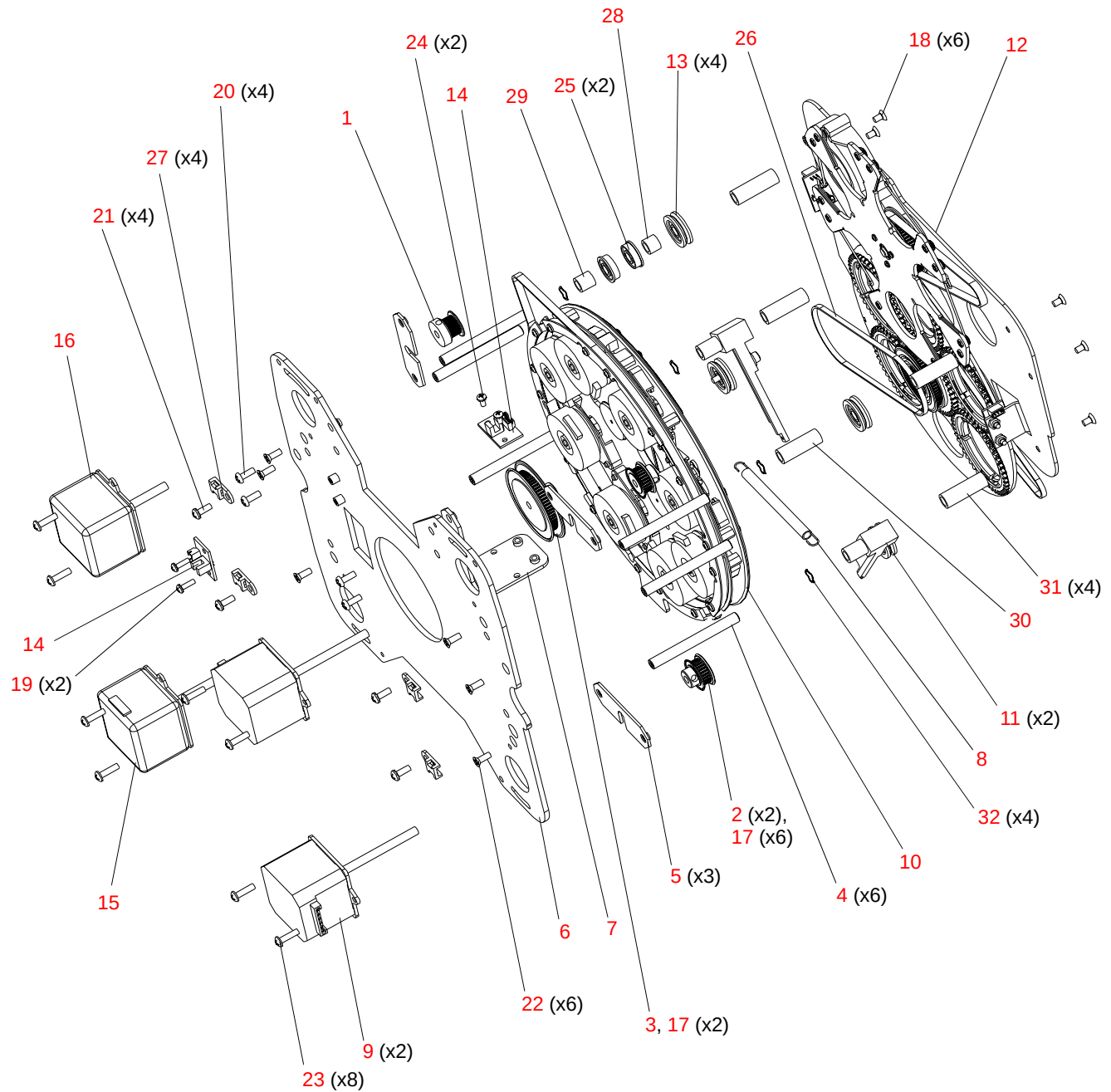


Figure 4-36: Shutter Assembly

Shutter Assembly

21.9678.1510 Rev J

Refer to [Figure 4-36](#)

No.	Item	Qty.	UM.	Description
1	10.9678.1526	2	EA	PIVOT, SHUTTER BLADE, SHORT
2	10.9678.1527	2	EA	PIVOT, SHUTTER BLADE, LONG
3	10.9678.1528	16	EA	CAM STOP
4	10.9678.1529	1	EA	CABLE CLAMP, SHUTTER
5	10.9678.1532	4	EA	GLIDE, BLADE PIVOT
6	10.9678.1534	8	EA	ACTUATOR ARM, BEARING, SHUTTER
7	10.9678.1535	1	EA	GLIDE SHEET, SHUTTER, BOTTOM
8	10.9678.1536	1	EA	GLIDE SHEET, SHUTTER, MIDDLE
9	10.9678.1537	4	EA	SPACER, SHUTTER BLADE
10	10.9678.1540	3	EA	BELT RING SECTOR
11	10.9678.1541	7	EA	BELT RING FLANGE SECTOR
12	10.9678.1542	1	EA	BELT RING FLANGE STOP
13	10.9678.1545	1	EA	BELT RING SECTOR, CLAMP
14	10.9678.1546	1	EA	BELT CLAMP
15	12.9678.1562	2	EA	BLADE, SHUTTER, BOTTOM, COATED
16	12.9678.1565	2	EA	BLADE, SHUTTER, TOP, COATED, PAINTED
17	21.9678.1515	1	EA	ASSY, SHUTTER MOTOR PLATE
18	53.2202.0004	6	EA	NUT, 4-40 HEX SS NYLON INSERT
19	53.6659.0003	2	EA	SCREW, 2-56 X 3/8" PPZ
20	53.6567.0001	16	EA	SCREW, 4-40 X 1/2" PPZ
21	53.6659.0005	4	EA	SCREW, 2-56 X 1/4" PFZ
22	53.6659.0014	16	EA	SCREW, 2-56 X 3/8" PFZ
23	53.6596.0001	8	EA	SCREW, 4-40 X 5/16" PPZ
24	53.6664.0001	8	EA	STANDOFF, 1/4" HEX 4-40 3/8" LG FF
25	53.6667.0004	16	EA	SCREW, 6-32 X 1/8" LG, SET, BLACK
26	54.1209.0004	8	EA	BEARING, 0.093" ID, 3/16" OD, FLANGED, SST
27	54.2064.0001	1	EA	TIMING BELT, MXL 330 GRV,.188" WD, KEVLAR
-	55.2186.0001	17	EA	CABLE TIE, 0.10" X 4", SMALL (not shown)

Shutter Assembly (continued)

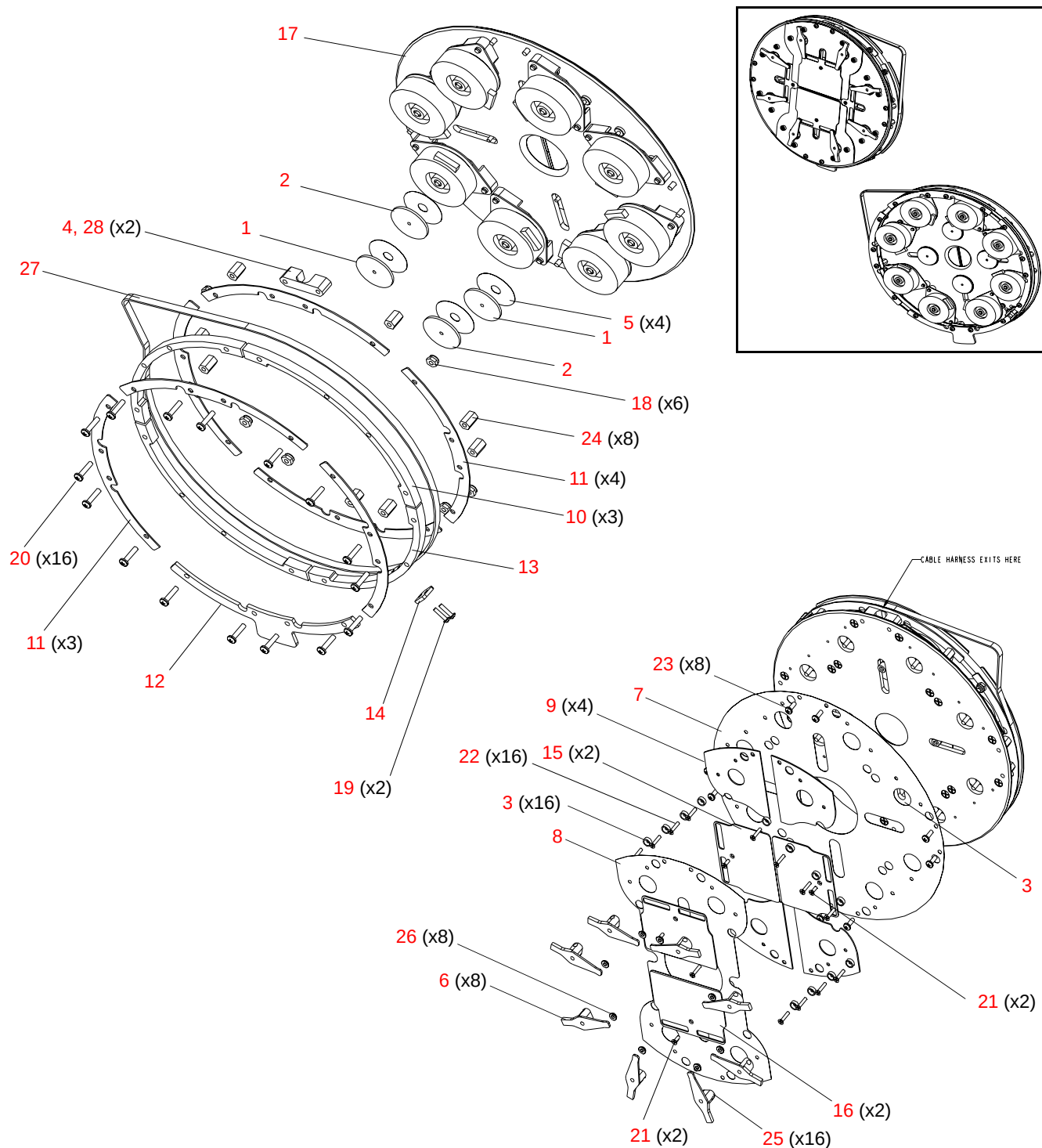


Figure 4-37: Shutter Assembly

Shutter Motor Disk Assembly

21.9678.1515 Rev E

Refer to [Figure 4-38](#)

No.	Item	Qty.	UM.	Description
1	10.9678.1560	1	EA	BASE PLATE, SHUTTER
2	10.9678.1566	8	EA	SPACER, MOTOR MOUNT
3	25.9678.1717	1	EA	CABLE ASSEMBLY, SHUTTER DISK
4	44.9678.1517	8	EA	MOTOR, PANCAKE, SIZE 16,.47" SHAFT
5	53.2202.0030	4	EA	NUT, M3 X.5 HEX NYLOC ZINC
6	53.6513.0029	8	EA	SCREW, M3 X 12 PFZ
7	53.6513.0045	8	EA	SCREW, M3 X 16 PFZ
8	55.2178.0001	4	EA	CABLE ANCHOR, #8 SCREW MOUNT
9	55.2186.0001	10	EA	CABLE TIE, 0.10" X 4" SMALL

Shutter Motor Disk Assembly (continued)

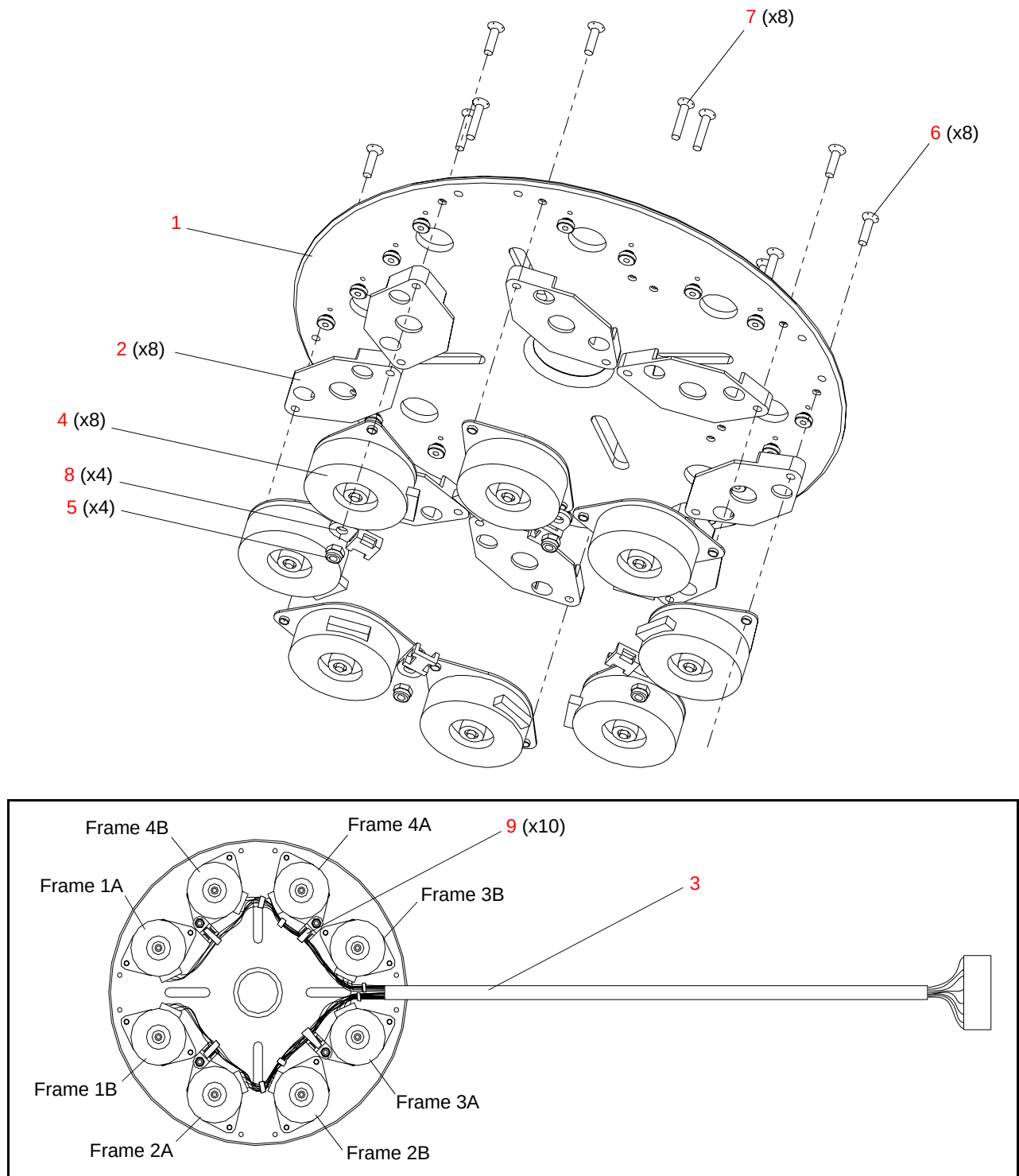


Figure 4-38: Shutter Motor Disk Assembly

Roller Pivot Rotate Assembly

21.9678.1555 Rev 0

Refer to [Figure 4-39](#)

No.	Item	Qty.	UM.	Description
1	10.9678.1551	1	EA	ROLLER PIVOT, SHUTTER ROTATE
2	22.9678.1550	1	EA	ASSY, SHUTTER ROTATE, ROLLER
3	53.6609.0001	1	EA	SCREW, 6-32 X 3/8" PFZ

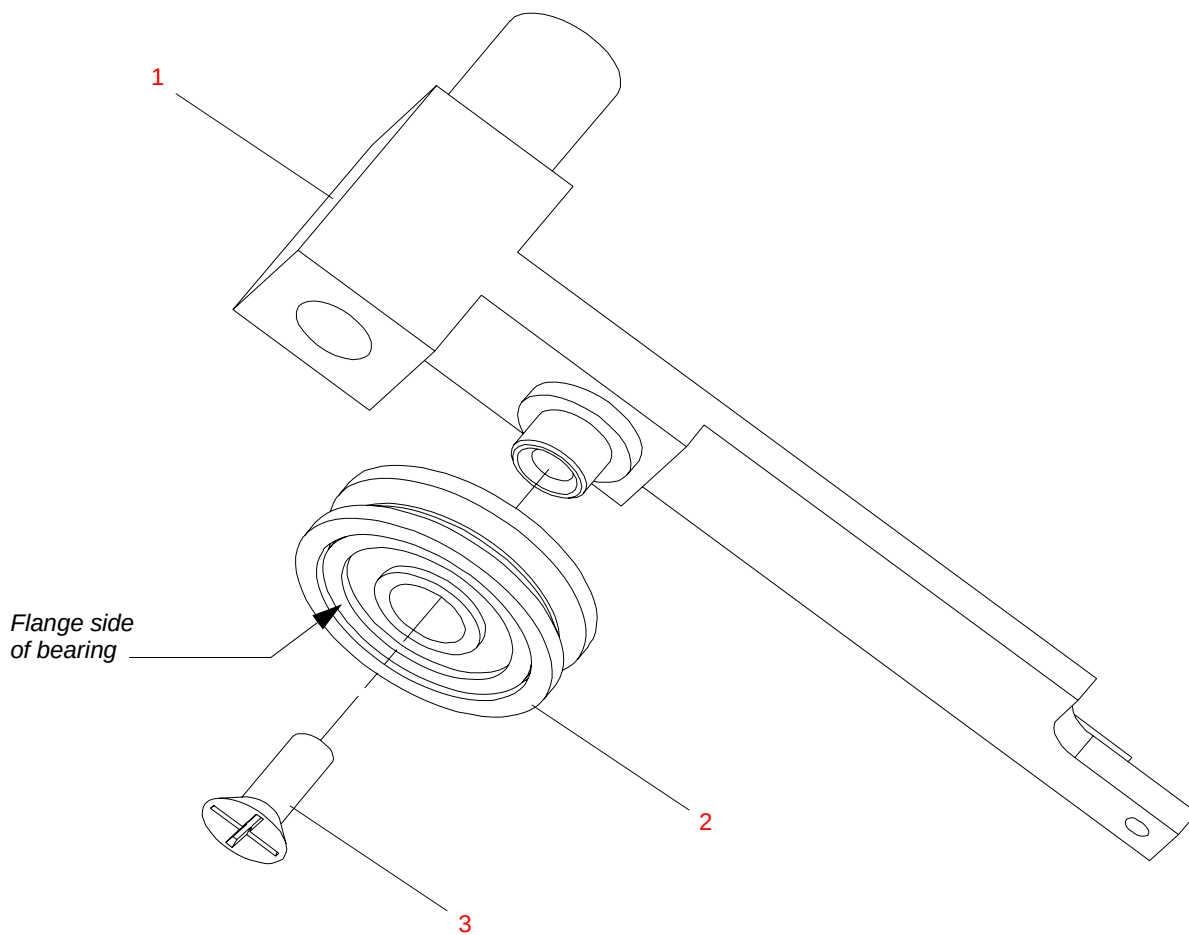


Figure 4-39: Roller Pivot Rotate Assembly

Strobe Bulkhead Assembly

21.9679.0403 Rev. B

Refer to [Figure 4-40](#)

No.	Item	Qty.	UM.	Description
1	10.9678.0491	4	EA	BUMPER STOP, STROBE BLADE, TEFLON
2	10.9679.0465	1	EA	BULKHEAD, STROBE
3	21.9686.1437	1	EA	ASSEMBLY, STROBE BLADE, REAR
4	21.9686.1438	1	EA	ASSEMBLY, STROBE BLADE, FRONT
5	23.9678.0499	2	EA	ASSY, STROBE MOTOR, VL3000Q
6	53.6513.0032	8	EA	SCREW, M3 X 0.5 X 10 MM LG, PPZ SEMS
7	53.6609.0500	4	EA	SCREW, 6-32 X 1/2" PFZ
8	55.3306.0006	8	EA	WASHER, FLAT, 0.375" OD, 0.149" ID, 0.025" THK
9	55.6659.0001	8	EA	SPACER, 1/4" RND, 4 CL HOLE THRU 3/16" LG
10	55.6706.0001	8	EA	GROMMET, 9/32" ID, 9/16" OD, 1/4T SI

Strobe Bulkhead Assembly (continued)

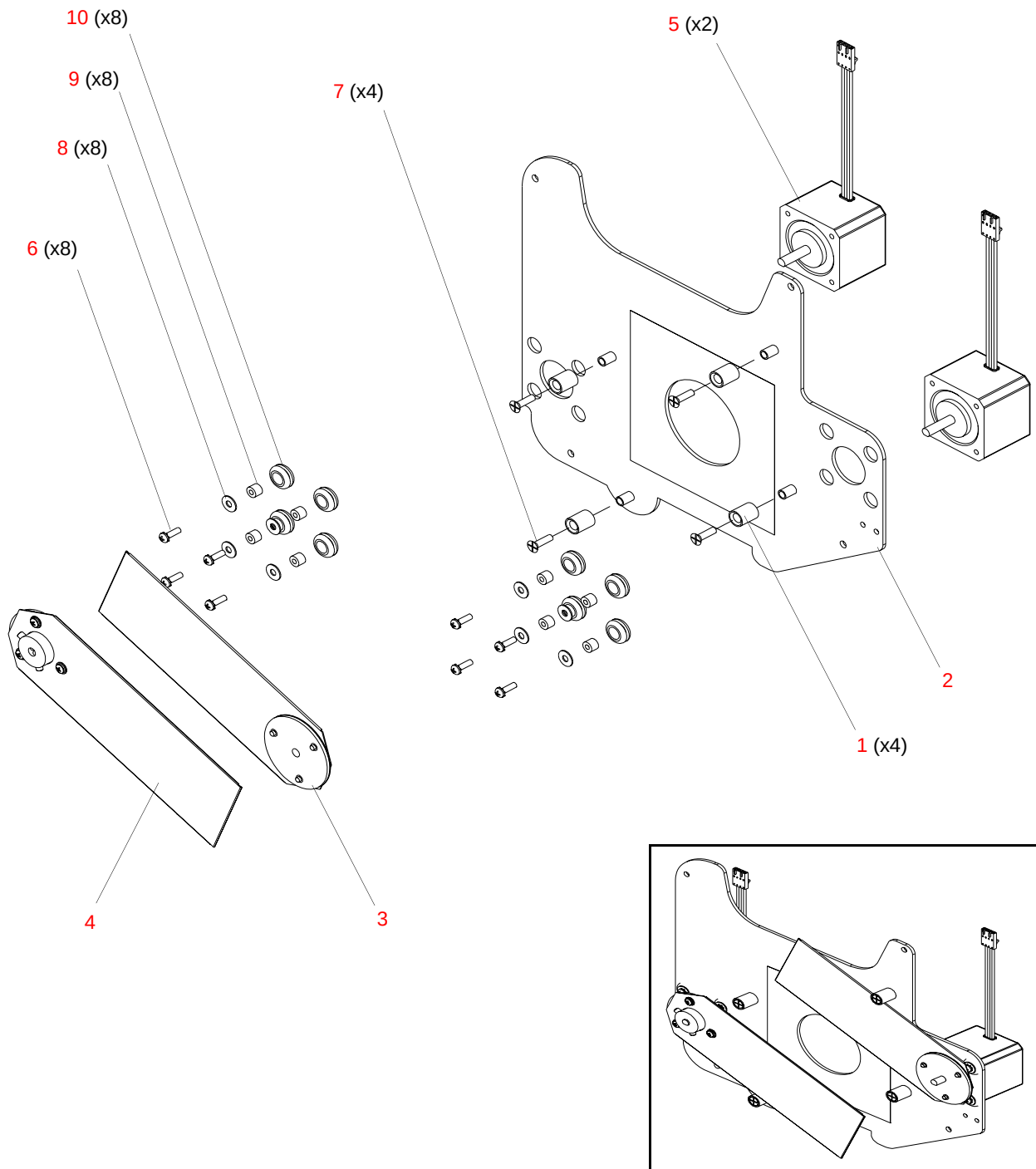


Figure 4-40: Strobe Bulkhead Assembly

Rear Strobe Blade Assembly

21.9686.1437 Rev. 0

Refer to [Figure 4-41](#)

No.	Item	Qty.	UM.	Description
1	10.9678.0432	1	EA	HUB, STROBE BLADE
2	10.9678.0466	1	EA	STROBE BLADE, DAMPER
3	10.9686.1431	1	EA	STROBE BLADE, NOTCHED
4	53.5558.0188	2	EA	SCREW, 8-32 X .188 LG SET SS BRASS TIP UNC-2A
5	53.6597.0001	3	EA	SCREW, 4-40 X 3/16" PPZ
6	55.3303.0004	3	EA	WASHER, #4 LOCK INT. TOOTH SS

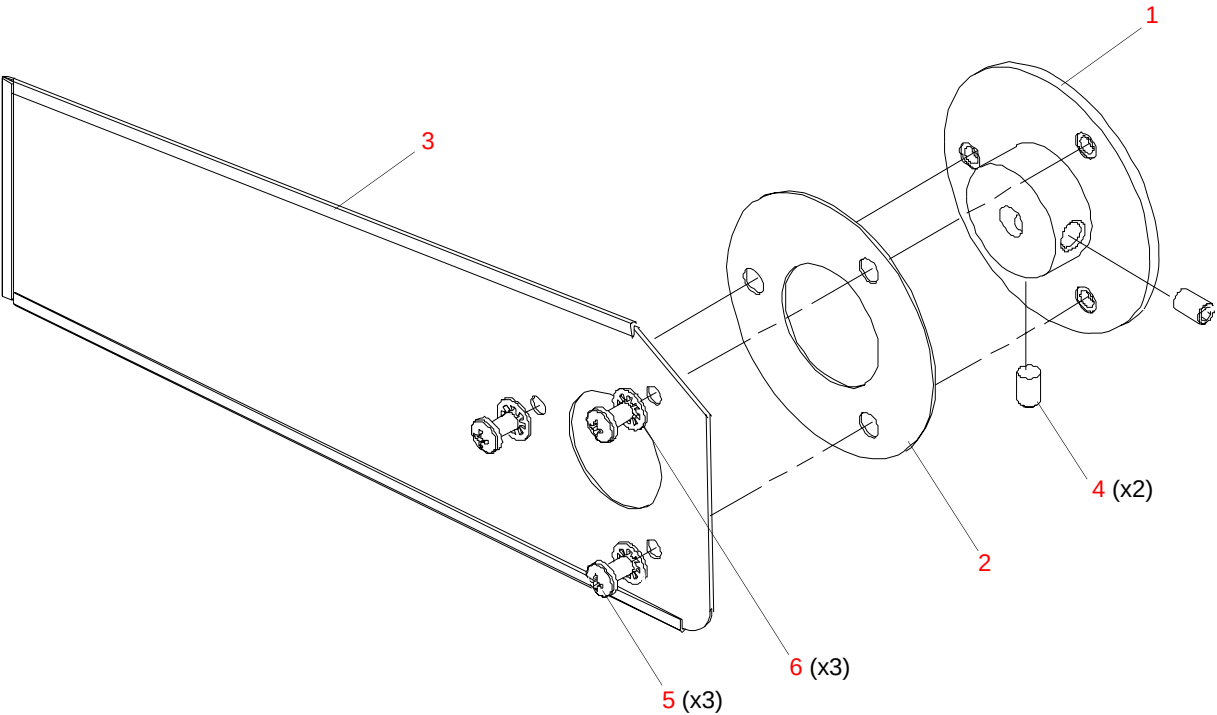


Figure 4-41: Rear Strobe Blade Assembly

Front Strobe Blade Assembly

21.9686.1438 Rev. A

Refer to [Figure 4-42](#)

No.	Item	Qty.	UM.	Description
1	10.9678.0432	1	EA	HUB, STROBE BLADE
2	10.9678.0466	1	EA	STROBE BLADE DAMPER
3	10.9686.1431	1	EA	STROBE BLADE, NOTCHED
4	53.5558.0188	2	EA	SCREW, 8-32 X .188 LG SET SS BRASS TIP UNC-2A
5	53.6597.0001	3	EA	SCREW, 4-40 X 3/16" PPZ
6	55.3303.0004	3	EA	WASHER, #4 LOCK INT. TOOTH SS

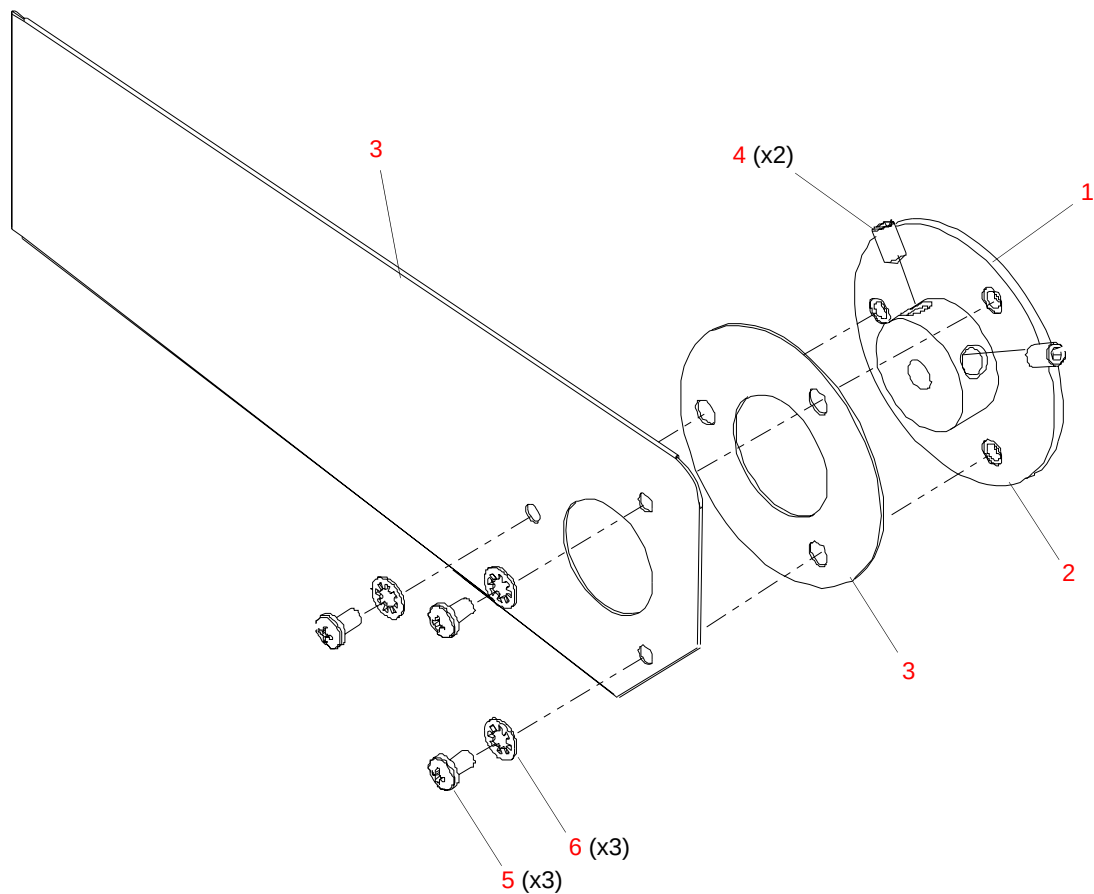


Figure 4-42: Front Strobe Blade Assembly

Rear Gobo Bulkhead Assembly

21.9679.1205 Rev. D

Refer to [Figure 4-43](#)

No.	Item	Qty.	UM.	Description
1	10.9678.1225	2	EA	SHAFT, GOBO WHEEL, CANTILEVER
2	10.9679.1216	1	EA	BULKHEAD, SHUTTER MODULE, REAR
3	21.9678.1410	1	EA	ASSY, FIXED GOBO, WHEEL
4	21.9679.1210	1	EA	ASSY, ROTATING GOBO WHEEL, SHUTTER, HI TEMP
5	23.9686.1444	1	EA	BLOWER ASSY, GOBO COOLING
6	24.9678.1240	2	EA	PCB ASSY, WHEEL POSITION SENSOR
-	25.9679.0007	1	EA	CABLE ASSY, IRIS FAN, VL3015
7	53.6520.0001	4	EA	SCREW, 4-40 X 3/8" PPZ
8	53.6536.0625	2	EA	SCREW, 4-40 X 5/8 LG PFZ
9	53.6601.0001	6	EA	SCREW, 4-40 X 3/16" PFZ
10	54.2007.0001	2	EA	RING, RETAINING, EXTERNAL, 1/4 SHAFT DIA
11	54.2057.0001	1	EA	TIMING BELT, MXL, 144 GRV, 0.188" WD, KEVLAR
12	54.2061.0001	1	EA	TIMING BELT, MXL, 144 GRV, 0.125" WD, KEVLAR
13	55.2110.0002	2	EA	WASHER, 0.400" OD, 0.260" ID, 0.010" THK FLAT SS
14	55.6506.0034	1	EA	SPACER, 0.375" OD, 0.257" ID, 0.063" LG AL
15	55.6520.0001	AR*	EA	WASHER, WAVE SPRING, 0.265" ID, 0.367" OD, 0.006" THK
16	55.6759.0004	2	EA	STANDOFF, PEM 4-40 THD 0.312" LG ZINC

* As Required

Rear Gobo Bulkhead Assembly (continued)

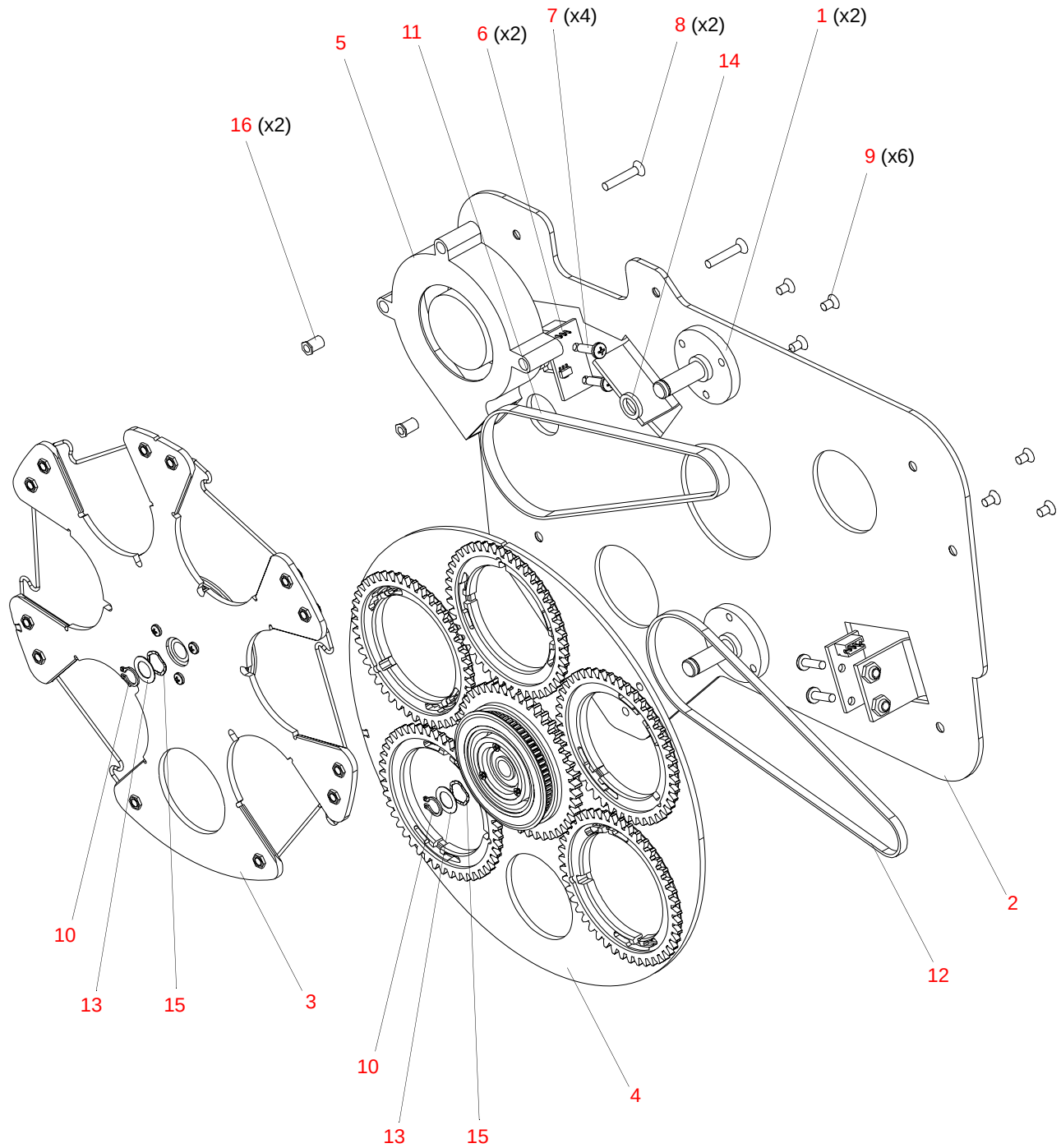


Figure 4-43: Rear Gobo Bulkhead Assembly

Fixed Gobo Wheel Assembly

21.9678.1410 Rev B

Refer to [Figure 4-33](#)

No.	Item	Qty.	UM.	Description
1	10.9678.0250	1	EA	MAGNET TAPE.375"W x.625" L x.0035" THICK
2	10.9678.1412	1	EA	PLATE, ROTATING GOBO WHEEL
3	10.9678.1425	6	EA	FIXED GOBO RETAINING WIRE
4	22.9678.1415	1	EA	ASSY, PULLEY, FIXED WHEEL HUB
5	53.6601.0002	12	EA	SCREW, 4-40 X 3/16" PTHZ
6	53.6650.0001	3	EA	SCREW, 2-56 X 5/16" PPZ
7	55.2256.0001	1	EA	MAGNET, 2:17 SMCO 2MM X 2MM X 3MM
8	55.3301.0008	6	EA	WASHER, #8 FLAT SS
9	55.6568.0078	6	EA	SPRING, CURVED DISK.322" OD,.174" ID.005 T

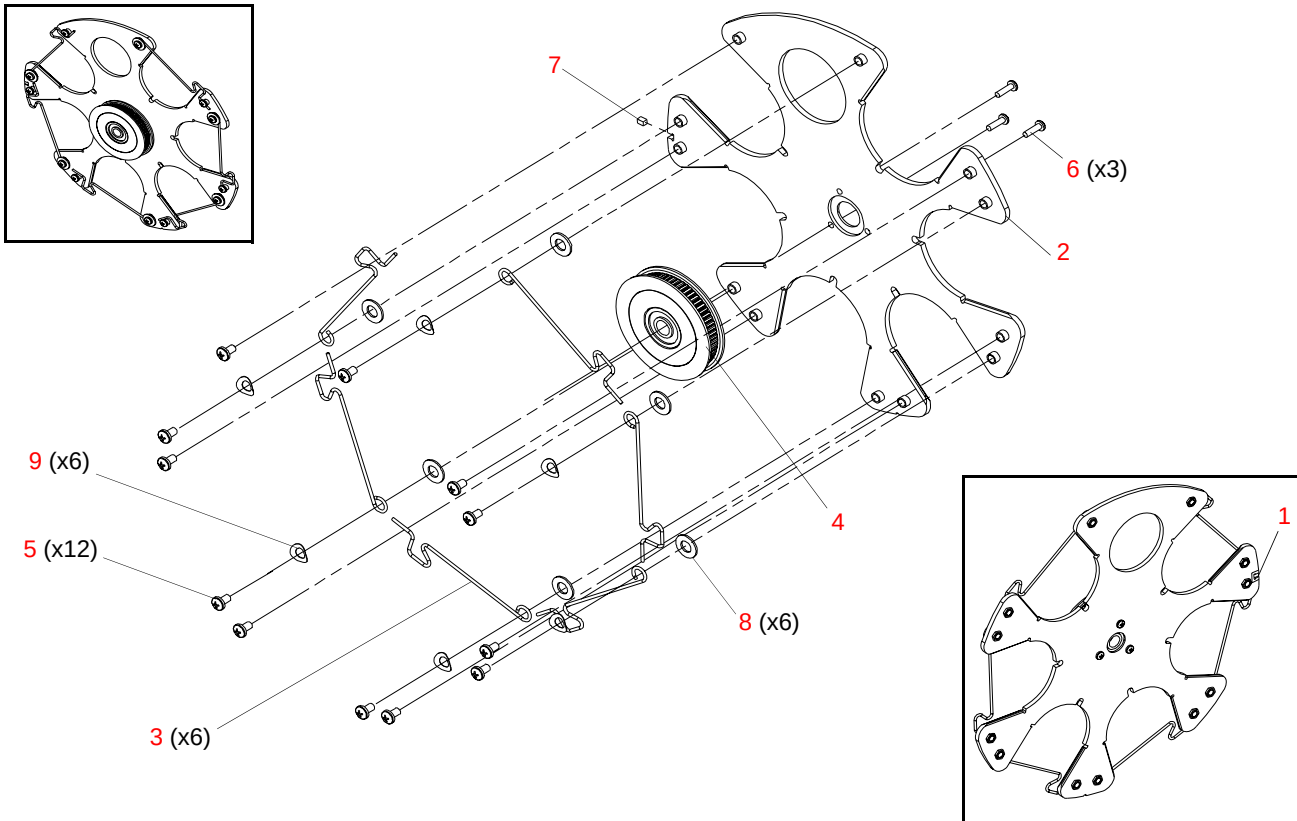


Figure 4-44: Fixed Gobo Wheel Assembly

Rotating Gobo Wheel (Shutter) Assembly

21.9679.1210 Rev A

Refer to [Figure 4-33](#)

No.	Item	Qty.	UM.	Description
1	10.9663.1211	10	EA	SPACER, TEFLON GOBO GEAR
2	10.9663.1240	5	EA	BEARING, GOBO WHEEL BORE
3	10.9678.0220	1	EA	PLATE, ROTATING GOBO WHEEL
4	10.9678.0224	5	EA	RETAINING RING, PLANET
5	10.9678.0250	1	EA	MAGNET TAPE.375"W x.625" L x.0035" THICK
6	22.9678.0230	5	EA	ASSY, PLANET GEAR
7	22.9678.1234	1	EA	ASSY, PULLEY, GOBO WHEEL HUB
8	22.9698.1232	1	EA	ASSY, SUN GEAR/HUB, BEARING, SHUTTER
9	53.6650.0001	3	EA	SCREW, 2-56 X 5/16" PPZ
10	55.2256.0001	1	EA	MAGNET, 2:17 SMCO 2MM X 2MM X 3MM

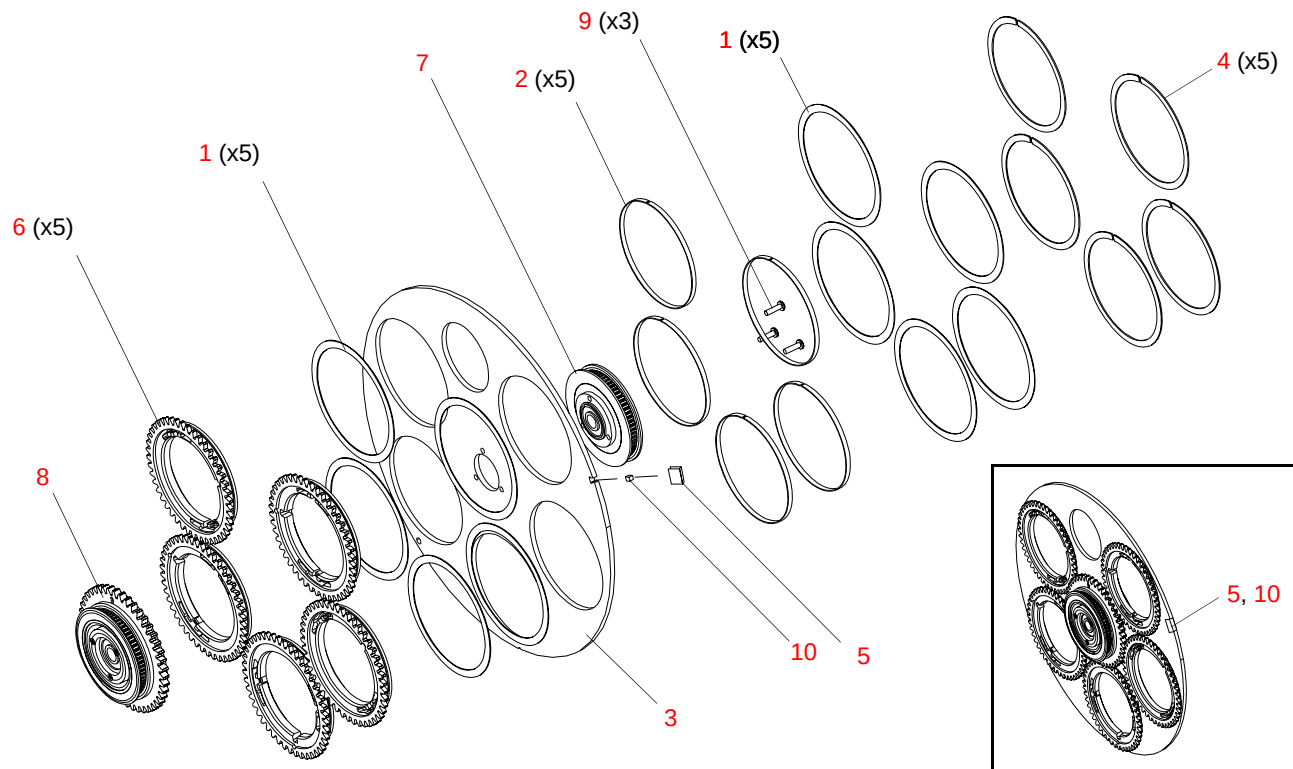


Figure 4-45: Rotating Gobo Wheel (Shutter) Assembly

Spot Optic Assembly

22.9678.0103 Rev T

Refer to [Figure 4-46](#) and [Figure 4-47](#)

No.	Item	Qty.	UM.	Description
1	10.9678.1131	1	EA	FORWARD PULLEY SHAFT
2	10.9678.0127	1	EA	PULLEY, IDLER
3	10.9678.0129	2	EA	SPACER, ROLLER CAM
4	10.9678.0153	1	EA	CABLE CLAMP, CAST
5	10.9678.0156	2	EA	BARREL STRAP, G1 & G2
6	10.9678.0157	1	EA	BARREL STRAP, G3
7	10.9678.0171	1	EA	SHAFT, CAM PULLEY
8	10.9678.1185	1	EA	LIGHT BAFFLE #2
9	10.9678.1186	1	EA	LIGHT BAFFLE #3
10	10.9678.1191	1	EA	LIGHT BAFFLE, G3
11	12.9678.1174	1	EA	LENS MOUNT, MACHINE G3
12	12.9678.1179.01	1	EA	LENS MOUNT, MACHINE G1
13	12.9678.1179.02	1	EA	LENS MOUNT, MACHINE G2
14	21.9678.0110	1	EA	ASSY, ZOOM BOX
15	21.9678.0113	1	EA	ASSY, RAIL & CARRIAGE
16	22.9678.1181	1	EA	LENS ASSY, GROUP 1
17	22.9678.0182	1	EA	LENS ASSY, GROUP 2
18	22.9678.0183	1	EA	LENS ASSY, GROUP 3
19	22.9678.0199	1	EA	ASSY, LENS MOUNT G4
20	22.9678.1103	1	EA	ASSY, EDGE BEARING RIGHT
21	22.9678.1105	1	EA	ASSY, EDGE BEARING LEFT
22	22.9678.1106	1	EA	ZOOM CAM ASSY
23	22.9678.1113	1	EA	ASSY, ZOOM MOTOR TENSIONING
24	22.9678.1115	1	EA	INTERCONNECT, LIGHT SHIELD
25	22.9678.1190	1	EA	LID ASSY, ZOOM BOX
	- 12.9678.1189	1	EA	LID, ZOOM BOX
	- 53.2008.0006	1	EA	NUT, PUSH #6
	- 53.6522.0001	1	EA	SCREW, 6-32 X 1/4" PPZ
	- 55.3303.0006	1	EA	WASHER, #6 LOCK INT. TOOTH SS

VARILITE* - VL3015 & VL3515 SPOT LUMINAIRES SERVICE MANUAL**

No.	Item	Qty.	UM.	Description
26	23.9678.1120	1	EA	LINEAR ACTUATOR ASSEMBLY
	- 44.9678.0119	1	EA	LINEAR ACTUATOR EDGE DRIVE
	- 52.6467.0004	1	EA	4 POS 30-24 AWG CRIMP PHR
	- 52.6467.0024	4	EA	CONTACT, SOCKET 30-24AWG CRIMP (REEL) PH (JST)
27	24.9678.3112	1	EA	PCB ASSY, VL3000 ZOOM SENSOR
28	53.2004.0002	1	EA	NUT, 8-32 KEPS ZINC PLATE
29	53.2213.0001	7	EA	NUT, #6 KEPS
30	53.5564.0250	2	EA	SCREW, 6-32 X 1/4" PFB UNDERCUT
31	53.5604.0375	5	EA	SCREW, 4-40 X 3/8" PPB
32	53.6513.0023	6	EA	SCREW, M3 X 8MM LG PFZ METR
33	53.6558.0009	17	EA	SCREW, 6-32 X 3/8" SEMS
34	53.6558.0016	1	EA	SCREW, 6-32 X 3/4" LG PPS SEMS
35	53.6596.0002	4	EA	SCREW, 4-40 X 5/16" LG PPZ SEMS
36	53.6609.0001	6	EA	SCREW, 6-32 X 3/8" PFZ
37	53.6613.0008	4	EA	SCREW, 6-32 X 1/2" LG PPZ SEMS
38	53.6614.0003	2	EA	SCREW, 6-32 X 5/8" PFZ
39	53.6617.0003	1	EA	SCREW, 6-32 X 1" PPB SEMS
40	53.6682.0025	2	EA	SCREW, 8-32 X 5/8" LNG PPZ SEMS
41	54.1261.0001	6	EA	BUSHING, LOW DAMP THERMOPLASTIC .189" ID .5" OD
42	55.2234.0001	1	EA	RING, RETAINING E-STYLE GRV.188 DIA
43	54.2053.0001	1	EA	MXT T BELT PULLEY, 20GRV .25WD
44	54.2054.0001	1	EA	BELT, TIMING MXL .080 PITCH 235 G, 3/16" WIDE, POLLY/KEVLAR
45	54.1262.0001	2	EA	BEARING, FLANGED EXTENDED .1875 BORE
46	55.2283.0001	2	EA	SHIM, SPACER .253" IDX, .010" THK
47	55.6503.0004	3	EA	WASHER, #8 FLAT ZINC
48	55.6528.0001	5	EA	WASHER, #6 FLAT ZINC
49	55.6578.0073	1	EA	SPRING, EXTSN .375"OD
50	55.6846.0001	2	EA	CAM FOLLOWER, 3MM DIA STUD
51	10.9678.1140	1	EA	SHOCK PAD, G1
52	10.9678.1141	1	EA	BACKING PLATE, SHOCK PAD, G1
53	55.2178.0001	1	EA	CABLE ANCHOR MOUNT, #8 SCREW

Spot Optic Assembly (continued)

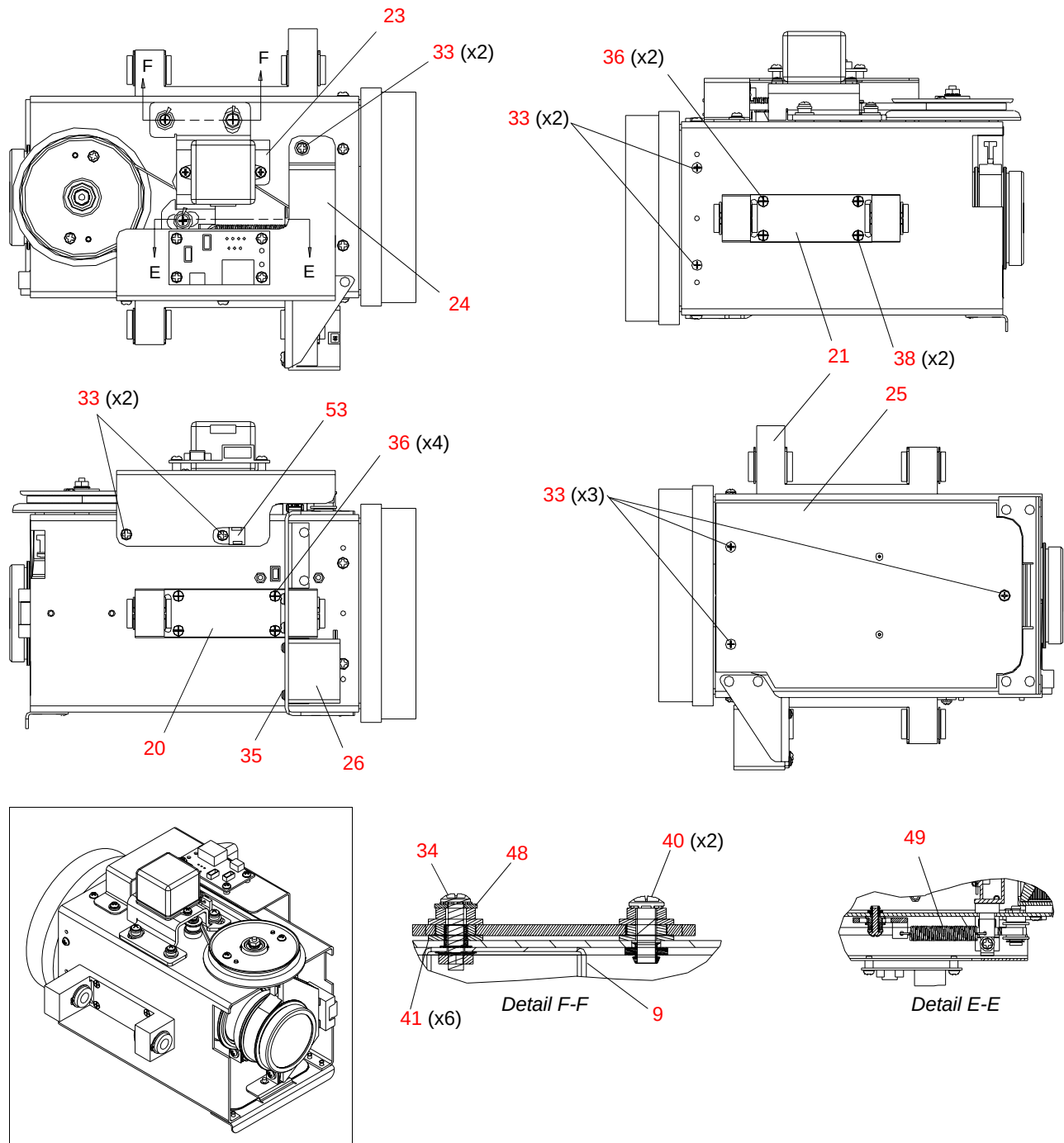


Figure 4-46: Spot Optic Assembly View 1

Spot Optic Assembly (continued)

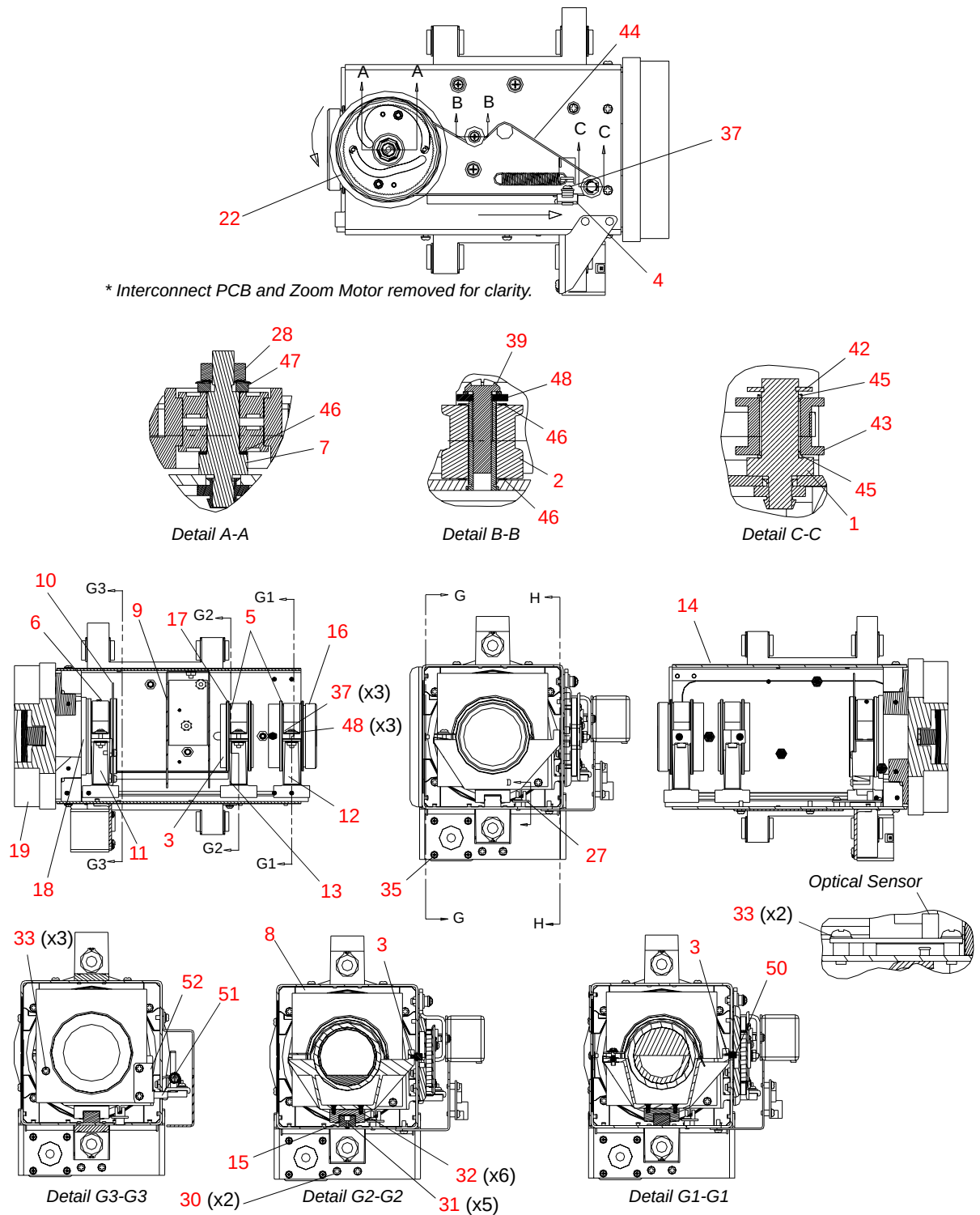


Figure 4-47: Spot Optic Assembly View 2

Group 4 Lens Assembly

22.9678.0199 Rev 0

Refer to [Figure 4-48](#)

No.	Item	Qty.	UM.	Description
1	12.9678.0198	2	EA	RING BLOCK, MACHINED G4
2	22.9678.0174	1	EA	LENS ASSY, GROUP 4
3	53.6558.0001	4	EA	SCREW, 6-32 X 3/8" PPZ
4	55.3303.0006	4	EA	WASHER, #6 LOCK INT.Tooth SS
5	55.6763.0500	4	EA	PIN, DOWEL 0.5" LG 0.125" DIA 303SS

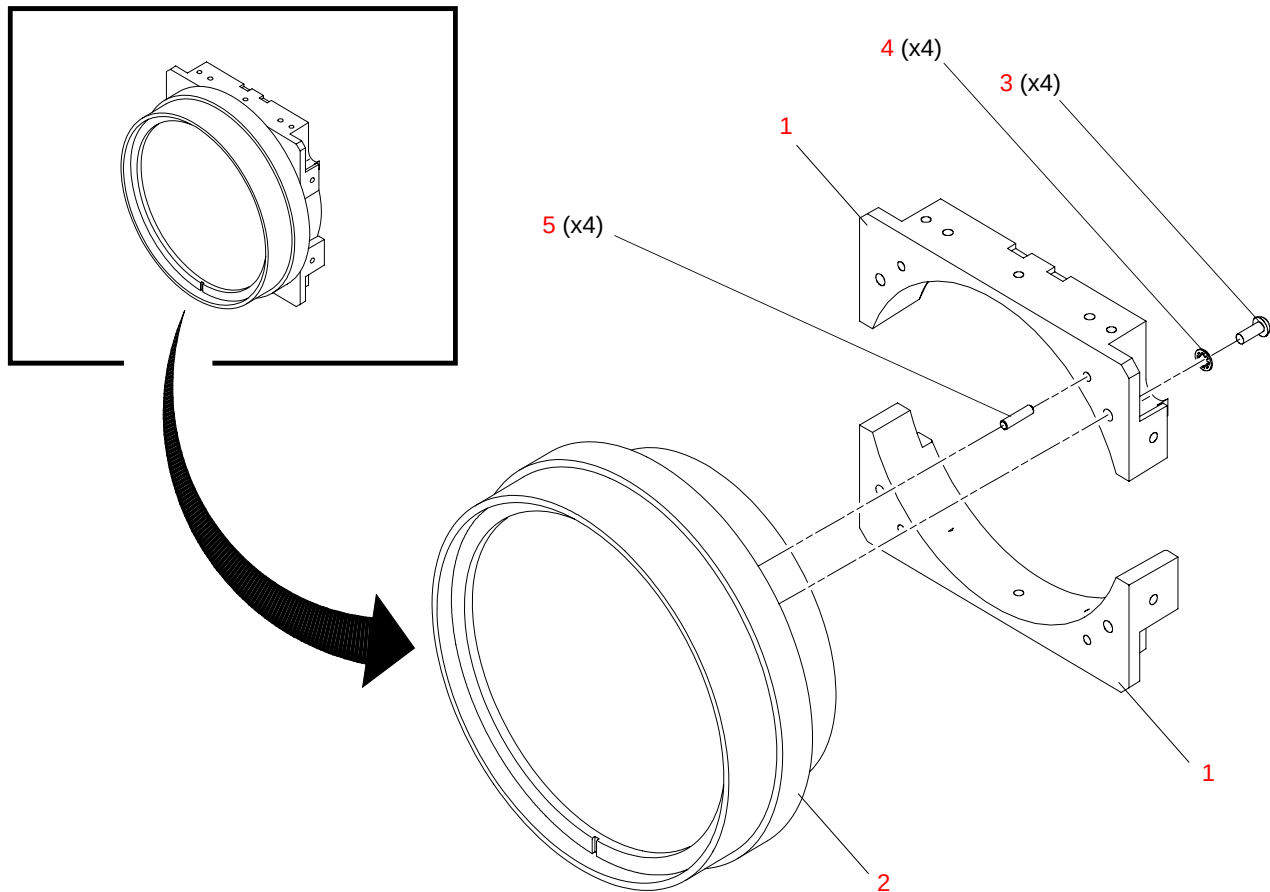


Figure 4-48: G4 Lens Mount Assembly

Right Edge Bearing Assembly

22.9678.1103 Rev C

Refer to [Figure 4-49](#)

No.	Item	Qty.	UM.	Description
1	12.9678.1102	1	EA	EDGE BEARING, MACHINED RIGHT
2	54.2056.0001	4	EA	RING, RETAINING EXTERNAL 19MM
3	55.6776.0010	2	EA	LINEAR BUSHING, 10MM STEEL W/PHENOLIC CAGE

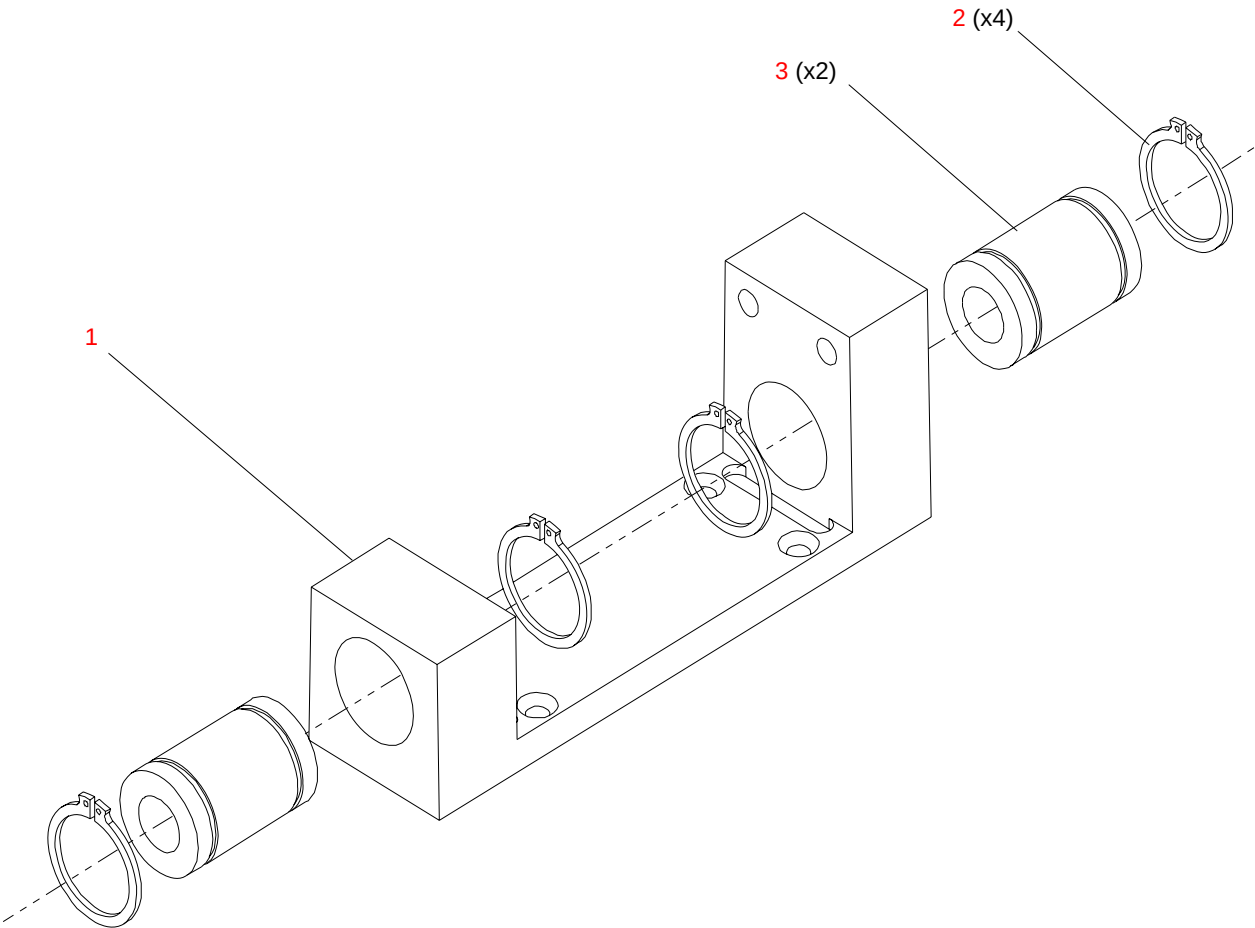


Figure 4-49: Right Edge Bearing Assembly

Left Edge Bearing Assembly

22.9678.1105 Rev C

Refer to [Figure 4-50](#)

No.	Item	Qty.	UM.	Description
1	12.9678.1104	1	EA	EDGE BEARING, MACHINE LEFT
2	54.2056.0001	4	EA	RING, RETAINING EXTERNAL 19MM
3	55.6776.0010	2	EA	LINEAR BUSHING, 10MM STEEL W/PHENOLIC CAGE

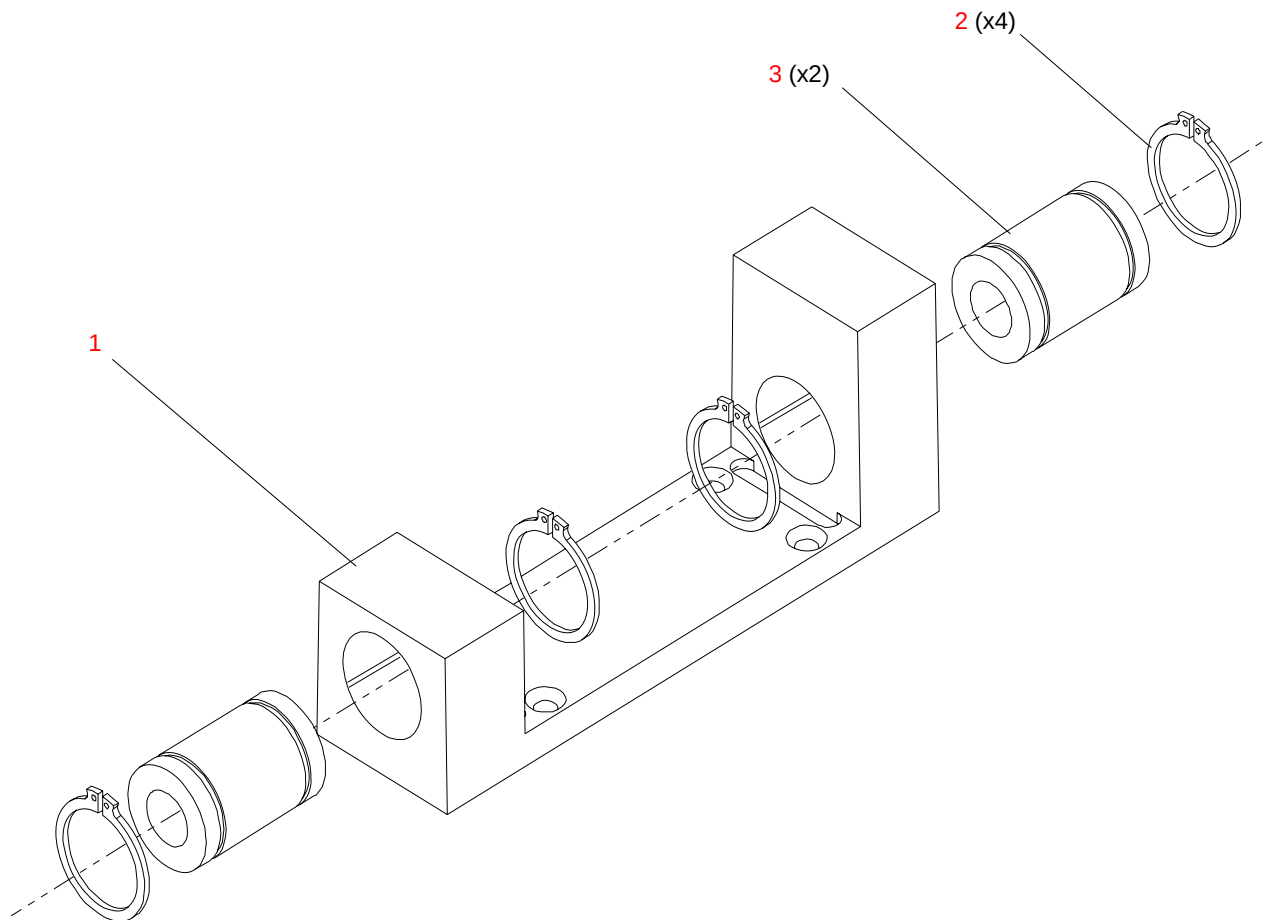


Figure 4-50: Left Edge Bearing Assembly

Zoom Cam Assembly

22.9678.1106 Rev B

Refer to [Figure 4-51](#)

No.	Item	Qty.	UM.	Description
1	10.9678.1107	1	EA	ZOOM TIMING CAM
2	10.9678.1108	1	EA	PULLEY FLANGE
3	10.9678.1118	1	EA	TIMING PULLEY, ZOOM
4	53.6613.0008	2	EA	SCREW, 6-32 X 1/2" PPZ
5	54.1259.0004	2	EA	BEARING, RADIAL FLANGED .25"ID .625"OD
6	55.6763.0500	2	EA	PIN, DOWEL .5"LG .125"DIA 303SS

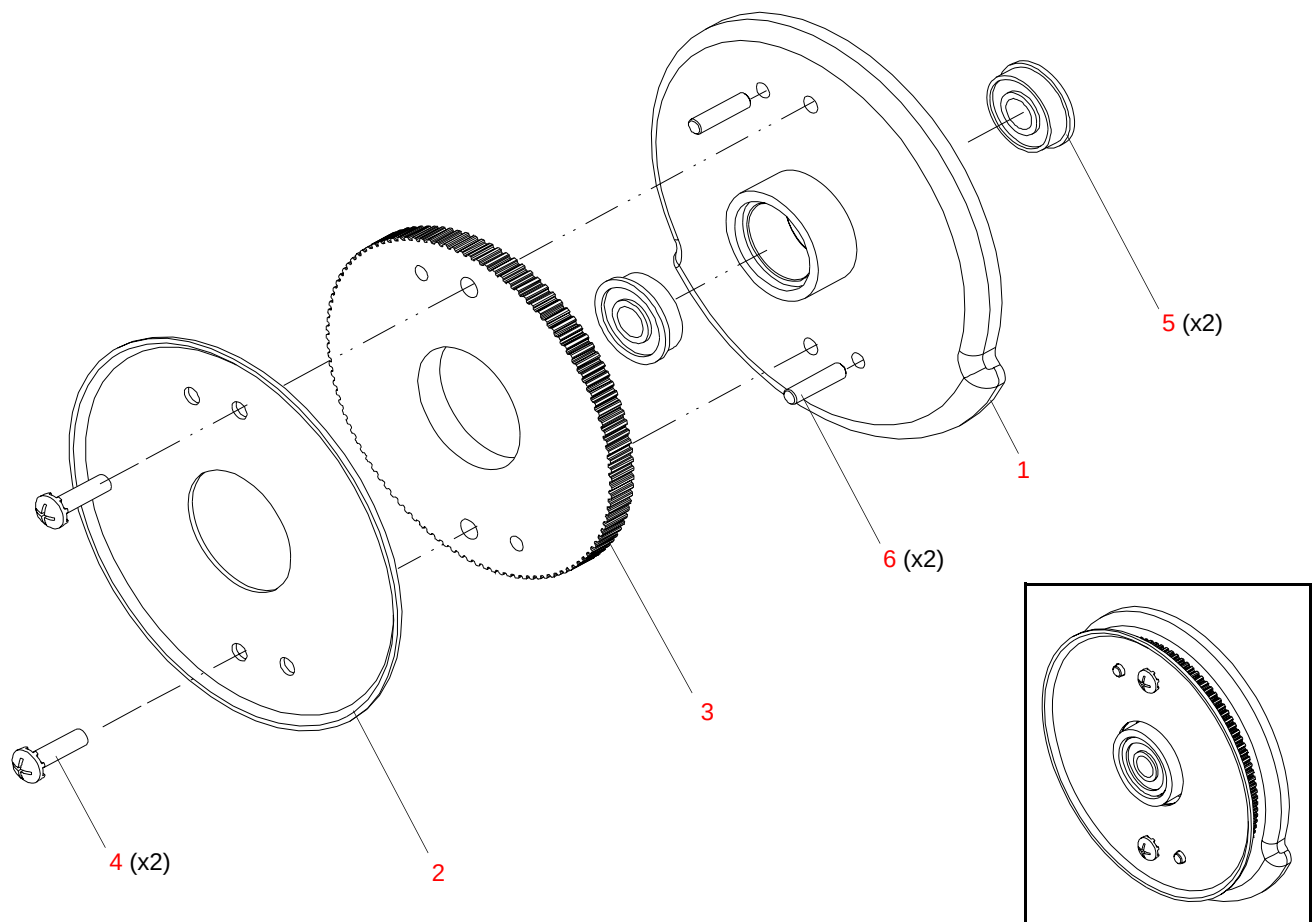


Figure 4-51: Zoom Cam Assembly

Zoom Motor Tensioning Assembly

22.9678.1113 Rev C

Refer to [Figure 4-52](#)

No.	Item	Qty.	UM.	Description
1	10.9678.0128	1	EA	PULLEY, ZOOM MOTOR
2	10.9678.1111	1	EA	BRACKET, ZOOM TENSION, SHEET METAL
3	44.9663.1326	1	EA	MOTOR, 17 .53" SHAFT 11.8MH 5.5 OHM
4	53.5559.0250	2	EA	SCREW, 6-32 X 1/4" SET CONE POINT
5	53.6522.0001	2	EA	SCREW, 6-32 X 1/4" PPZ
6	55.3303.0006	2	EA	WASHER, #6 LOCK INT.TOOTH SS

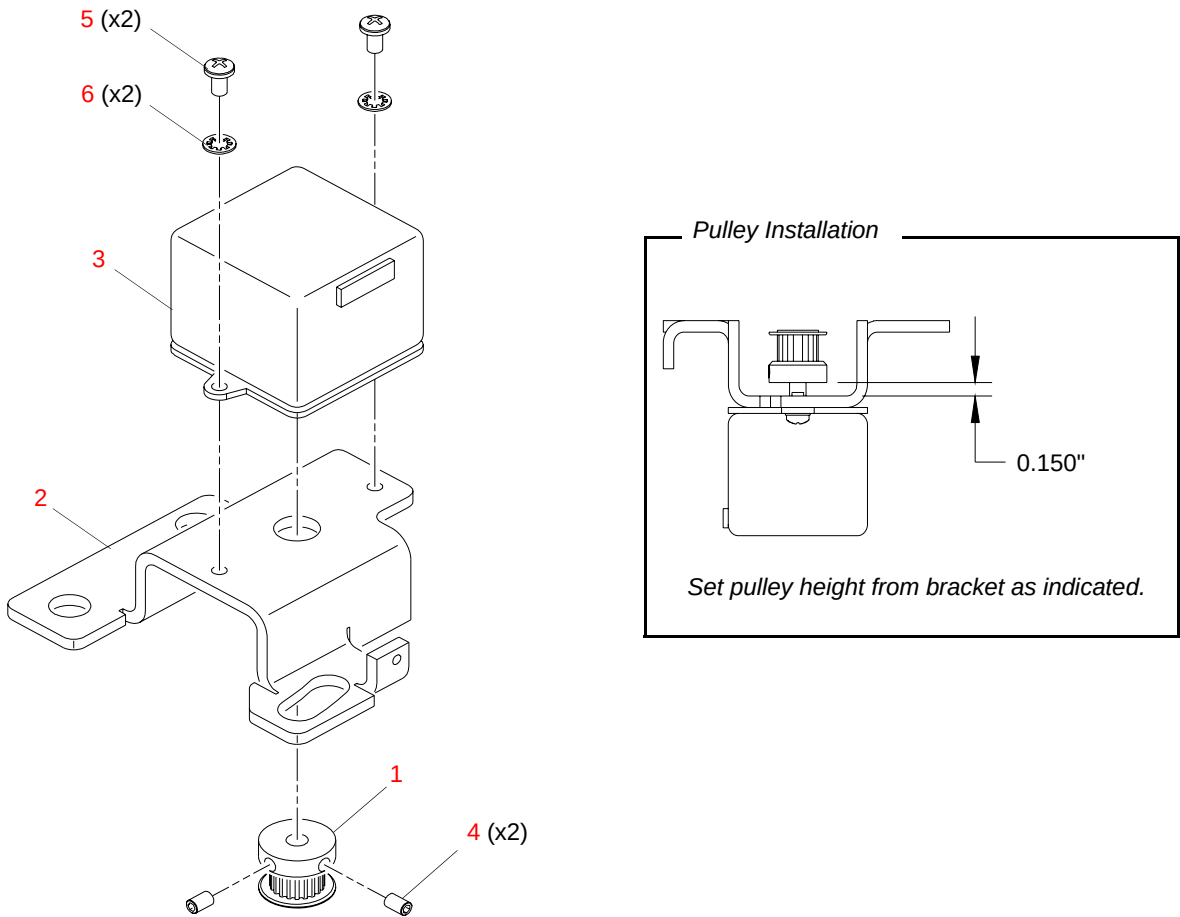


Figure 4-52: Zoom Motor Tensioning Assembly

Interconnect Light Shield Assembly

22.9678.1115 Rev E

Refer to [Figure 4-53](#)

No.	Item	Qty.	UM.	Description
1	10.9678.1114	1	EA	SHIELD, INTERCONNECT MOUNT/LIGHT
2	24.9679.3116	1	EA	PCB ASSY, ZOOM INTERCONNECT
3	53.6558.0009	4	EA	SCREW, 6-32 X 3/8" PPZ SEMS

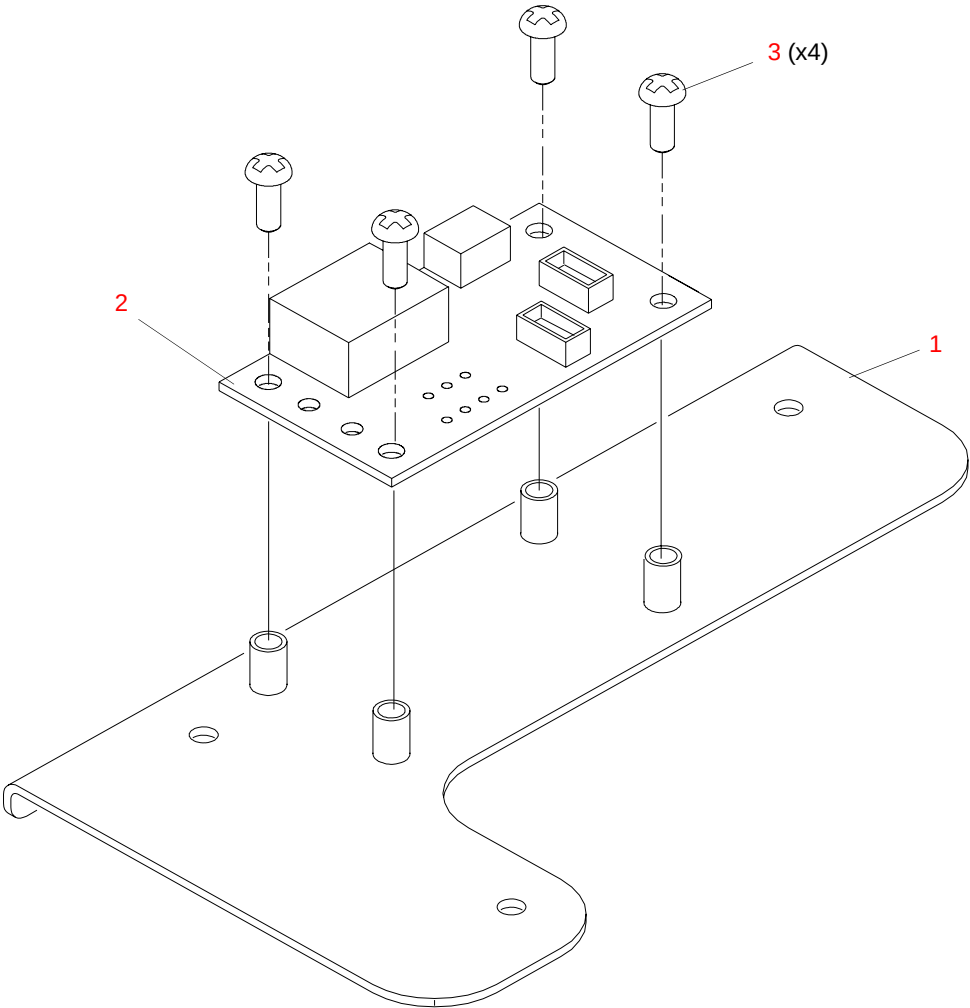


Figure 4-53: Interconnect Light Shield Assembly

Rod Clamp Assembly

22.9678.0149 Rev B

Refer to [Figure 4-54](#)

No.	Item	Qty.	UM.	Description
1	10.9678.0151	1	EA	CLAMP, OPTIC ROD CAST
2	53.2008.0006	2	EA	SPRING CLIP, 6-32
3	53.6616.0001	2	EA	SCREW, 6-32 X 3/4" PPZ
4	55.6528.0001	2	EA	WASHER, #6 FLAT ZINC
5	55.6538.0001	2	EA	WASHER, #6 LOCK INTERNAL TOOTH

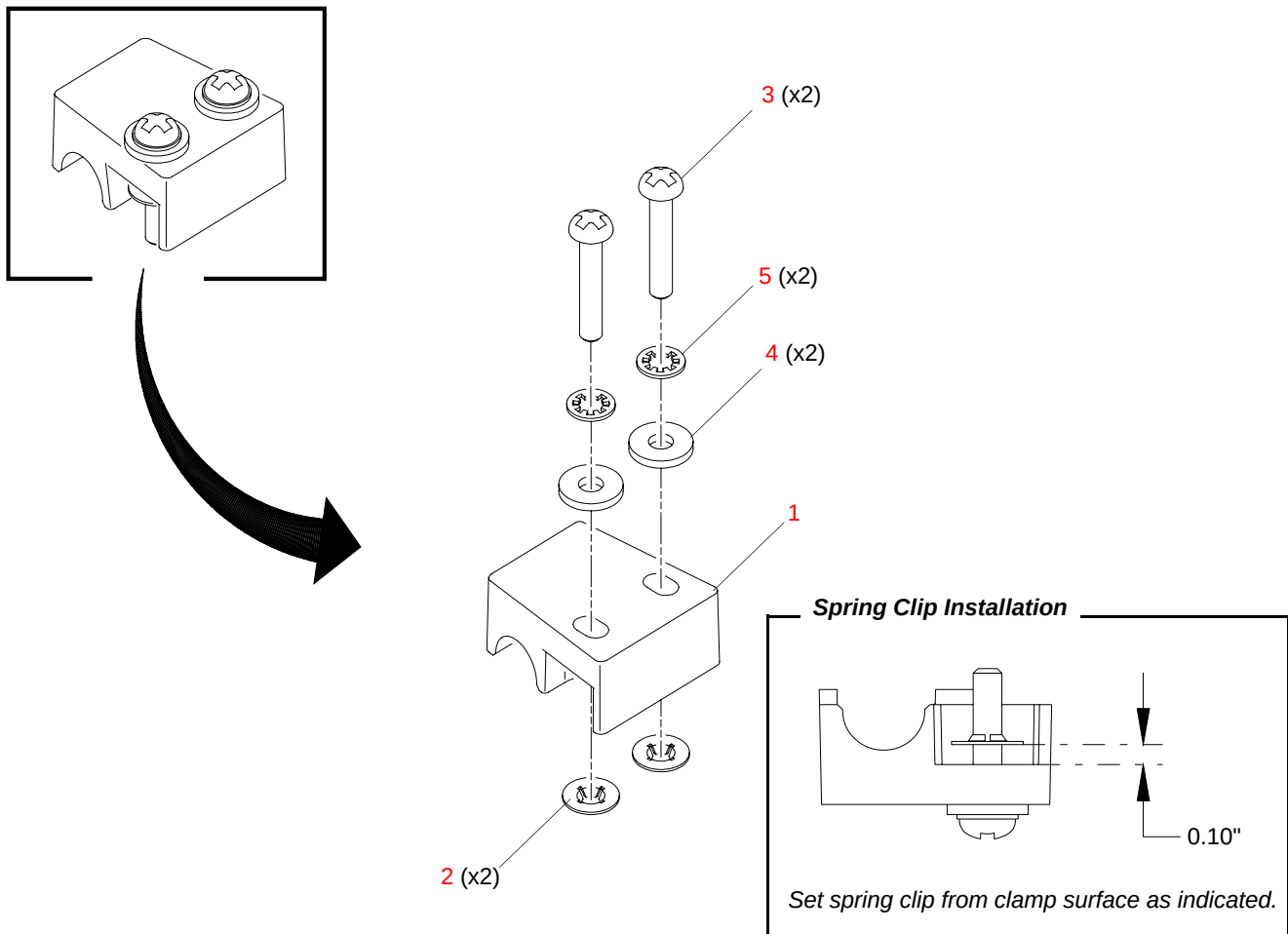


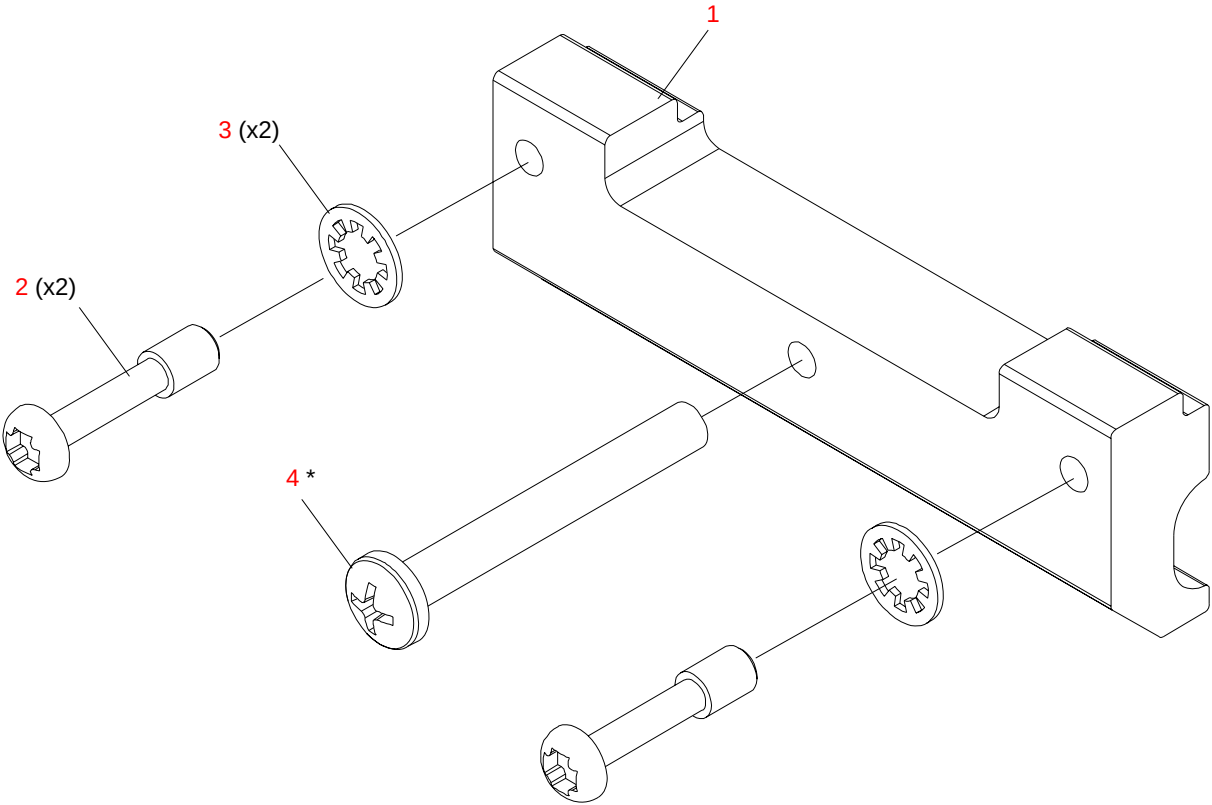
Figure 4-54: Rod Clamp Assembly

Gobo Clamp Assembly

22.9678.0693 Rev A

Refer to [Figure 4-55](#)

No.	Item	Qty.	UM.	Description
1	12.9678.0691	1	EA	GOBO CLAMP
2	53.6685.0625	2	EA	SCREW, CAPTIVE PANEL, 6-32 X 0.625"LG PPS ZINC PLATED
3	55.6538.0001	2	EA	WASHER, #6 LOCK INTERNAL TOOTH
4	53.6613.1126	1	EA	SCREW, 6-32 X 1.125 LG PPZ



* Note: Install item 4 with Loctite 242.

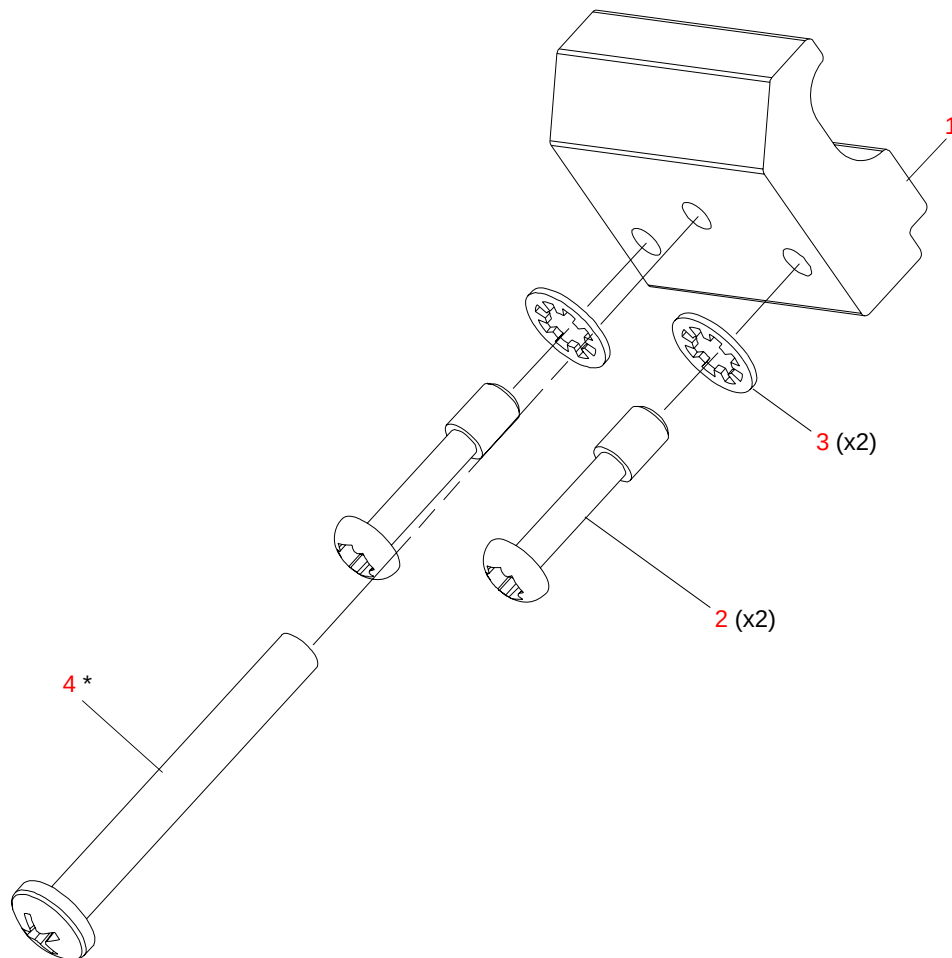
Figure 4-55: Gobo Clamp Assembly

Color Clamp Assembly

22.9678.0694 Rev A

Refer to [Figure 4-56](#)

No.	Item	Qty.	UM.	Description
1	12.9678.0692	1	EA	COLOR CLAMP
2	53.6685.0625	2	EA	SCREW, CAPTIVE PANEL, 6-32 X.625"LG PPS ZINC PLATED
3	55.6538.0001	2	EA	WASHER, #6 LOCK INTERNAL TOOTH
4	53.6613.1126	1	EA	SCREW, 6-32 X 1.125 LG PPZ



* Note: Install item 4 with Loctite 242.

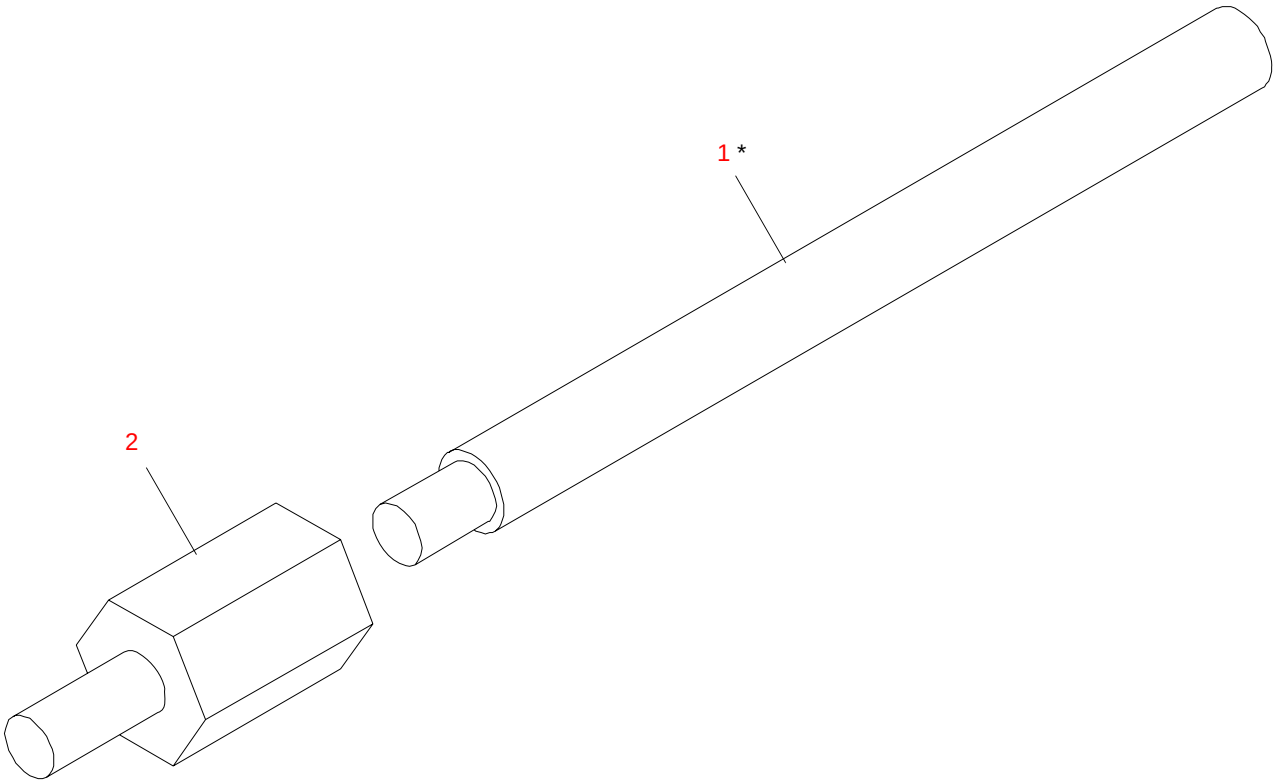
Figure 4-56: Color Clamp Assembly

Edge Lead Screw Assembly

22.9678.1126 Rev B

Refer to [Figure 4-57](#)

No.	Item	Qty.	UM.	Description
1	10.9678.1119	1	EA	LEAD SCREW, EDGE
2	55.6616.0007	1	EA	STANDOFF, 3/8" HEX THRD 0.562" LG



** Note: Apply one drop of Loctite 272 to the threads of item 1.*

Figure 4-57: Edge Lead Screw Assembly

Yoke Assembly

Yoke Assembly

21.9678.0700 Rev K

Refer to [Figure 4-58](#)

No.	Item	Qty.	UM.	Description
1	10.9678.0764	1	EA	PLATE, TILT ENCODER MOUNT
2	10.9678.0756	1	EA	IGNITOR SHIELD
3	21.9678.8765	1	EA	ASSY, TILT MOTOR
4	22.9661.0609	2	EA	ASSY, YOKE FAN
5	22.9686.0705	1	EA	ASSY, YOKE STRUCTURE
6	23.9650.3327	1	EA	ELEC ASSY, RELAY
7	23.9661.1253	1	EA	ELEC ASSY, TILT EOT SENSOR
8	24.9661.3126	1	EA	PCB ASSY, SOLID STATE IGNITOR
-	25.9661.1526	2	EA	CABLE ASSY, IGNITOR TO RELAY (NOT SHOWN)
-	25.9678.0681	1	EA	CABLE ASSY, YOKE FAN AND RELAY (NOT SHOWN)
-	25.9678.0758	1	EA	CABLE ASSY, YOKE FAN (NOT SHOWN)
9	53.2019.0004	2	EA	NUT, 3/8-16 X 7/32" THK HEX
10	53.2200.0006	1	EA	NUT, 6-32 KEPS SS
11	53.5634.0250	8	EA	SCREW, 4-40 X 1/4" PFSS BL
12	53.6539.0001	2	EA	WASHER, 3/8" SPLIT LOCK
13	53.6558.0009	12	EA	SCREW, 6-32 X 3/8"LG PPZ SEM
14	53.6626.0001	6	EA	SCREW, 10-32 X 1/2" PPZ
15	53.6634.0003	2	EA	SCREW, 3/8-16 X 1/2"LG SOC
16	55.2150.0002	1	EA	STANDOFF, 1/4" HEX 6-32 1.187"L
17	55.2178.0001	1	EA	CABLE ANCHOR MOUNT, #8 SCREW MOUNT
18	55.6528.0001	2	EA	WASHER, #6 FLAT ZINC
19	55.6541.0002	2	EA	GROMMET, 1 "ID 1 3/4"OD 1 3/8 GROOVE DIA
20	55.6568.0074	2	EA	SPRING, CPRSN .420"OD .750"LG
21	55.6658.0004	2	EA	STANDOFF, 1/4" HEX 6-32 .750"LG, F-F, AL

Yoke Assembly (continued)

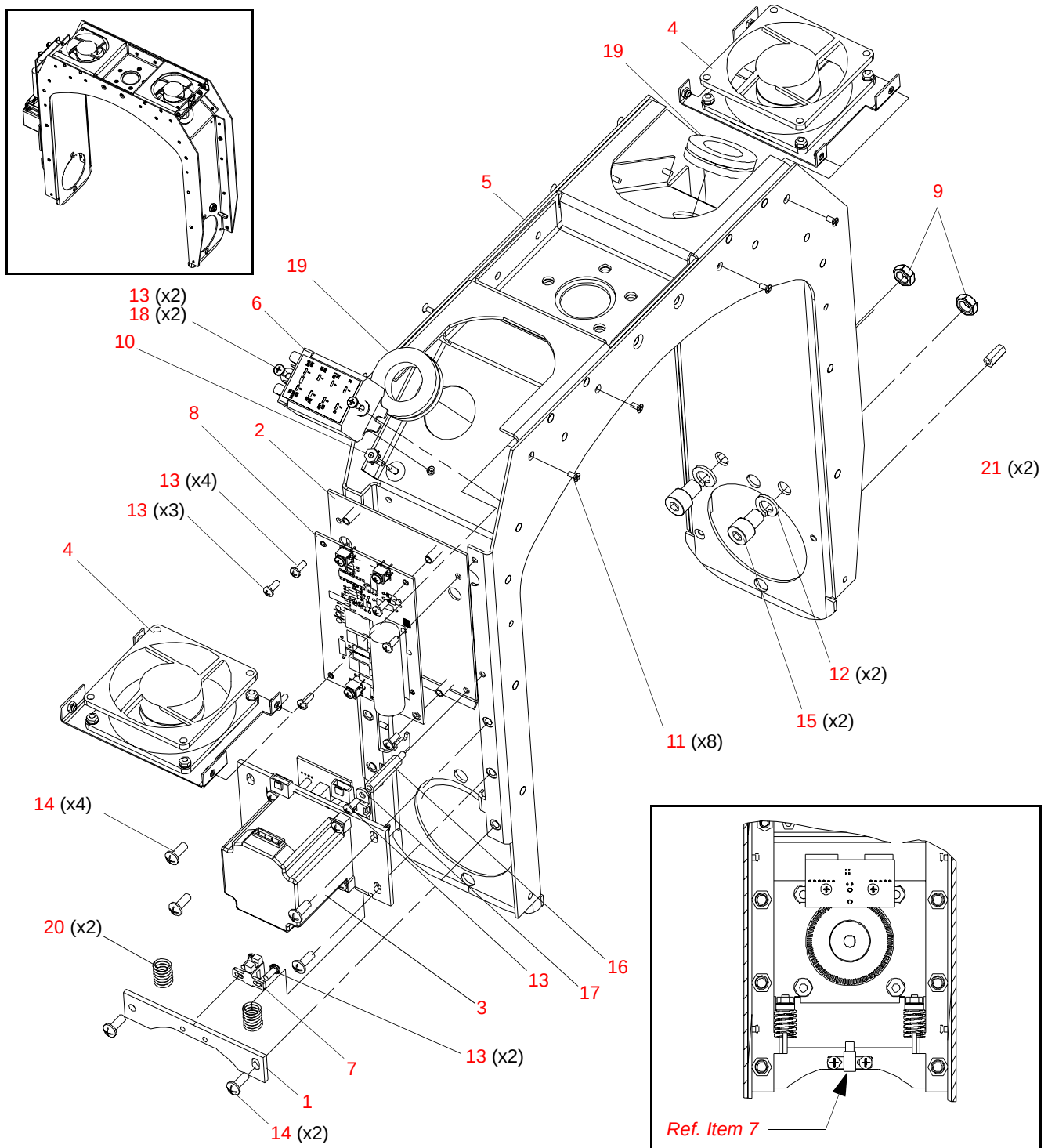


Figure 4-58: Yoke Assembly

Tilt Motor Assembly

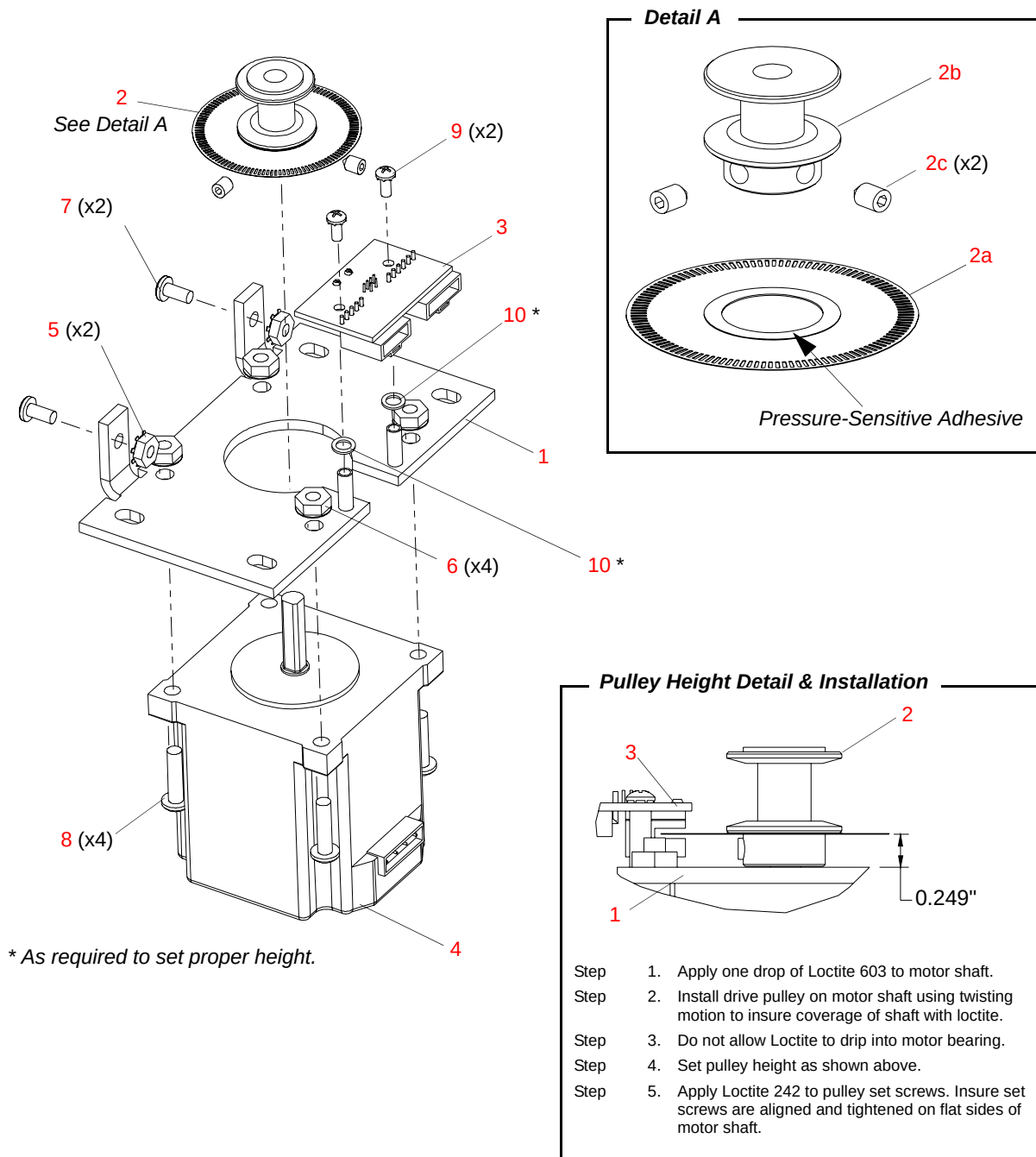
21.9678.8765 Rev B

Refer to [Figure 4-59](#)

No.	Item	Qty.	UM.	Description
1	10.9678.8763	1	EA	PLATE, TILT MOTOR MOUNT
2	21.9678.0708	1	EA	ASSY, DRIVE PULLEY
2a	10.9678.0720	1	EA	CODEWHEEL, 120 COUNT, LARGE ID
2b	10.9678.1749	1	EA	TIMING PULLEY, 17 TOOTH, SHORTENED
2c	53.5560.0250	2	EA	SCREW, 8-32 X 1/4" SET CONE POINT
3	24.9661.5000	1	EA	PCB ASSY, PAN/TILT ENCODER
4	44.9678.0680	1	EA	MOTOR, 3 PHASE SIZE 23 HIGH TORQUE
5	53.2200.0006	2	EA	NUT, 6-32 KEPS SS
6	53.2200.0008	4	EA	NUT, 8-32 KEPS SS
7	53.6525.0001	2	EA	SCREW, 6-32 X 5/16" PPZ
8	53.6546.0001	4	EA	SCREW, 8-32 X 5/8" PPB
9	53.6682.0002	2	EA	SCREW, 4-40 X 1/4"LG PPZ SEMS-EXT
10	55.3301.0004	AR*	EA	WASHER, #4 FLAT SS

* As Required

Tilt Motor Assembly (continued)



Note: Vari-Lite recommends that this assembly be replaced as a complete assembly. Although you can replace only the motor, the pulley (Item 2) is bonded to the motor shaft during assembly and cannot be removed intact. If you order a replacement motor (Item 4), also order the pulley (Item 2). Contact Vari-Lite Customer Service for installation information.

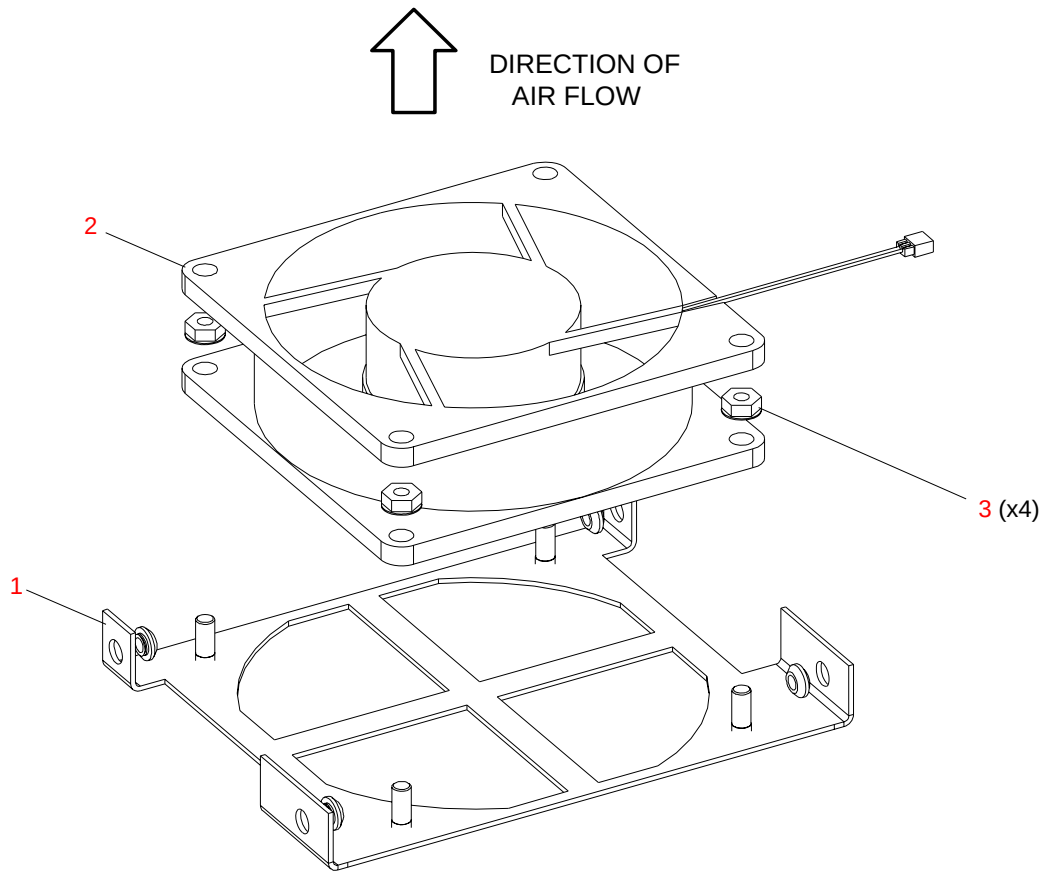
Figure 4-59: Tilt Motor Assembly

Yoke Fan Assembly

22.9661.0609 Rev D

Refer to [Figure 4-60](#)

No.	Item	Qty.	UM.	Description
1	10.9661.0646	1	EA	FAN TRAY
2	40.7113.1001	1	EA	FAN, +24V 80 X 80 X 25MM, 32CFM
3	53.2200.0006	4	EA	NUT, 6-32 KEPS SS



Note fan wire orientation.

Figure 4-60: Yoke Fan Assembly

Notes

Enclosure Assembly

Upper Enclosure Assembly

21.9679.0800 Rev. E

Refer to [Figure 4-61](#), [Figure 4-62](#) and [Figure 4-63](#)

No.	Item	Qty.	UM.	Description
1	04.9640.0374	1	EA	LABEL, GROUND
2	04.9679.0040	1	EA	LABEL, VL3015 SERIES COMPLIANCE (not shown)
3	04.9679.0041	1	EA	LABEL, VL3015 SERIES CONFIGURATION (not shown)
4	10.9661.1358	1	EA	AIR SEAL, DUCT
5	10.9678.0820	1	EA	LANYARD, PAN TUBE
6	10.9678.0869	1	EA	BRACKET, LVS
7	10.9678.0886	1	EA	SPACER, PAN BEARING, 0.235" THK
8	10.9678.0892	1	EA	BUSHING, WIRE PROTECTION, PAN TUBE
9	10.9678.1258	1	EA	BRACKET, APS SIDE
10	10.9678.1876	1	EA	AIR DIST PLENUM, 1200W SW BALLAST P/S
11	10.9686.0839	2	EA	COVER, TOP
12	10.9698.0846	2	EA	HANDLE, UPPER ENCLOSURE, EXTENDED
13	12.9678.0842	1	EA	DUCT, UPPER ENCLOSURE, AIR
14	12.9686.1238	2	EA	COVER, SIDE MACHINED
15	12.9686.2236	2	EA	COVER, FRONT, MACHINED
16	21.9678.0767	1	EA	STABILIZER, ASSEMBLY
17	21.9678.0807	1	EA	ASSY, PAN PULLEY
18	21.9678.8864	1	EA	ASSY, PAN MOTOR
19	21.9678.0881	1	EA	ASSY, PAN TUBE, MACHINED
20	21.9679.0811	1	EA	ASSY, EXHAUST FAN, HIGH FLOW
21	21.9686.0840.02	1	EA	ASSY, COVER, VENTILATION
22	21.9698.0805	1	EA	ASSY, PANEL, INPUT
23	22.9686.0851	1	EA	ASSY, UPPER ENCLOSURE STRUCTURE
24	23.9678.0686	1	EA	FAN ASSY, UPPER ENCLOSURE
25	23.9678.0687	1	EA	ELECT ASSY, PAN EOT SENSOR
26	25.9661.1514	1	EA	CABLE ASSY, LVS CHASSIS GND (EMI GND) (not shown)
27	25.9661.1520	1	EA	CABLE ASSY, CHASSIS TO YOKE GND (not shown)
28	25.9678.0813	1	EA	CABLE ASSY, DATA I/O LINK (not shown)

VARI*~~L~~ITE - VL3015 & VL3515 SPOT LUMINAIRES SERVICE MANUAL

No.	Item	Qty.	UM.	Description
29	25.9678.0816	1	EA	CABLE ASSY, BALLAST TO CONTROLLER (not shown)
30	25.9678.0818	1	EA	CABLE ASSY, PAN & TILT CONTROL (not shown)
31	25.9678.0829	1	EA	CABLE ASSY, LAMP SUPPLY TO RELAY (not shown)
32	25.9678.1716	1	EA	CABLE ASSY, LVS CHASSIS GND (not shown)
33	25.9678.1825	1	EA	CABLE ASSY, DISPLAY (not shown)
34	25.9679.0002	1	EA	CABLE ASSY, EMI FILTER TO LVS (not shown)
35	25.9679.0003	1	EA	CABLE ASSY, LVS, AC OUT (not shown)
36	25.9679.0004	1	EA	CABLE ASSY, DC OUTPUT, LVS TO MCB POWER (not shown)
37	25.9679.1006	1	EA	CABLE ASSY, VL3015 EXHAUST FAN (not shown)
38	25.9686.1843	1	EA	CABLE ASSY, DUAL DC FAN, LVS TO YOKE (not shown)
39	52.8295.0002	1	EA	TERMINAL BLOCK, 300V, 12AWG, 20A 2 POS
40	53.2001.0003	1	EA	NUT, 10-32 HEX SS NYLON INSERT
41	53.2019.0004	4	EA	NUT, 3/8-16 X 7/32" THK HEX JAM G
42	53.2200.0006	4	EA	NUT, 6-32 KEPS SS
43	53.6505.0022	3	EA	CARRIAGE BOLT, 3/8"-16 X 3/4"
44	53.6513.0044	3	EA	SCREW, M5 X 10MM STL CUP PT
45	53.6515.0001	4	EA	SCREW, 10-32 X 3/4" SCB
46	53.6522.0001	1	EA	SCREW, 6-32 X 1/4" PPZ
47	53.6522.0004	2	EA	SCREW, 6-32 X 1/4" SOC HD
48	53.6525.0188	2	EA	SCREW, 6-32 X 3/16" LG PPZ SEMS
49	53.6530.0023	2	EA	RIVET, 1/8" OD POP, 0.376" - 0.500" GRP DOME HD STL MNDRL
50	53.6539.0001	4	EA	WASHER, 3/8" SPLIT LOCK
51	53.6545.0003	4	EA	SCREW, 8-32 X 3/8" PFZ
52	53.6545.0004	4	EA	SCREW, 8-32 X 3/8" PPZ
53	53.6556.0002	1	EA	SCREW, 4-40 X 3/4" PPB
54	53.6558.0001	5	EA	SCREW, 6-32 X 3/8" PPZ
55	53.6558.0007	3	EA	SCREW, 6-32 X 1/4" PPZ SEMS
56	53.6558.0009	6	EA	SCREW, 6-32 X 3/8" PPZ SEMS
57	53.6558.0010	6	EA	SCREW, 6-32 X 1/4" LG PPZ BLK SEMS - EXT WSHR
58	53.6558.0015	4	EA	SCREW, 6-32 X 3/8" PPB
59	53.6571.0003	1	EA	SCREW, 6-32 X 1-1/2" PPB
60	53.6591.0001	2	EA	SCREW, 6-32 X 1/4" PFZ
61	53.6607.0001	4	EA	SCREW, 6-32 X 1/4" PPB
62	53.6609.0001	4	EA	SCREW, 6-32 X 3/8" PFZ
63	53.6626.0001	1	EA	SCREW, 10-32 X 1/2" PPZ
64	53.6634.1000	1	EA	SCREW, 3/8-16 X 1.00" LG SOC HD CAP ALLOY STEEL
65	54.1206.0014	2	EA	RING, RETAINING, 1.375" SHAFT
66	54.1255.0001	1	EA	BEARING/HOUSING ASSY

No.	Item	Qty.	UM.	Description
67	54.2055.0001	1	EA	BELT, GT TIMING, 2MM PITCH, 182 GRV
68	55.2150.0003	2	EA	STANDOFF, 1/4" HEX 6-32 X 1.125" LG
69	55.2178.0001	3	EA	CABLE ANCHOR MOUNT, #8 SCREW MOUNT
70	55.2179.0001	3	EA	CABLE ANCHOR MOUNT, #6 SCREW MOUNT
71	55.2186.0001	5	EA	CABLE TIE, 0.10 X 4" SMALL
72	55.2261.0001	1	EA	SLEEVE, NYLON IN WALL, #6 1"; 0.015" WALL
73	55.2267.0001	2	EA	RUBBER STRIP, SPONGE CLSD CELL, 3/8" W, 3/16" T ADHV
74	55.6503.0004	4	EA	WASHER, #8 FLAT ZINC
75	55.6532.0004	2	EA	BRACKET, #6-32 THREADED HOLES
76	55.6538.0001	1	EA	WASHER, #6 LOCK INTERNAL TOOTH
77	55.6543.0001	0.312	FT	GROMMET STRIP, SERRATED, 0.062"
78	55.6543.0001	1.54	FT	GROMMET STRIP, SERRATED, 0.125"
79	55.6568.0074	2	EA	SPRING, CPRSN, 0.600" OD, 0.080" WIRE
80	55.6575.0001	4	EA	SCREW, 10-32 X 3/4" PPB
81	55.6577.0005	2	EA	STANDOFF, 1/2" HEX 6-32, 1.625" LG
82	55.6580.0002	3	EA	CABLE TIE, 0.18" WD X 8.00" LG
83	55.6658.0009	1	EA	STANDOFF, 1/4" HEX 6-32 0.75" LG MF
84	55.6677.0044	1	EA	WASHER, TEFLON
85	55.6699.0010	0.50	FT	SLEEVING, 5/16" NOM DIA WOVEN POLY ROUNDIT
86	55.6775.0009	1	EA	BUSHING, SNAP
87	67.4018.0001	1	EA	FERRITE, 26 X 28, 0.5X13 MM CYL
88	67.9686.1500	1	EA	FILTER, EMI CCI
89	68.9678.0827	1	EA	CHOKER, COMMON MODE
90	69.3176.0201	1	EA	LVS POWER SUPPLY, 200W, +24VDC, 8.5A
91	69.9679.1216	1	EA	BALLAST, UNIVERSAL, 1200W/1650W

Upper Enclosure Assembly (continued)

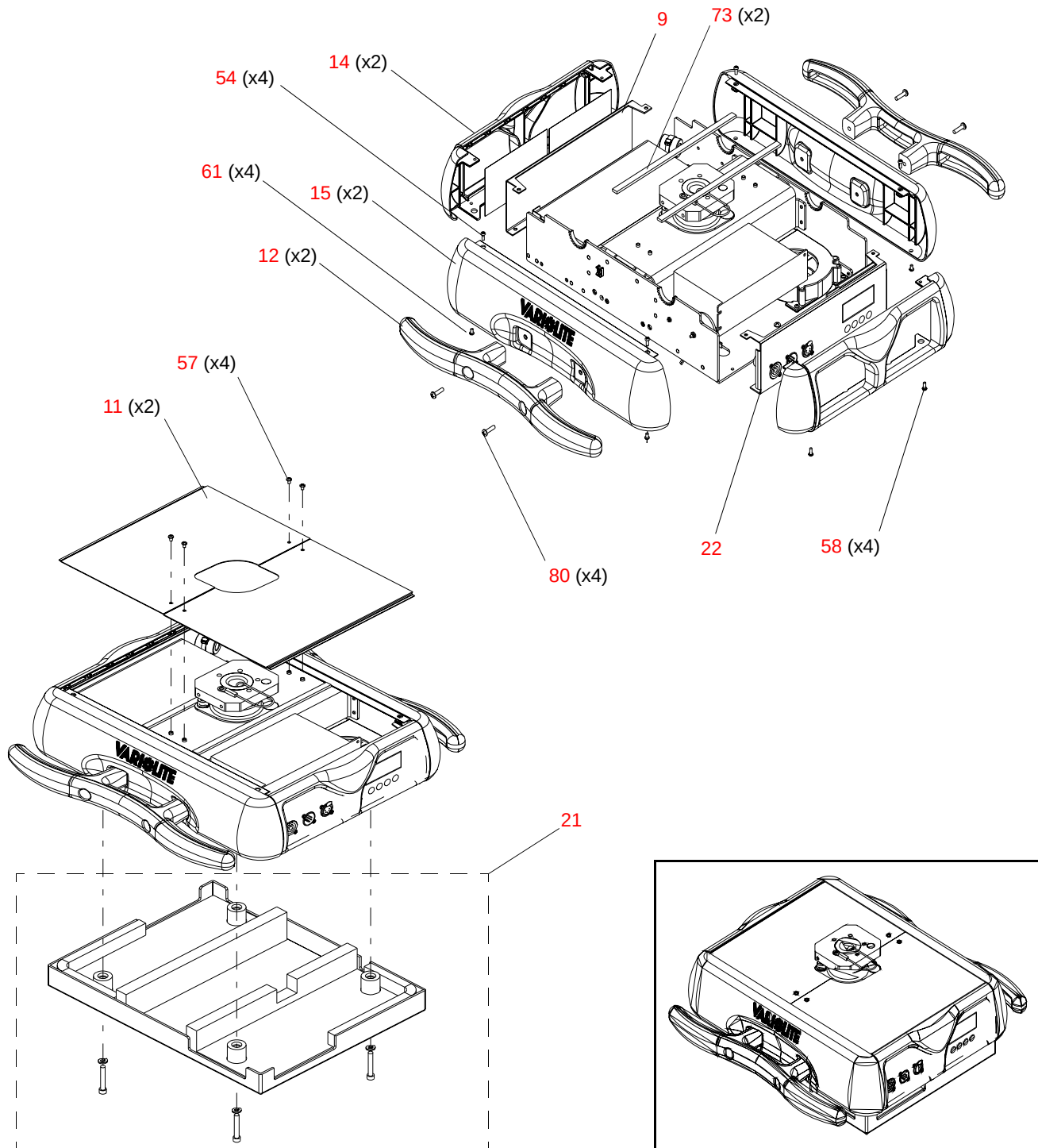
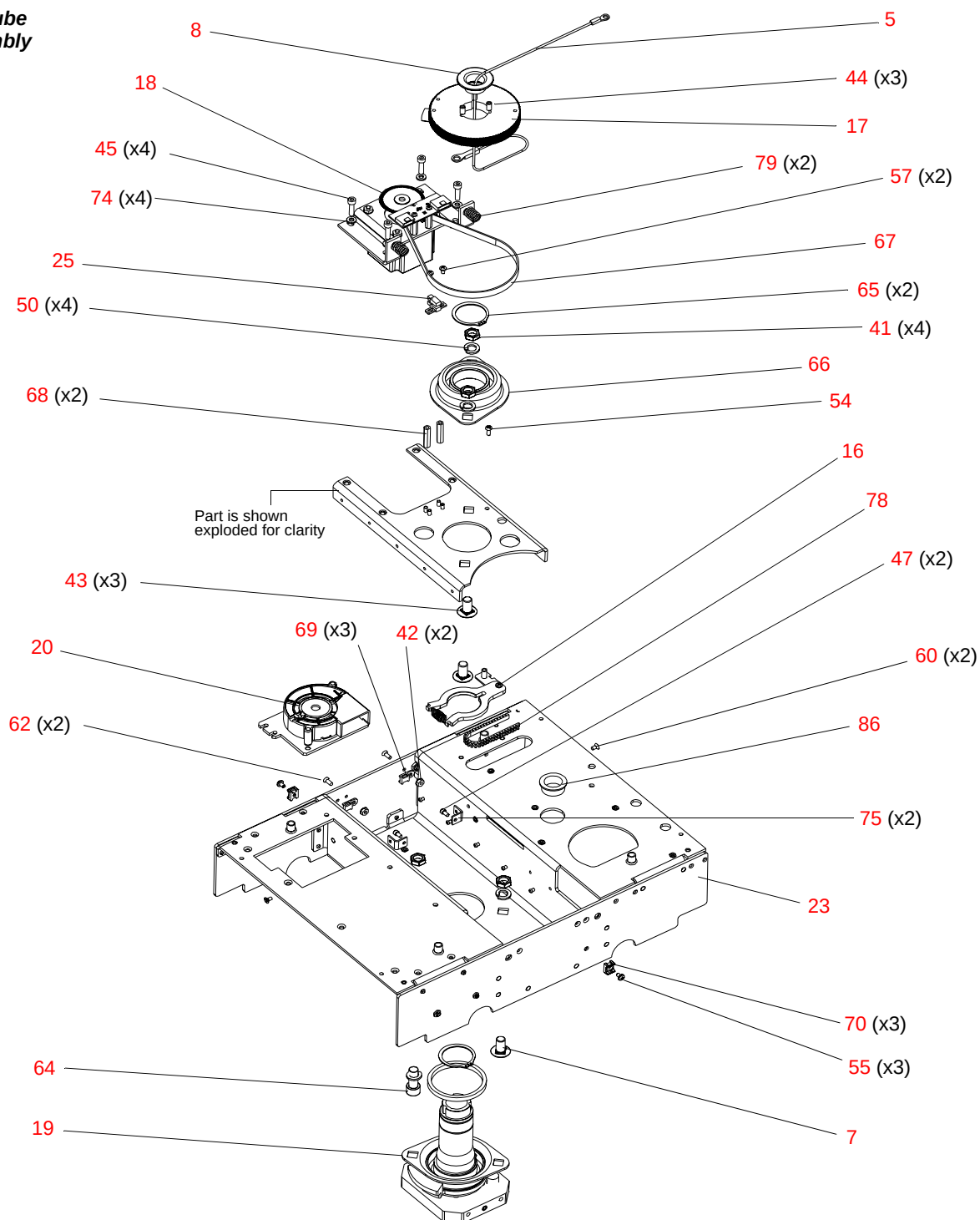


Figure 4-61: Upper Enclosure Assembly Part 1

Upper Enclosure Assembly (continued)

Pan Tube Assembly**Figure 4-62: Upper Enclosure Assembly Part 2**

Upper Enclosure Assembly (continued)

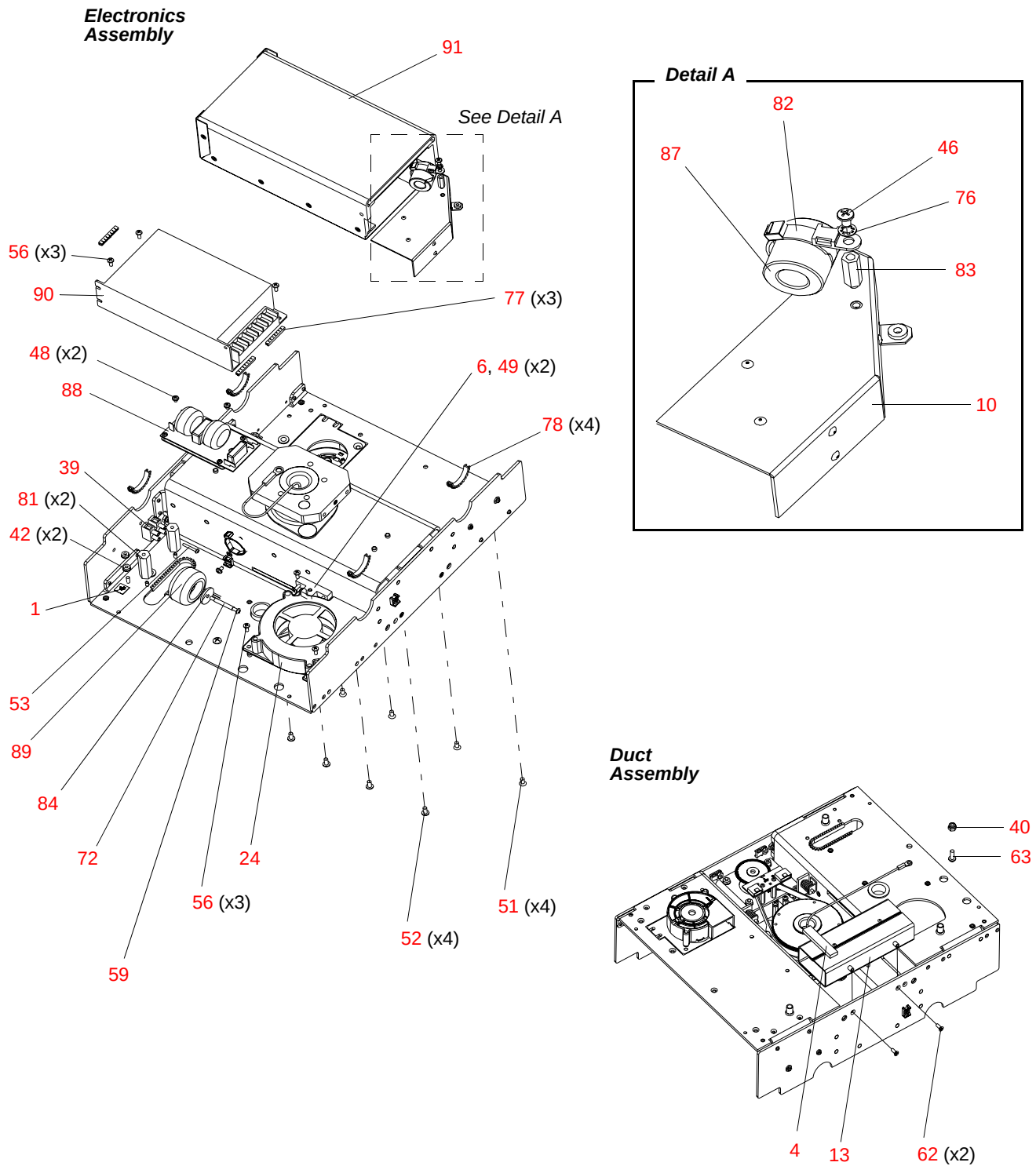


Figure 4-63: Upper Enclosure Assembly Part 3

Pan Pulley Assembly

21.9678.0807 Rev E

Refer to [Figure 4-64](#)

No.	Item	Qty.	UM.	Description
1	10.9678.0750	1	EA	TIMING PULLEY, 2MM GT 150 TOOTH
2	10.9678.0855	1	EA	PAN FLAG
3	53.6530.0009	2	EA	RIVET, 1/8"OD POP 0.126-0.187GL

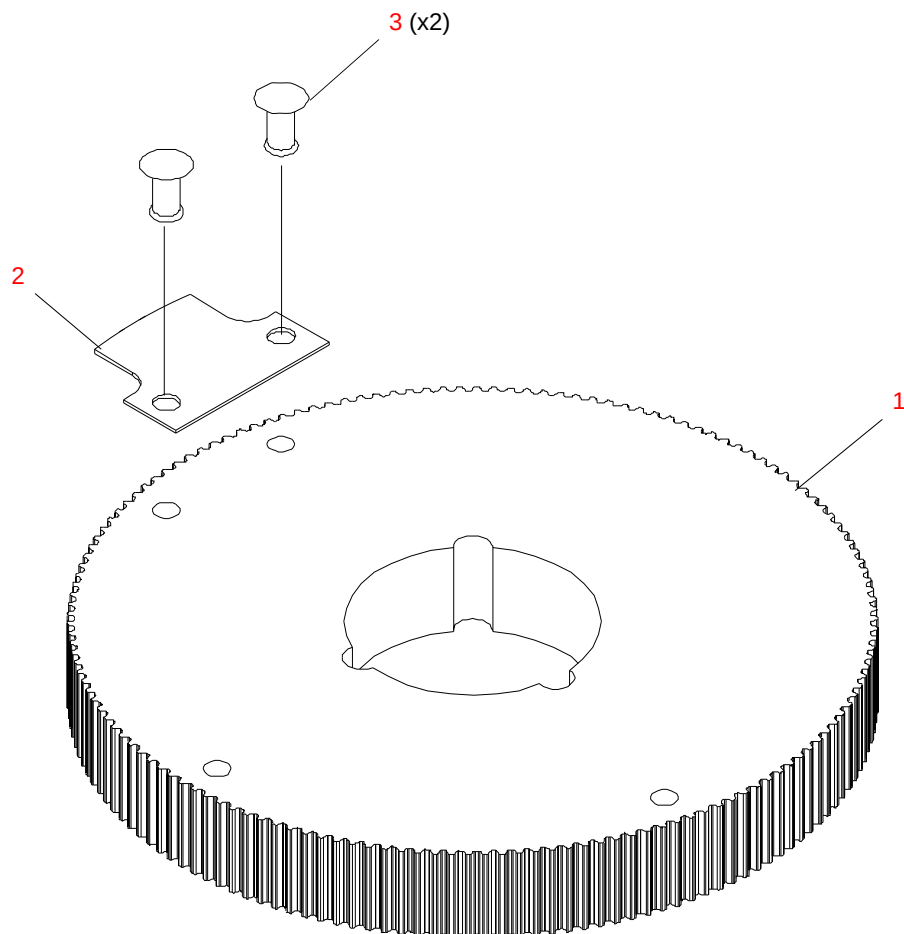


Figure 4-64: Pan Pulley Assembly

Stabilizer Assembly

21.9678.0767 Rev 0

Refer to [Figure 4-65](#)

No.	Item	Qty.	UM.	Description
1	10.9678.0757	1	EA	STABILIZER, 1.377 DIA
2	10.9678.0762	1	EA	BRACKET, STABILIZER
3	53.6610.0003	1	EA	SCREW, 6-32 X 7/16" PPZ
4	55.6568.0075	1	EA	SPRING, EXTN, 0.375" OD, 1.0" LG, 0.041" DIA, WIRE

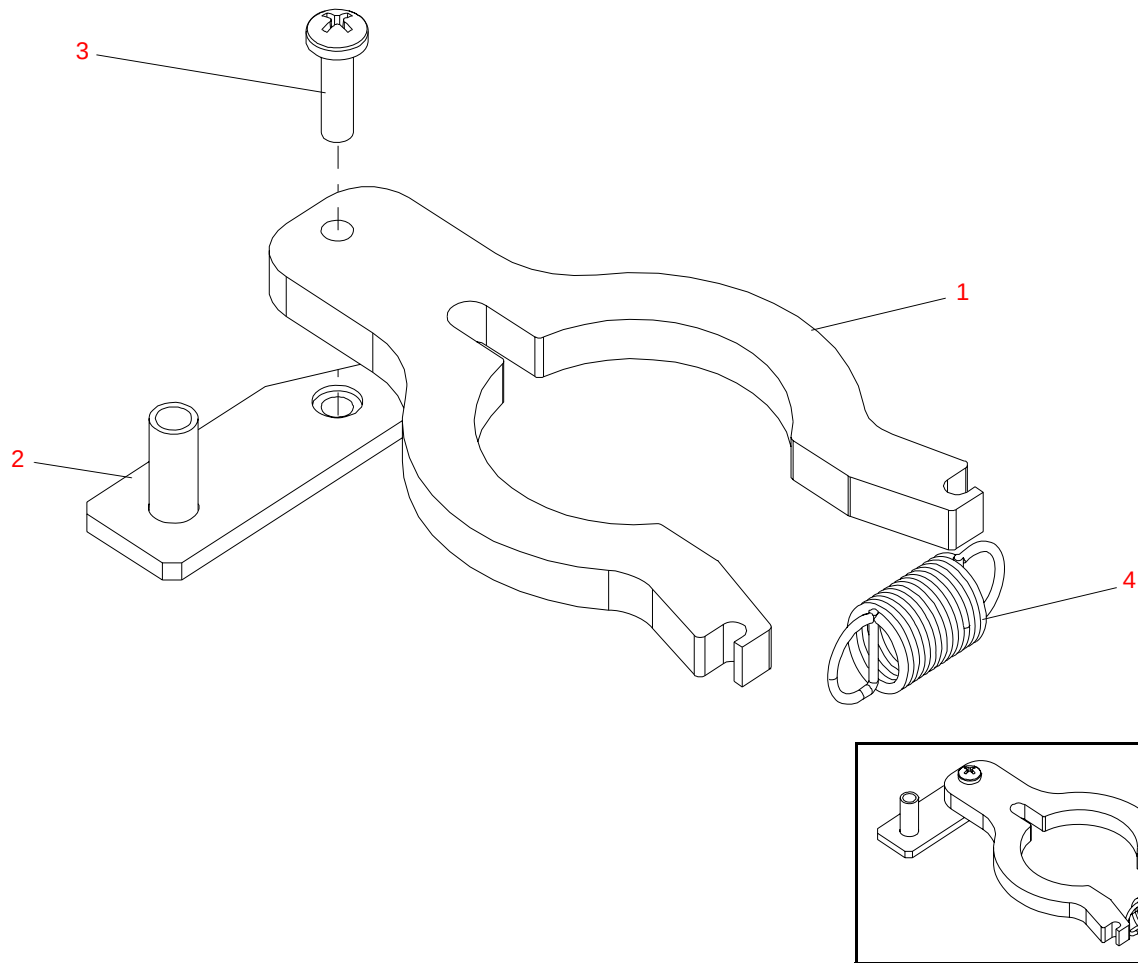


Figure 4-65: Stabilizer Assembly

Pan Motor Assembly

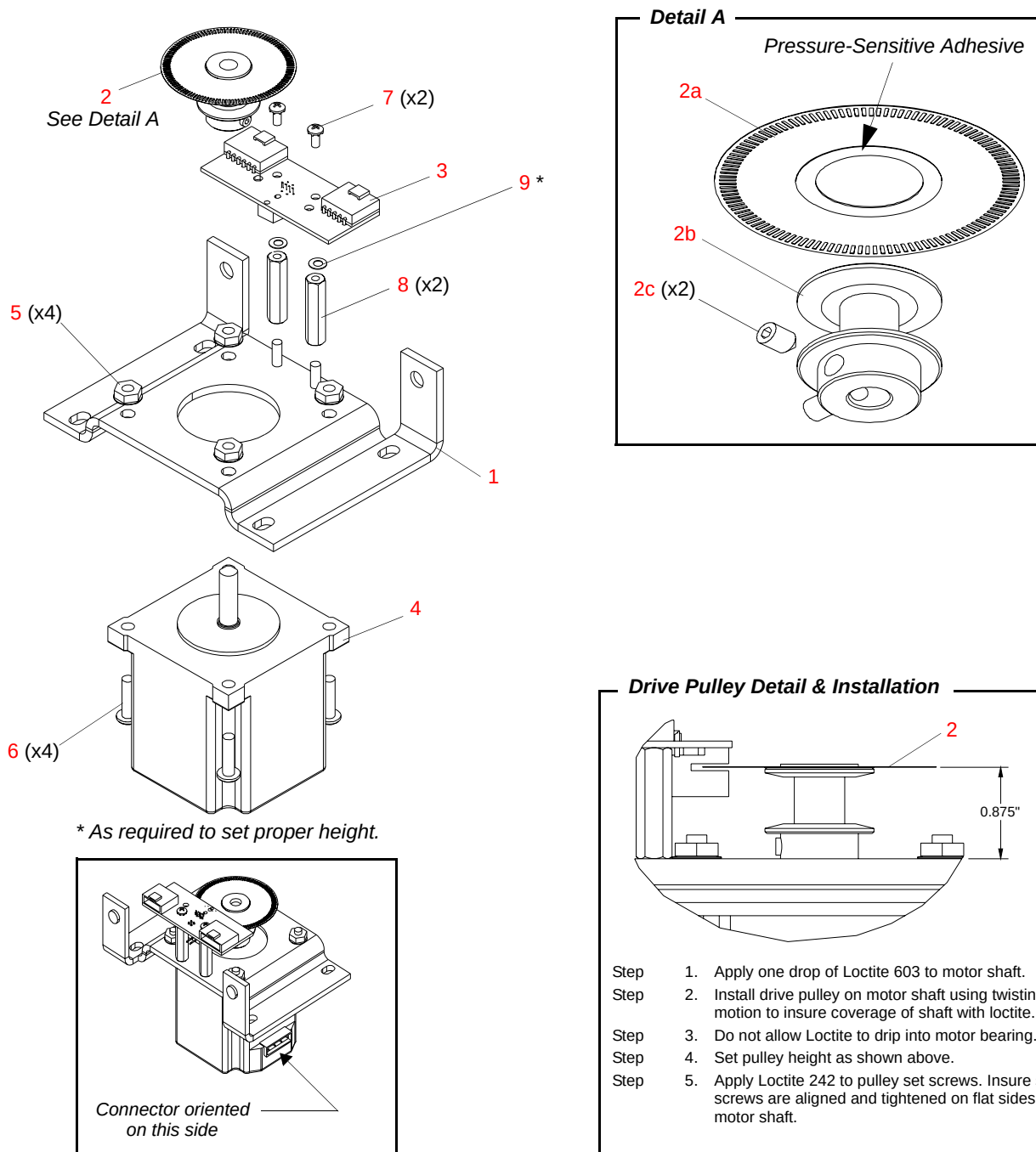
21.9678.8864 Rev B

Refer to [Figure 4-66](#)

No.	Item	Qty.	UM.	Description
1	10.9678.0865	1	EA	PLATE, PAN MOTOR MOUNT
2	21.9678.0828	1	EA	ASSY, DRIVE PULLEY, PAN
	- 10.9686.8720	1	EA	CODE WHEEL, 120 COUNT LARGE ID
	- 10.9678.0749	1	EA	TIMING PULLEY, 2MM GT 17 TOOTH
	- 53.5560.0250	2	EA	SCREW, 8-32 X 1/4" SET CONE POINT
3	24.9678.5000	1	EA	PCB ASSY, VL3000 PAN ENCODER
4	44.9678.0680	1	EA	MOTOR, 3 PHASE SIZE 23 HIGH TORQUE
5	53.2200.0008	4	EA	NUT, 8-32 KEPS SS
6	53.6546.0001	4	EA	SCREW, 8-32 X 5/8" PPB
7	53.6682.0002	2	EA	SCREW, 4-40 X 1/4" LG PPZ SEMS-EXT
8	55.2132.0014	2	EA	STANDOFF, 1/4" HEX 4-40 1.062" LG CS
9	55.3301.0001	AR*	EA	WASHER, #4 FLAT SS

* As Required.

Pan Motor Assembly (continued)



Note: Vari-Lite recommends that this assembly be replaced as a complete assembly. Although you can replace only the motor, the pulley (Item 2) is bonded to the motor shaft during assembly and cannot be removed intact. If you order a replacement motor (Item 4), also order the pulley (Item 2). Contact Vari-Lite Customer Service for installation information.

Figure 4-66: Pan Motor Assembly

Ventilation Cover Assembly

21.9686.0840.02 Rev B

Refer to [Figure 4-67](#)

No.	Item	Qty.	UM.	Description
1	10.9686.1249	4	EA	POST, TRUSS HOOK
2	10.9686.0883	1	EA	COVER, VENTILATION
3	10.9678.0837	1	EA	AIR SEAL, FAN SIDE
4	10.9678.0838	1	EA	AIR SEAL, APS SIDE
5	10.9678.0835	1	EA	AIR SEAL, SHORT STRIP
6	10.9678.0836	1	EA	AIR SEAL, LONG STRIP
7	10.9678.0887	2	EA	RAIN COVER SOUND INSULATION, ALUMINUM COVER
8	53.6653.0027	4	EA	SCREW, 1/4-20 X 1 5/8 SOC HEAD
9	54.1206.0015	4	EA	RING, RETAINING, PRESS-ON, 1" SH
10	55.6549.0001	4	EA	WASHER, 1/4" SPLIT LOCK

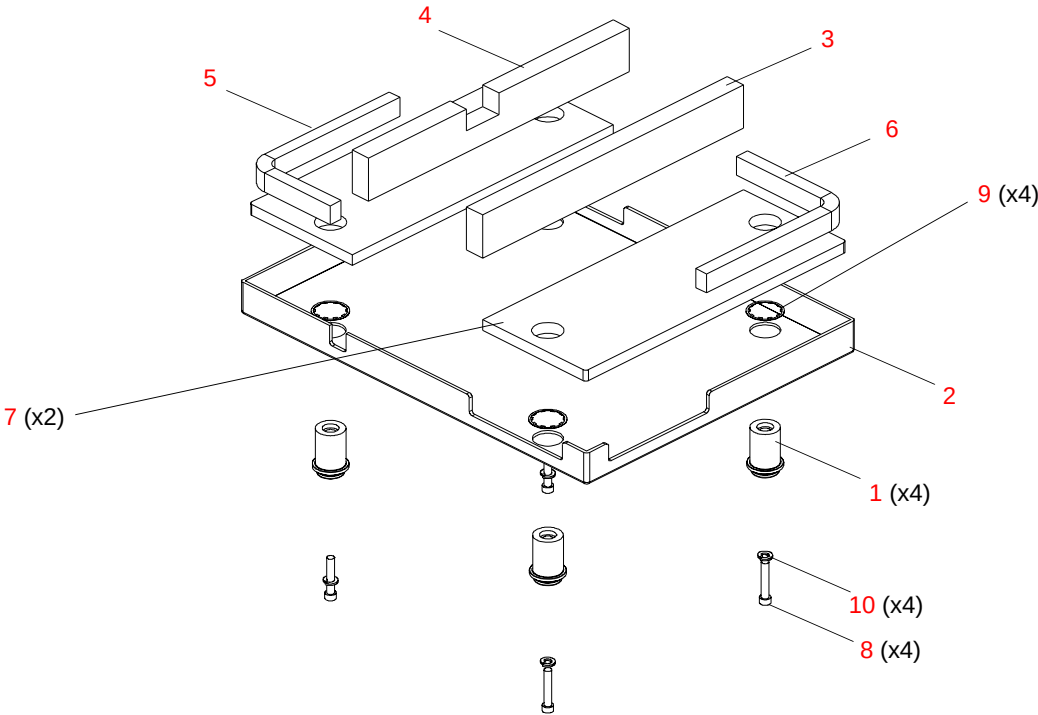


Figure 4-67: Ventilation Cover Assembly

Input Panel Assembly

21.9698.0805 Rev C

Refer to [Figure 4-68](#)

No.	Item	Qty.	UM.	Description
1	10.9678.0872	1	EA	STIFFENER, DISPLAY BOARD
2	10.9679.0850	1	EA	BACKING PLATE, NEUTRIK
3	10.9698.0852	1	EA	OVERLAY, INPUT PANEL, VL3015
4	10.9698.0859	1	EA	BRACKET, INPUT
5	24.9663.1830	1	EA	PCB ASSY, DMX INPUT
6	24.9678.3825	1	EA	PCB ASSY, VL3000 DISPLAY
7	25.9679.0001	1	EA	CONNECTOR, CHASSIS POWER, INLET 3-POLE LK
8	53.6543.0001	2	EA	SCREW, 6-32 X 3/8" PPB
9	53.6598.0001	6	EA	SCREW, 4-40 X 3/8" PFB
10	55.2284.0001	1	EA	CARD GUIDE, 3" LONG, SNAP IN

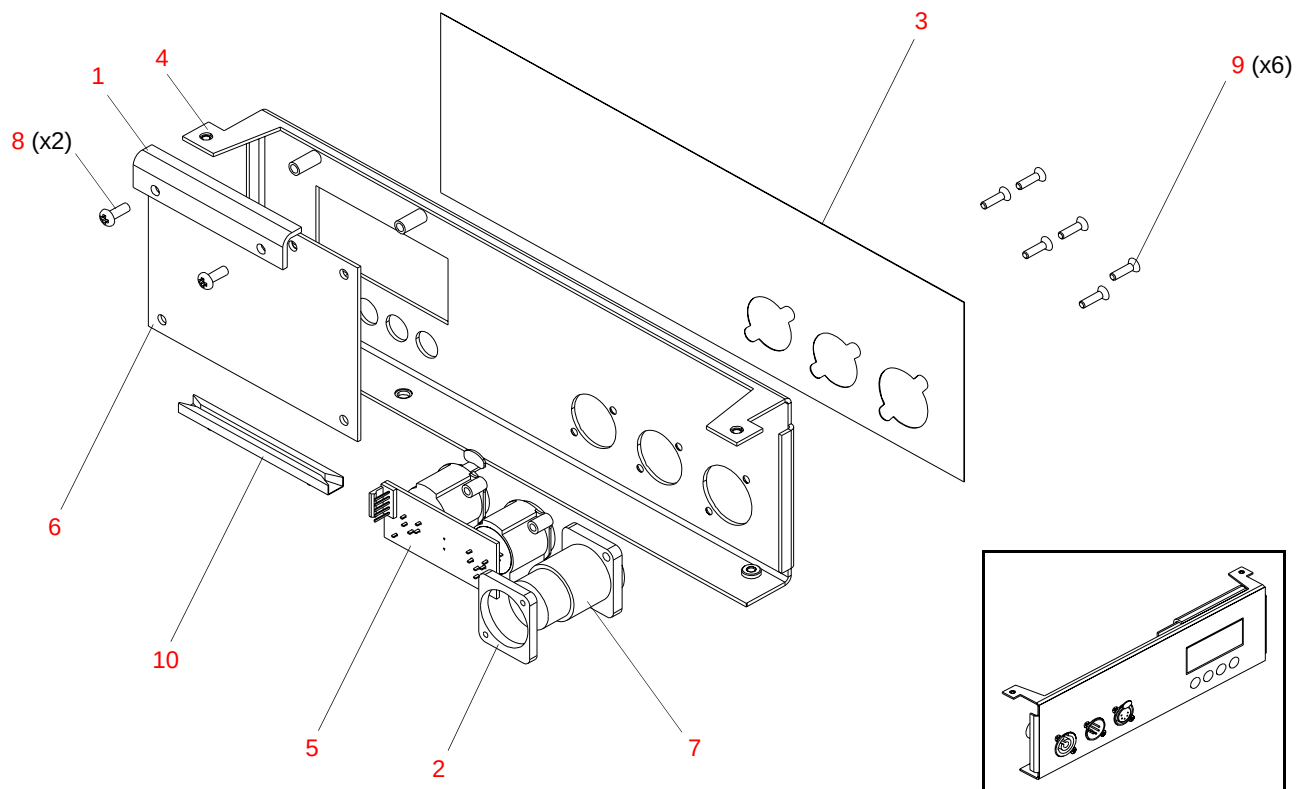


Figure 4-68: Input Panel Assembly

Pan Tube Assembly

21.9678.0881 Rev 0

Refer to [Figure 4-69](#)

No.	Item	Qty.	UM.	Description
1	10.9678.0809	1	EA	PAN TOGGLE STOP
2	10.9678.0847	1	EA	SILICONE FOAM WASHER
3	10.9678.0848	2	EA	WASHER, PAN TEFLON
4	12.9678.0877	1	EA	PAN TUBE, MACHINED
5	54.1206.0021	1	EA	RING, RETAINING, 1.562" SHAFT, 1.468" GRV DIA , 0.068" GRV WD EXT
6	54.1255.0002	1	EA	BEARING ASSY, FLUSH MOUNT HOUSING LARGE

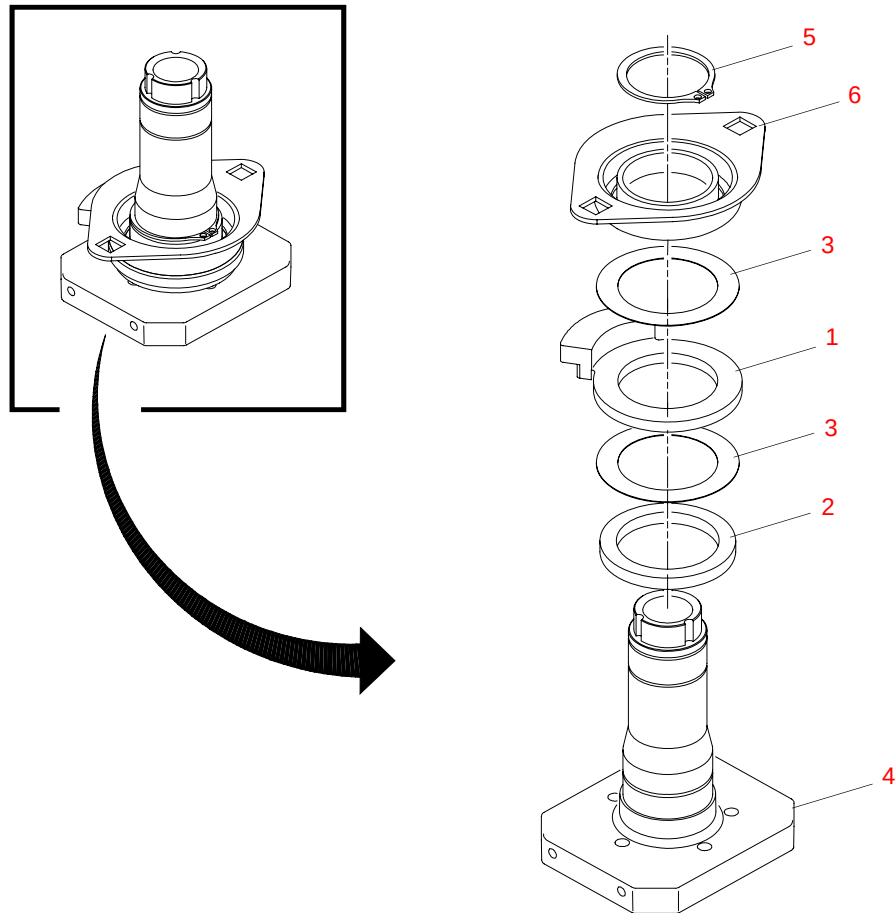


Figure 4-69: Pan Tube Assembly

High Flow Exhaust Fan Assembly

21.9679.0811 Rev A

Refer to [Figure 4-70](#)

No.	Item	Qty.	UM.	Description
1	10.9686.0810	1	EA	MOUNTING PLATE, EXHAUST FAN
2	40.9687.0001	1	EA	BLOWER, CENTRIFUGAL, 24VDC 10.6 CFM, 3 IN
3	55.6576.0001	2	EA	SCREW, #10-16 X 3/8" TYPE B PFZ

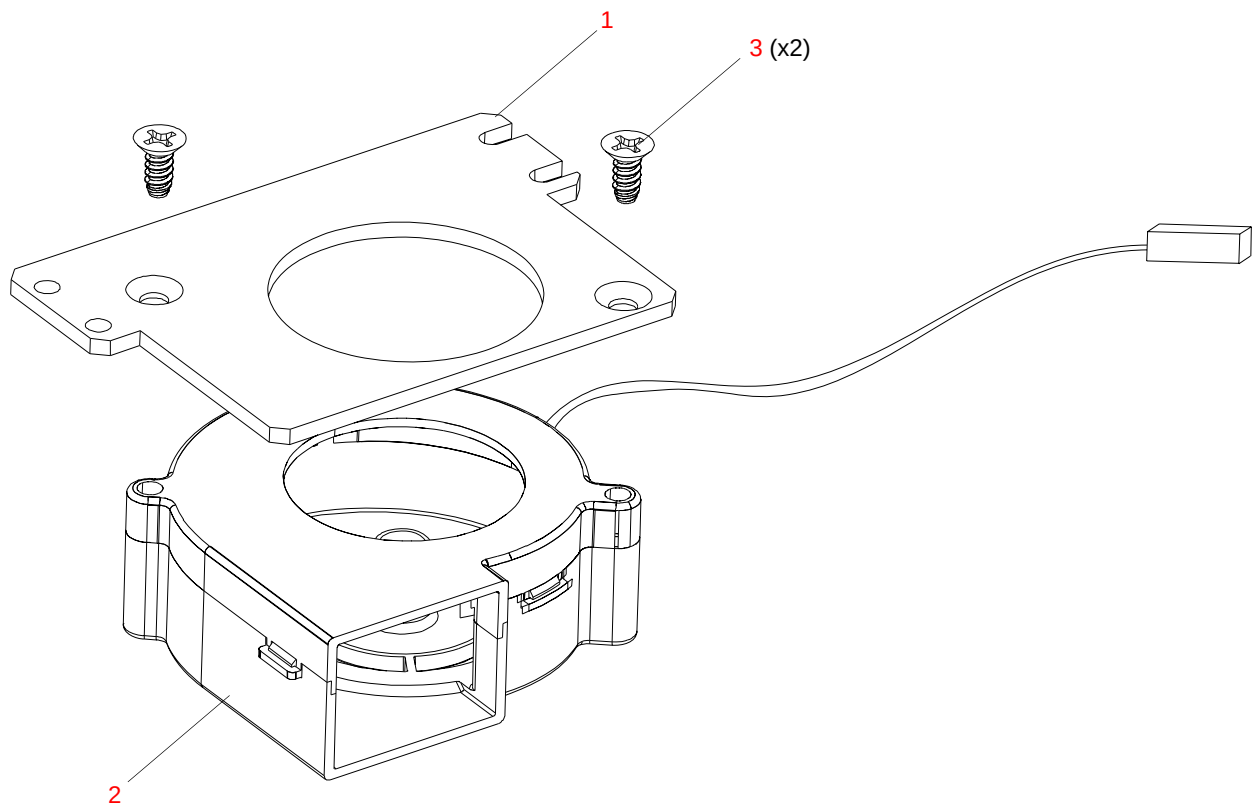


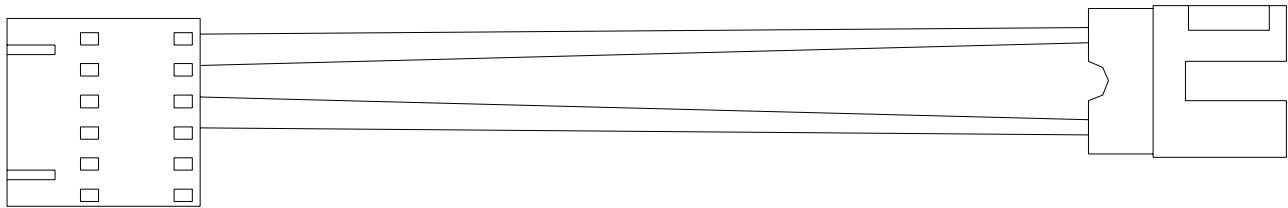
Figure 4-70: High Flow Exhaust Fan Assembly

Cable Assemblies

Pan EOT Sensor Electrical Assembly

23.9678.0687 Rev A

Refer to [Figure 4-71](#)



WIRE CHART		
CONNECTOR	SENSOR	DESCRIPTION
PIN 1	N.C.	NO CONNECTION
PIN 2	N.C.	NO CONNECTION
PIN 3	BLACK	ired CATHODE
PIN 4	RED	ired ANODE
PIN 5	GREEN	DETECTOR EMITTER
PIN 6	WHITE	DETECTOR COLLECTOR

Figure 4-71: Pan EOT Sensor Electrical Assembly



Note: Cables are only available as complete assemblies. The information contained in this section is for reference only.

LVS Chassis Ground Cable Assembly

25.9661.1514 Rev A

Refer to [Figure 4-72](#)

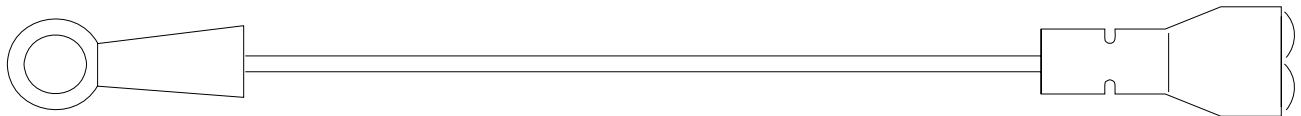


Figure 4-72: LVS Chassis Ground Cable Assembly



Note: Cables are only available as complete assemblies. The information contained in this section is for reference only.

Chassis To Yoke Ground Cable Assembly

25.9661.1520 Rev C

Refer to [Figure 4-73](#)

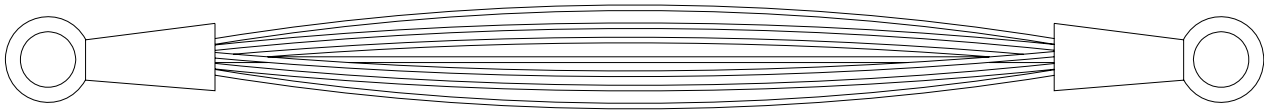


Figure 4-73: Chassis To Yoke Ground Cable Assembly



Note: Cables are only available as complete assemblies. The information contained in this section is for reference only.

Head to Back Cap Ground Cable Assembly

25.9661.1522 Rev C

Refer to [Figure 4-74](#).

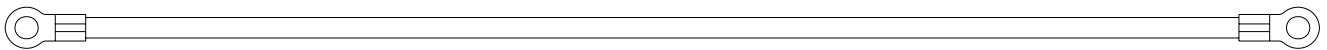


Figure 4-74: Head to Back Cap Ground Cable Assembly



Note: Cables are only available as complete assemblies. The information contained in this section is for reference only.

Ignitor to Relay Cable Assembly

25.9661.1526 Rev C

Refer to [Figure 4-75](#).



Figure 4-75: Ignitor to Relay Cable Assembly



Note: Cables are only available as complete assemblies. The information contained in this section is for reference only.

OT Switch to Ground Cable Assembly

25.9678.0015 Rev A

Refer to [Figure 4-76](#)

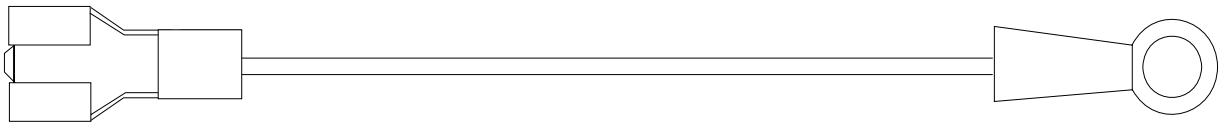


Figure 4-76: OT Switch to Ground Cable Assembly



Note: Cables are only available as complete assemblies. The information contained in this section is for reference only.

Relay to Gobo Fan Interlock Cable Assembly

25.9678.0675 Rev B

Refer to [Figure 4-77](#).

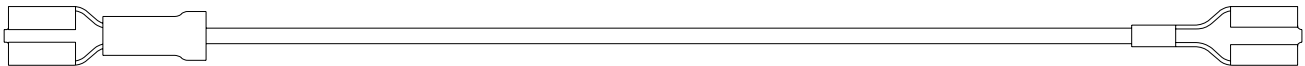


Figure 4-77: Relay to Gobo Fan Interlock Cable Assembly



Note: Cables are only available as complete assemblies. The information contained in this section is for reference only.

Yoke Fan and Relay Cable Assembly

25.9678.0681 Rev C

Refer to [Figure 4-78](#)

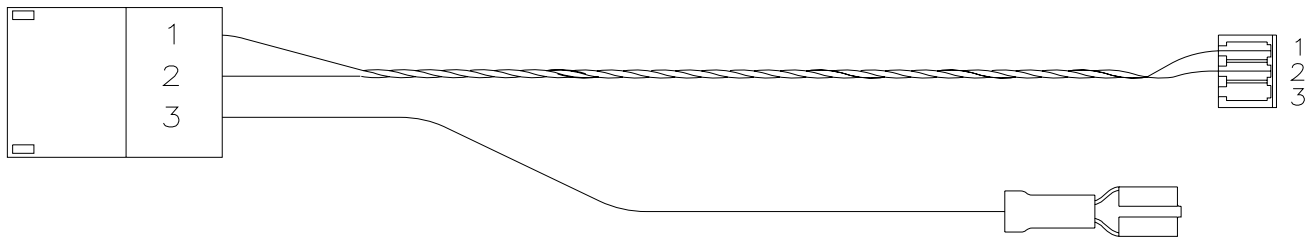


Figure 4-78: Yoke Fan and Relay Cable Assembly



Note: Cables are only available as complete assemblies. The information contained in this section is for reference only.

Head Control Cable Assembly

25.9678.0715 Rev D

Refer to [Figure 4-79](#)

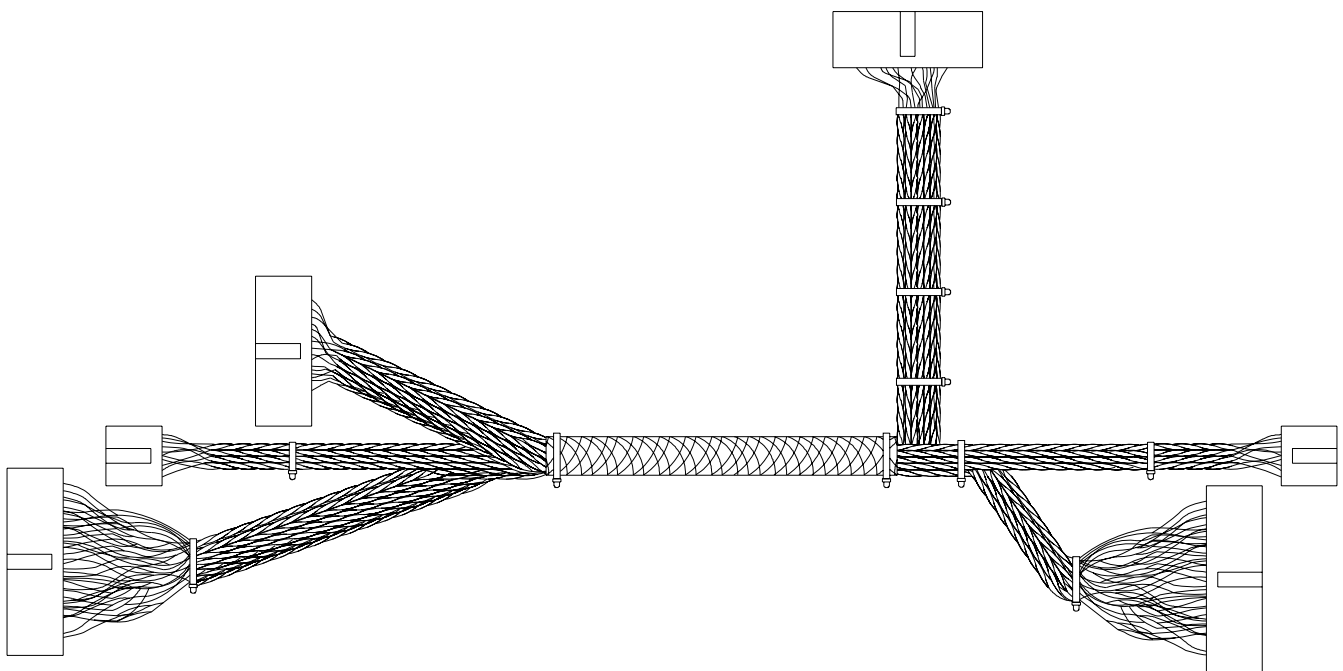


Figure 4-79: Head Control Cable Assembly



Note: Cables are only available as complete assemblies. The information contained in this section is for reference only.

Yoke Fan Cable Assembly

25.9678.0758 Rev A

Refer to [Figure 4-80](#)

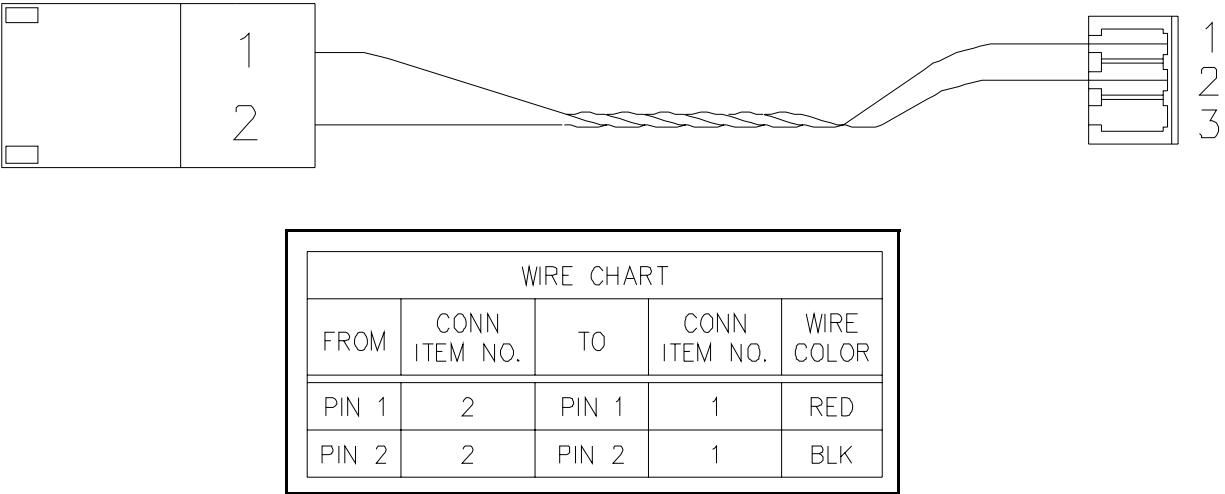


Figure 4-80: Yoke Fan Cable Assembly

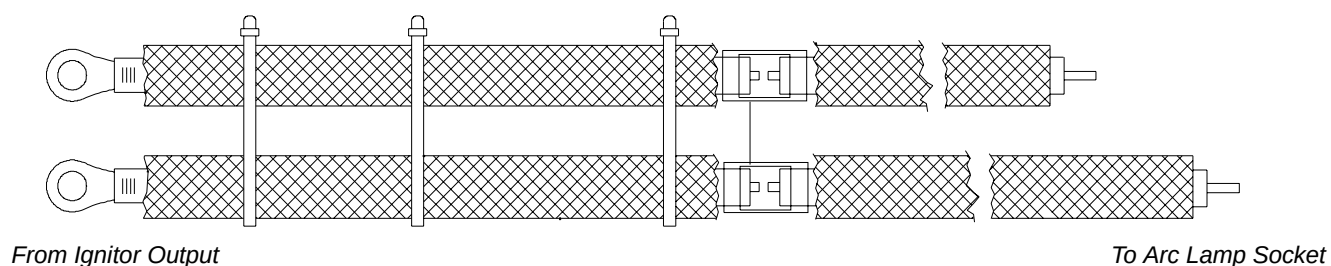


Note: Cables are only available as complete assemblies. The information contained in this section is for reference only.

Ignitor to Lamp Socket Cable Assembly

25.9678.0789 Rev C

Refer to [Figure 4-81](#).



Note: Some material removed to show wire detail.

Figure 4-81: Ignitor to Lamp Socket Cable Assembly



Note: Cables are only available as complete assemblies. The information contained in this section is for reference only.

Data I/O Link Cable Assembly

25.9678.0813 Rev A

Refer to [Figure 4-82](#)

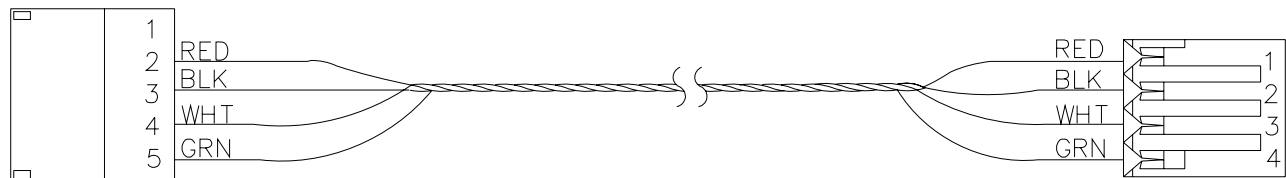


Figure 4-82: Data I/O Link Cable Assembly



Note: Cables are only available as complete assemblies. The information contained in this section is for reference only.

Ballast to Controller Cable Assembly

25.9678.0816 Rev A

Refer to [Figure 4-83](#)

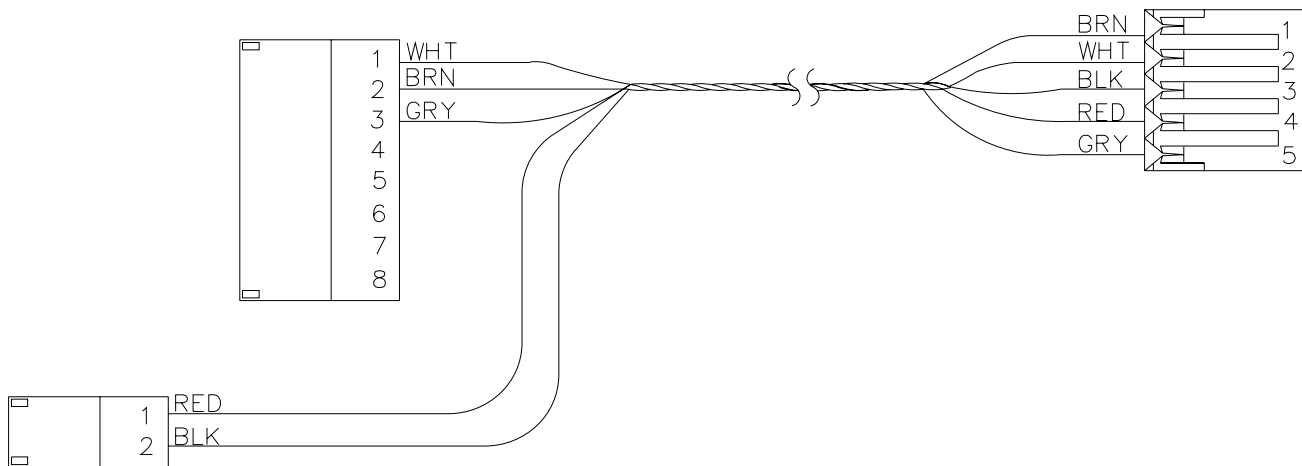


Figure 4-83: Ballast to Controller Cable Assembly



Note: Cables are only available as complete assemblies. The information contained in this section is for reference only.

Pan/Tilt Control Cable Assembly

25.9678.0818 Rev C

Refer to [Figure 4-84](#)

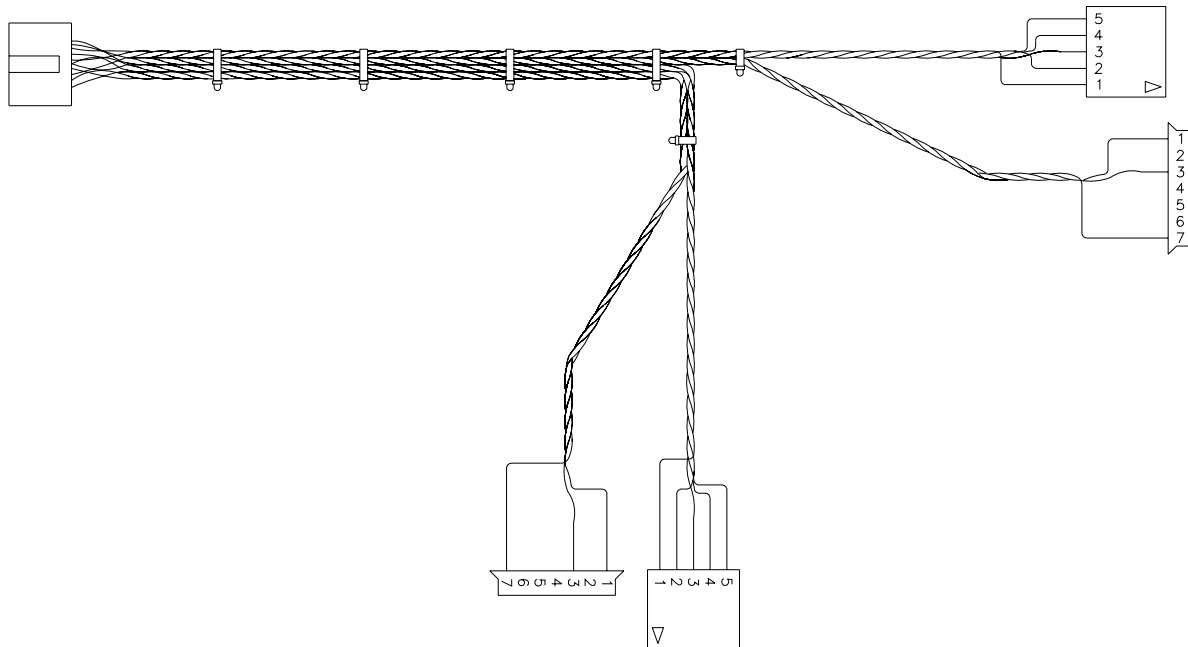


Figure 4-84: Pan/Tilt Control Cable Assembly



Note: Cables are only available as complete assemblies. The information contained in this section is for reference only.

Lamp Supply to Relay Cable Assembly

25.9678.0829 Rev A

Refer to [Figure 4-85](#)

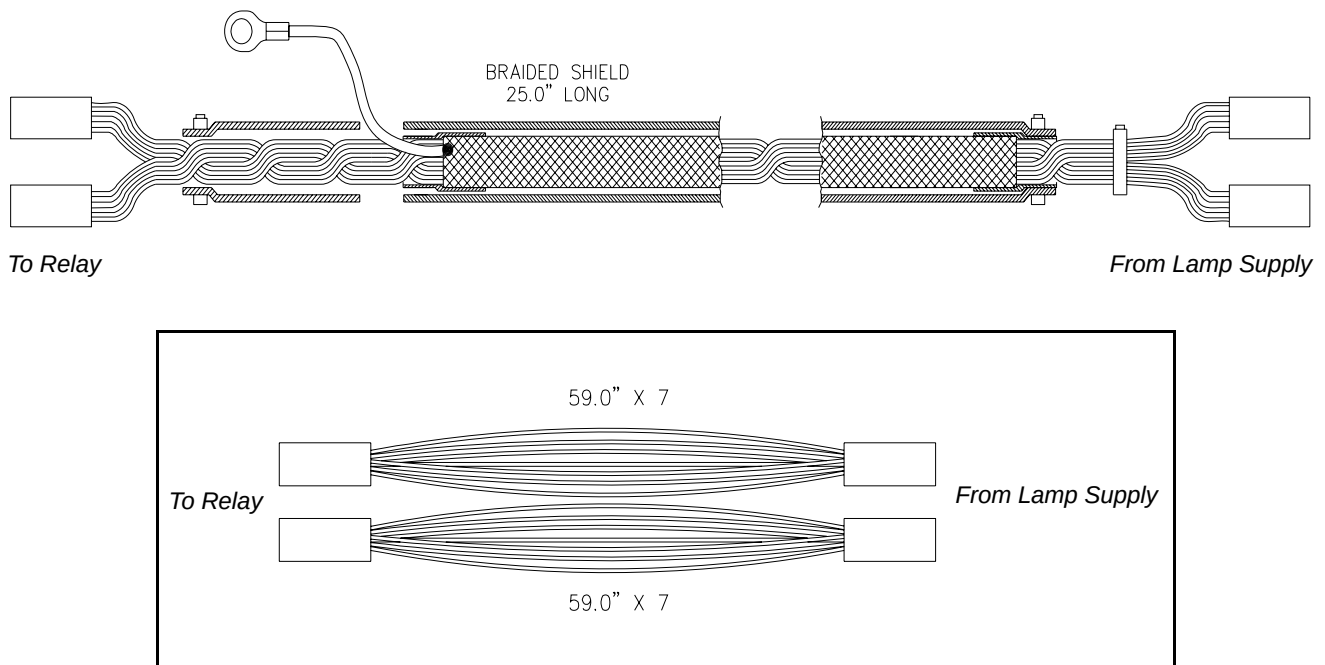


Figure 4-85: Lamp Supply to Relay Cable Assembly



Note: Cables are only available as complete assemblies. The information contained in this section is for reference only.

Gobo/Rotate Interconnect Cable Assembly

25.9678.1209 Rev A

Refer to [Figure 4-86](#) and [Figure 4-87](#)

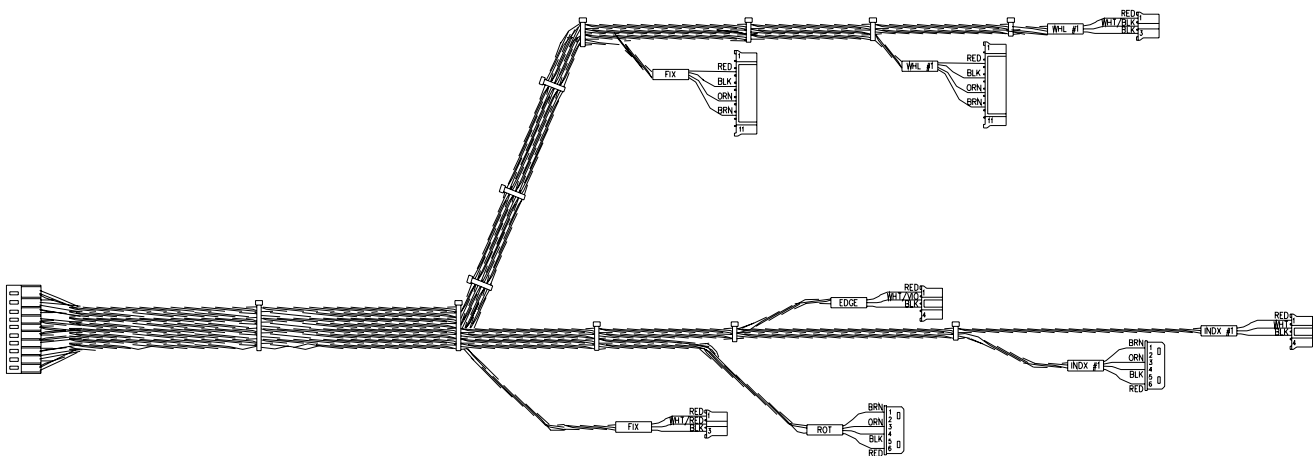


Figure 4-86: Gobo/Rotate Interconnect Cable Assembly



Note: Cables are only available as complete assemblies. The information contained in this section is for reference only.

Gobo/Rotate Interconnect Cable Assembly (continued)

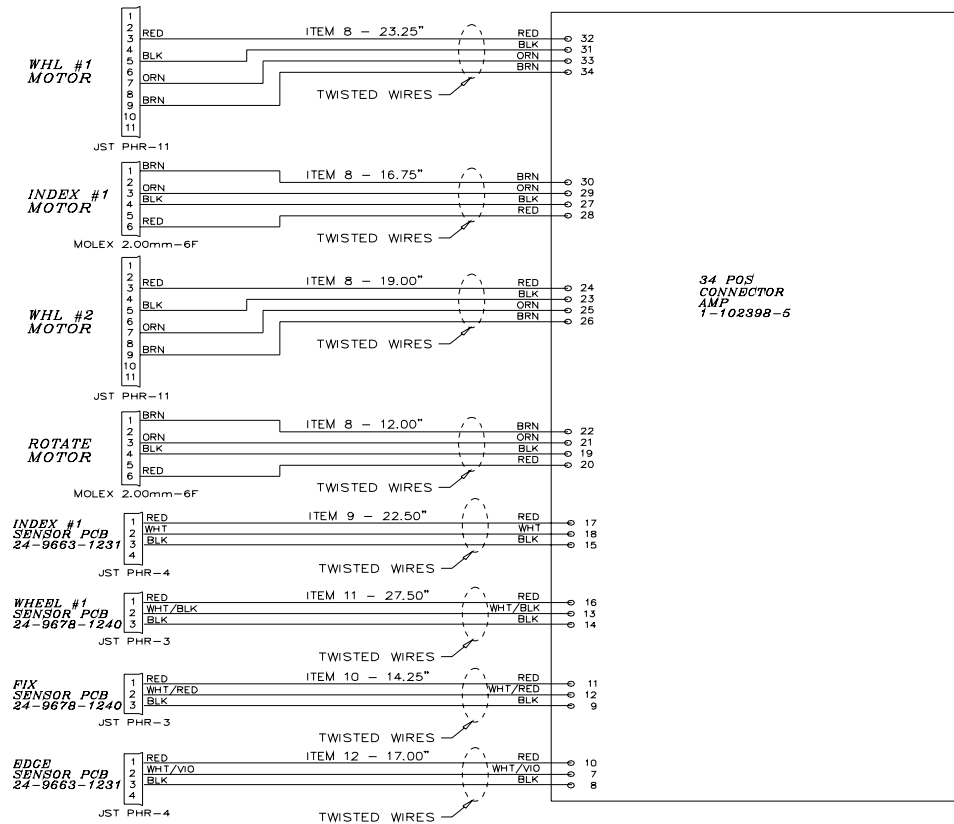


Figure 4-87: Gobo/Rotate Interconnect Cable Assembly Wire Chart



Note: Cables are only available as complete assemblies. The information contained in this section is for reference only.

Color Interconnect Cable Assembly

25.9678.1419 Rev 0

Refer to [Figure 4-88](#)

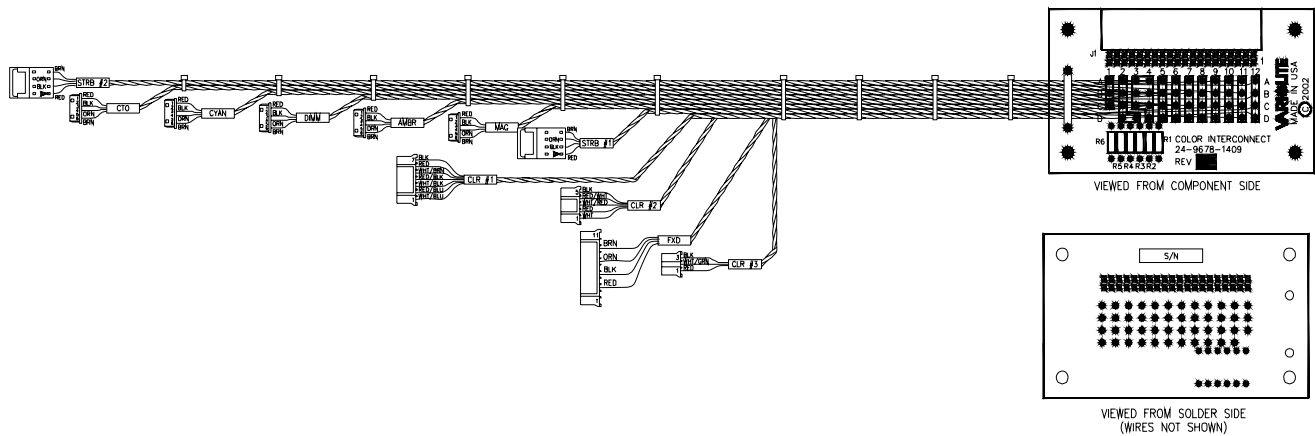


Figure 4-88: Color Interconnect Cable Assembly



Note: Cables are only available as complete assemblies. The information contained in this section is for reference only.

Shutter Head Controller Cable Assembly

25.9678.1715 Rev A

Refer to [Figure 4-89](#)

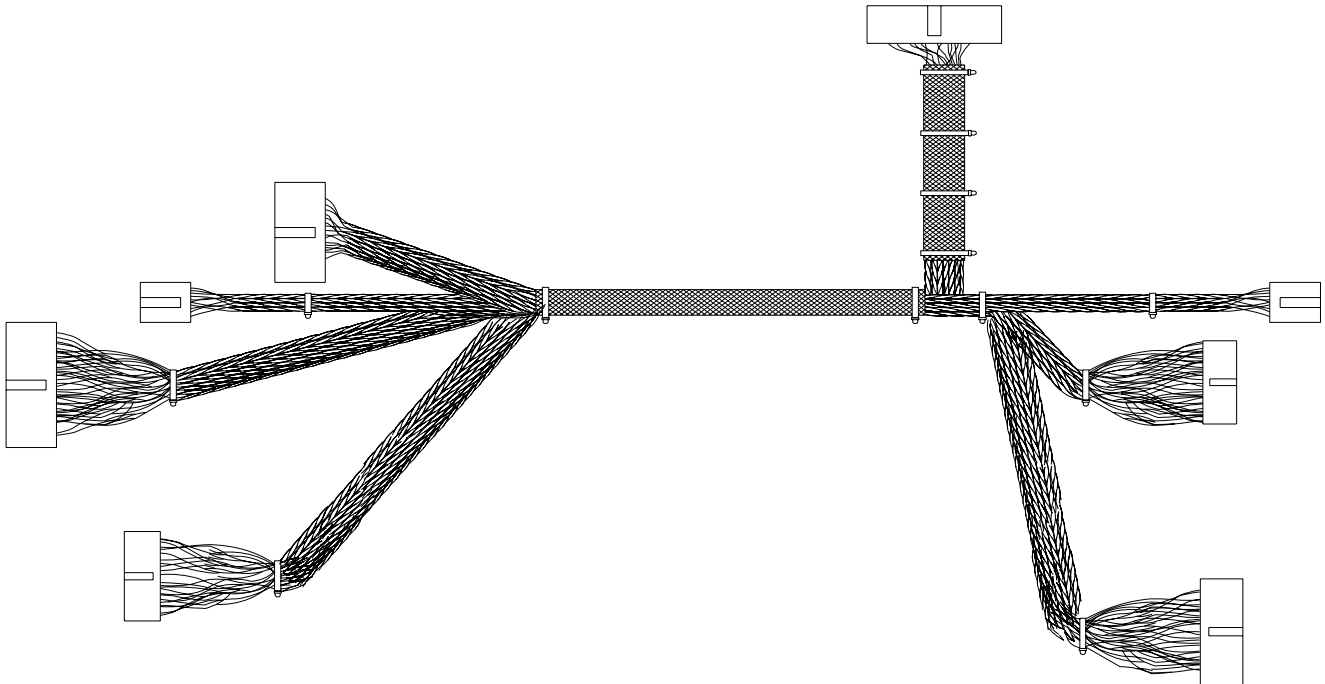


Figure 4-89: Shutter Head Controller Cable Assembly



Note: Cables are only available as complete assemblies. The information contained in this section is for reference only.

LVS Chassis Ground Cable Assembly

25.9678.1716 Rev A

Refer to [Figure 4-90](#)

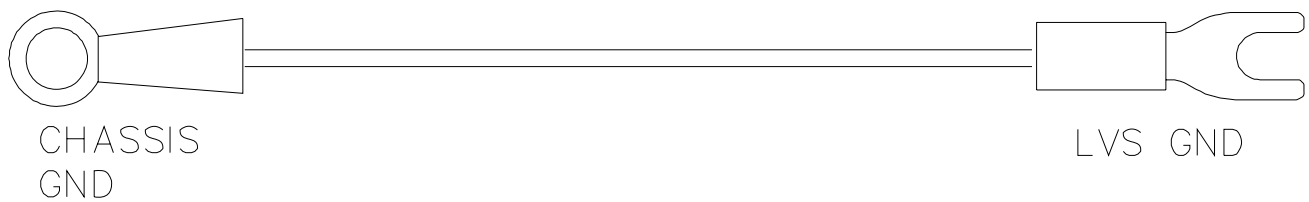


Figure 4-90: LVS Chassis Ground Cable Assembly



Note: Cables are only available as complete assemblies. The information contained in this section is for reference only.

Display Cable Assembly

25.9678.1825 Rev A

Refer to [Figure 4-91](#)

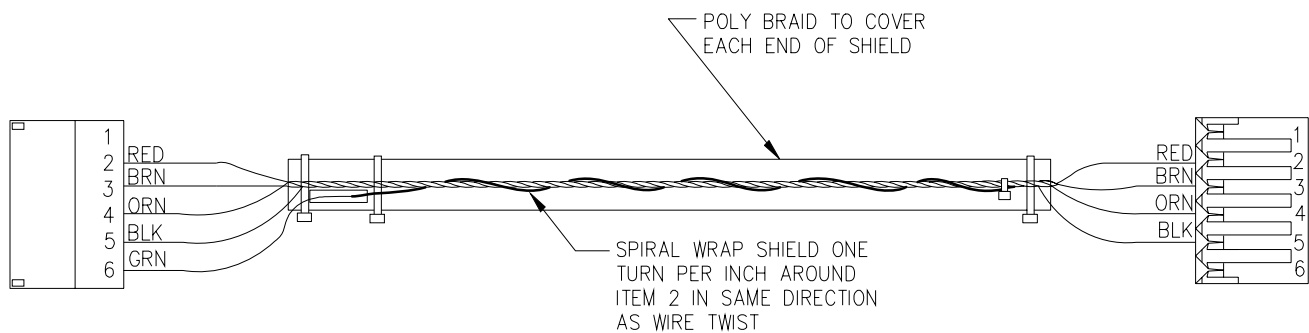


Figure 4-91: Display Cable Assembly



Note: Cables are only available as complete assemblies. The information contained in this section is for reference only.

Gobo Interconnect PCB/Cable Assembly

25.9678.2209 Rev 0

Refer to [Figure 4-92](#) and [Figure 4-93](#).

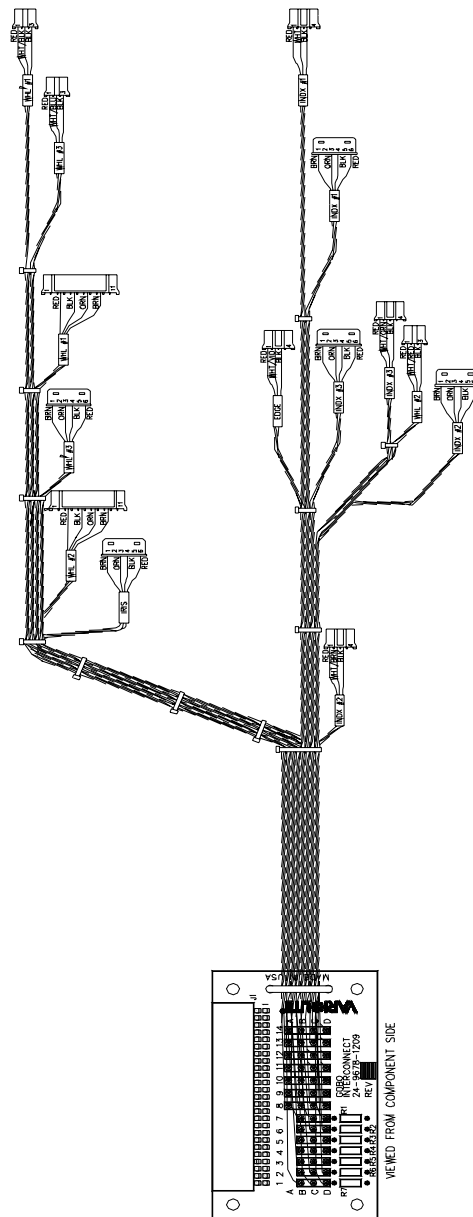


Figure 4-92: Gobo Interconnect PCB/Cable Assembly



Note: Cables are only available as complete assemblies. The information contained in this section is for reference only.

Gobo Interconnect PCB/Cable Assembly (continued)

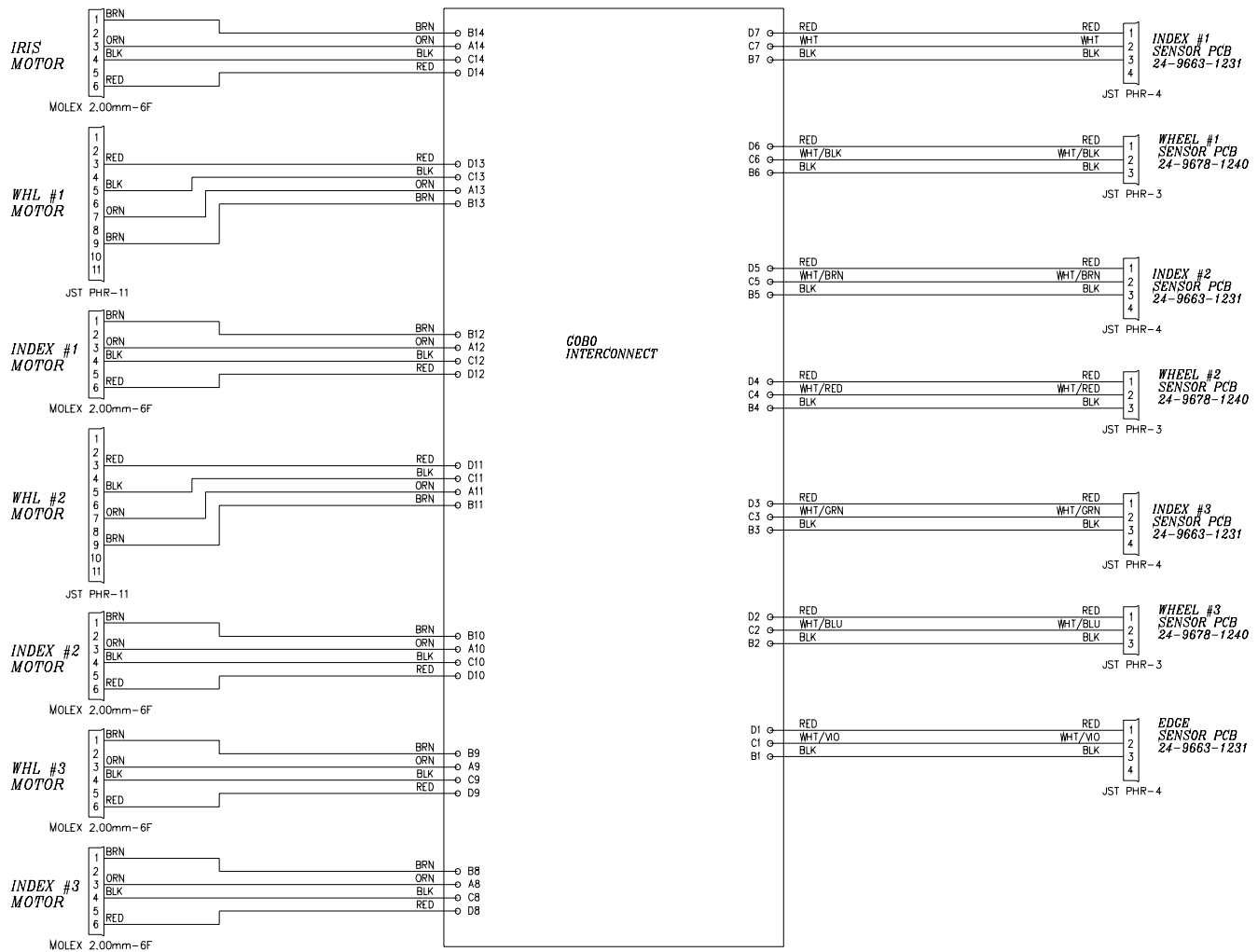


Figure 4-93: Gobo Interconnect PCB/Cable Assembly



Note: Cables are only available as complete assemblies. The information contained in this section is for reference only.

AC Input Connector/Cable Assembly

25.9679.0001 Rev 0

Refer to [Figure 4-94](#)

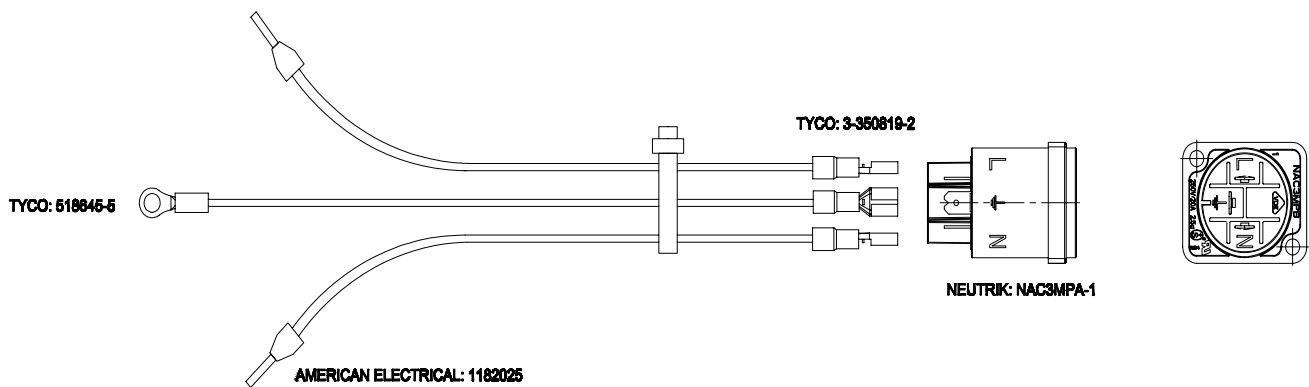


Figure 4-94: AC Input Cable Assembly



Note: Cables are only available as complete assemblies. The information contained in this section is for reference only.

EMI Filter to LVS Cable Assembly

25.9679.0002 Rev 0

Refer to [Figure 4-94](#)

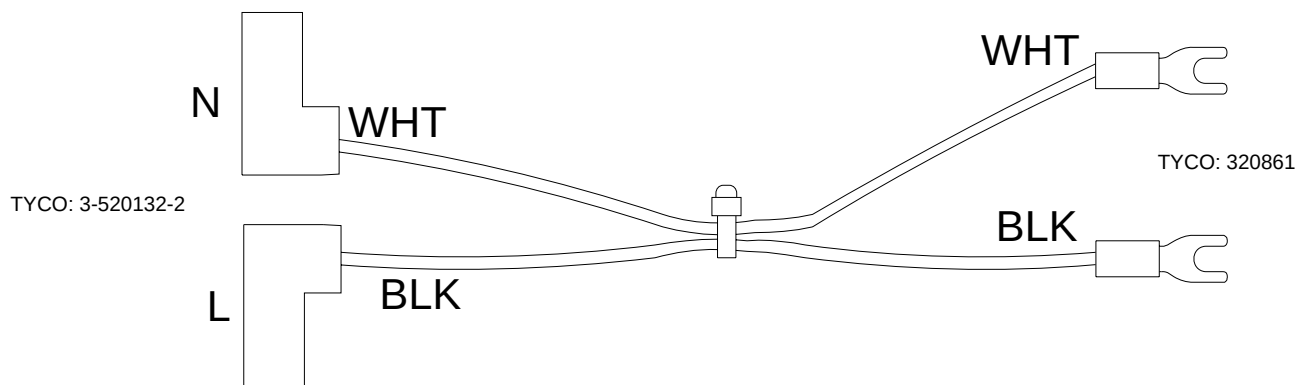


Figure 4-95: EMI Filter to LVS Cable Assembly



Note: Cables are only available as complete assemblies. The information contained in this section is for reference only.

Ballast Power Cable Assembly

25.9679.0003 Rev 0

Refer to [Figure 4-96](#)



Figure 4-96: Ballast Power Cable Assembly



Note: Cables are only available as complete assemblies. The information contained in this section is for reference only.

LVS to MCB Power Cable Assembly

25.9679.0004 Rev 0

Refer to [Figure 4-97](#)

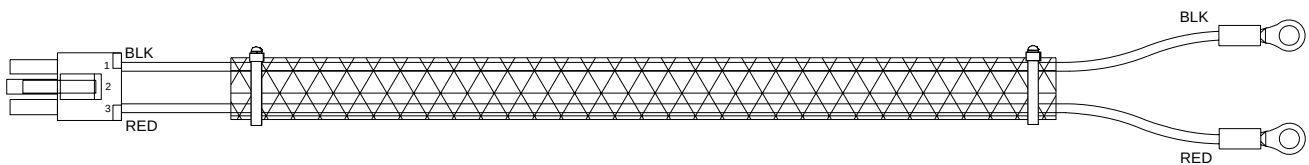


Figure 4-97: LVS to MCB Power Cable Assembly



Note: Cables are only available as complete assemblies. The information contained in this section is for reference only.

Dual Fan Color/Gobo Cable Assembly

25.9679.0005 Rev 0

Refer to [Figure 4-98](#)

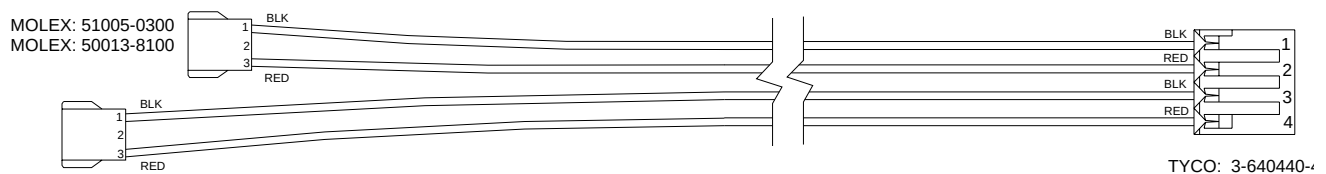


Figure 4-98: Dual Fan Color/Gobo Cable Assembly



Note: Cables are only available as complete assemblies. The information contained in this section is for reference only.

Iris Fan Cable Assembly

25.9679.0007 Rev A

Refer to [Figure 4-99](#)

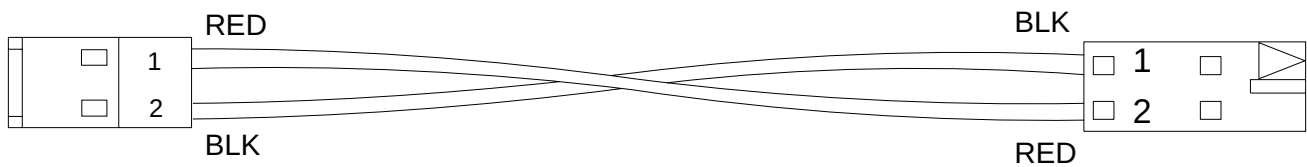


Figure 4-99: Iris Fan Cable Assembly



Note: Cables are only available as complete assemblies. The information contained in this section is for reference only.

Exhaust Fan Cable Assembly

25.9679.1006 Rev 0

Refer to [Figure 4-100](#)

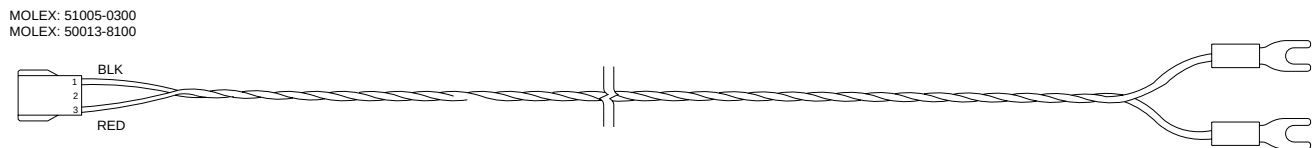


Figure 4-100: Exhaust Fan Cable Assembly



Note: Cables are only available as complete assemblies. The information contained in this section is for reference only.

OT Switch 1 to OT Switch 2 Cable Assembly

25.9686.0013 Rev A

Refer to [Figure 4-101](#)

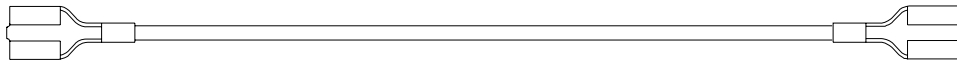


Figure 4-101: OT Switch 1 to OT Switch 2 Cable Assembly



Note: Cables are only available as complete assemblies. The information contained in this section is for reference only.

Backcap Interlock to Thermal Switch 1 Cable Assembly

25.9686.0014 Rev 0

Refer to [Figure 4-102](#)

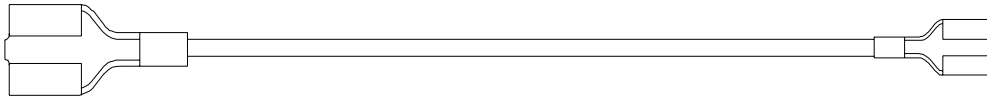


Figure 4-102: Backcap Interlock to Thermal Switch 1 Cable Assembly



Note: Cables are only available as complete assemblies. The information contained in this section is for reference only.

Dual DC Fan, LVS to Yoke Cable Assembly

25.9686.1843 Rev A

Refer to [Figure 4-103](#)

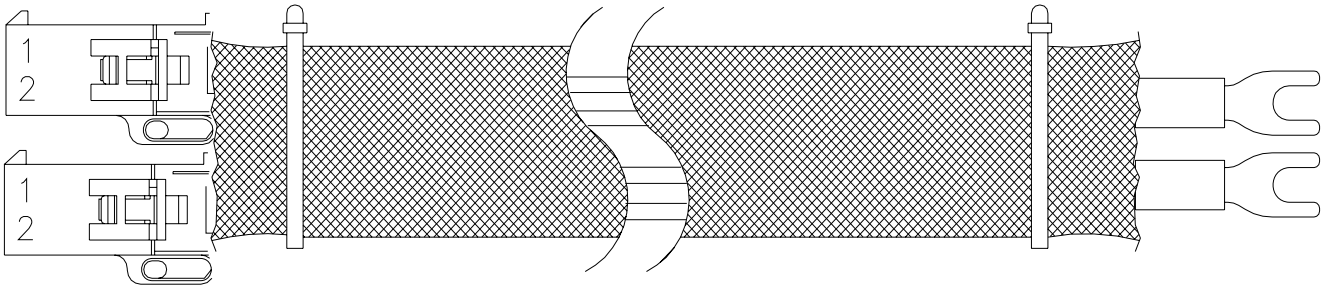


Figure 4-103: Dual DC Fan, LVS to Yoke Cable Assembly



Note: Cables are only available as complete assemblies. The information contained in this section is for reference only.

Notes



Note: Cables are only available as complete assemblies. The information contained in this section is for reference only.

APPENDIX A.

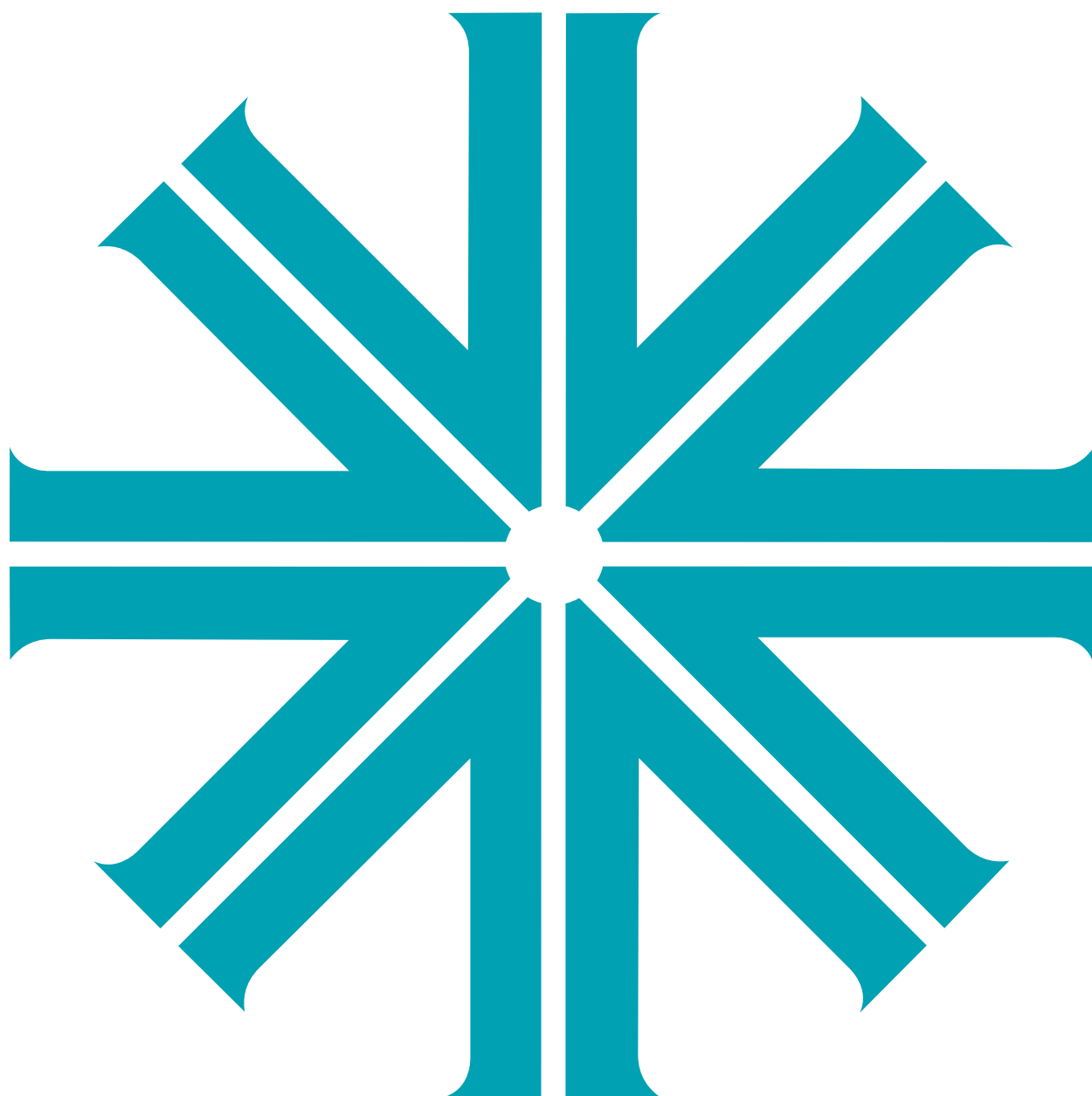
Technical Bulletins

VL3015 & VL3515 Spot Luminaires Technical Bulletins

The following table identifies the current technical bulletins associated with the VL3015 & VL3515 Spot Luminaires. These improvements have been incorporated into this manual (where applicable) and are available on the Vari-Lite web site at www.vari-lite.com. Please note that not all bulletins or notices are applicable to all versions of the fixtures included in this manual. Refer to each bulletin and notice for specific information and application.

Technical Bulletin	Description	Model(s)
LSW-071	Software Update 08.28.12 - VL3015 Spot	VL3015 Spot
LSW-072	Software Update 08.28.12 - VL3515 Spot	VL3515 Spot

Notes





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Date: **14 November 2012** / Manual Part Number: **02.9679.0010 0**

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