

PHILIPS

VARI*LITE



**VL4000 BeamWash Luminaire
Service Manual**

All other brand or product names which may be mentioned in this manual are trademarks or registered trademarks of their respective companies or organizations.

Philips Entertainment Lighting
A Philips Group Company
10911 Petal Street
Dallas, Texas 75238 USA

This manual is for informational use only and is subject to change without notice. Philips Entertainment assumes no responsibility or liability for any claims resulting from errors or inaccuracies that may appear in this manual.

Version as of: **20 June 2017**

Part number: **02.9704.6010 A**

VL4000 BeamWash Luminaire Service Manual

©2017 Philips Entertainment Lighting, a Philips group company. All Rights Reserved.

How To Obtain Warranty Service

A copy of the Philips Entertainment Lighting 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 Entertainment Lighting
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 Entertainment Lighting 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.

CE Declaration of Conformity

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

Product Range	Professional Stage Luminaire
Product Code	VL4000 BeamWash

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 60589-2-17:1988+A2:1990 used in conjunction with 60598-1:2008/A11:2009

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

EN55022; EN 55024; IEC 61000-3-2 Issue:2009/04/20 Ed:3.2, EN 61000-3-2 Issue:2006/04/01 Ed:3.2; IEC 61000-3-3 Issue:2008/06/23 Ed: 2, EN 61000-3-3 Issue:2008/09/01Ed:2.

Restriction of the use of certain Hazardous Substances in electrical and electronic equipment Directive (RoHS), 2011/65/EC

EN 50581:2012

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. VL4000 BeamWash Luminaires is supplied with an 1200W Philips MSR Gold FastFit lamp or other lamps as approved by Philips Entertainment Lighting. Installing another type of lamp not approved by Philips Entertainment Lighting 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 (1200W Philips MSR Gold FastFit 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 (1200W Philips MSR Gold FastFit 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 (1200W Philips MSR Gold FastFit 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、高圧高温の状態ですべて光を放射します。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。

Table of Contents



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

Introduction

About This Manual	1
Additional Documentation.....	1
Customer Service	2
Technical Bulletins and Notices.....	2

Chapter 1. Description

Features

Product Features.....	4
Technical Specifications	5

Components

External Luminaire Components	6
Head and Yoke Components	7
Enclosure Components	8

Chapter 2. Maintenance & Service

Troubleshooting

Error Messages.....	10
Troubleshooting Guide.....	11

Routine Maintenance Procedures

Lamp Removal and Installation	12
Fixed Color Wheel Filter Removal and Installation	14
Rotating Gobo Removal and Installation.....	16
Animation Wheel Removal and Installation	19
Prism Removal and Installation	21
Cleaning Optical Lenses and Filters	23

Service Procedures

Upper Enclosure Covers Removal.....	24
PFC Insulating Duct.....	25
Lamp Driver Insulation Duct Removal.....	26
Lamp Driver Insulation Duct Air Seal Replacement.....	27
Main Control Board (MCB).....	28
Lamp Driver.....	30
Pan Encoder PCB.....	31
Pan Motor Assembly.....	32
PFC.....	34

Pan Driver Board	35
Low Voltage Supply (LVS)	36
Upper Enclosure Fan.....	37
Neutrik True One AC Input Connector.....	38
DMX PCB Assembly.....	39
Display Overlay	40
USB Port	41
Upper Enclosure Air Filters (To Clean or Replace).....	42
Pan Belt.....	43
Yoke Arm Covers Removal	45
Yoke Base Cover.....	46
Igniter Assembly	47
Tilt Lock Arm Assembly	48
Tilt Driver.....	49
Tilt Encoder.....	50
Tilt Motor Assembly.....	51
Tilt Belt	53
Yoke Assembly	55
Luminaire Head Covers Removal.....	58
Front Side Rail Covers.....	59
Input Air Filter	59
Rear Side Rail Cover Removal.....	60
Rear Cover Removal.....	61
Gobo / Animation Assembly.....	62
Color Assembly.....	63
Nose Cover.....	64
Optics Assembly	65
Inlet Fan	66
Power Distribution Board	67
Base Lamp Fan.....	68
Tip Lamp Fan.....	69
UV Glass Assembly.....	70
Bottom Exhaust Fin Assembly	71
Top Exhaust Fin Assembly	72
Reflector Assembly.....	73
Retro Reflector.....	74
Ellipsoidal Reflector	75
Lamp Socket	76
Optics Components.....	77
Driver Board G (7 Way Board).....	77
Edge & Zoom Sensor	79
Lenticular Lens Assembly.....	80
Lenticular Lens Sensor	81
Lenticular Rotate Sensor	82
Lenticular Lens Belt	83
Lenticular Arm Motor	84
Lenticular Arm Belt.....	85
Lenticular Rotate Motor	86

TABLE OF CONTENTS

Prism Assembly.....	87
Prism Arm Sensor.....	88
Prism Rotate Sensor.....	89
Prism Arm Motor.....	90
Prism Arm Belt.....	91
Prism Rotate Belt.....	92
Prism Rotate Motor.....	93
Prism Glass Change.....	94
Wash Lens Sensor.....	95
Wash Lens Motor.....	96
Wash Lens Belt or Wash Lens.....	97
Zoom Belt.....	98
Zoom Stabilizer.....	99
Zoom Motor.....	100
Edge Belt.....	101
Edge Stabilizer.....	102
Edge Motor.....	103
Gobo Assembly.....	104
Driver Board C.....	104
Driver Board D.....	106
Iris Assembly.....	108
Iris Motor.....	109
Iris Cable.....	110
Iris Assembly.....	112
Animation Assembly.....	113
Animation Wheel Arm Sensor.....	114
Animation Index Belt & Animation Wheel Removal.....	115
Animation Index Motor & Arm Belt.....	116
Animation Index Sensor.....	118
Gobo Wheel 1 Rotate Belt.....	119
Gobo Wheel 1 Index Belt.....	120
Gobo Wheel 2 Index Belt & Rotate Belt.....	121
Gobo Wheel 2 Index Sensor.....	123
Gobo Wheel 1 Index Motor.....	124
Gobo Wheel 1 Rotate Motor.....	125
Gobo Wheel 2 Rotate Motor.....	126
Gobo Wheel 2 Index Motor.....	127
Gobo Wheel 1 Index Sensor & Wheel 1 Rotate Sensor.....	128
Gobo Wheel 2 Rotate Sensor.....	129
Animation Arm Motor & Motor Stabilizer.....	130
Color Assembly Components.....	131
Driver Board B.....	131
Driver Board A.....	133
Color Wheel 2 Sensor.....	135
Fixed Color Wheel 1 Assembly & Color Wheel 1 Sensor.....	136
Fixed Color Wheel 1 & 2 Motor.....	137
Fixed Color Wheel 2 & Belt.....	138
Fixed Color Wheel 1 & Belt.....	139

CTO Filters	140
Yellow Filters	141
Cyan Filters	142
Magenta Filters	143
CYM Color Sensor	144
Color Belt Assembly	145
Color Motor Assembly	146
Strobe Assembly.....	147
Strobe Blades.....	148
Strobe Motor.....	150
Dimmer Flags	151
Dimmer Belt	152
Dimmer Motor.....	153
Dimmer Sensor.....	154

Chapter 3. Illustrated Parts Breakdown

Drawing Trees

VL4000 BeamWash Luminaire (Part 1)	156
VL4000 BeamWash Luminaire (Part 2)	157
VL4000 BeamWash Luminaire (Part 3)	158
VL4000 BeamWash Luminaire (Part 4)	159
VL4000 BeamWash Luminaire (Part 5)	160
VL4000 BeamWash Luminaire (Part 6)	161

Principle of Operation

VL4000 BeamWash Functional Block Diagram.....	162
---	-----

Top Assembly

Included Items Kit, VL4000 BeamWash	163
VL4000 BeamWash Luminaire.....	165
VL4000 BeamWash Generic Luminaire Assembly	167
VL4000 BeamWash Head Cover Assembly	170
VL4000 BeamWash Yoke Arm Cover Assembly	171
Stabilizer Assembly	172
Back Cover Assembly.....	173

Head Assembly

Head Frame Assembly.....	175
VL4000 BeamWash Optics Assembly.....	177
Edge Lens Motor Assembly.....	181
5mm Motor Shaft Damper Assembly	182
Zoom Lens Motor Assembly	183
Lenticular with Motors Assembly.....	184
Lenticular Arm Assembly	186
Prism Assembly	188
Prism Arm Assembly	190
Wash Assembly	191
Wash Arm Motor Assembly.....	192
Slotted Optical Switch	193

Back End Assembly	194
Reflector Assembly	196
Lamp Cover Assembly	197
Gobo/Animation Module Assembly	199
Gobo Wheel 1 Assembly	205
Gobo Wheel 2 Assembly	207
Gobo 1 Sensor Index Assembly	209
Gobo 2 Sensor Index Assembly	210
Concurrent Animation Wheel Assembly	211
Animation Wheel 2 Motor Assembly	213
Front Gobo Bulkhead with Iris Assembly	214
Iris Module Assembly	216
Color Module Assembly	219
210 Groove Belt Assembly	224
240 Groove Belt Assembly	225
Fixed Color Wheel Assembly	226
Fixed Color Wheel 1 Assembly	228
Fixed Color Wheel 2 Assembly	230
Fixed Color Motor Assembly	232
Cross-Flow Blower Assembly	233
Left Strobe Assembly	234
Right Strobe Assembly	236
Control Belt Idler Assembly	238
Color Flags Sensor Board Assembly	239
Yoke Assembly	
Yoke Assembly	241
Double Rollers Tilt Motor Assembly	243
Tilt Motor with Pulley Assembly	245
Tilt Belt Tension Rollers Assembly	246
Enclosure Assembly	
Upper Enclosure Assembly	247
Upper Enclosure Assembly - Part 1	248
Upper Enclosure Assembly - Part 2	250
Upper Enclosure Assembly - Part 3	252
Upper Enclosure Assembly - Part 4	254
Side Mount Fan Assembly	256
Front Panel Assembly	257
Side Mount Filter Holder Assembly	259
Pan Bearing / Pulley Assembly	260
Pan / Fan Driver Board Assembly	262
Pan Module Assembly	263
Upper Enclosure Cover Assembly	265
Cable Assemblies	
LVS Chassis Ground Cable Assembly	267
VL4000 Pan / Tilt Cable Assembly	268
VL4000 Color Power Distribution Cable Assembly	269
VL4000 Lamp Base & Tip Fan Extension Cable Assembly	270
VL4000 Data Network Extension Cable Assembly	271

VARI*LITE - VL4000 BEAMWASH LUMINAIRE SERVICE MANUAL

VL4000 Color Bulkhead 1 Cable Assembly.....	272
VL4000 Color Bulkhead 2 Cable Assembly.....	273
VL4000 Color Bulkhead 3 Cable Assembly.....	274
VL4000 Color Bulkhead 4 Cable Assembly.....	275
VL4000 Color A to Color B Cable Assembly.....	276
VL4000 Pan / Power Distribution Input Cable Assembly.....	277
VL4000 Enclosure PFC Input Cable Assembly.....	278
VL4000 Enclosure PFC Output Cable Assembly.....	279
VL4000 DMX Cable Assembly.....	280
VL4000 Ballast Control Cable Assembly.....	281
VL4000 USB Interface Cable Assembly.....	282
VL4000 Thermal Control Cable Assembly.....	283
VL4000 Chassis to Yoke Cable Assembly.....	284
VL4000 AC Input Connector Assembly.....	285
VL4000 Tilt with Shield Cable Assembly.....	286
VL4000 BeamWash Power Dist Cable Assembly.....	287
VL4000 Main from MCB Data Cable Assembly.....	288
VL4000 Main to Bulkheads Data Cable Assembly.....	289
VL4000 BeamWash Inlet Fan Extension Cable Assembly.....	290
VL4000 Ballast to Ignitor Cable Assembly.....	291
VL4000 BeamWash Gobo Bulkhead 1 Cable Assembly.....	292
VL4000 BeamWash Gobo Bulkhead 2 Cable Assembly.....	293
VL4000 BeamWash Optics Bulkhead Cable Assembly.....	294
VL4000 BeamWash Lamp Socket Cable Assembly.....	295

Appendix A. Technical Notices & Bulletins

VL4000 BeamWash Luminaire.....	297
Technical Notices.....	297
Technical Bulletins.....	297

Introduction

About This Manual

This manual provides descriptions, repair procedures, and illustrated parts breakdowns for the VL4000 BeamWash Luminaire. 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
VL4000 BeamWash Luminaire	20.9704.0002	1200W Short 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 VL4000 BeamWash Luminaire User's Manual. This manual is only available in electronic (PDF) format:

- VL4000 BeamWash Luminaire User's Manual (02.9704.6002)

Note: The user's manual is available on the Philips Entertainment Lighting web site at www.philips.com/entertainmentlighting 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).

USITT Inc.
 315 South Crouse Avenue Suite 200
 Syracuse, NY 13210
 Tel: 800-938-7488 or +1-315-463-6463
 Fax: 866-398-7488 or +1-315-463-6525
www.usitt.org

Customer Service

Our Goal

At Philips Entertainment Lighting, 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 Philips Entertainment Lighting 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 Philips Entertainment Lighting 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.philips.com/entertainmentlighting 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**



Features

Product Features

All VL4000 BeamWash Luminaires have the following standard features:

Color System

A three filter CYM cross fading system capable of extremely smooth movements at both slow and fast speeds, and a variable CTO color temperature correction system.

Fixed Color Wheels

Two opposing fixed color wheels each with five interchangeable color filters are capable of producing multi-color effects and variable wheel rotations.

Wash Mode

- **Wash Zoom Optics:** A 6-element 6:1 zoom optics system, covering a range from 10° to 60°.
- **Beam Shaping:** Unique indexing and rotating beam shaping alters output from round to elliptical with minimal light loss.
- **Edge and Hot Spot Control:** Variable hot / edge adjustment provides a multitude of different wash styles.

Beam Mode

- **Beam Zoom Optics:** A 6-element 10:1 zoom optics system, covering a range from 4° to 40°.
- **Beam Size Control:** A mechanical iris provides continuous beam size control for rapid and smooth timed beam angle changes. Near zero degree beam angle is possible with nearly fully closed iris.
- **Rotating Gobo Wheels:** Two gobo wheels combine to each offer seven rotatable, indexable gobo positions and one open position.
- **Animation Wheel:** A dynamic animation wheel offers unique rotatable, indexable patterns with variable motion control from horizontal to vertical.
- **Rotating Prism:** Independent rotating and indexing 5-facet step prism.
- **Lenticular Effect:** Unique indexing and rotating lenticular effect alters output from round to rectangular and to create extruded gobo imagery.
- **Edge and Pattern Focus:** Variable beam focus to soften edges of gobos or s. Remarkable depth of field capability allows morphing effects between gobos and the animation wheel.

Shaft Mode

- **Shaft Optics:** 4° adjustable to near 0° with iris.
- **Beam Size Control:** A mechanical iris provides continuous beam size control for rapid and smooth timed beam angle changes.
- **Rotating Gobo Wheels:** Two gobo wheels combine to each offer seven rotatable, indexable gobo positions and one open position.
- **Animation Wheel:** A dynamic animation wheel offers unique rotatable, indexable patterns with variable motion control from horizontal to vertical.

- **Rotating Prism:** Independent rotating and indexing 5-facet step prism.
- **Lenticular Effect:** Unique indexing and rotating lenticular effect alters output from round to rectangular and to create extruded gobo imagery.

Edge and Pattern Focus

Variable beam focus to soften edges of gobos or s. Remarkable depth of field capability allows morphing effects between gobos and the animation wheel.

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.

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.

Weights

Unit weighs (luminaire only, without accessories) 101 lbs (45.8 kg).

Spacing

Unit hangs on 30 inch (762 mm) centers.

Operational Temperature

- Standard Mode: -20° to +104° F (-29° to +40° C)
- Studio Mode: -20° to +122° F (-29° to +50° C)

Control

- DMX: Completely compatible with a wide variety of DMX512 consoles.
- DMX Channels: 46 (Enhanced 16-bit mode) / 41 (16-bit mode)
- RDM Control: Completely compatible with a wide variety of RDM devices.

Power Requirements

Standard AC power distribution from 200 - 240VAC, 50/60 Hz. The unit requires up to 11.0A depending on the AC supply voltage.

Source

- 1200W Short Arc Lamp, Philips MSR Gold FastFit.

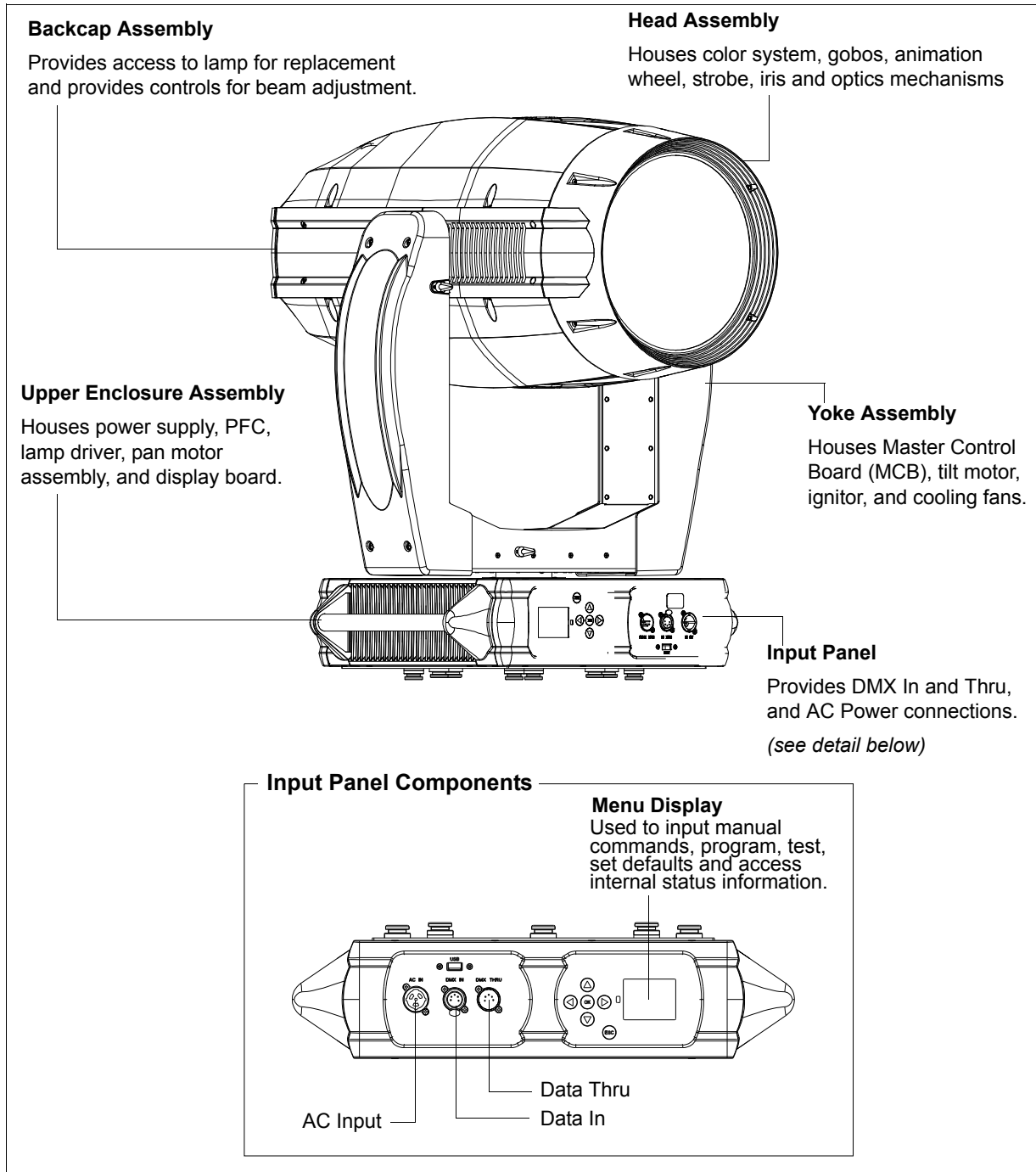
Technical Specifications

For additional technical specifications and information, please refer to VL4000 BeamWash Luminaire User's Manual (02.9704.6002) and the product specification sheet. These documents can be found in the product downloads section of the Vari-Lite web site at www.vari-lite.com.

Components

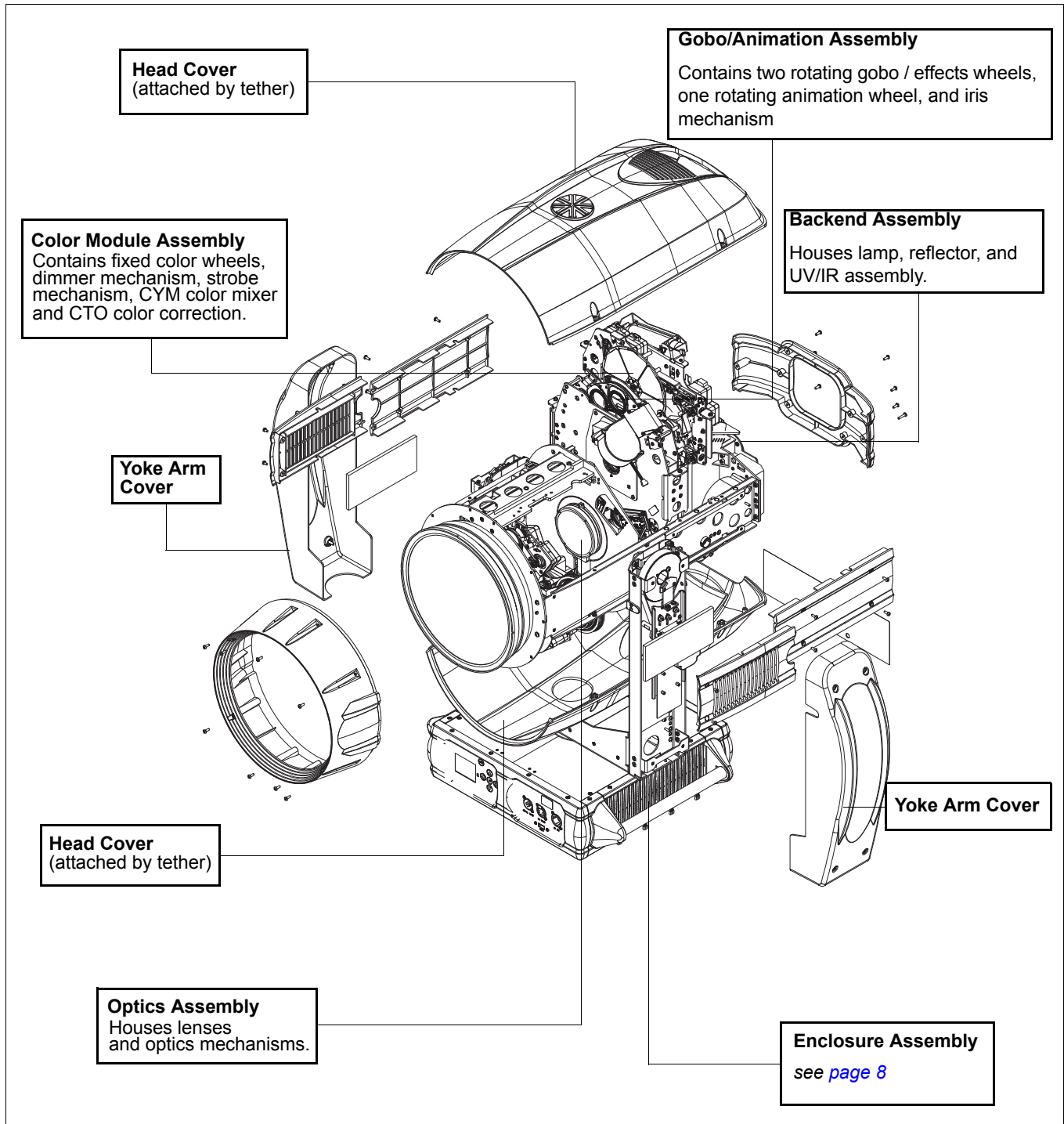
External Luminaire Components

The following illustration shows the external luminaire components and controls.



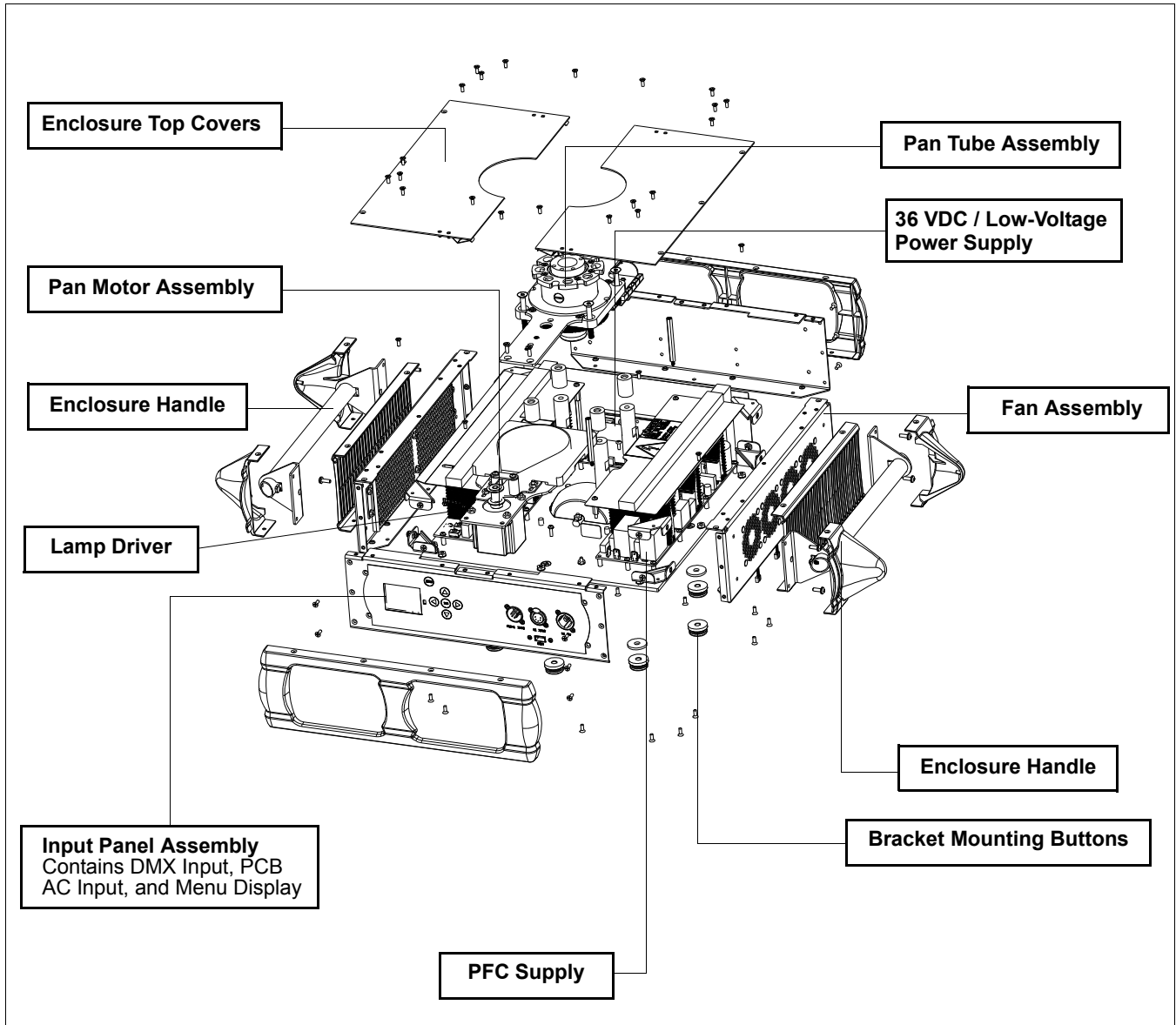
Head and Yoke Components

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.)



CHAPTER 2.

Maintenance & Service

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

- **Troubleshooting**
- **Routine Maintenance Procedures**
- **Service 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

Troubleshooting

Error Messages

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) 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.

To access error messages:

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

Table 2-1: Error Messages

Display	Meaning
OK	No Errors Found - All Sensors Responded Properly
Pan Sensor	Pan Sensor (Encoder) Error
Pan Encoder	Pan Encoder Error
Tilt Sensor	Tilt Sensor (Encoder) Error
Tilt Encoder	Tilt Encoder Error
Dimmer Sensor	Dimmer Sensor Error
Cyan Sensor	Cyan Color Sensor Error
Yellow Sensor	Yellow Color Sensor Error
Magenta Sensor	Magenta Color Sensor Error
CTO Sensor	CTO Sensor Error
Edge Sensor	Edge Sensor Error
Zoom Sensor	Zoom Sensor Error
Color Whl1 Sensor	Color Wheel 1 Sensor Error
Color Whl2 Sensor	Color Wheel 2 Sensor Error
Gobo Whl1 Sensor	Rotating Gobo Wheel 1 Sensor Error
Gobo 1 Index Sensor	Rotating Gobo Wheel 1 Indexing Sensor Error
Gobo Whl2 Sensor	Rotating Gobo Wheel 2 Sensor Error
Gobo 2 Index Sensor	Rotating Gobo Wheel 2 Indexing Sensor Error
Animation Whl Sensor	Animation Wheel Sensor Error
Animation Index Sensor	Animation Wheel Indexing Sensor Error
Iris Sensor	Iris Mechanism Sensor Error
Prism Sensor	Prism Mechanism Sensor Error
Prism Rotate Sensor	Prism Rotating Sensor Error
Beam Shape Sensor	Beam Shape Sensor Error
Beam Shape Rotate Sensor	Beam Shape Rotate Sensor Error
Wash Lens	Wash Lens Sensor Error
Strobe Sensor	Strobe Sensor Error

Troubleshooting Guide

If a problem is suspected, try recalibrating the luminaire to prompt an error message. If a problem is suspected, first try recalibrating the luminaire to prompt an error message (refer to “[Error Messages](#)” on page 10). The chart below provides possible causes and remedies for various error messages and/or symptoms.



CAUTION: Some troubleshooting is included for reference only. Performing remedies may void product warranty. Refer to the Vari-Lite Limited Warranty card included with the product.

Table 2-2: Troubleshooting Guide

Message	Symptom	Description	Possible Cause/Remedy
Lamp Power Douse	Lamp does not strike upon start-up	Lamp Off option is configured	- Reconfigure lamp startup option in Lamp config menu.
n/a	Lamp douses frequently	Lamp Douse	Fan failure... - check head and enclosure fans for proper operation. Ballast overheating... - operating within the specified ambient temperature? - check enclosure vents for debris / dirt. - check fan settings in menu. - check enclosure fans for proper operation. NOTE: Upon initial power up, ballast fans will run for a few seconds and then operate as needed. Enclosure vents must be clear of debris and dirt to allow proper airflow.
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 240 VAC). Fan failure... - check head and enclosure fans for proper operation.
n/a	Luminaire behaves oddly	DMX Map Not Matched	Console library not set correctly... - check console library matches DMX map of luminaire.
n/a	Luminaire does not power up	No power	Circuit not energized... - verify circuit breaker (at source) is turned on. Not plugged in... - ensure A/C cable is connected to power source.
n/a	Self tests will not run or software download does not work from luminaire.	DMX Data Input	Detecting DMX data... - disconnect DMX input cable.
n/a	No response to DMX data	DMX Failure	DMX connector disconnected... - check DMX DATA IN connection.
n/a	Erratic control of luminaire	DMX Termination	No DMX termination or termination not correct... - check for DMX terminator. - Luminaire DMX address does not match console patch.

Routine 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 Removal and Installation



WARNING: Disconnect fixture before relamping. Déconnectez le projecteur avant que le changement de lampe.



CAUTIONS & WARNINGS

- 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 isopropyl alcohol and cotton cloth to thoroughly clean glass portion of lamp.
- Hot Lamp. Luminaire must remain powered on for 5 minutes after dousing lamp. Do not open for 5 minutes after switching off. Lampe chaude. Le luminaire doit rester en marche pendant 5 minutes après avoir éteindre la lampe. Ne pas ouvrir pendant 5 minutes après la coupure.
- Risk of exposure to excessive ultraviolet radiation. Do not operate without complete lamp enclosure in place or when lens is damaged. Risque d'exposition aux rayonnements ultraviolets excessifs. Ne pas faire fonctionner sans le boîtier complet de lampe mis en place ou lorsque l'objectif est endommagé.

To replace lamp:

- Step 1. Ensure power is completely removed from luminaire.
- Step 2. Set the luminaire head horizontally.
- Step 3. Engage tilt lock to secure luminaire head in position.
- Step 4. At back of luminaire, using #2 Phillips screwdriver, remove lamp socket cover by loosening the two quarter-turn captive screws. Note: lamp socket cover is connected with a safety tether.

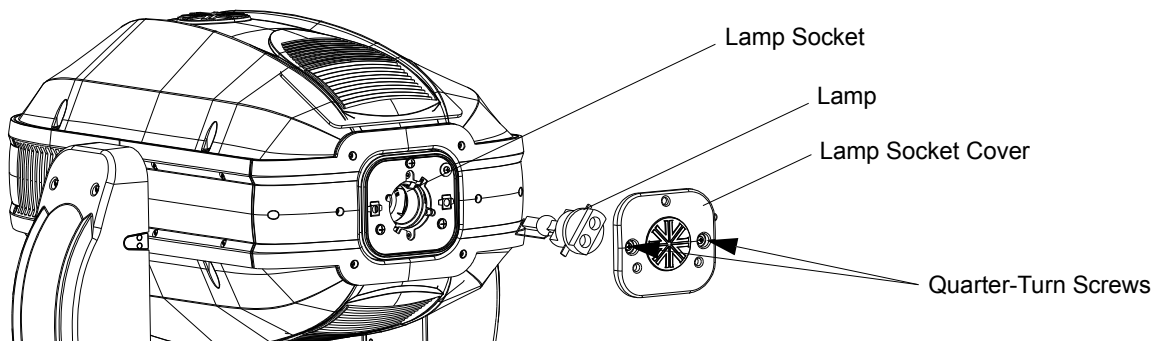


Figure 2-1: Lamp Socket Cover Removal

- Step 5. To remove lamp, grasp lamp base by hand, twist lamp counter-clockwise until lamp's tabs align with slots in lamp socket (see [Figure 2-2](#) on page 13 for more information), and remove lamp by pulling it straight out of socket.
- Step 6. Remove replacement lamp from shipping box.
- Step 7. As shown in [Figure 2-2](#), align replacement lamp tabs with lamp socket.

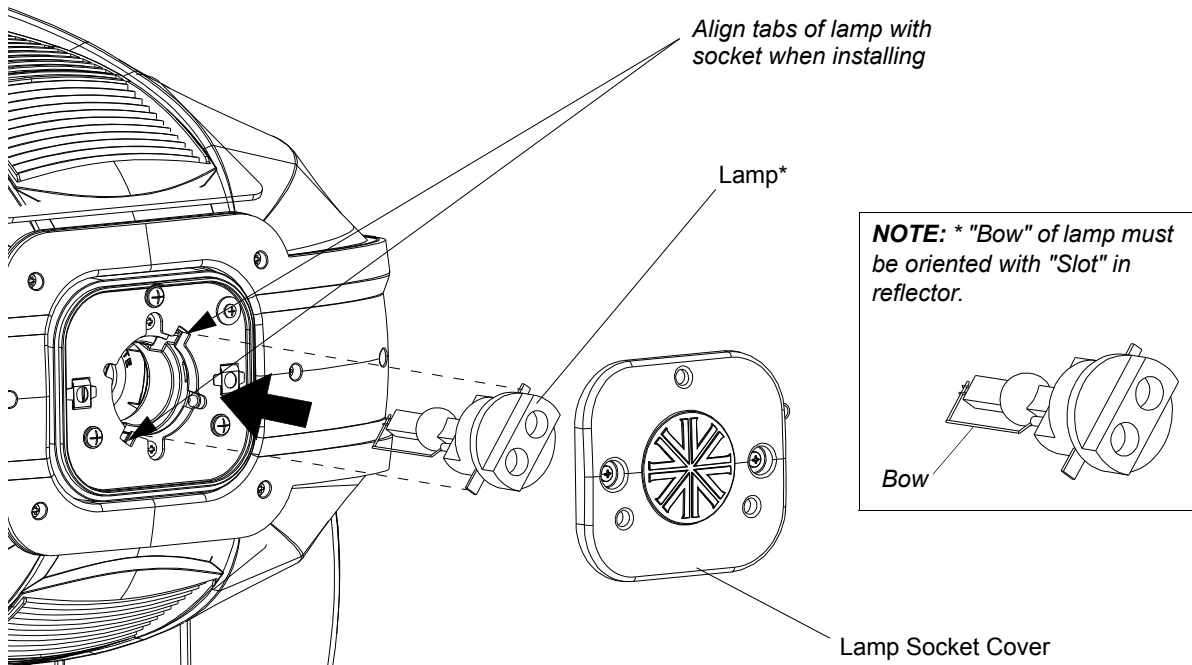


Figure 2-2: Lamp Installation

- Step 8. Install lamp fully into lamp socket, taking care not to touch lamp glass.
- Step 9. Turn lamp clockwise to seat lamp into socket. Lamp base should be aligned as illustrated in [Figure 2-3](#).

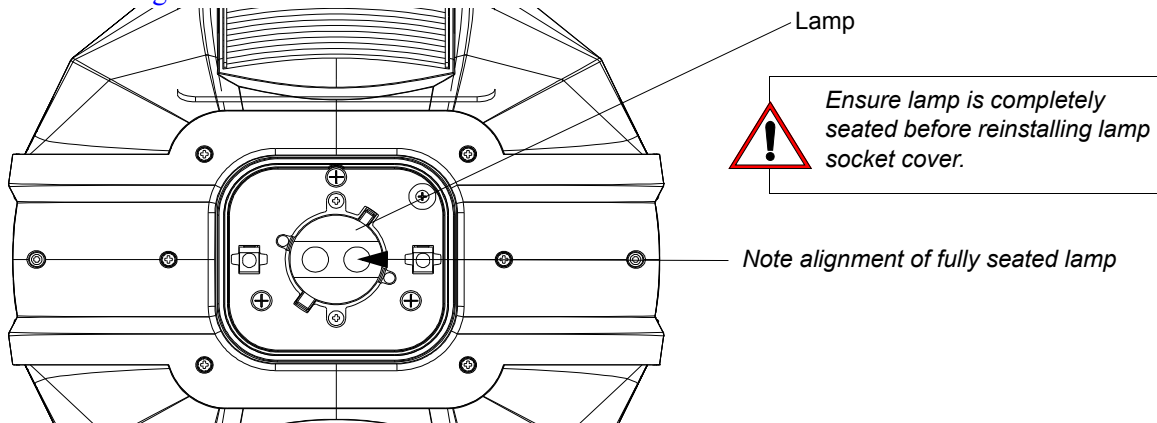


Figure 2-3: Installed Lamp

- Step 10. Reinstall lamp socket cover. Make sure safety tether is completely encapsulated within lamp socket cover.
- Step 11. Disengage tilt lock to allow luminaire head to move freely.
- Step 12. Align lamp as needed.

Fixed Color Wheel Filter Removal and Installation

To remove and replace fixed color filters:

Step 1. Before removing power from luminaire, move Edge towards front of luminaire with control console or via luminaire menu system.



WARNING: Remove power from luminaire and allow luminaire to cool completely before performing this procedure.

Step 2. Remove power from luminaire and allow luminaire to cool completely.

Step 3. Depending on which color filter wheel you need to access, do the following:

- a. For Fixed Color Wheel 1 (closest to the rear of luminaire), remove head cover assembly as indicated in [Figure 2-4](#) by loosening four captive screws and lifting cover away from luminaire head. Note, head cover is attached by a safety tether.
- b. For Fixed Color Wheel 2 (closest to the front of luminaire), remove head cover assembly as indicated in [Figure 2-4](#) by loosening our captive screws and lifting cover away from luminaire head. Note, head cover is attached by a safety tether.

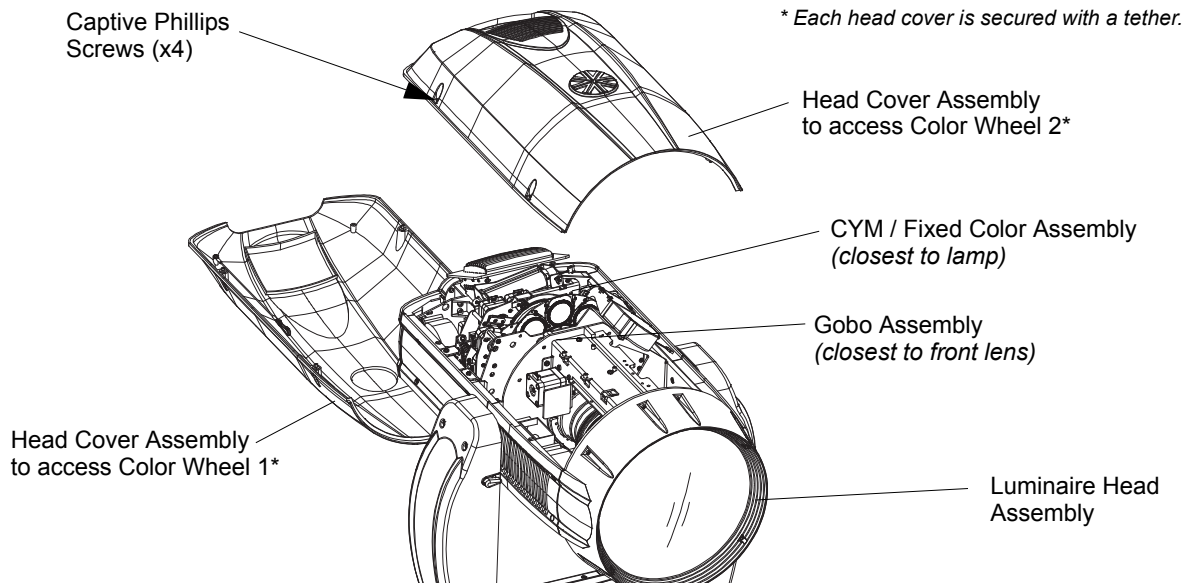


Figure 2-4: Replacing Fixed Color Filters



CAUTION: Wear protective gloves or other protective covering while handling filters to avoid leaving fingerprints. Filters are extremely fragile and can break if not handled carefully. If dirty, clean with isopropyl alcohol and a soft, lint-free cloth.

Note: For standard fixed color filters, refer to [“Fixed Color Wheel 1” on page 30](#) or [“Fixed Color Wheel 2” on page 31](#)

- Step 4. At fixed color wheel, slowly rotate wheel by hand until filter to be removed is visible on assembly as shown in [Figure 2-5](#).
- Step 5. At filter to be removed, (1) press filter out of fixed color wheel with fingers and (2) guide filter up and away from fixed color wheel.

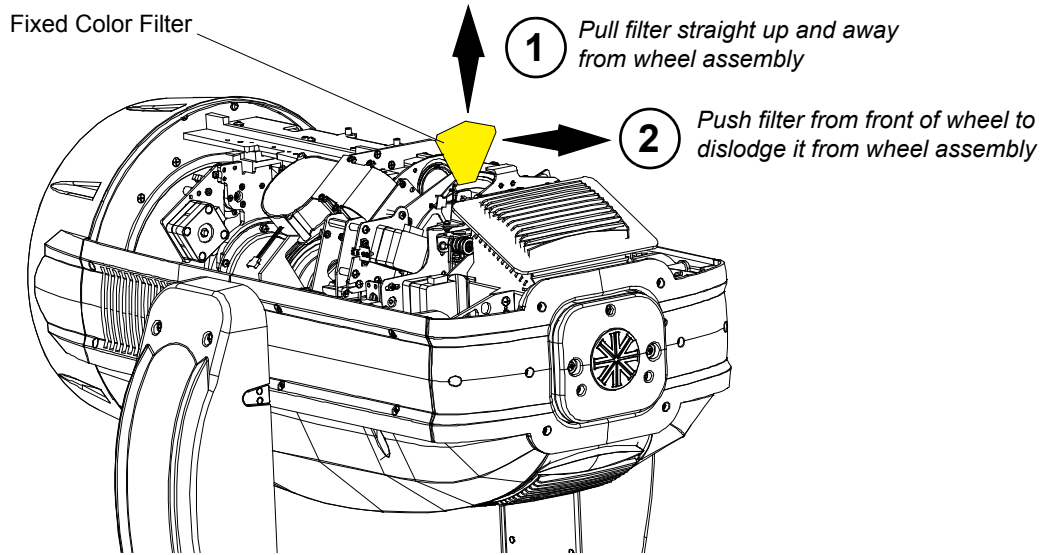


Figure 2-5: Removing Fixed Color Filters

- Step 6. Install replacement filter into slot. Note orientation of fixed color filter as indicated in [Figure 2-6](#). Make sure filter is inserted and secured by fixed color wheel retaining clip as shown in [Figure 2-6](#).

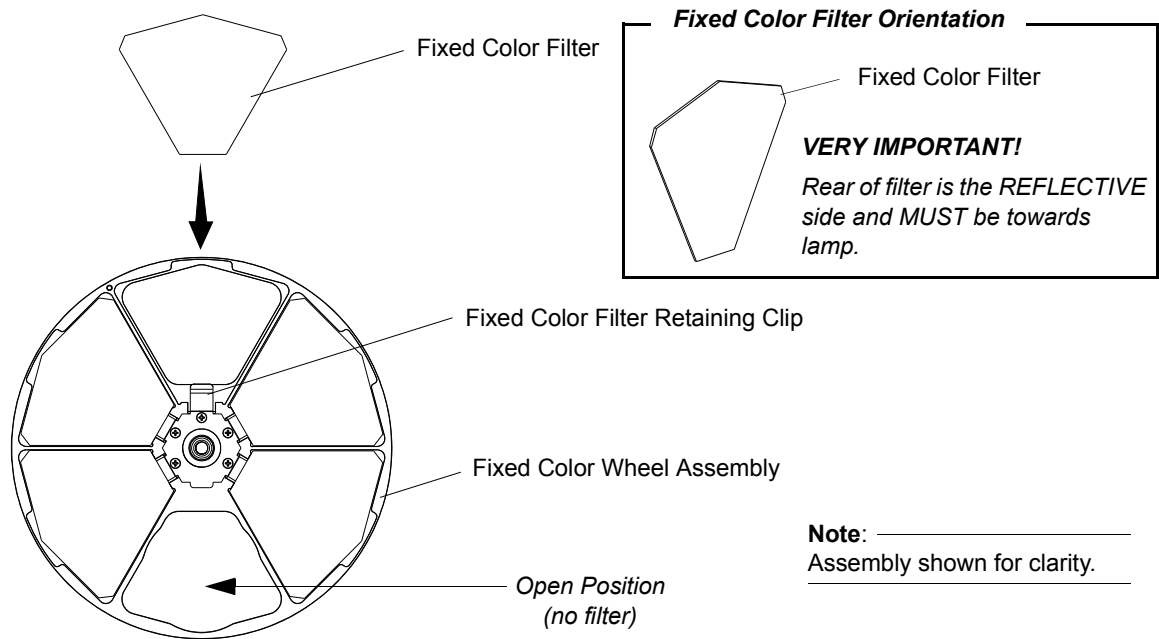


Figure 2-6: Installing Fixed Color Filters

- Step 7. After filter is installed, reinstall head cover(s).

Rotating Gobo Removal and Installation



CAUTION: VL4000 BeamWash Luminaires accept glass gobos only. Use of metal gobos in these luminaires may damage gobo assembly and will void the luminaire warranty.

To remove and replace rotating gobos:

Step 1. Before removing power from luminaire, move Edge towards front of luminaire with control console or via luminaire menu system.



WARNING: Remove power from luminaire and allow luminaire to cool completely before performing this procedure.

Step 2. Remove power from luminaire and allow luminaire to cool completely.

Step 3. Depending on which rotating gobo wheel you need to access, do the following:

- a. For Rotating Gobo Wheel 1 (closest to the rear of luminaire), remove head cover assembly as indicated in [Figure 2-4](#) by loosening our captive screws and lifting cover away from luminaire head. Note, head cover is attached by a safety tether.
- b. For Rotating Gobo Wheel 2 (closest to the front of luminaire), remove head cover assembly as indicated in [Figure 2-4](#) by loosening our captive screws and lifting cover away from luminaire head. Note, head cover is attached by a safety tether.

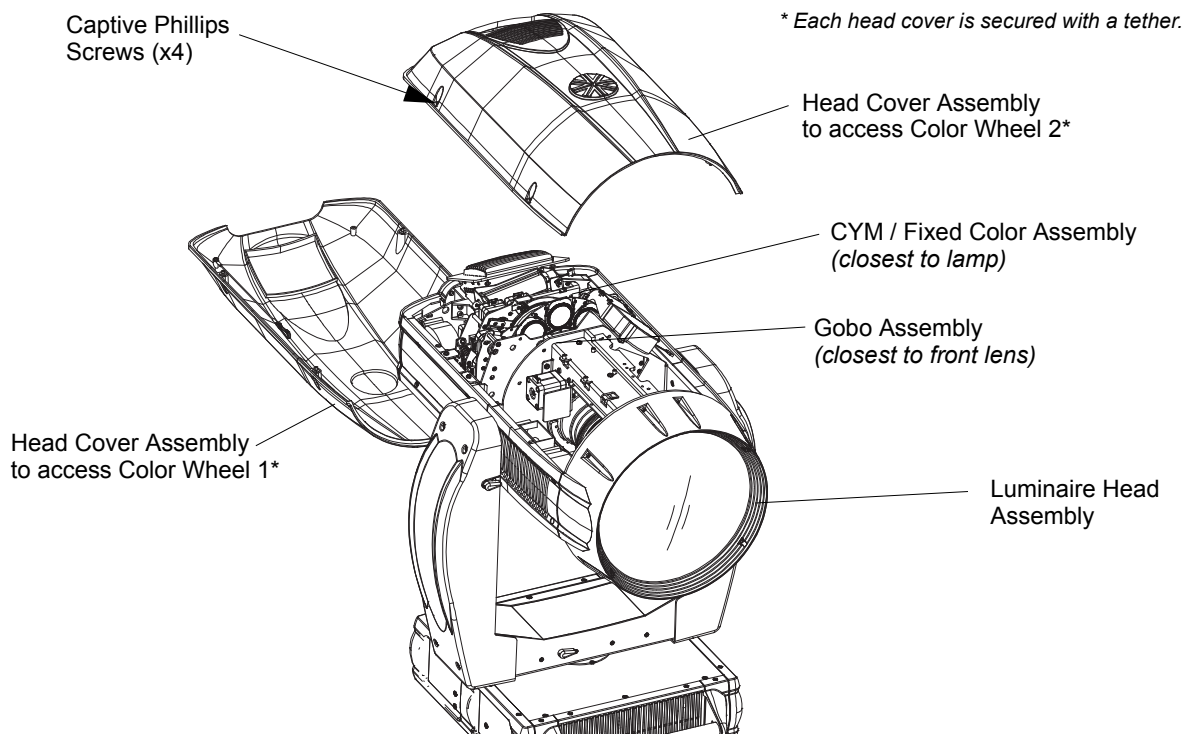


Figure 2-7: Replacing Rotating Gobos



CAUTION: Wear protective gloves or other protective covering while handling gobos to avoid leaving fingerprints. If dirty, clean with isopropyl alcohol and a soft, lint-free cloth.

Note: For the standard load of rotating gobos, refer to “Rotating Gobo Wheel 1” on page 32 or “Rotating Gobo Wheel 2” on page 33

- Step 4. At rotating gobo wheel, slowly rotate wheel by hand until gobo to be removed is visible on assembly.
- Step 5. Grip gobo assembly and pull up to remove from luminaire head.
- Step 6. **Before installing gobo assembly into rotating gobo wheel assembly**, make note of relationship between carrier and main gear slot as illustrated in Figure 2-8.
 - a. Align gobo assembly gear timing marks **WITH**...
 - b. Slot in main gear on gobo wheel assembly. You may have to rotating gear by hand for alignment.

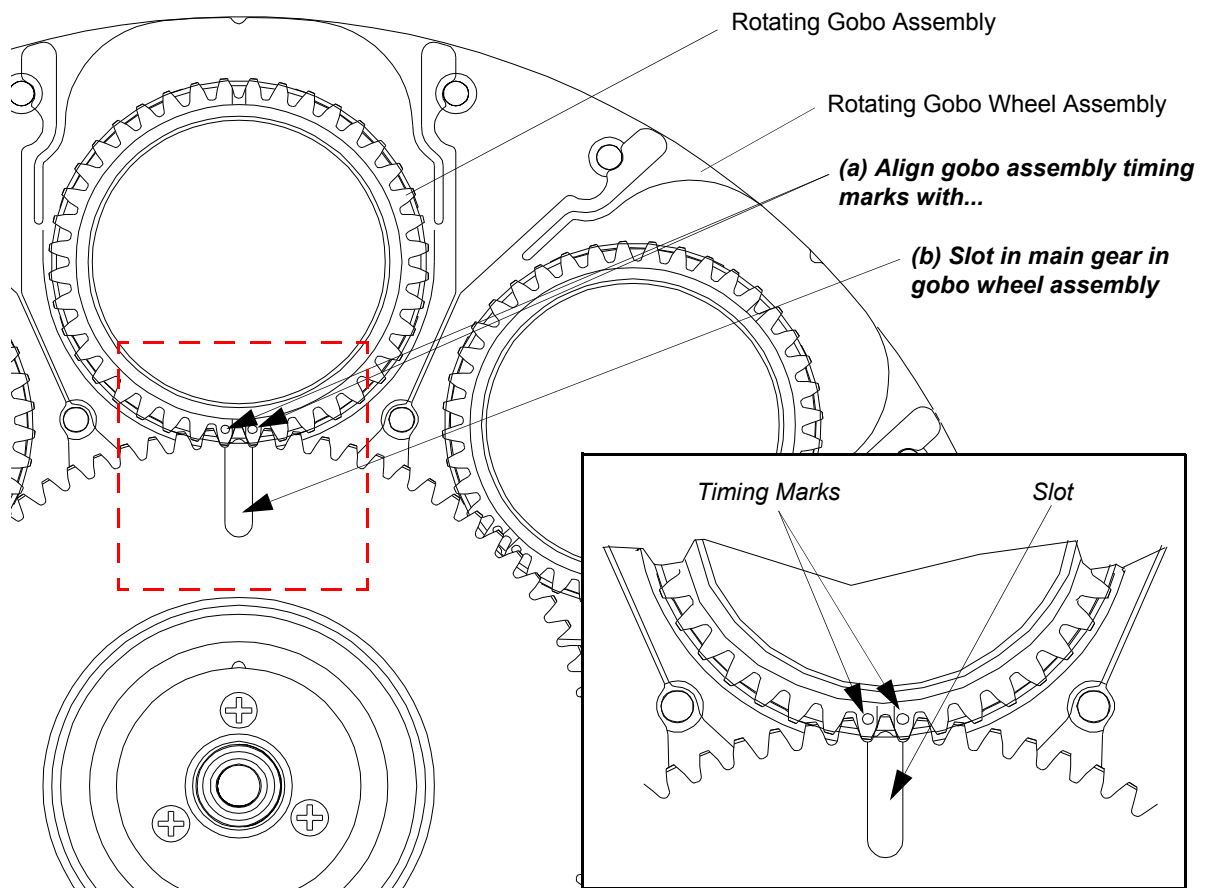


Figure 2-8: Rotating Gobo Wheel - Gobo Clocking

- Continued Next Page -

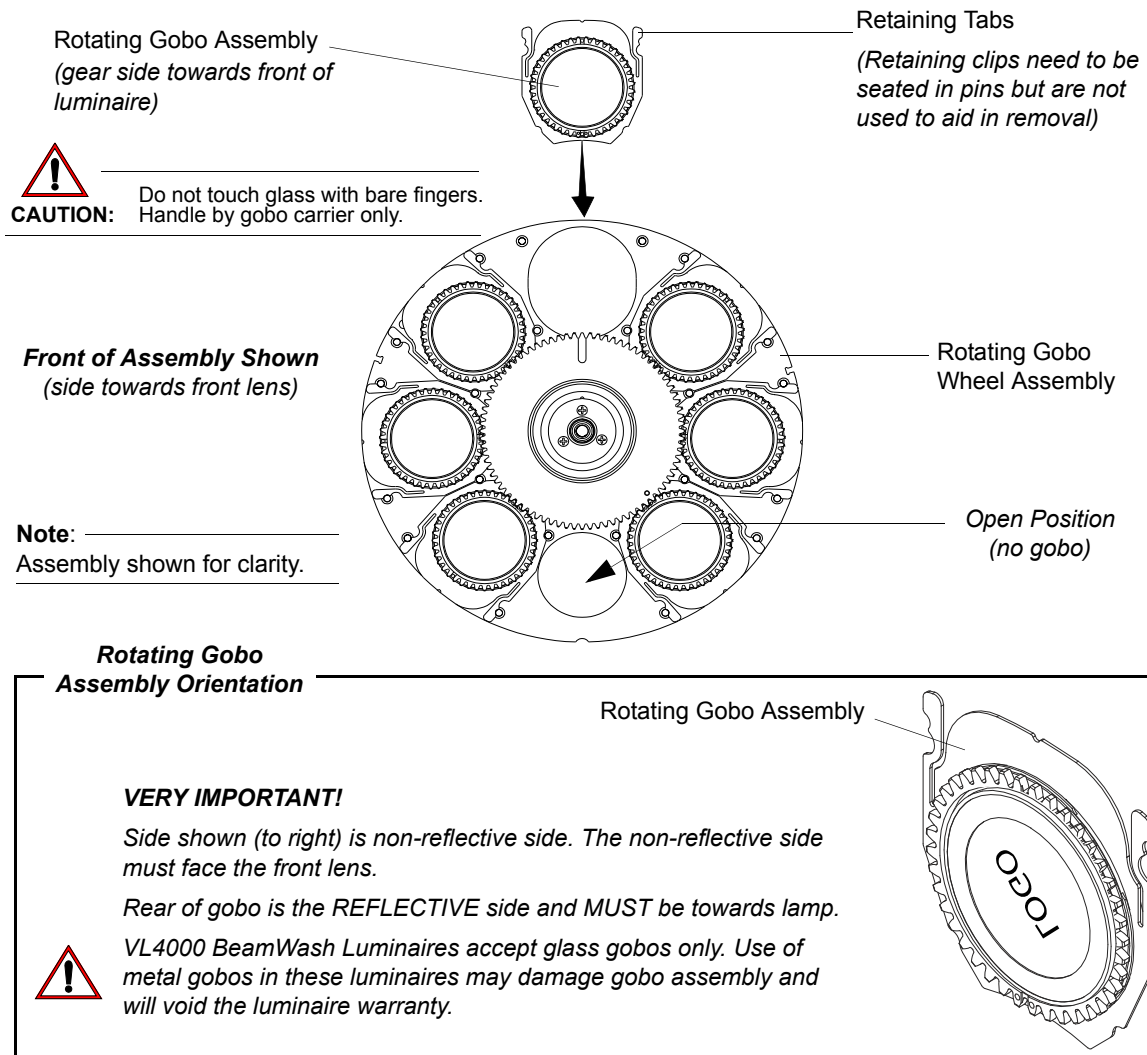


Figure 2-9: Rotating Gobo Wheel - Gobo Installation

- Step 7. After ensuring main gear slot and gobo assembly timing marks are properly aligned (as described in Step 7, install replacement rotating gobo assembly into gobo position. Note orientation of rotating gobo assembly as indicated in [Figure 2-9](#).
- Step 8. After rotating gobo assembly is installed, reinstall head cover(s).

Animation Wheel Removal and Installation

To remove and replace animation wheel:

Step 1. Before removing power from luminaire, move Edge towards front of luminaire with control console or via luminaire menu system.



WARNING: Remove power from luminaire and allow luminaire to cool completely before performing this procedure.

Step 2. Remove power from luminaire and allow luminaire to cool completely.

Step 3. Remove head cover assembly as indicated in [Figure 2-10](#) by loosening four captive screws and lifting cover away from luminaire head. Note, head cover is attached by a safety tether.

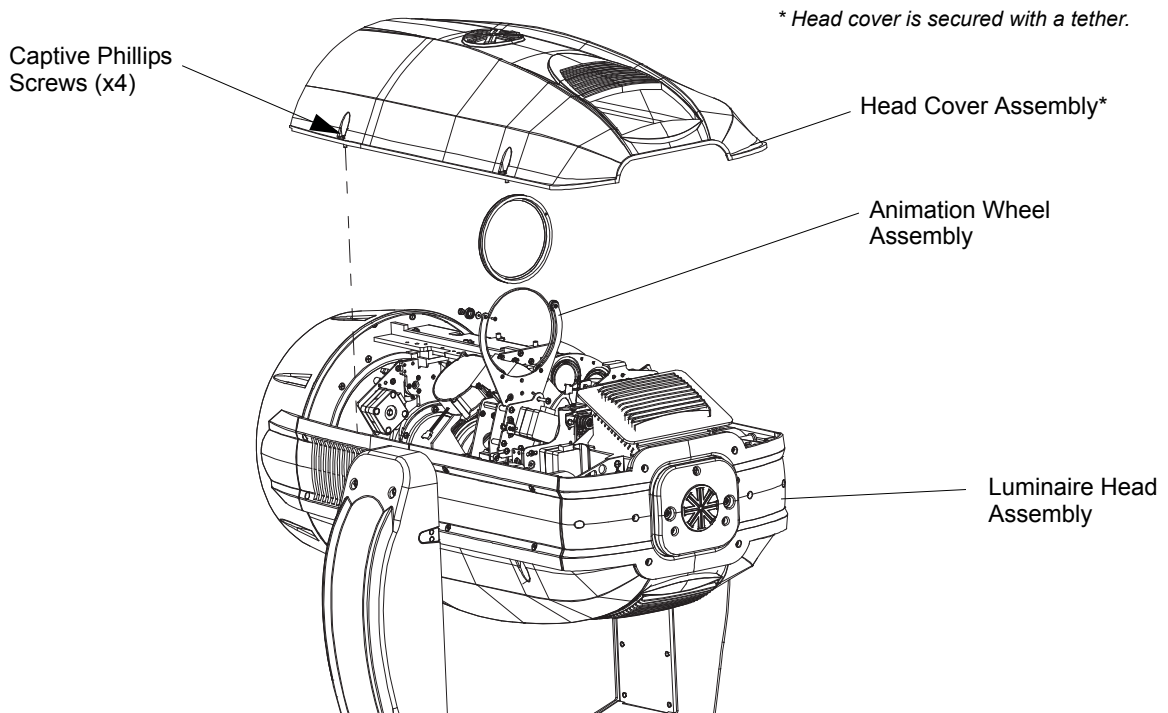


Figure 2-10: Replacing Animation Wheel



CAUTION: Wear protective gloves or other protective covering while handling the animation wheel to avoid leaving fingerprints. If dirty, clean with isopropyl alcohol and a soft, lint-free cloth.

Note: For the standard load of the animation wheel, refer to [“Animation Wheel - Concurrent” on page 34](#) or [“DMX Operation” on page 35](#).

Step 4. Loosen screw on bulkhead so animation arm can swing out

Step 5. Remove one screw from animation frame.

CAUTION: Be careful not to lose belt bearing, washer, screw or post. These will be required for reassembly and installation.

Step 6. Slip belt off of animation wheel. Remove wheel.

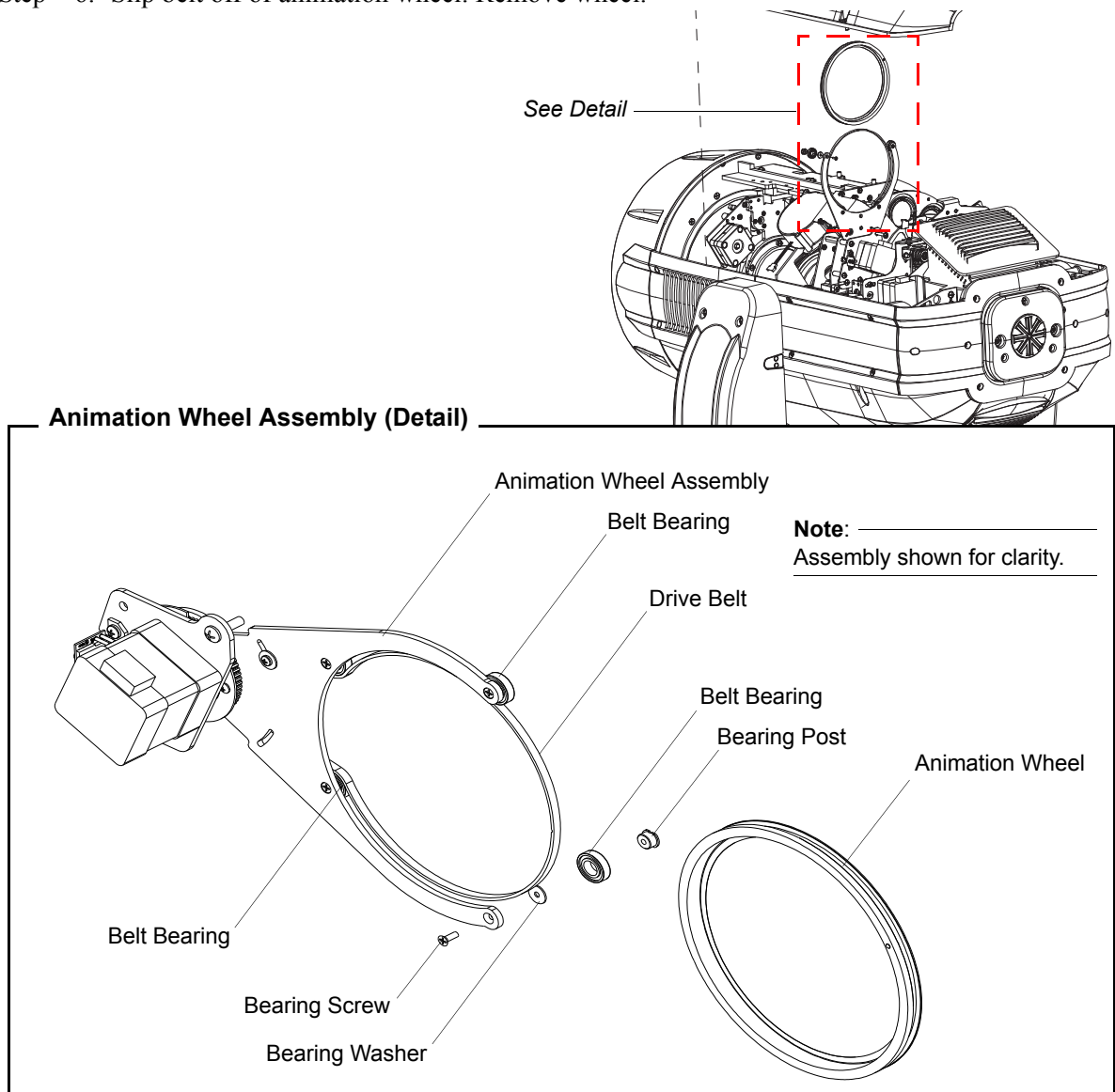


Figure 2-11: Animation Wheel Removal & Installation

- Step 7. Slip belt around new wheel. Seat on all three bearings.
- Step 8. Reassemble post onto bearing and washer. Hand-tighten down with screw.
- Step 9. Swing animation arm back into beam area and hand-tighten down bulkhead screw.
- Step 10. After animation wheel is installed, reinstall head cover.

Prism Removal and Installation

To remove and replace prism:

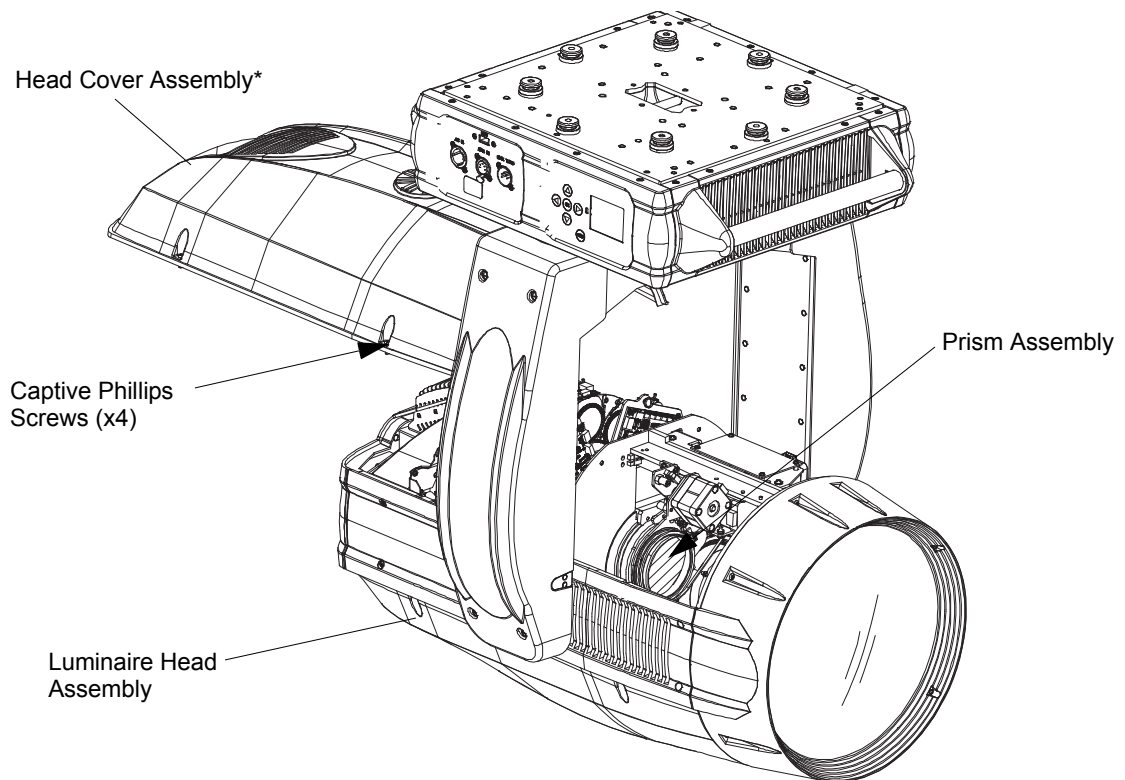
Step 1. Before removing power from luminaire, move Edge towards front of luminaire with control console or via luminaire menu system.



WARNING: Remove power from luminaire and allow luminaire to cool completely before performing this procedure.

Step 2. Remove power from luminaire and allow luminaire to cool completely.

Step 3. Remove head cover assembly as indicated in [Figure 2-12](#) by loosening four captive screws and lifting cover away from luminaire head. Note, head cover is attached by a safety tether.



* Head cover is secured with a tether.

Figure 2-12: Replacing Prism



CAUTION: Wear protective gloves or other protective covering while handling prism to avoid leaving fingerprints. If dirty, clean with isopropyl alcohol and a soft, lint-free cloth.

Step 4. De-tension belt by loosening 1/4" hex standoffs on top of sensor.

Step 5. Slide belt off of prism assembly.

- Step 6. As indicated in [Figure 2-13](#) remove two screws securing prism to arm. **IMPORTANT!** Be careful not to lose removed screws. These will be required for reassembly and installation.
- Step 7. Install new prism using screws removed in previous step.
- Step 8. Install belt around prism assembly.
- Step 9. Slide roller back into place so belt is tensioned. **IMPORTANT!** Do not over-tension or prism will stall during rotation.
- Step 10. Hand tighten hex standoffs.

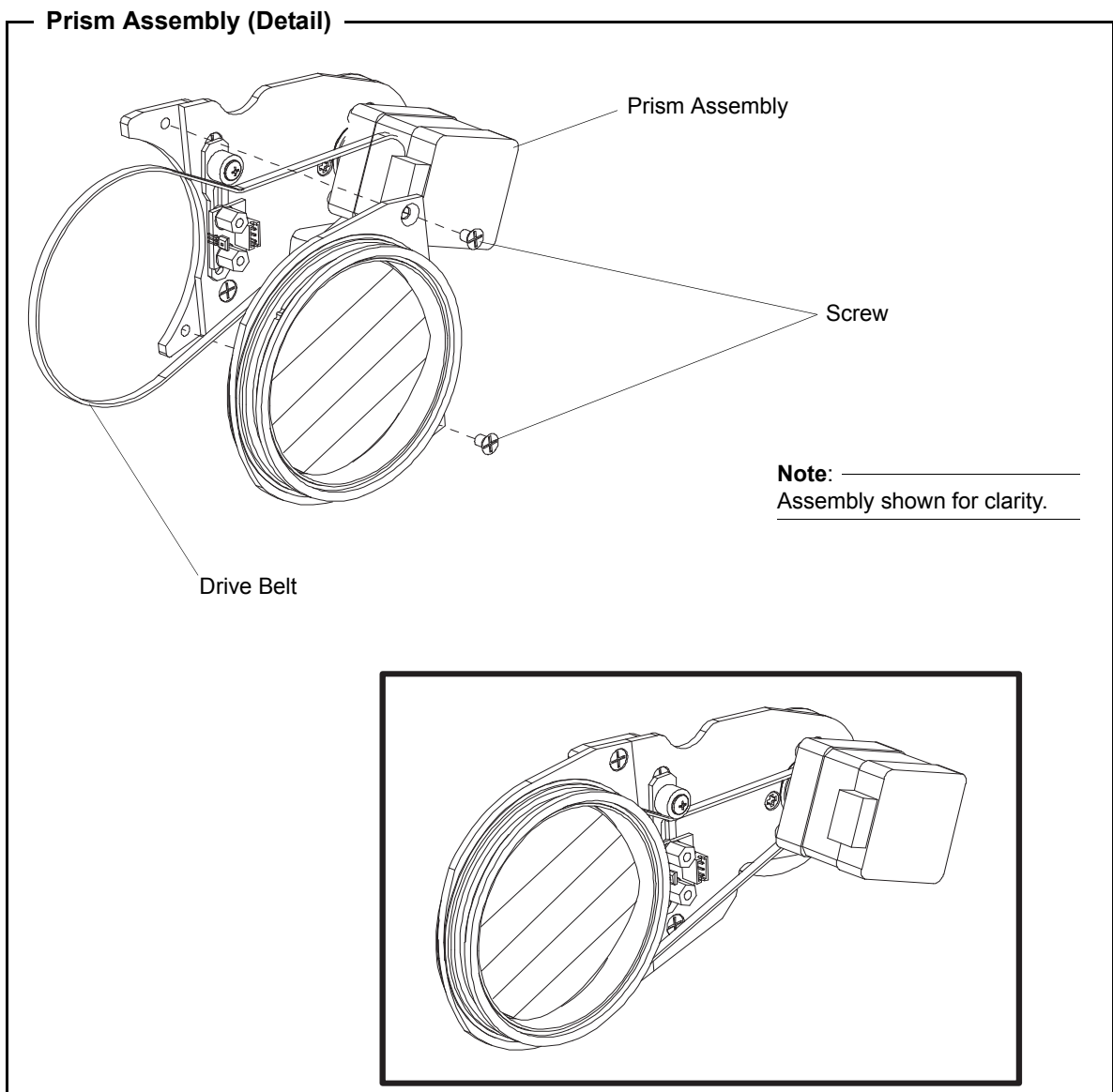


Figure 2-13: Prism Assembly Detail

- Step 11. Reinstall head cover.

Cleaning Optical Lenses and Filters



WARNING: Remove power from luminaire before performing maintenance.



WARNING: Acetone is a harsh cleaning agent and solvent. Acetone is very flammable. Please handle acetone according to manufacturer's safety instructions and precautions.

The front lens, optics/color filters, and reflector may require cleaning after extended use.

- **FRONT LENS:** Use a isopropyl alcohol with a soft, lint-free cloth to clean the front lens.
 - **OPTICS/COLOR FILTERS/ GOBOS/ANIMATION WHEELS:** Use Acetone or Isopropyl Alcohol along with a soft, lint-free cloth to clean the optics/color filters.
 - **REFLECTOR:** Use Acetone or Isopropyl Alcohol along with a soft, lint-free cloth to clean the reflector.
-



CAUTION: Do not continuously rub color filters or reflector - it may damage or remove the optical coating.

Service 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.

Upper Enclosure Covers Removal

Vari-Lite Part No: 21.9704.0850 (Connector side and Display side)

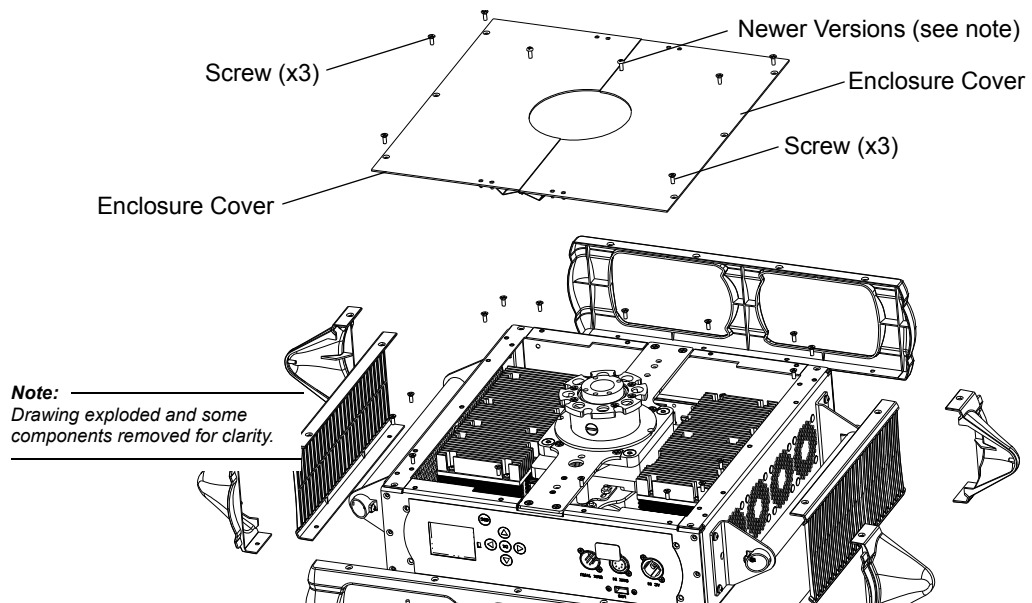
To remove the upper enclosure covers:



WARNING: Remove power from luminaire and allow luminaire to cool completely before performing this procedure. Failure to remove power from luminaire can result in serious injury or death!

Step 1. Remove power from luminaire.

Step 2. At each enclosure cover, remove 3 x 6-32 x 3/8" PFSS-B screws and remove covers by sliding away from pan tube.



Step 3. To replace, ensure cover latch springs fit under the center bracket supports and reinstall 3 x 6-32 x 3/8" PFSS-B screws.

Note: Newer fixtures have a screw in the center near pan tube of each cover. This screw is not tightened down tight. It has Loctite applied to screw and tightened until just flush with cover. You then have to tuck the cover under the screw when installing.

PFC Insulating Duct

Vari-Lite Part No: 10.9704.0874 (PFC Insulating Duct)

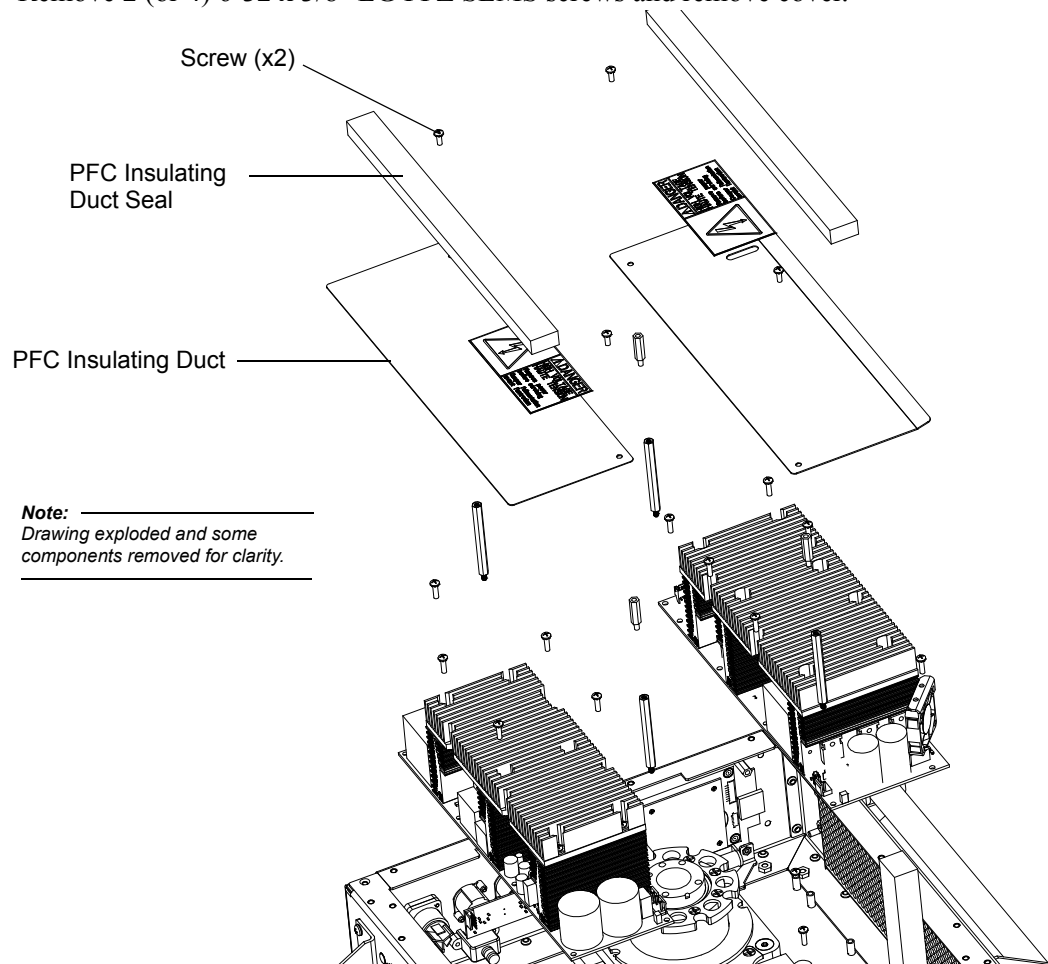
Vari-Lite Part No: 10.9704.1835 (Air Seal)

Note: There are two versions of the duct. Original version mounts with 4 screws. Current version mounts with only 2 screws.

Note: The top foam air seal is not part of the duct. If damaged, replace the air seal.

To remove PFC insulating duct:

- Step 1. Remove connector side upper enclosure cover following the procedure described in [“Upper Enclosure Covers Removal”](#) on page 24.
- Step 2. Remove 2 (or 4) 6-32 x 3/8" LG PPZ SEMS screws and remove cover.



- Step 3. Replace in reverse order.

Lamp Driver Insulation Duct Removal

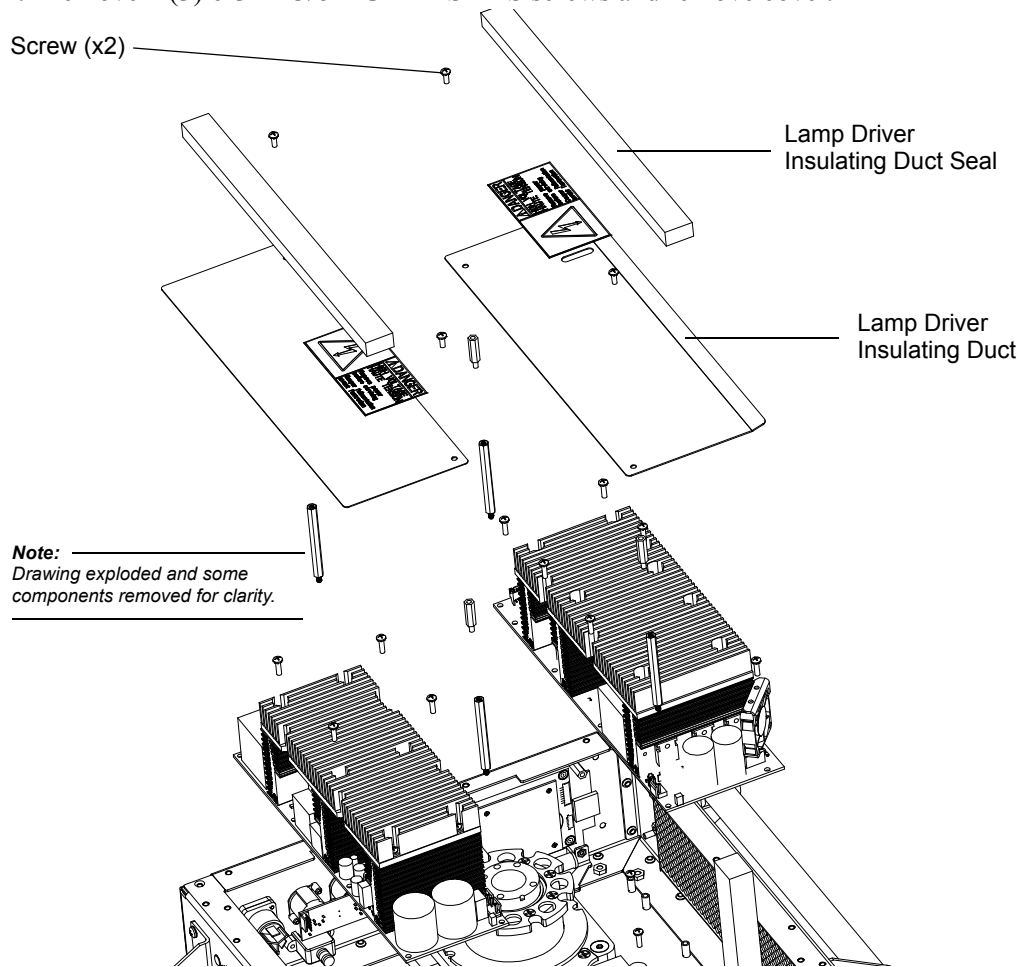
Vari-Lite Part No: 10.9704.1857 (Lamp Driver Insulation Duct)

Note: There are two versions of the duct. Original version mounts with 3 screws. Current version will mount with only 2.

Note: The top foam air seal is not part of the duct. If damaged, replace the air seal. Refer to “[Lamp Driver Insulation Duct Air Seal Replacement](#)” on page 27.

To remove lamp driver insulation duct:

- Step 1. Remove display side upper enclosure cover as following the procedure described in “[Upper Enclosure Covers Removal](#)” on page 24.
- Step 2. Remove 2 (3) 6-32 x 3/8" LG PPZ SEMS screws and remove cover.



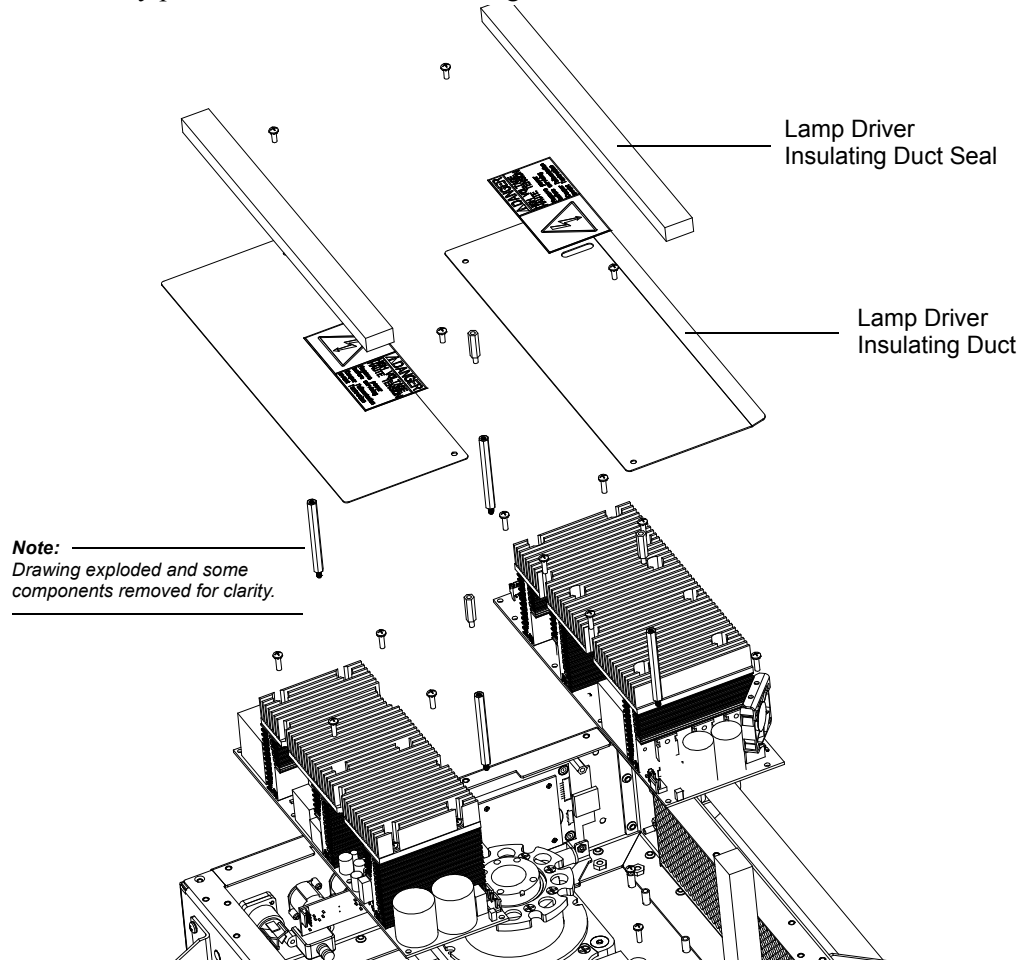
- Step 3. Replace in reverse order.

Lamp Driver Insulation Duct Air Seal Replacement

Vari-Lite Part No: 10.9704.1835 (Air Seal)

To replace lamp driver insulation duct air seal:

- Step 1. Remove required upper enclosure cover following the procedure described in “[Upper Enclosure Covers Removal](#)” on page 24.
- Step 2. Carefully peel off and remove remaining old air seal.



- Step 3. Remove adhesive backing from new air seal and install on the Insulation Duct.
- Step 4. Replace covers as described on page 24.

Main Control Board (MCB)

Vari-Lite Part No: 21.9704.0880

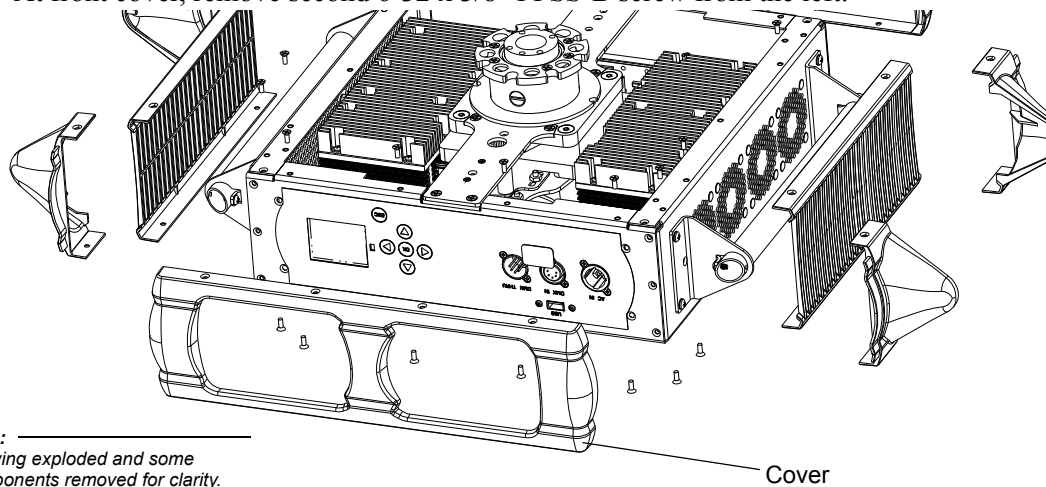
To remove MCB:

- Step 1. Remove display side upper enclosure cover following the procedure described in “Upper Enclosure Covers Removal” on page 24.
- Step 2. Remove Lamp Driver Insulation Duct following the procedure described in “Lamp Driver Insulation Duct Removal” on page 26.

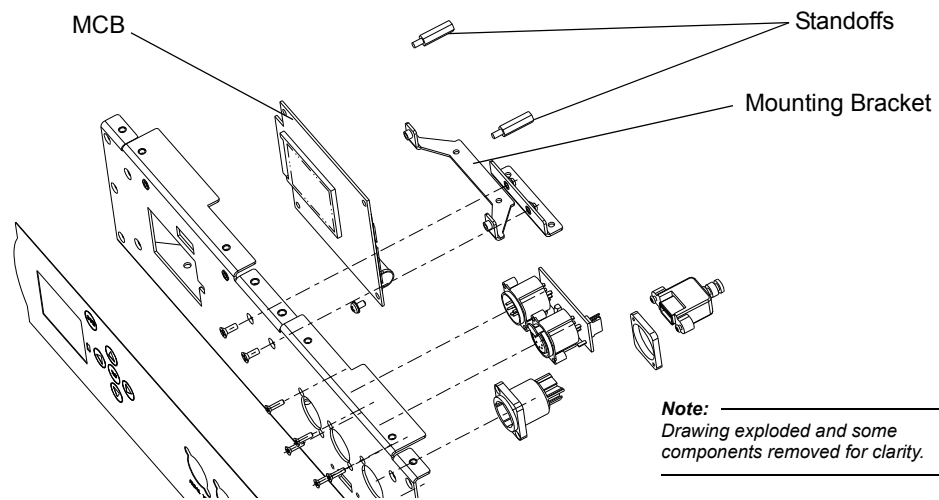


WARNING: Do not handle or ship the MCB with the battery installed.

- Step 3. Battery must be removed before proceeding. Remove battery from MCB. *See current version of Technical Notice TN-352 for more information on battery removal.*
- Step 4. At front cover, remove second 6-32 x 3/8" PFSS-B screw from the left.



Step 5. Using ¼" wrench, remove 2 x 6-32 x 13/16" Standoffs at MCB.



Step 6. Carefully tilt MCB in towards the lamp driver.

Step 7. At ribbon cable, release by lifting up the locking mechanism on outside of connector and remove ribbon cable from display part of MCB (note it is NOT installed in processor part).

Step 8. Disconnect remaining wiring from MCB, noting location.

Step 9. Lift MCB and mounting bracket from enclosure.

Step 10. Remove 2 x 6-32 x ¼" PPZ SEMS screws and remove MCB from MCB bracket mount.

Step 11. Replace in reverse order.

CAUTION: The Micro SD card inserted into the processor board. This card is part of the MCB assembly and should always remain with and be shipped with this card. Be careful to not unseat the card during installation.

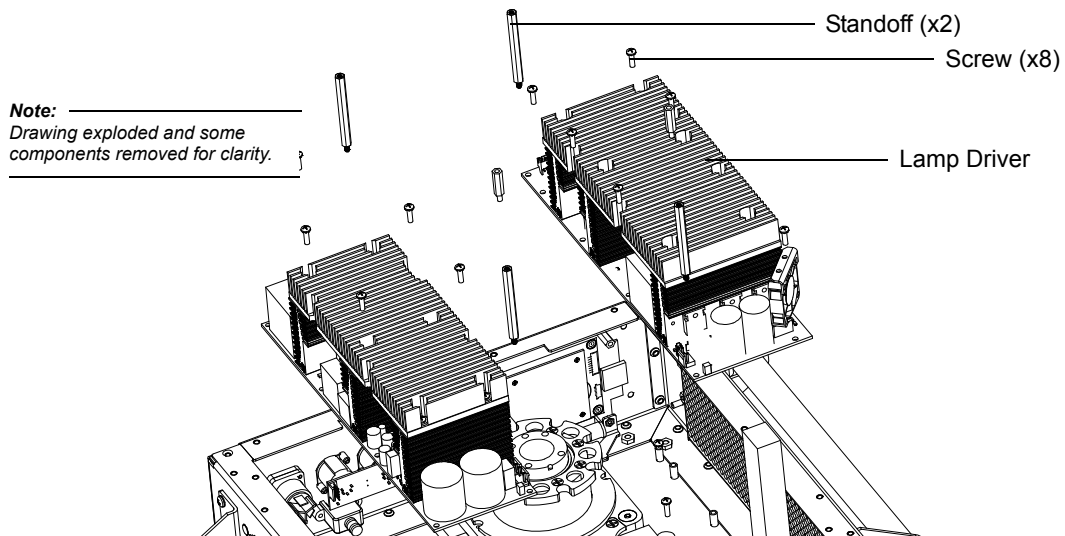
Lamp Driver

Vari-Lite Part No: 69.9704.1400

Note: There are two different versions of hardware mounting these Lamp Drivers. They QTY in () is for the older spot versions.

To replace the lamp driver:

- Step 1. Remove display side upper enclosure cover following the procedure described in “[Upper Enclosure Covers Removal](#)” on page 24.
- Step 2. Remove Lamp Driver Insulation Duct following the procedure described in “[Lamp Driver Insulation Duct Removal](#)” on page 26.
- Step 3. At lamp driver, disconnect COM wire to MCB.
- Step 4. At lamp driver, disconnect output wiring to igniter by removing 2 x 6-32 x ¼ PPZ screws with lock washers. Note, replacement lamp driver should come with these screws.
- Step 5. At lamp driver, disconnect DC input from PFC.
- Step 6. Using ¼" Nut driver, remove 2 (3) 2.5"+13/16" standoff assemblies.



- Step 7. Remove 8 (7) 6-32 x ½" PPZ SEMS screws.
- Step 8. Angle lamp driver out of enclosure away from pan lock knob.
- Step 9. Replace in reverse order.

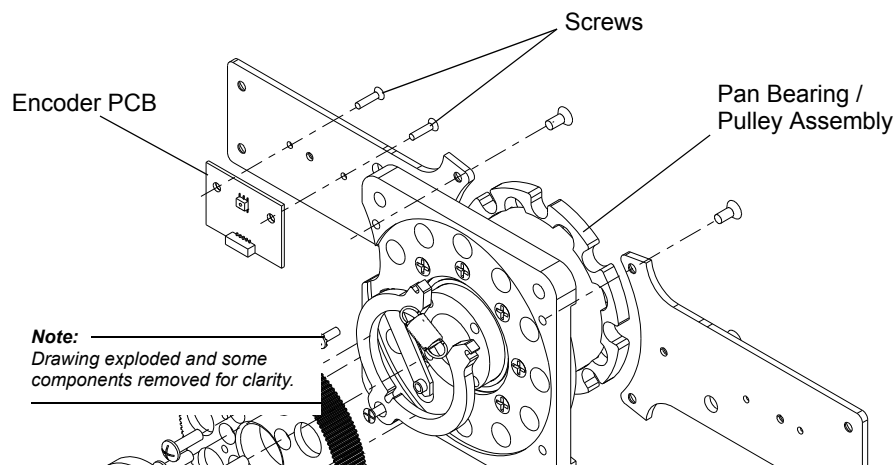
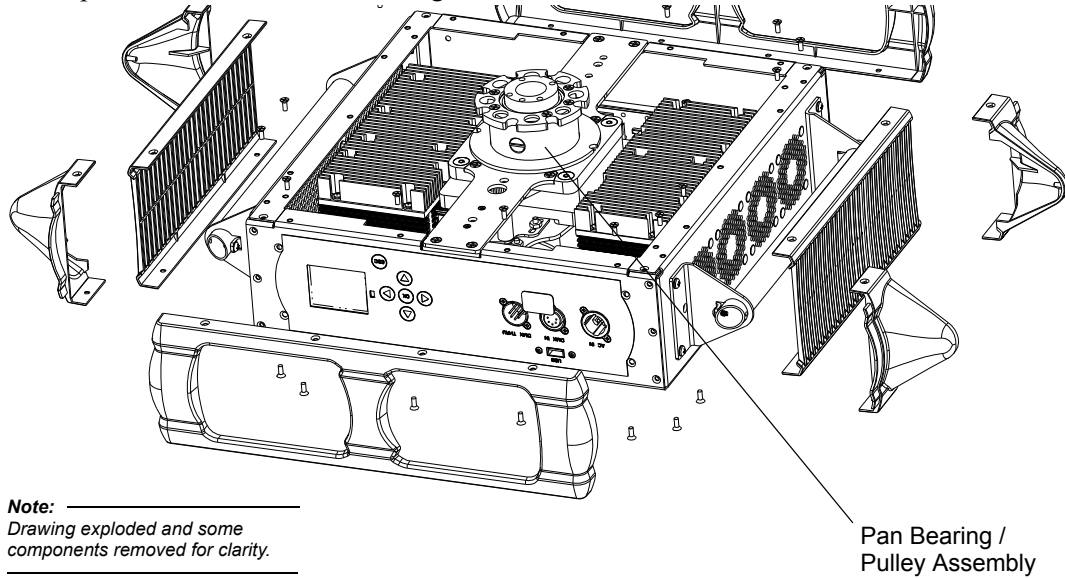
Note: Make sure lamp wires are routed under the PFC and that wires are not pinched. Ensure all screws are thoroughly tightened.

Pan Encoder PCB

Vari-Lite Part No: 17.9704.0910

To replace pan encoder PCB:

- Step 1. Remove both enclosure covers following the procedure described in “Upper Enclosure Covers Removal” on page 24.
- Step 2. At pan encoder, disconnect wiring harness.



- Step 3. Remove 2 x 4-40 x 1/4" PFZ screws and remove encoder.

- Step 4. Replace in reverse order.

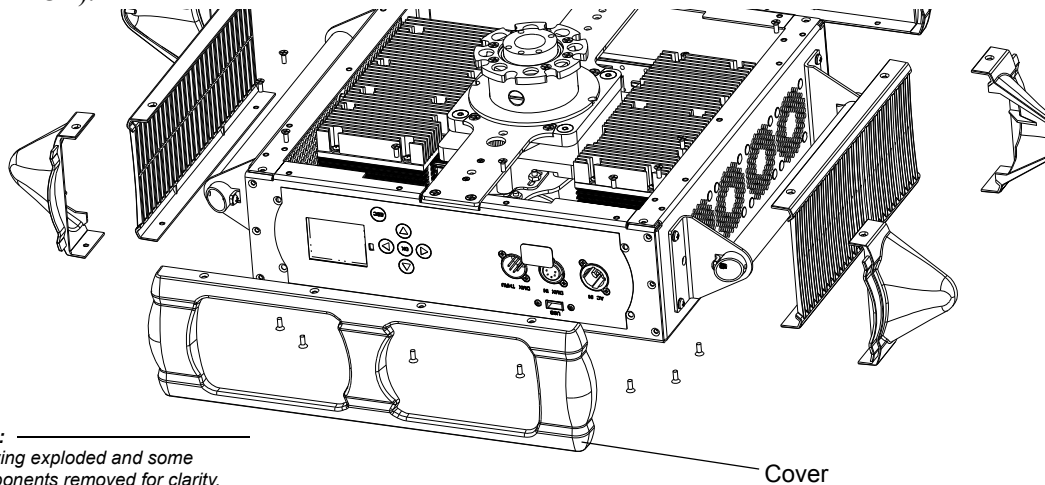
Pan Motor Assembly

Vari-Lite Part No: 22.9704.3820

Note: There are two different mounts for pan motor assemblies. On current versions, follow steps in this section. *If an older unit, that does not have a notch in motor mounting plate on lamp driver side, follow instructions to replace pan belt. See “Pan Belt” on page 43.*

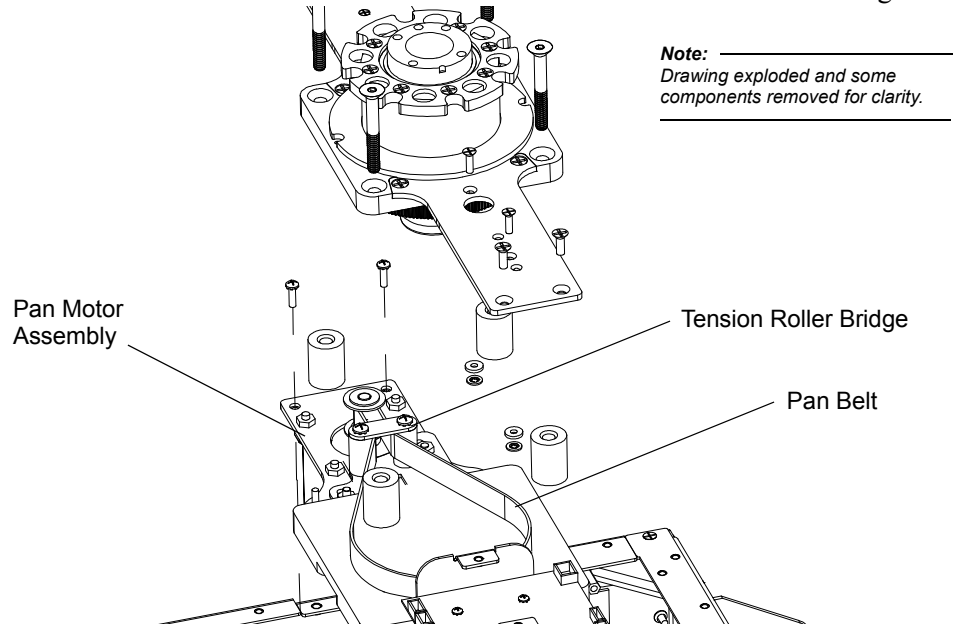
To remove pan motor assembly:

- Step 1. Remove both enclosure covers following the procedure described in “Upper Enclosure Covers Removal” on page 24.
- Step 2. Remove MCB following the procedure described in “Main Control Board (MCB)” on page 28.
- Step 3. Remove Lamp Driver following the procedure described in “Lamp Driver” on page 30.
- Step 4. Disconnect wiring from pan encoder.
- Step 5. At front cover, remove remaining 4 x 6-32 x 3/8" PFSS-B Screws (1 was removed to remove MCB).



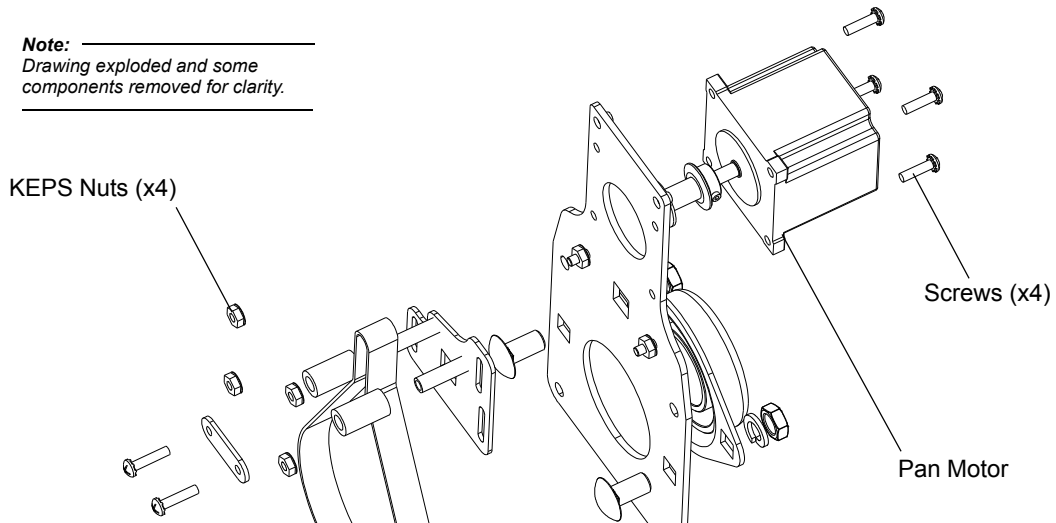
- Step 6. Gently pull front cover forward and remove 2 x 8-32 x 1/2" PFZ screws holding in bracket support.
- Step 7. Remove 2 x 8-32 x 1/2" PFZ screws mounting bracket support to pan tube assembly and remove bracket support.
- Step 8. Using 11/32" Nut driver, loosen 3 x #8 KEPS Nuts at belt tensioner and loosen pan belt tension.

Step 9. Remove 2 x 8-32 x 3/4" PPZ SEMS screws and remove belt tension roller bridge and rollers.



Step 10. Remove belt from between roller mounts on tensioner.

Step 11. At motor assembly, remove 4 x #8 KEPS Nuts and 4 x 8-32 x 5/8" PPZ SEMS screws. Use 90-degree screwdriver to hold screws if needed.



Step 12. Slide motor assembly to left, disconnect wiring and remove motor.

Step 13. Replace in reverse.

Note: To tension pan belt, slide tensioner toward the pan pulley. Set tension so that if pan is moved by hand, the belt does not slip on the drive pulley on motor. Too tight tension can damage motor shaft. If belt slips on drive pulley, this can damage belt

PFC

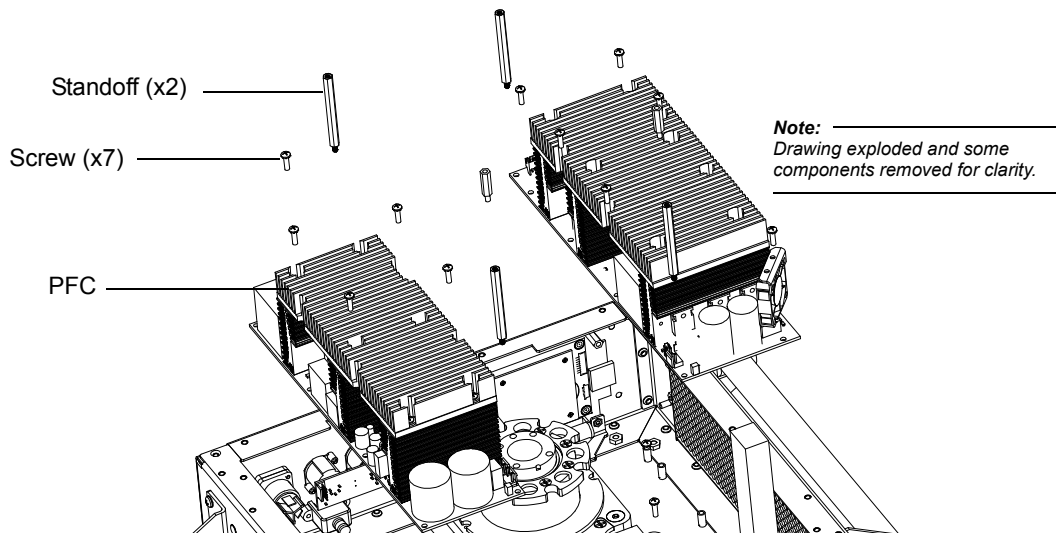
Vari-Lite Part No: 69.9704.2450

Note: There are two different versions of hardware mounting the PFC. They QTY in () is for the older spot versions.

To replace PFC:

- Step 1. Remove connector side upper enclosure cover following the procedure described in “[Upper Enclosure Covers Removal](#)” on page 24.
 - Step 2. Remove PFC insulating duct following the procedure described in “[PFC Insulating Duct](#)” on page 25.
 - Step 3. At PFC, disconnect AC input wiring and ground.
 - Step 4. At PFC, disconnect 2 x DC output wiring.
 - Step 5. Using ¼" nut driver, remove 2 (4) x 2.5"+13/16" standoff assemblies.
-

Note: There is a shield wire attached to standoff next to DC output for wiring going to Lamp Driver. This wire must be reinstalled in this position.



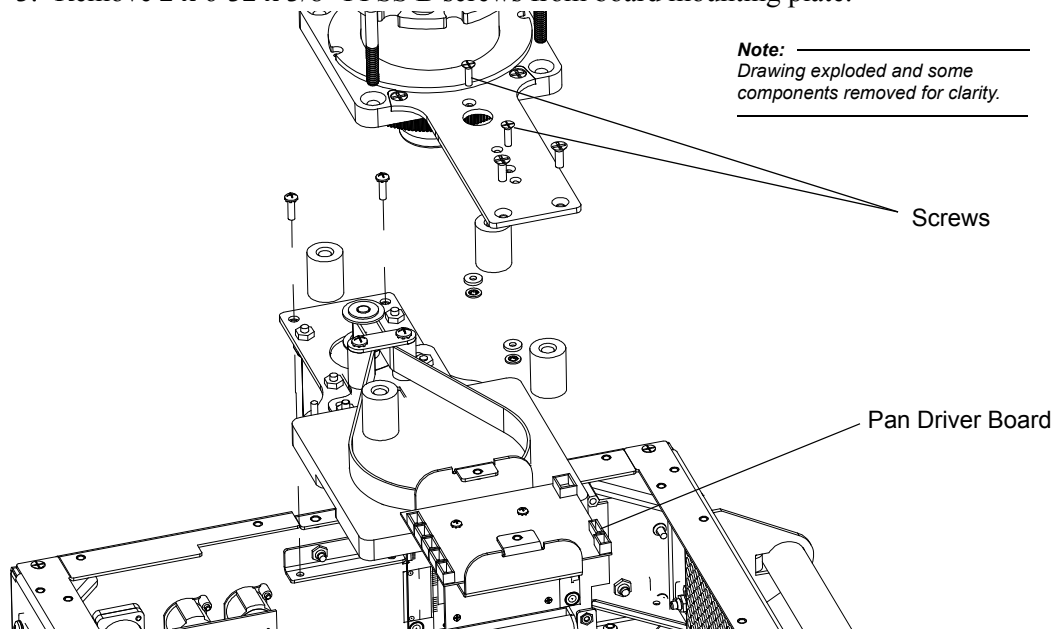
- Step 6. Remove 7 (5) X 6-32 X ½" PPZ SEMS screws.
- Step 7. Disconnect thermal sensor wire from PFC.
- Step 8. Angle PFC from enclosure away from pan lock knob.
- Step 9. Replace in reverse.

Pan Driver Board

Vari-Lite Part No: 24.9704.1907

To remove pan driver board:

- Step 1. Remove both upper enclosure covers following the procedure described in “[Upper Enclosure Covers Removal](#)” on page 24.
- Step 2. At pan driver board, disconnect all wiring from board.
- Step 3. Remove 2 x 6-32 x 3/8" PFSS B screws from board mounting plate.



- Step 4. Tilt board towards the PFC. At underneath, remove 2 x #4 KEPS nut and flat washer and remove cable saddle.
- Step 5. Tilt board towards lamp driver. At underneath, remove 1 x #4 KEPS nut and flat washer and remove cable saddle.
- Step 6. Then remove 1 x 4-40 x 5/8 PPZ SEMS screw and disconnect pan encoder shield wire
- Step 7. Remove other 3 x 4-40 x 5/8" PPZ SEMS screws and remove pan driver board. Note the placement of the 2 x Thermal pad*.

Note: *You must remove thermal pads from old driver board and install on replacement driver board.

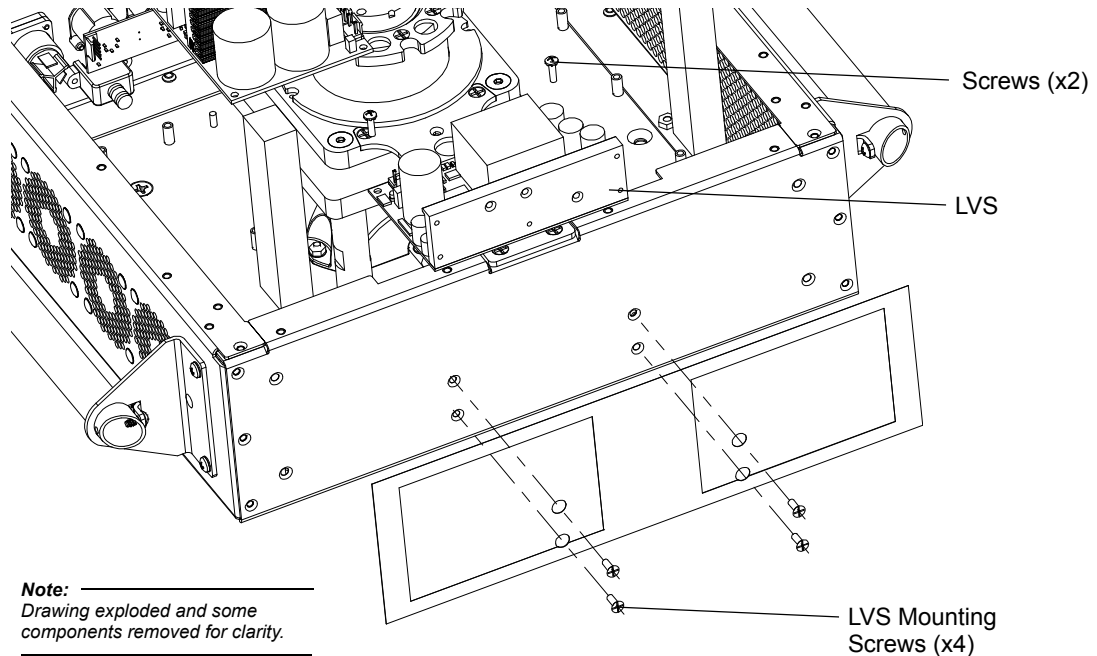
- Step 8. Replace in reverse order.

Low Voltage Supply (LVS)

Vari-Lite Part No: 69.9704.0300

To replace LVS:

- Step 1. Remove both upper enclosure covers following the procedure described in “Upper Enclosure Covers Removal” on page 24.
- Step 2. Remove pan driver board following the procedure described in “Pan Driver Board” on page 35.
- Step 3. Remove 4 x 6-32 x 3/8" PFSS-B screws from top side of rear cover.
- Step 4. Gently pull cover forward and remove 2 x 8-32 x 1/2" PFZ screws holding in bracket support.
- Step 5. Remove 2 x 8-32 x 1/2" PFZ screws mounting bracket support to pan tube assembly and remove bracket support.
- Step 6. Disconnect DC input wiring from PFC.
- Step 7. Disconnect DC output wiring.
- Step 8. At LVS, remove 2 x 6-32 x 1/2" PPZ SEMS screws. Note placement of shield and ground wire.



- Step 9. At side of enclosure, remove 4 x 6-32 x 3/8" PFSS-B screws* mounting LVS.

Note: * These screws have Loctite 242. Apply heat as needed. Reapply Loctite 242 when replacing.

- Step 10. Replace in reverse.

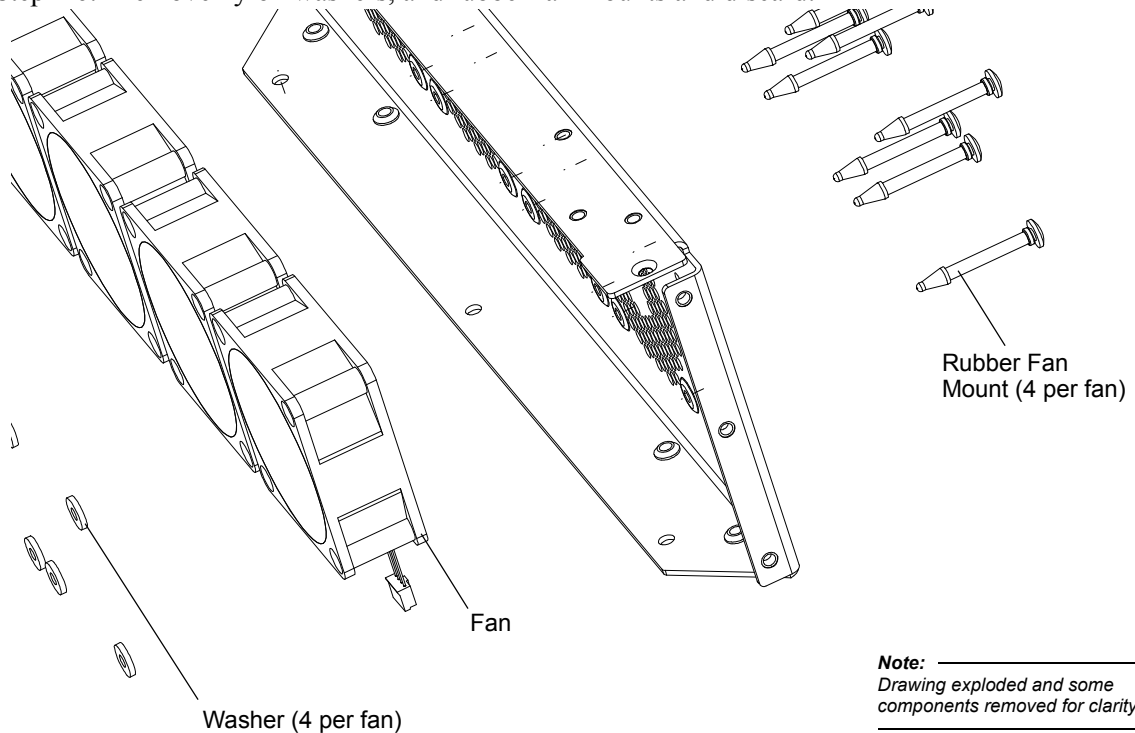
Upper Enclosure Fan

Vari-Lite Part No: 22.9704.1850

Note: *This part number is a service only item.* It consists of all parts (fan, rubber fan mounts, and washers) needed to change one (1) fan in the upper enclosure. The upper enclosure has four (4) fans. Refer to [“Side Mount Fan Assembly” on page 256](#) for additional information.

To replace an upper enclosure fan (individual fan):

- Step 1. Remove PFC following the procedure described in [“PFC” on page 34](#).
- Step 2. Remove 4 x 6-32 x 3/8" PFSS-B screws and remove side cover.
- Step 3. Disconnect wiring from pan driver board of fan to be replaced.
- Step 4. Noting placement of and cut any required cable ties.
- Step 5. At fan, using diagonal cutters, clip off ends of rubber fan mount.
- Step 6. Remove nylon washers, and rubber fan mounts and discard.



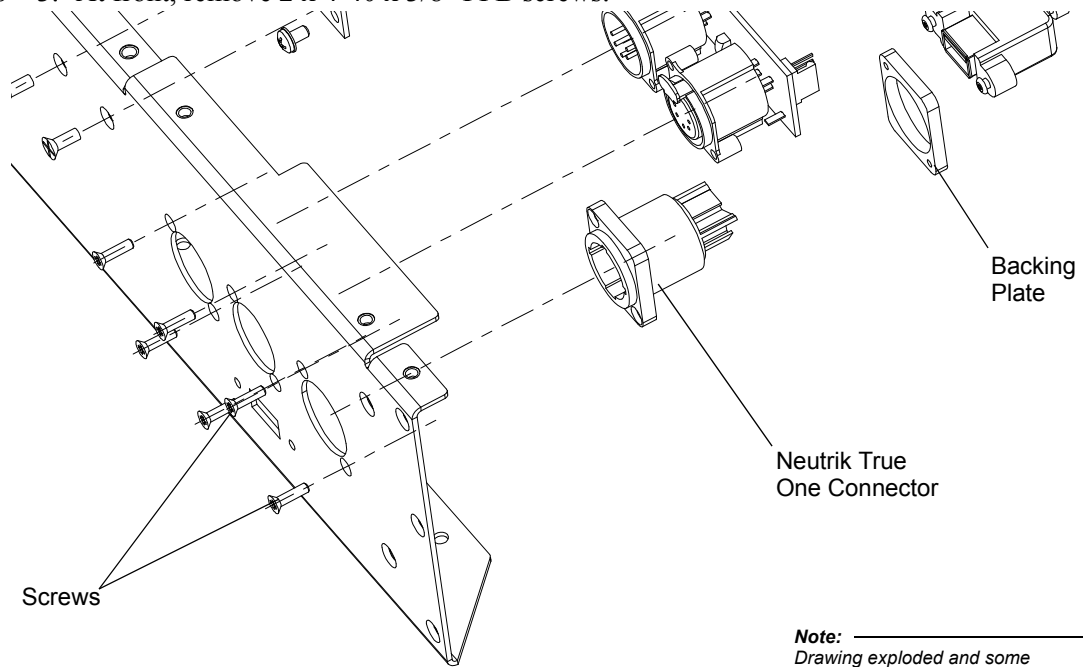
- Step 7. Remove fan assembly.
- Step 8. Install new fan assembly, which will come with 4 rubber fan mounts and nylon washers.
- Step 9. Clip off end of rubber fan mount after pulling through washers.
- Step 10. Replace cable ties.
- Step 11. Continue to replace in reverse from Step 4.

Neutrik True One AC Input Connector

Vari-Lite Part No: 25.9704.0830

To replace Neutrik True One AC input connector:

- Step 1. Remove connector side enclosure cover following the procedure described in “Upper Enclosure Covers Removal” on page 24.
- Step 2. Disconnect wiring from Neutrik True One connector.
- Step 3. At front, remove 2 x 4-40 x 3/8" PFB screws.



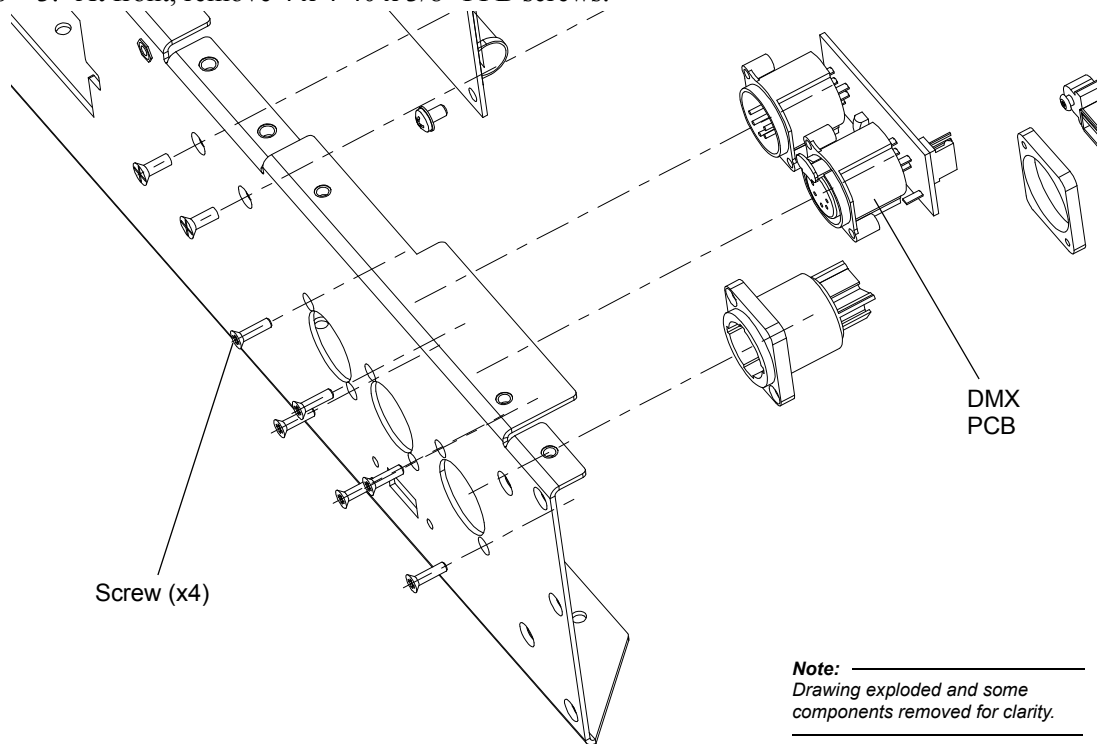
- Step 4. Inside enclosure, remove backing plate and set aside. It will be reinstalled with replacement connector.
- Step 5. Remove Neutrik True One connector.
- Step 6. Replace in reverse.

DMX PCB Assembly

Vari-Lite Part No: 24.9664.4895

To replace DMX PCB assembly:

- Step 1. Remove connector side enclosure cover following the procedure described in “Upper Enclosure Covers Removal” on page 24.
- Step 2. Disconnect wiring from DMX PCB.
- Step 3. At front, remove 4 x 4-40 x 3/8" PFB screws.



- Step 4. Remove DMX PCB.
- Step 5. Replace in reverse order.

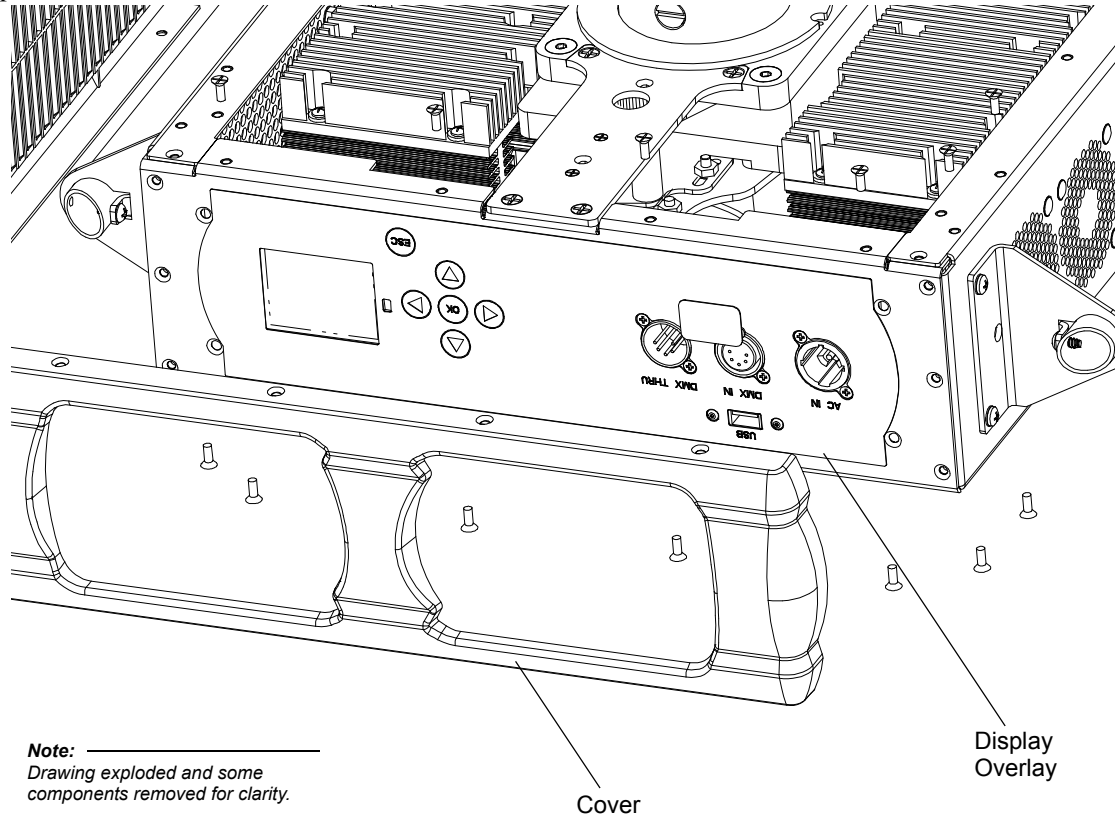
Display Overlay

Vari-Lite Part No: 11.9704.0846

To replace display overlay:

Step 1. Remove both enclosure covers following the procedure described in “[Upper Enclosure Covers Removal](#)” on page 24.

Step 2. Remove 8 x 6-32 x 3/8" PFSS-B screws and remove front cover.



Step 3. Disconnect ribbon cable from MCB (refer to information in “[Main Control Board \(MCB\)](#)” on page 28).

Step 4. Carefully peel off old display overlay.

Step 5. Ensure surface is clean.

Step 6. Peel backing from new overlay.

Step 7. Feed ribbon cable through opening and carefully apply overlay, ensuring to align all openings and press on firmly. *Make sure replacement overlay is flat - no trapped air bubbles.*

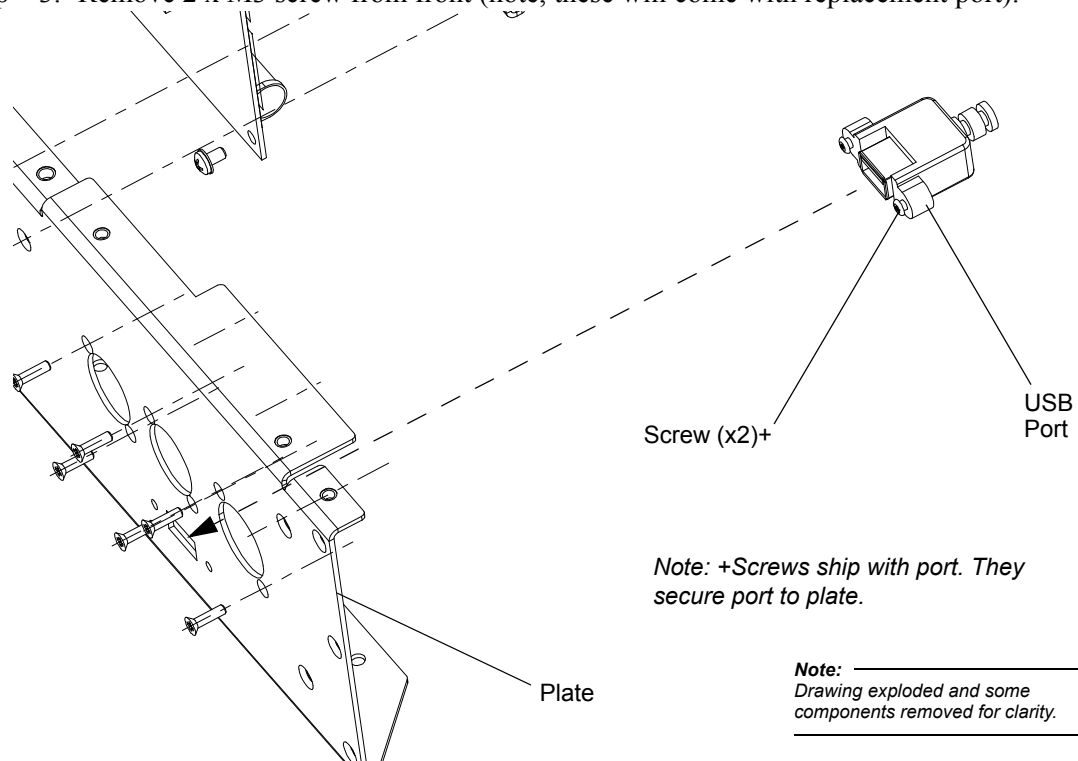
Step 8. Reassemble in reverse order.

USB Port

Vari-Lite Part No: 46.9704.0853

To replace USB port:

- Step 1. Remove both enclosure covers following the procedure described in “Upper Enclosure Covers Removal” on page 24.
- Step 2. Disconnect wiring from MCB (refer to information in “Main Control Board (MCB)” on page 28).
- Step 3. Remove 2 x M3 screw from front (note, these will come with replacement port).



- Step 4. Remove USB port.
- Step 5. Replace in reverse order.

Upper Enclosure Air Filters (To Clean or Replace)

Vari-Lite Part No: 10.9704.1842

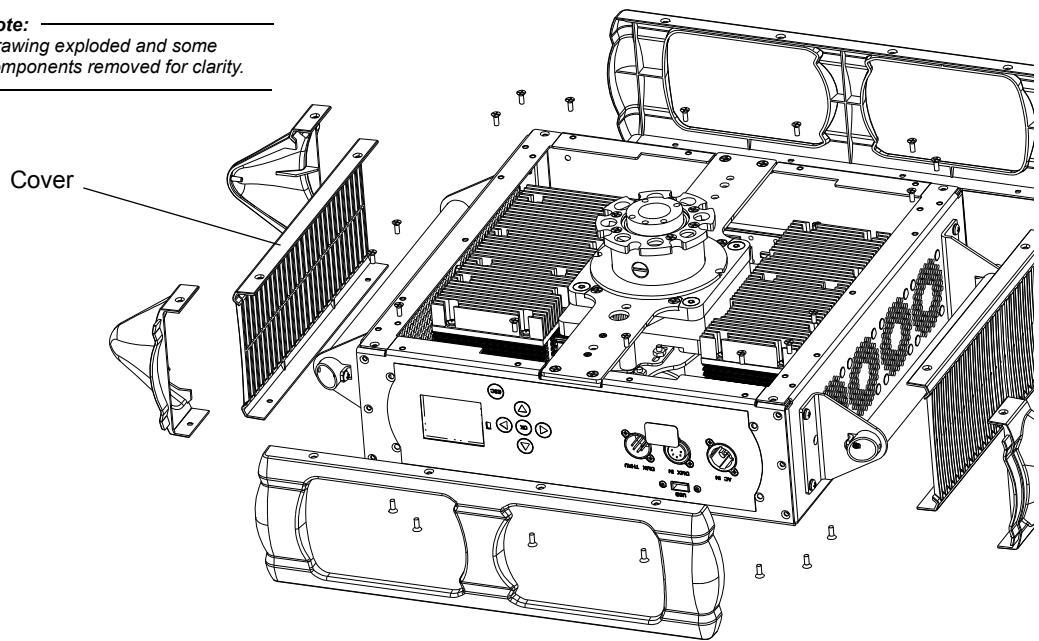
To remove, clean, and replace air filters:



WARNING: Remove power from luminaire and allow luminaire to cool completely before performing this procedure. Failure to remove power from luminaire can result in serious injury or death!

Step 1. At inlet side (opposite of fans), remove 4 x 6-32 x 3/8" PFSS-B screws and remove covers.

Note:
Drawing exploded and some components removed for clarity.



Step 2. Remove air filters.

Step 3. Clean with air or warm water.

Note: If filters are cleaned with warm water, allow filter to dry COMPLETELY before replacing.

Step 4. Replace in reverse order.

Pan Belt

Note: This procedure is also for old-style pan motor assemblies (with no notch) as described in “[Pan Motor Assembly](#)” on page 32.

Vari-Lite Part No: 54.9698.0224

To remove pan belt or old-style pan motor assemblies (with no notch):

Step 1. Remove the following:

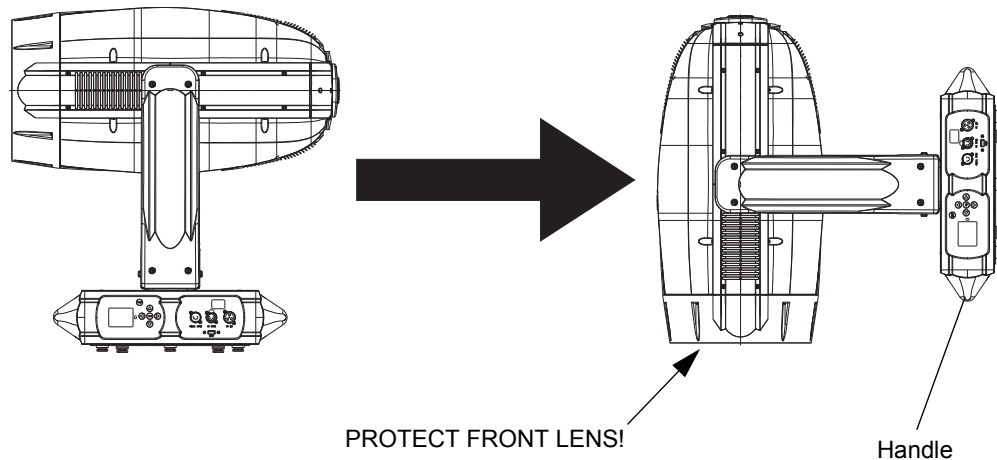
- a. PFC following the procedure described in “[PFC](#)” on page 34.
 - b. Lamp Driver following the procedure described in “[Lamp Driver](#)” on page 30.
 - c. Pan Driver Board (including mounting support) following the procedure described in “[Pan Driver Board](#)” on page 35.
 - d. Pan Motor Assembly following the procedure described in “[Pan Motor Assembly](#)” on page 32.
-

Note: Make sure to notate placement and routing of all wiring. All must be placed and routed the same.

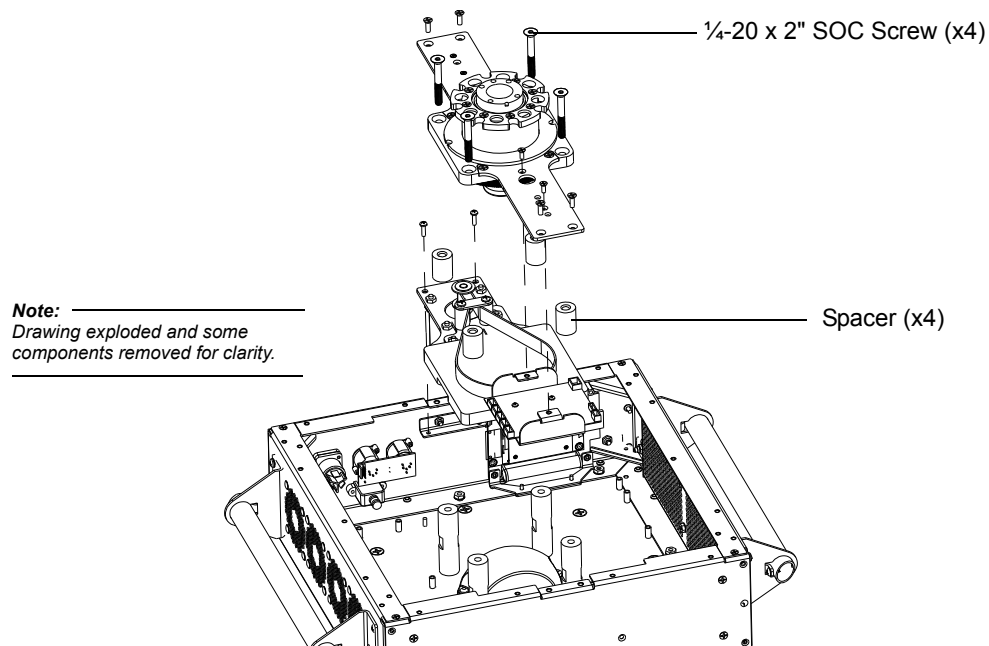
Step 2. Disconnect wiring from LVS output.

Step 3. Remove #8 KEPS nut securing ground wire to chassis

Step 4. While protecting the front lens, place fixture on bench front lens down. Lay yoke/enclosure over so enclosure rests on its handles.



Step 5. Rotate enclosure to access 1 of the 4 1/4-20 x 2" SOC screws.



Step 6. Using 5/32" Allen wrench, remove each screw and unthreaded spacer. Rotate the enclosure and remove all 4. **You must properly support the enclosure as you remove the last one!**

Step 7. Gently rock enclosure to loosen the pan tube from pan bearing on pan motor plate.

Step 8. Lay enclosure down as you pull wiring through pan bearing.

Step 9. Remove pan belt.

If you have an old, non-notched pan motor, continue disassembly:

Step 10. Remove 2 6-32 x 1/2" PPZ SEMS screws attaching pan assembly module to enclosure side rail.

Step 11. Lift entire assembly, with bearing and motor out of enclosure. Remove nuts and screws mounting motor and replace motor.

To install pan belt:

Step 1. Insert wiring through new belt and place belt on pan pulley.

Step 2. Feed wiring through pan bearing.

Step 3. Rotate the pan tube mounting plate, so the screw that holds then pan stop ball is facing the pan motor side.

Step 4. Lift enclosure so pan tube can insert into bearing.

Step 5. Insert one of the four 1/4-20 x 2" SOC screws and spacer. **DO NOT TIGHTEN!**

Step 6. Rotate around and start all four. **Make sure belt is INSIDE the spacers!**

Step 7. Once all four screws are started, work your way around and tighten them all.

Step 8. Then stand fixture on enclosure and reassemble remainder in reverse order of removal.

Yoke Arm Covers Removal

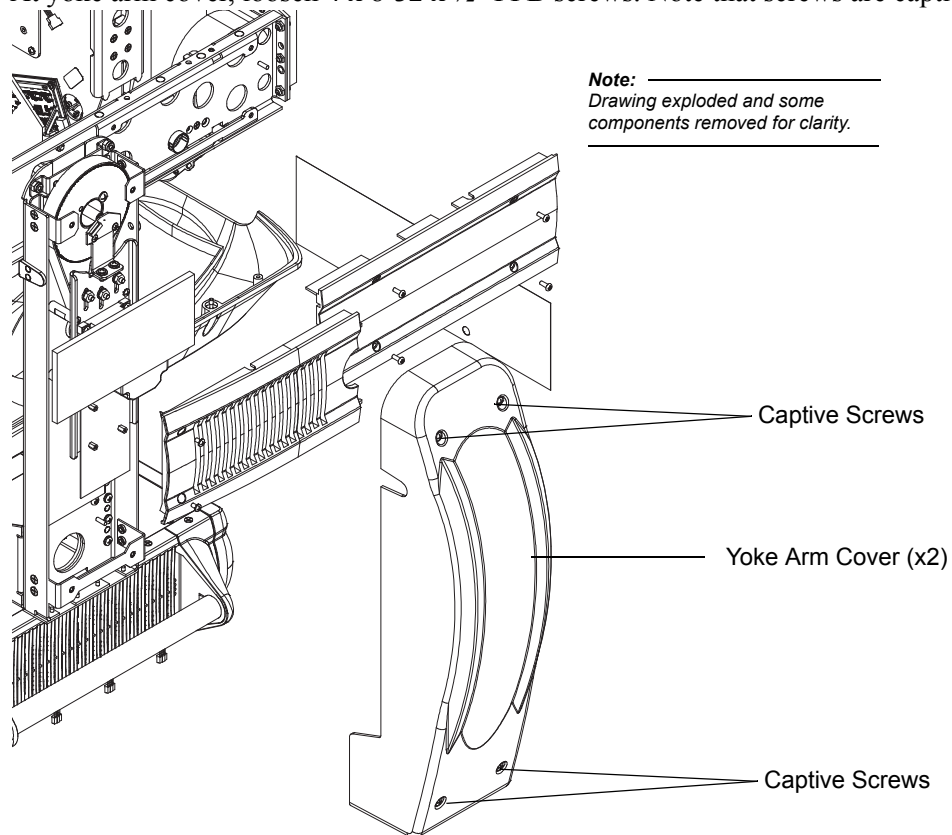
Vari-Lite Part No: 22.9704.6732

To remove yoke arm covers:



WARNING: Remove power from luminaire and allow luminaire to cool completely before performing this procedure. Failure to remove power from luminaire can result in serious injury or death!

Step 1. At yoke arm cover, loosen 4 x 8-32 x 1/2" PPB screws. Note that screws are captive to cover.



Step 2. Remove yoke arm cover.

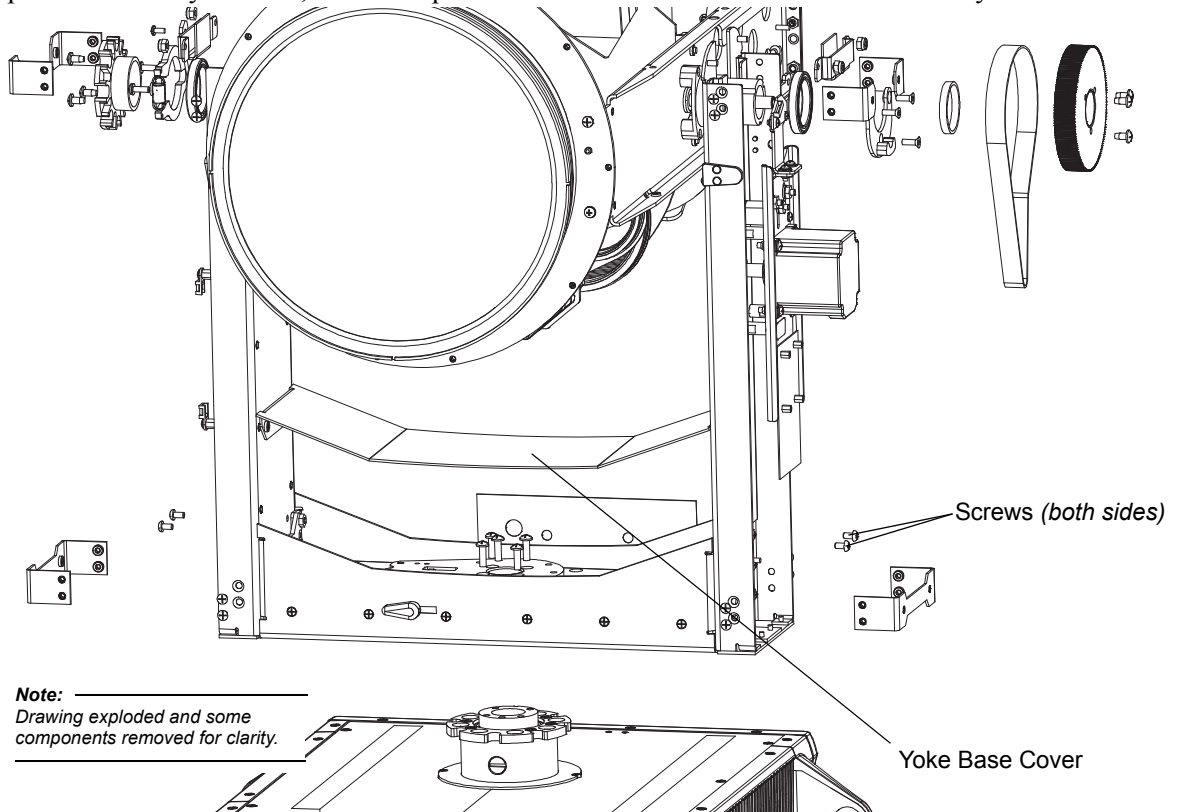
Step 3. Replace in reverse.

Yoke Base Cover

Vari-Lite Part No: 10.9704.1733

To remove yoke base cover:

- Step 1. Remove both yoke arm covers following the procedure described in “Yoke Arm Covers Removal” on page 45.
- Step 2. At each yoke side, remove 2 per side 8-32 x 5/16" PPZ screws and remove yoke base cover.



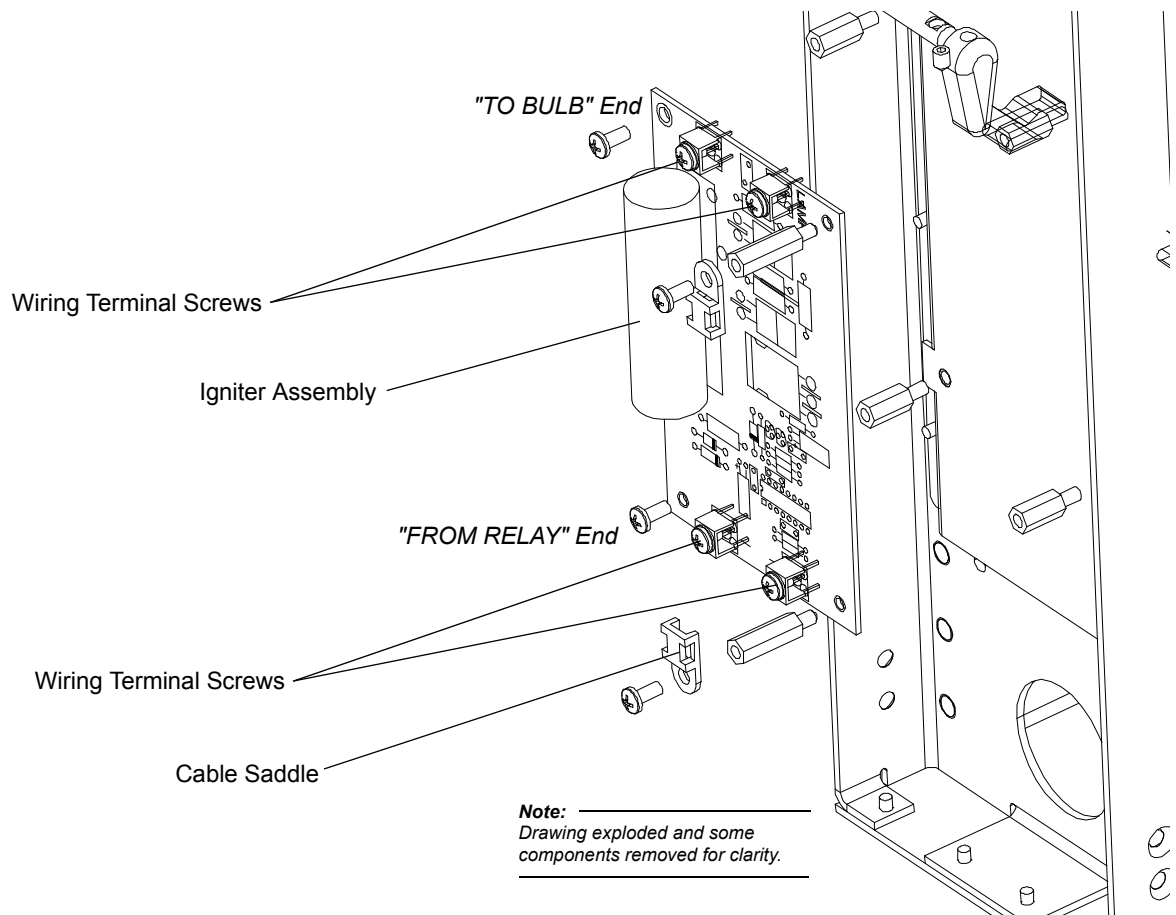
- Step 3. Replace in reverse.

Igniter Assembly

Vari-Lite Part No: 24.9704.1126

To replace igniter assembly:

- Step 1. Remove tilt lock side yoke arm cover following the procedure described in “[Yoke Arm Covers Removal](#)” on page 45.
- Step 2. At igniter, remove 4 x 6-32 terminal screws and remove input and output wiring. *Note these screws MUST be used to attach wiring. Save and use on replacement igniter.*



- Step 3. Remove 2 6-32 x 5/16" PPZ SEMS screws and remove two cable saddles.
- Step 4. Remove 2 6-32 x 5/16" PPZ SEMS screws and 2 x 1/4" HEX 6-32 x 0.75" Standoff and remove igniter.
- Step 5. Replace in reverse noting the following:
- Ensure to orient the igniter with the *TO BULB* terminals towards the tilt lock.
 - When installing the input wires on the *FROM RELAY* terminals, bias the wires away from the cable saddle.

Tilt Lock Arm Assembly

Vari-Lite Part No: 10.9704.1751 (Rod)

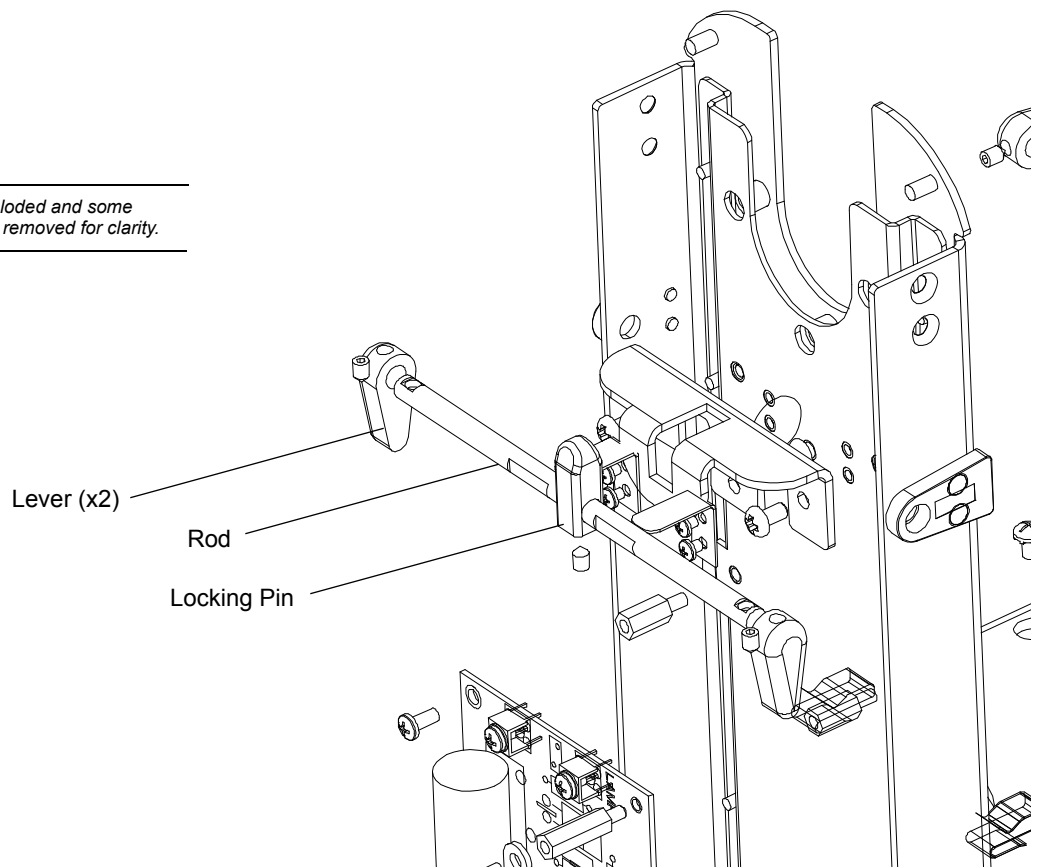
Vari-Lite Part No: 10.9704.0753 (Lever, x2)

Vari-Lite Part No: 10.9704.1752 (Locking Pin)

To replace tilt lock assembly or its parts:

- Step 1. Remove tilt lock side yoke arm cover following the procedure described in [“Yoke Arm Covers Removal”](#) on page 45.
- Step 2. Using a 5/64" Allen Wrench, remove 1 of the levers (10.9704.0753) by loosening the cone point set screw.

Note: _____
Drawing exploded and some components removed for clarity.



- Step 3. Loosen the cone point set screw in the locking pin.
- Step 4. Slide the rod out of yoke arm and locking pin.
- Step 5. Replace in reverse. Note there are holes in rod for set screws.

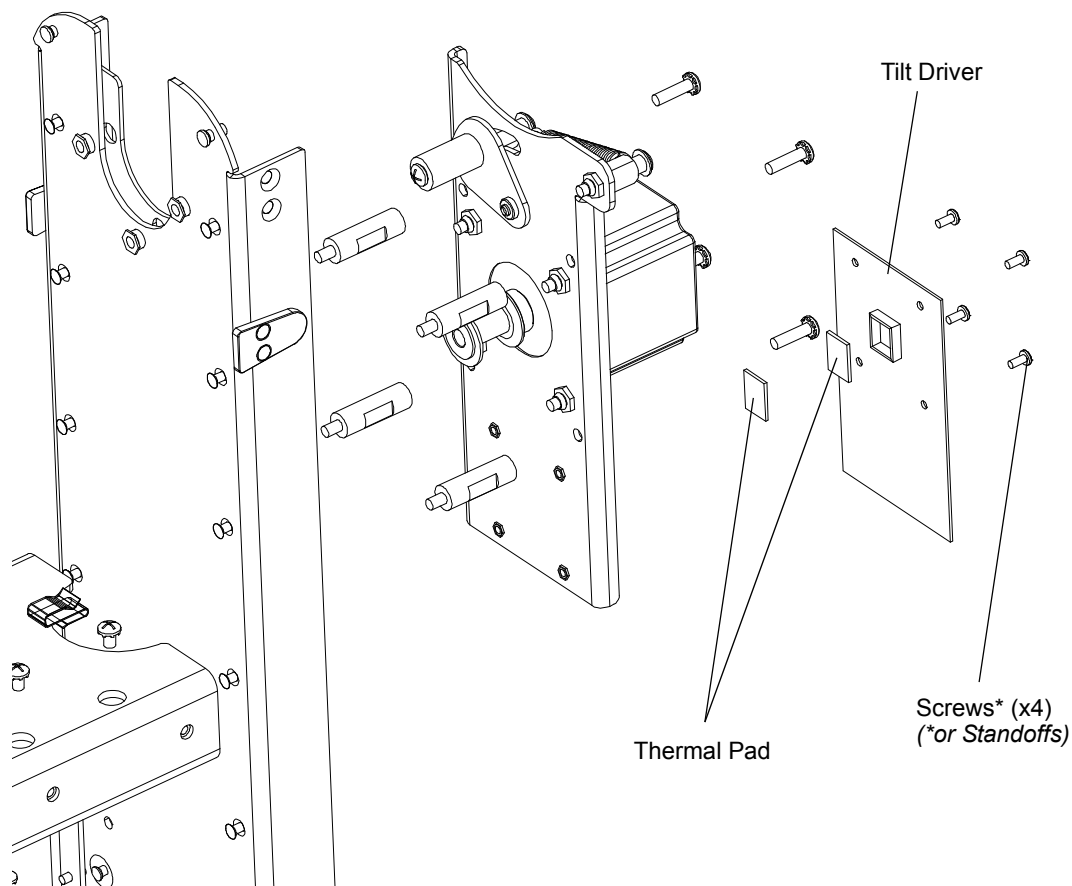
Tilt Driver

Vari-Lite Part No: 24.9704.1908

To replace the tilt driver:

- Step 1. Remove yoke arm cover opposite tilt lock following the procedure described in “[Yoke Arm Covers Removal](#)” on page 45.
- Step 2. Disconnect wiring from tilt driver.
- Step 3. Depending on the tilt driver type, do one of the following:
- Type 1** - Remove 4 x 4-40 x 1/4" PPZ Screws and remove board.
 - Type 2** - Using 3/16" Nut Driver, remove 4 x Standoff 3/16" HEX FF 0.25LG and remove board.

Note: _____
 Drawing exploded and some components removed for clarity.



Note: If replacing tilt driver, be sure and move the thermal pad from older driver to new tilt driver.

- Step 4. Replace in reverse

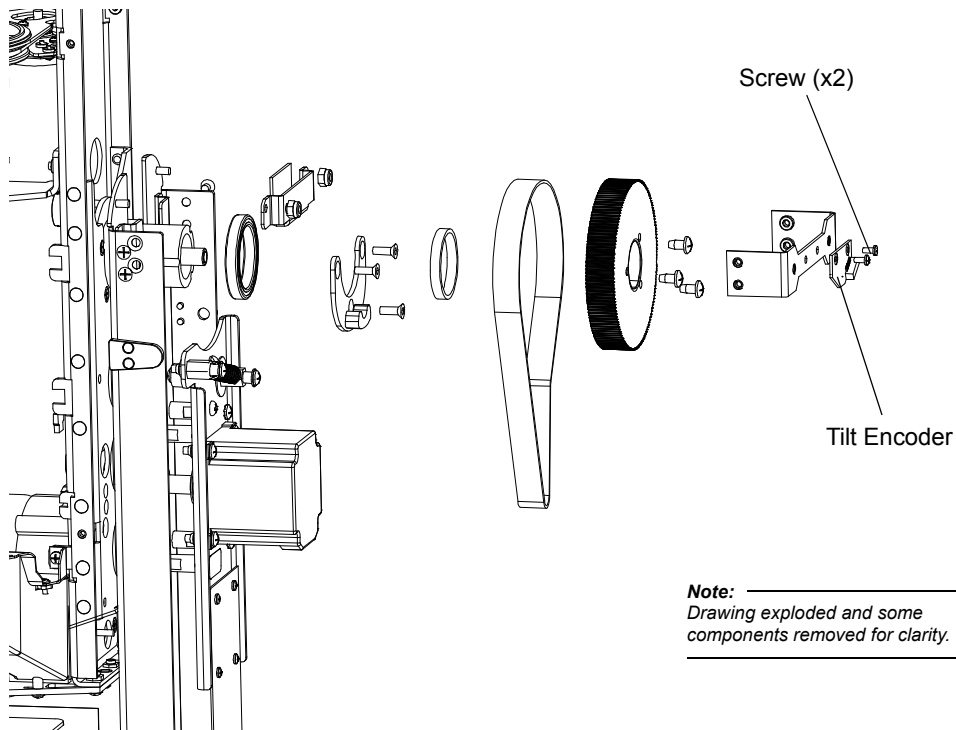
Tilt Encoder

Vari-Lite Part No: 17.9704.1911

Note: After performing this procedure, the tilt center position will need to be reset via the luminaire's menu system. Refer to the luminaire's user's manual for procedure.

To replace the tilt encoder:

- Step 1. Remove yoke arm cover opposite tilt lock following the procedure described in ["Yoke Arm Covers Removal"](#) on page 45.
- Step 2. Disconnect wiring from tilt encoder.
- Step 3. Remove 2 x 6-32 x 1/4" PPZ Screws and remove tilt encoder.



Note: On the new assemblies, the encoder position is adjustable. Ensure it is more than 1 mm away from the magnet.

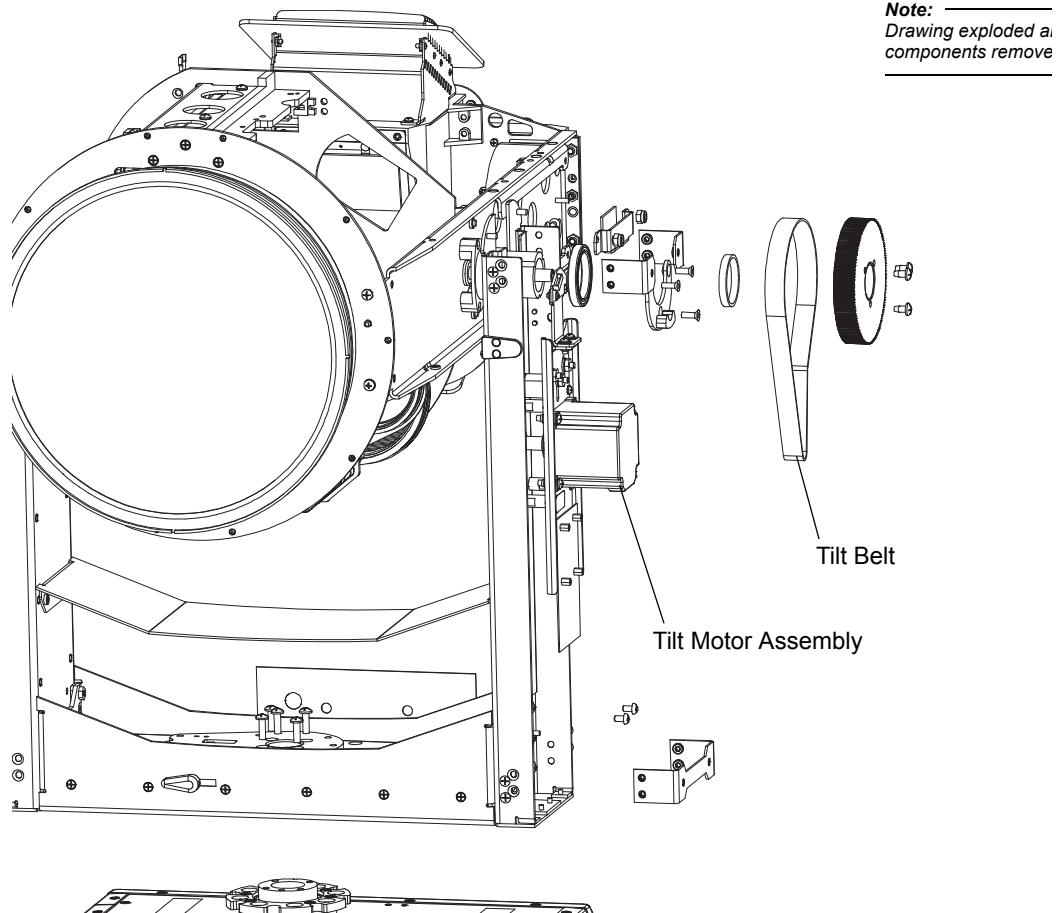
- Step 4. Replace in reverse.

Tilt Motor Assembly

Vari-Lite Part No: 21.9704.0764

To remove tilt motor assembly:

- Step 1. Remove yoke arm cover opposite tilt lock following the procedure described in “Yoke Arm Covers Removal” on page 45.
- Step 2. Disconnect wiring harness from tilt motor assembly.

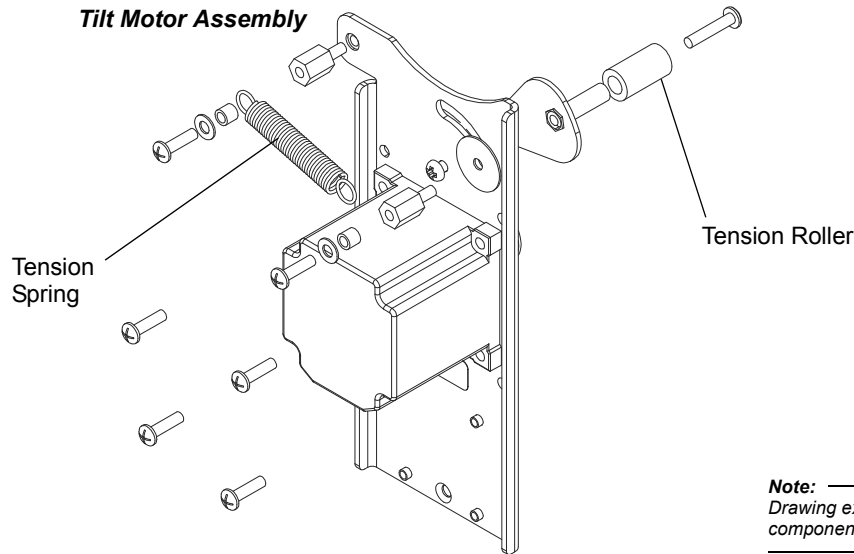


- Step 3. Depending on the tilt motor assembly type, do one of the following:

a. **Type 1**

- 1) To loosen belt tension, loosen 8-32 PPB screw going into tension roller.
- 2) Slide roller towards outside of yoke arm to loosen tension.

- 3) Tighten screw to hold roller with loose tension.



b. Type 2

- 1) To loose belt tension, loosen 3 x #8 KEPS nuts and slide tensioner toward motor
- Step 4. Remove 4 x 8-32 x 5/8" PPB screws that mount motor.
- Step 5. Remove belt from pulley and pull motor assembly through tilt mount.
- Step 6. For reassembly, depending on the tilt motor assembly type:
- a. **Type 1** - You will need to 'help' the spring set the belt tension buy pulling the tension roller in towards the belt.
 - b. **Type 2** - Slide the tensioner toward the tilt pulley. Make sure the rollers are even on both sides.
- Step 7. Replace in reverse order.

Tilt Belt

Vari-Lite Part No: 54.9698.0224

To remove and replace tilt belt:

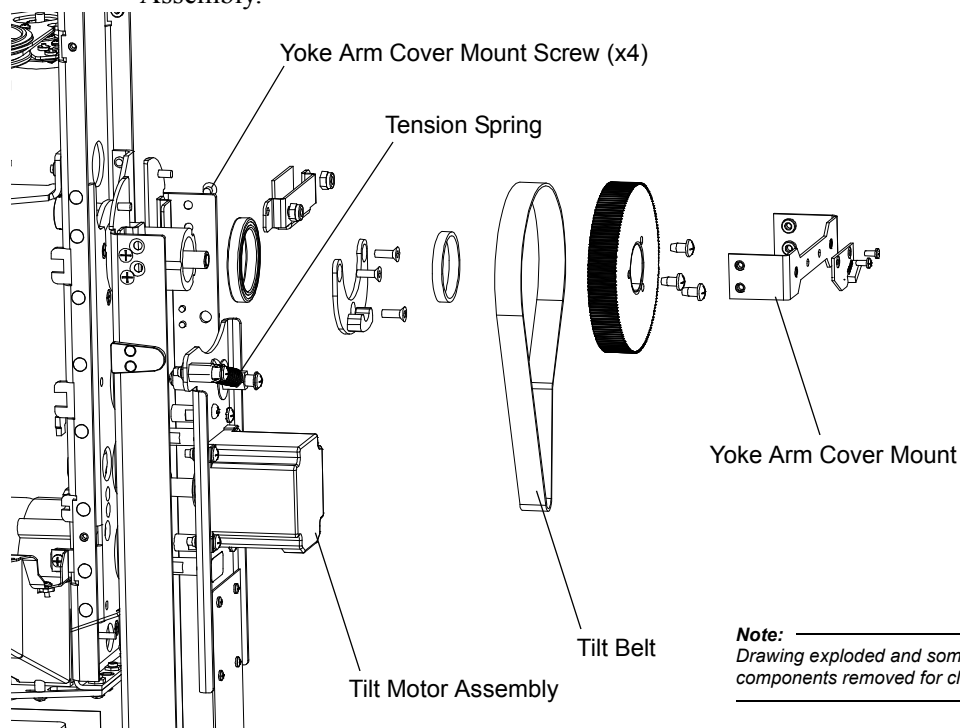
- Step 1. Remove yoke arm cover opposite tilt lock following the procedure described in “Yoke Arm Covers Removal” on page 45.
- Step 2. Disconnect wiring from tilt driver board, tilt motor, and tilt encoder.
- Step 3. Remove #6 KEPS Nut and remove ground bundle.
- Step 4. At COM wires, disconnect inline connectors.

Note: On some fixtures, you MAY have to remove the yoke base cover to access the inline connectors.

- Step 5. Depending on the tilt motor assembly type, do one of the following:

a. Type 1

- 1) To loosen belt tension, loosen 8-32 PPB screw going into tension roller.
- 2) Slide roller towards outside of yoke arm to loosen tension.
- 3) Tighten screw to hold roller with loose tension.
- 4) Remove 4 x 8/32 x 3/8" screws and 1 x 3/8" HEX Standoff and remove Tilt Motor Assembly.



Note:
Drawing exploded and some components removed for clarity.

- 5) Remove 4 x 8/32 x 1/4" PFZ screws and remove yoke arm cover mount.

b. Type 2

- 1) To loose belt tension, loosen 3 x #8 KEPS nuts and slide tensioner toward motor.
- 2) Remove 4 x 6-32 x 3/8" PPZ SEMS screws and remove motor assembly

Step 6. Remove belt.

Step 7. Replace in reverse. Follow belt tension procedure as described in [“Tilt Motor Assembly” on page 51.](#)

Yoke Assembly

Vari-Lite Part No: 22.9704.6705

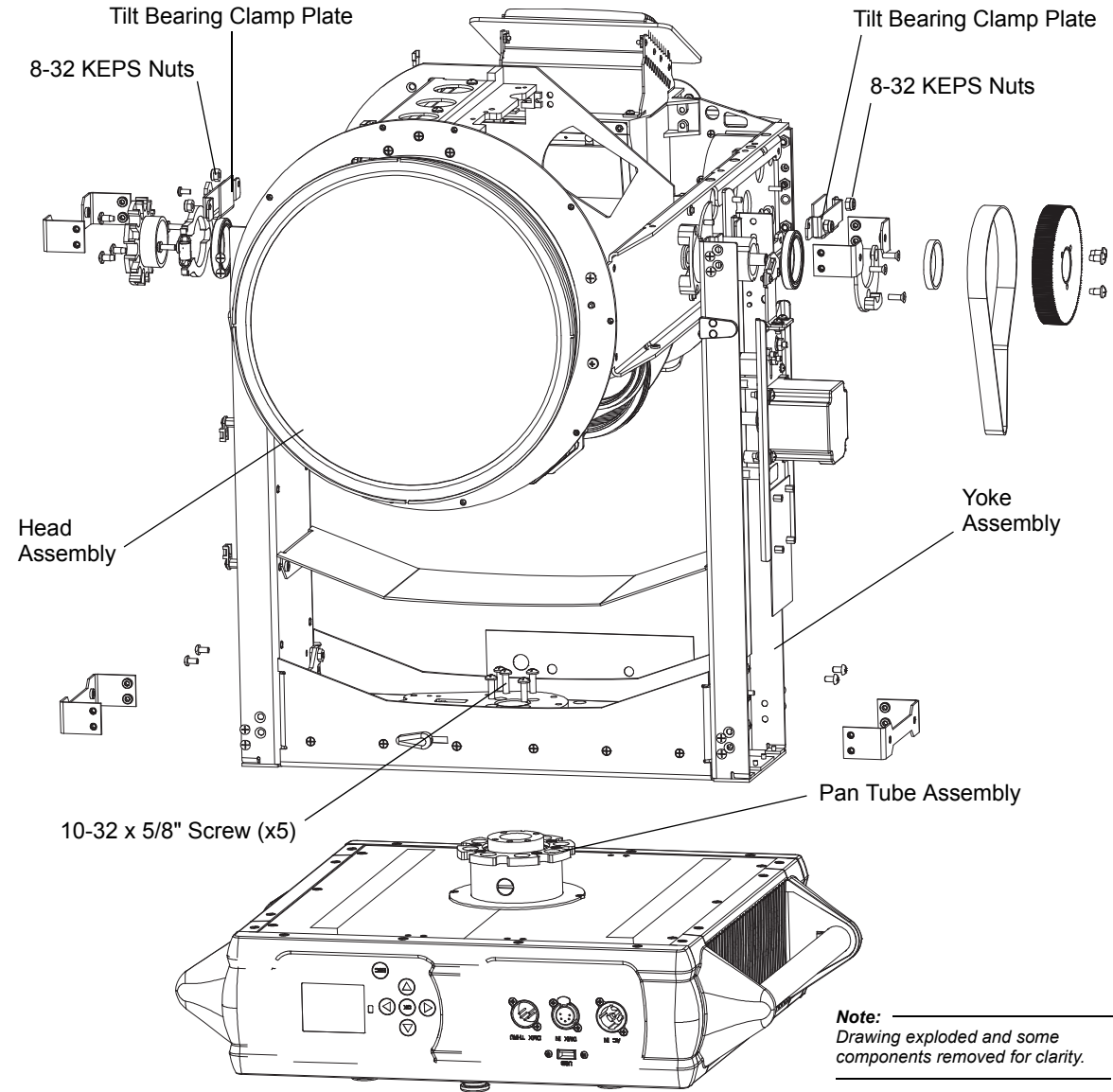
Note: This procedure is for replacing the yoke assembly only. You will transfer several parts to the replacement yoke assembly.

To replace the yoke assembly:

- Step 1. Remove both yoke arm covers following the procedure described in “[Yoke Arm Covers Removal](#)” on page 45.
- Step 2. Remove yoke base cover following the procedure described in “[Yoke Base Cover](#)” on page 46.
- Step 3. Remove tilt belt following the procedure described in “[Tilt Belt](#)” on page 53.
- Step 4. Remove igniter following the procedure described in “[Igniter Assembly](#)” on page 47.
- Step 5. Noting placement, cut cable ties securing wiring in inside of yoke under base cover, including the tilt driver power.
- Step 6. Remove both luminaire head covers following the procedure described in “[Luminaire Head Covers Removal](#)” on page 58.
- Step 7. Remove tilt lock side rail head cover following the procedures described in “[Front Side Rail Covers](#)” on page 59 and “[Rear Side Rail Cover Removal](#)” on page 60.
- Step 8. At power distribution board, disconnect 36Vdc input (white connector) and carefully pull back through tilt tube.

- Continued next page -

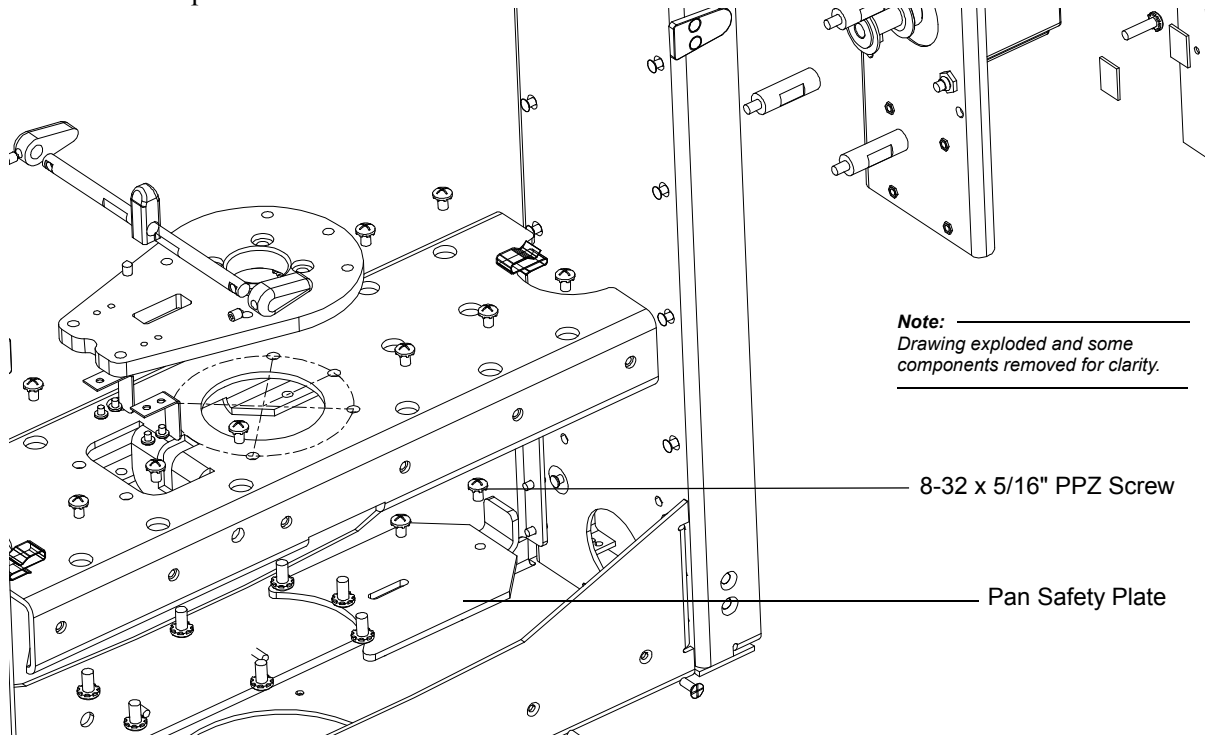
Step 9. At each side, remove 2 (4 total) 8-32 KEPS nut and remove tilt bearing clamp plate.



Step 10. Carefully lift luminaire head from yoke assembly.

- Continued next page -

- Step 11. On inside of yoke at tilt motor side, remove 1 8-32 x 5/16" PPZ screw (nearest outside of yoke) and loosen 1 8-32 x 5/16" PPZ screw nearest pan tube and slide pan safety plate away from pan tube.



- Step 12. Remove 5 x 10-32 x 5/8" screws mounting yoke to pan tube.
- Step 13. Remove yoke from pan tube, pulling wiring through opening in yoke.
- Step 14. Transfer all remaining hardware from old yoke assembly to new yoke assembly.
- Step 15. Reassemble in reverse order.

Luminaire Head Covers Removal

Vari-Lite Part No: 22.9704.6670

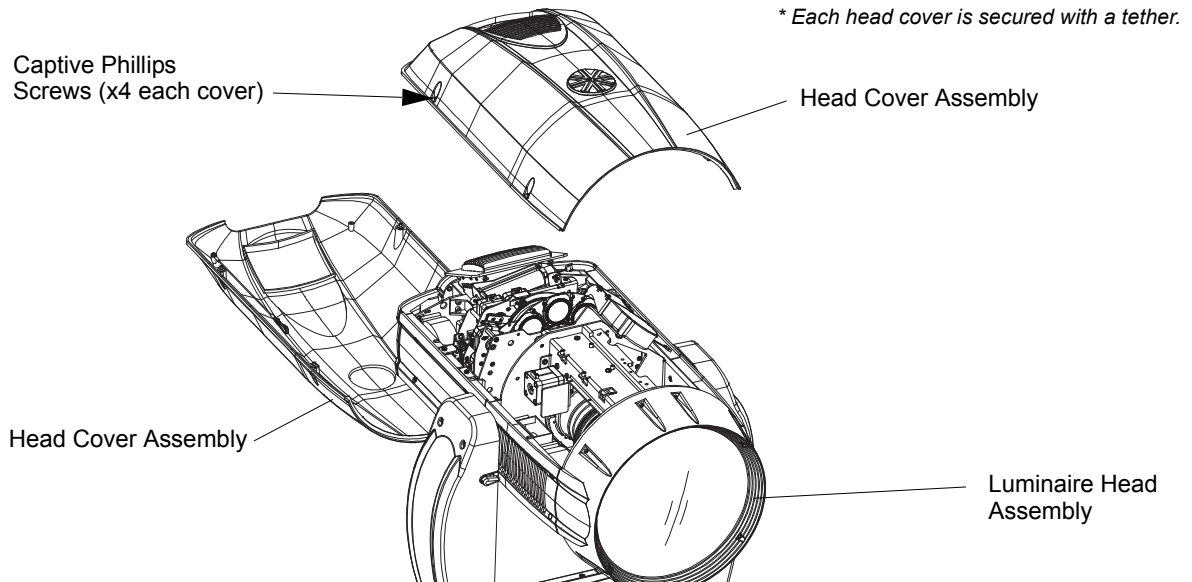


WARNING: Remove power from luminaire and allow luminaire to cool completely before performing this procedure. Failure to remove power from luminaire can result in serious injury or death!

Note: Top head cover is side with serial number on yoke. Or, if looking at lamp access, the side with 2 lamp optimization screws

To remove the luminaire head covers:

Step 1. Loosen 4 x 6-32 x 1/2" PPB Captive screws on each head cover.



Step 2. Remove tether from fixture and remove cover.

Step 3. Replace in reverse order.

Front Side Rail Covers

Vari-Lite Part No: 10.9704.6672

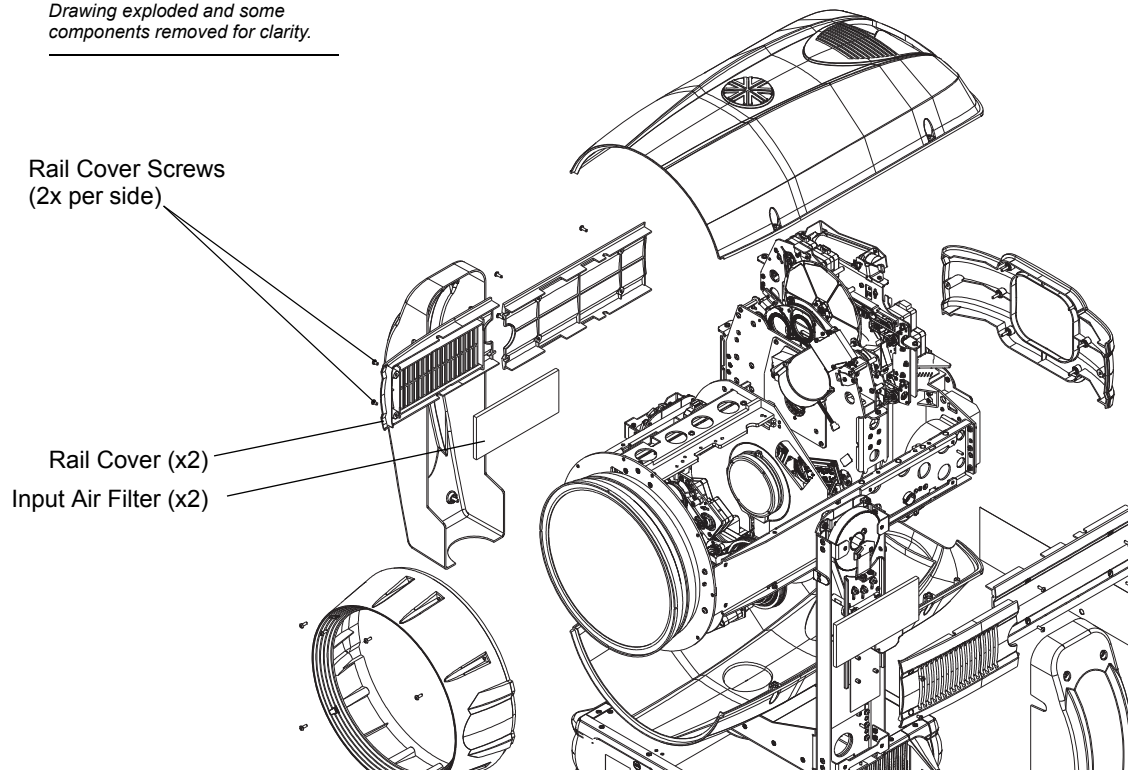
Input Air Filter

Vari-Lite Part No: 10.9704.6641

To remove front side rail covers and input air filters:

- Step 1. Remove both luminaire head covers following the procedure described in [“Luminaire Head Covers Removal”](#) on page 58.
- Step 2. Remove 2 x 6-32 x 3/8" PPB screws and remove cover/filter.

Note: _____
Drawing exploded and some components removed for clarity.



- Step 3. Clean filter with air or warm water OR replace with new.

Note: If filters are cleaned with warm water, allow filter to dry COMPLETELY before replacing.

- Step 4. Replace in reverse order.

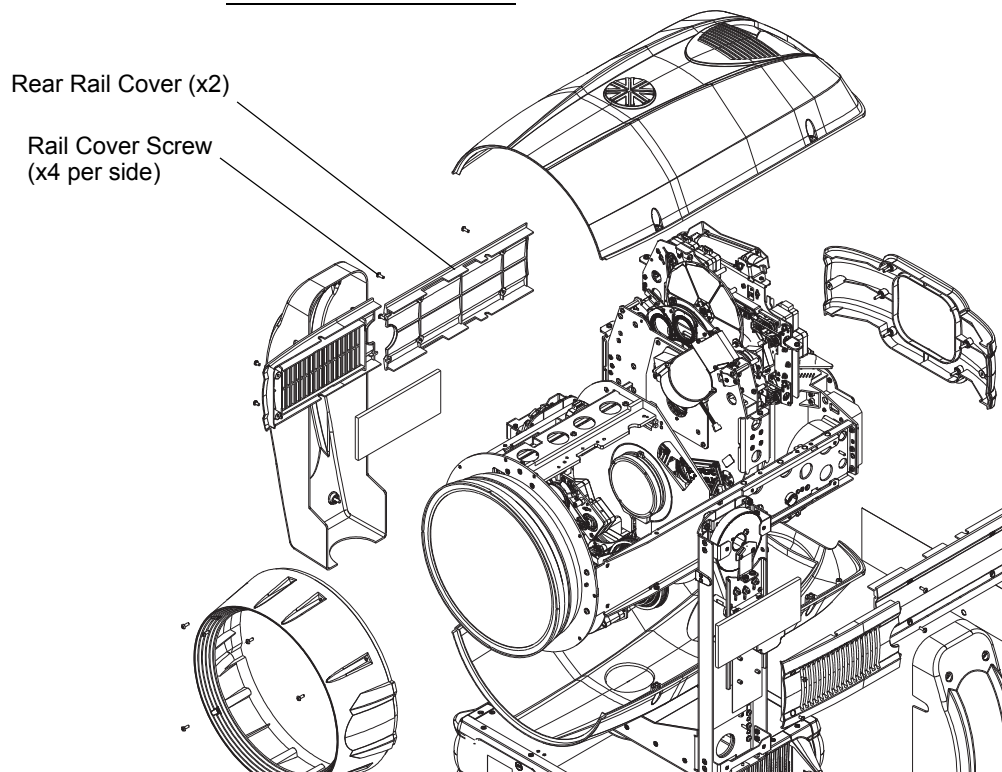
Rear Side Rail Cover Removal

Vari-Lite Part No: 10.9704.6673

To remove side rail covers:

- Step 1. Remove both head covers following procedure in “[Luminaire Head Covers Removal](#)” on [page 58](#).
- Step 2. Remove 4 x 6-32 x 3/8" PPB screws and remove cover.

Note: _____
Drawing exploded and some components removed for clarity.



- Step 3. Replace in reverse. Be sure each is properly positioned flush to adjoining covers (front rail and rear covers).

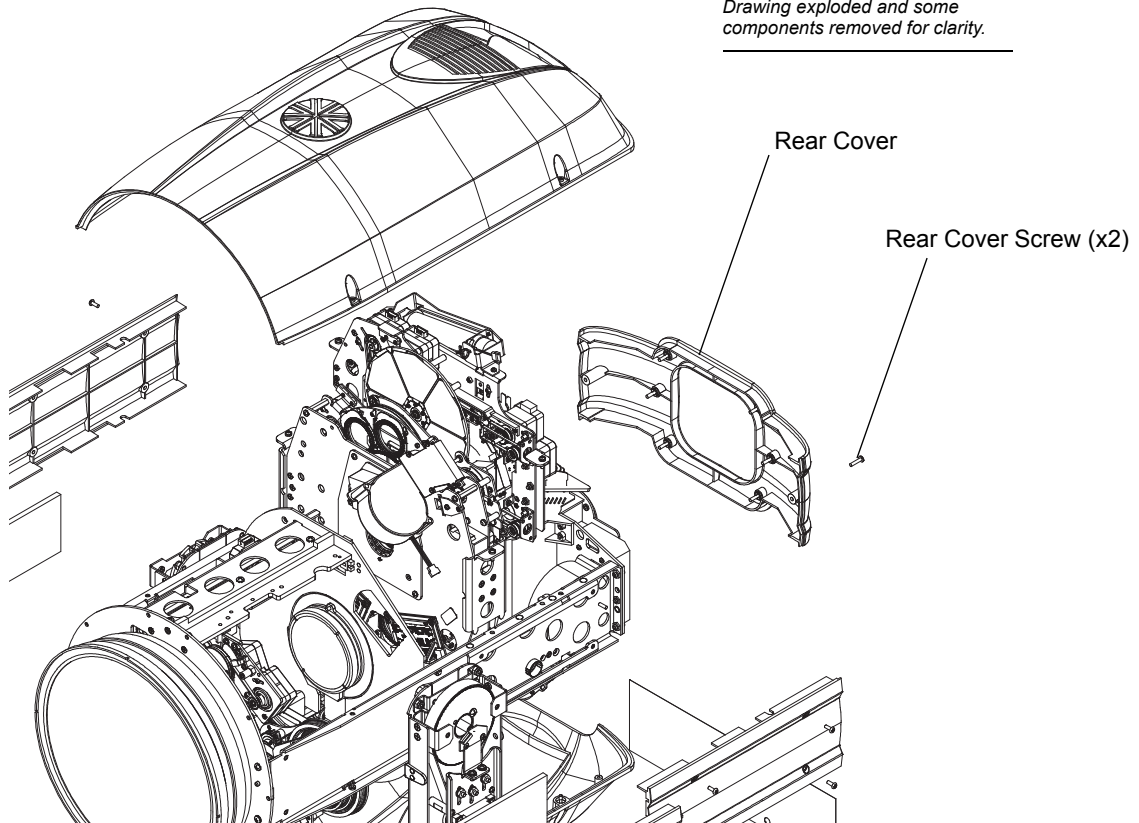
Rear Cover Removal

Vari-Lite Part No: 21.9704.6671 BeamWash

To remove rear cover:

Step 1. Remove 2 x 6-32 x 5/8" PPB screws at outside.

Note:
Drawing exploded and some components removed for clarity.



Step 2. Loosen 6 x 6-32 x 5/8" PPB captive screws at inside. Ensure the captive retainers and nylon spacers stay on the 6 screws. Replace if they come off.

Step 3. Remove cover.

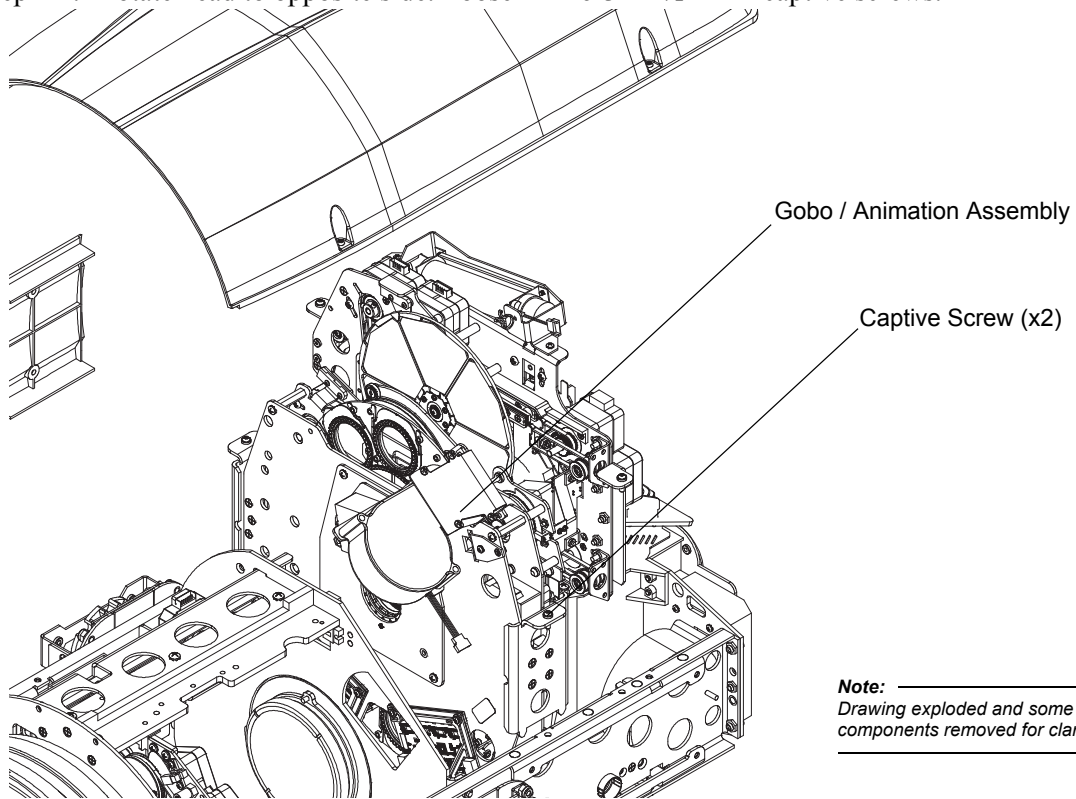
Step 4. Replace in reverse order.

Gobo / Animation Assembly

Vari-Lite Part No: 21.9704.6200

To remove gobo / animation assembly:

- Step 1. Remove head covers following procedure in “[Luminaire Head Covers Removal](#)” on [page 58](#).
- Step 2. At driver board C, disconnect DC power in and 2 x inline COM connectors. Remove wires from Kurly Loc.
- Step 3. At driver board D, disconnect DC power in and 1 inline COM connectors. Remove wire from Kurly Loc.
- Step 4. Rotate head to opposite side. Loosen 2 x 6-32 x 1/2" PPB captive screws.



Note: _____
Drawing exploded and some
components removed for clarity.

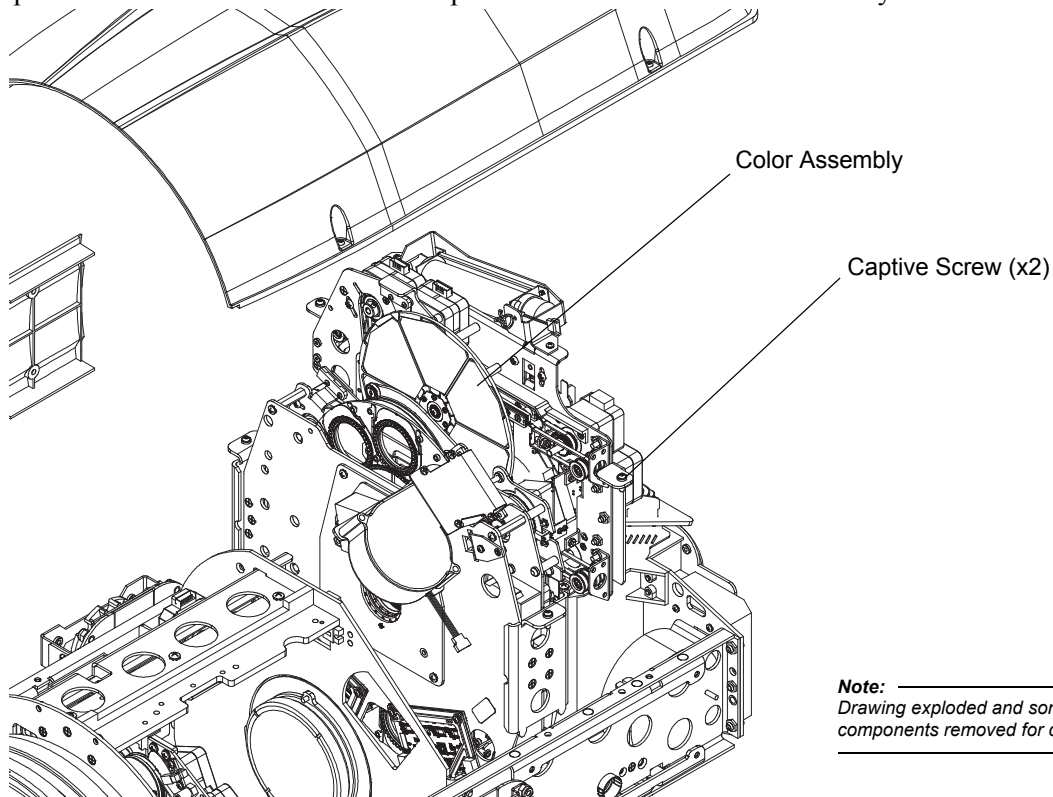
- Step 5. Replace in reverse.

Color Assembly

Vari-Lite Part No: 21.9704.7400

To remove color assembly:

- Step 1. Remove head covers following procedure in “[Luminaire Head Covers Removal](#)” on [page 58](#).
- Step 2. Either remove gobo assembly following procedure in “[Gobo / Animation Assembly](#)” on [page 62](#) or perform following:
- At driver boards A and B, disconnect DC power input and COM input.
 - Remove wires from Kurlly Loc cable ties.
- Step 3. Rotate head to opposite side. If gobo assembly was removed in Step 2, proceed directly to Step 5. Otherwise, continue to next step.
- Step 4. At gobo assembly, loosen 2 x 6-32 x ½" PPB captive screws. Carefully tilt gobo assembly up towards from lens to make room for color assembly to clear animation index motor.
- Step 5. Loosen 2 x 6-32 x ½" PPB Captive screws and slide color assembly from head.



Note: Always tighten tilt lock side screws first on gobo and color assemblies when reinstalling.

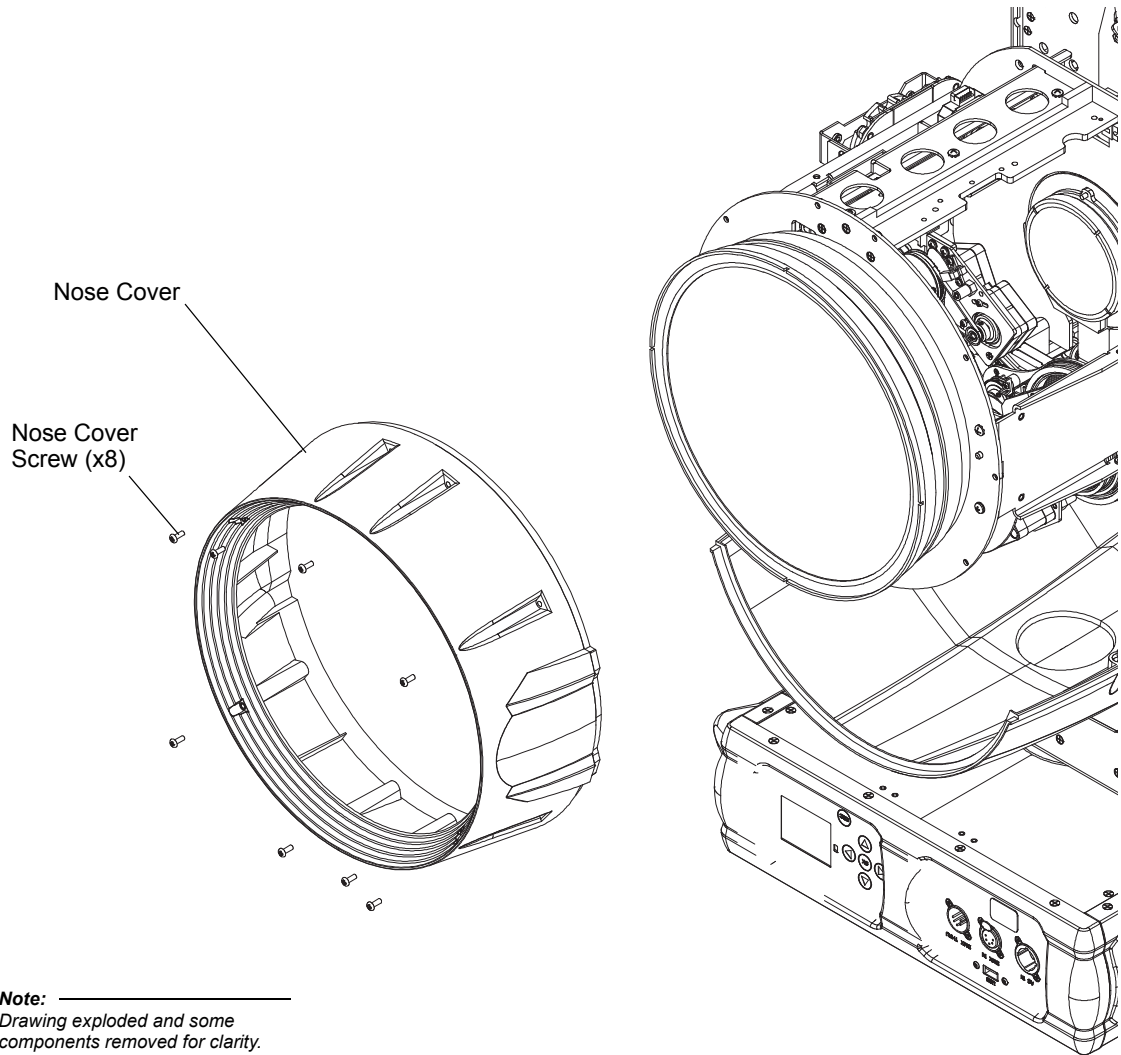
- Step 6. Replace in reverse.

Nose Cover

Vari-Lite Part No: 10.9704.6674

To remove nose cover:

- Step 1. Remove head covers following procedure in “[Luminaire Head Covers Removal](#)” on [page 58](#).
- Step 2. Remove 8 x 6-32 x 3/8" PPB screws and remove cover.



Note: _____
Drawing exploded and some components removed for clarity.

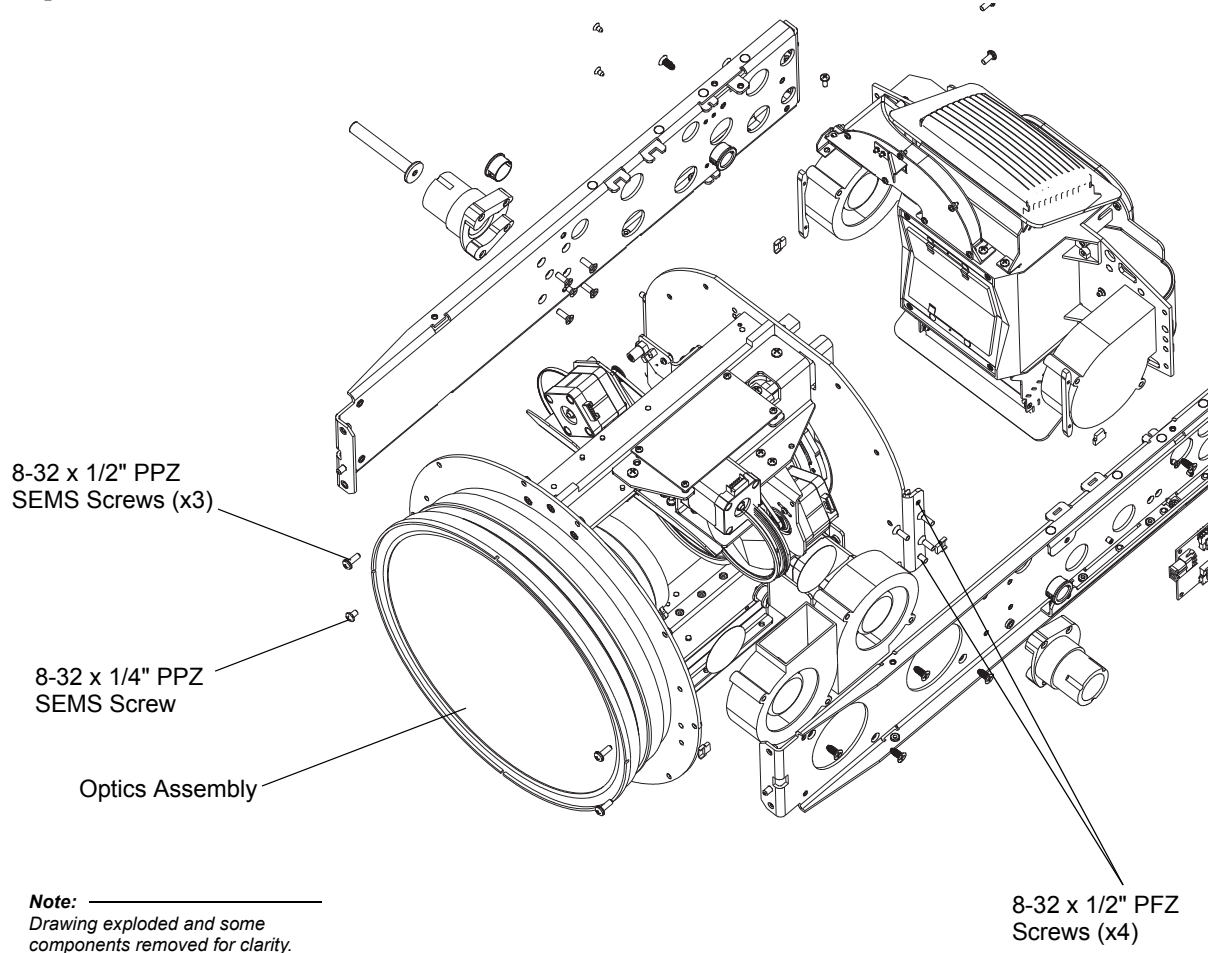
- Step 3. Replace in reverse.

Optics Assembly

Vari-Lite Part No: 21.9704.6150

To remove optics assembly:

- Step 1. Remove nose cover following procedure in “Nose Cover” on page 64.
- Step 2. At driver board G, disconnect DC power in and COM inline connector. Note placement of and cut any cable ties connecting dc power cable to fixture.
- Step 3. At Kurly Locs, remove wiring from lamp side
- Step 4. At inlet fans, disconnect inline connectors. Note placement of and cut any cable ties mounting wiring to fans.
- Step 5. On inside of side rails, remove 4 x 8-32 x 1/2" PFZ screws, 2 from each side.



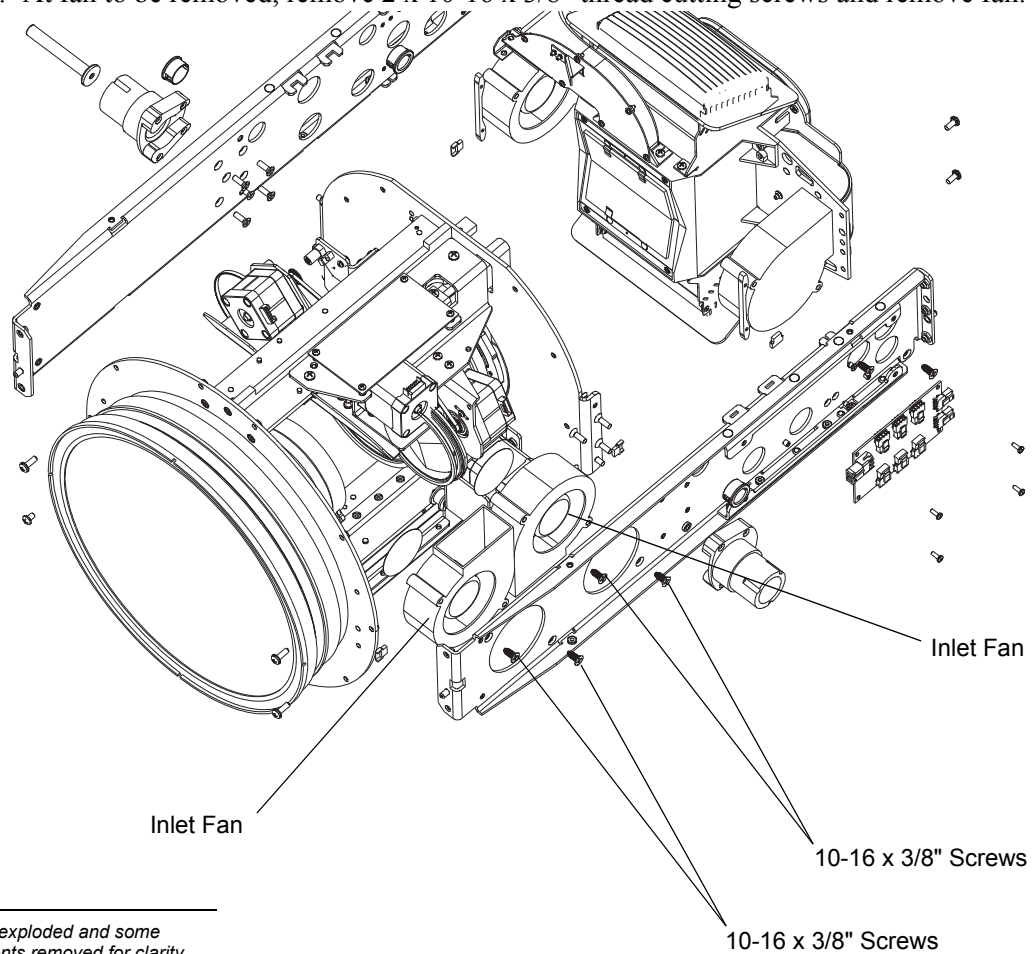
- Step 6. At top, remove 3 x 8-32 x 1/2" PPZ SEMS screws & 1 x 8-32 x 1/4" PPZ SEMS screw.
- Step 7. Carefully remove optics from head assembly.
- Step 8. Replace in reverse.

Inlet Fan

Vari-Lite Part No: 23.9704.0003

To replace inlet fan:

- Step 1. Remove tilt lock side front side rail cover following procedure in “[Front Side Rail Covers](#)” on page 59.
- Step 2. Disconnect fan wiring from driver board. Note placement of and cut any cable ties as required.
- Step 3. At fan to be removed, remove 2 x 10-16 x 3/8" thread cutting screws and remove fan.



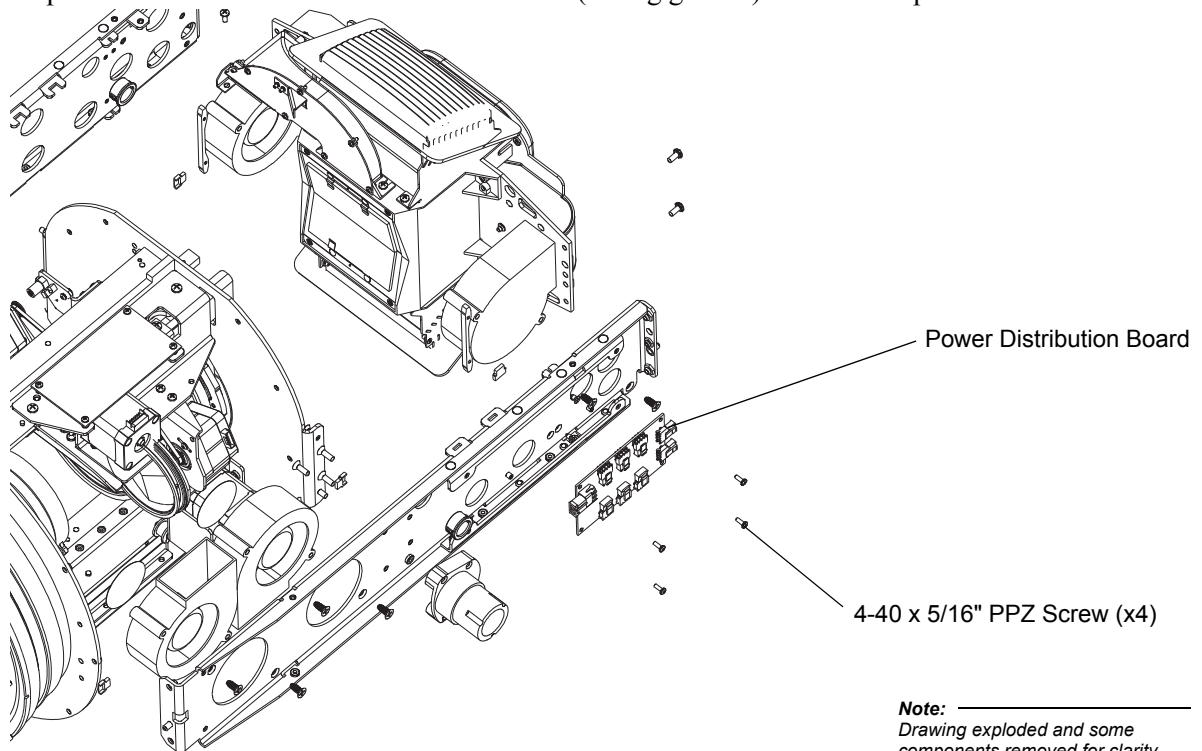
- Step 4. Replace in reverse order.

Power Distribution Board

Vari-Lite Part No: 24.9704.2909

To replace power distribution board:

- Step 1. Remove tilt lock side rear side rail cover following procedure in “[Rear Side Rail Cover Removal](#)” on page 60.
- Step 2. At power distribution board, disconnect all wiring.
- Step 3. Remove 4 x 4-40 x 5/16" PPZ screws (noting ground) and remove power distribution board.



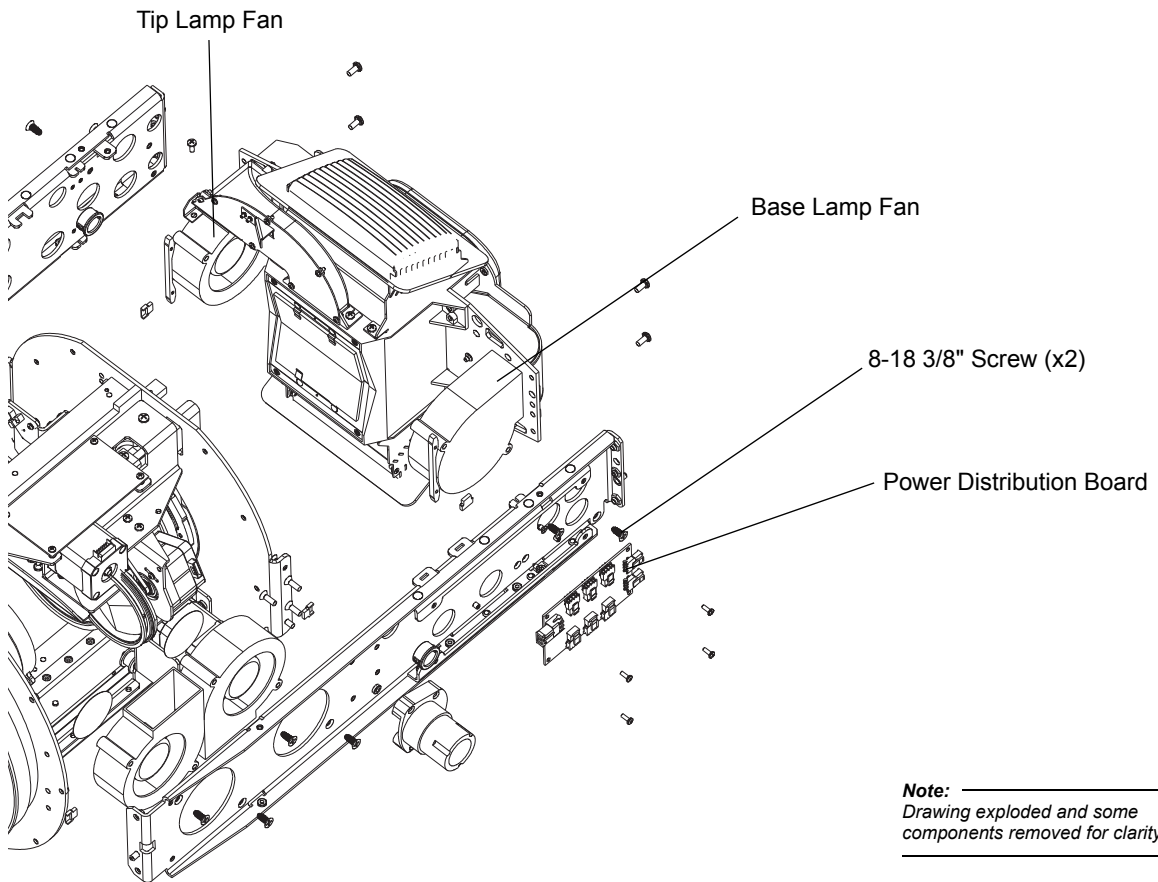
- Step 4. Replace in reverse order.

Base Lamp Fan

Vari-Lite Part No: 23.9704.0003

To replace base lamp fan:

- Step 1. Remove power distribution board following procedure in [“Power Distribution Board”](#) on [page 67](#).
- Step 2. At fan, disconnect wiring harness.
- Step 3. Remove 2 x 8-18 x 3/8" thread cutting screws and remove fan.



- Step 4. Replace in reverse order.

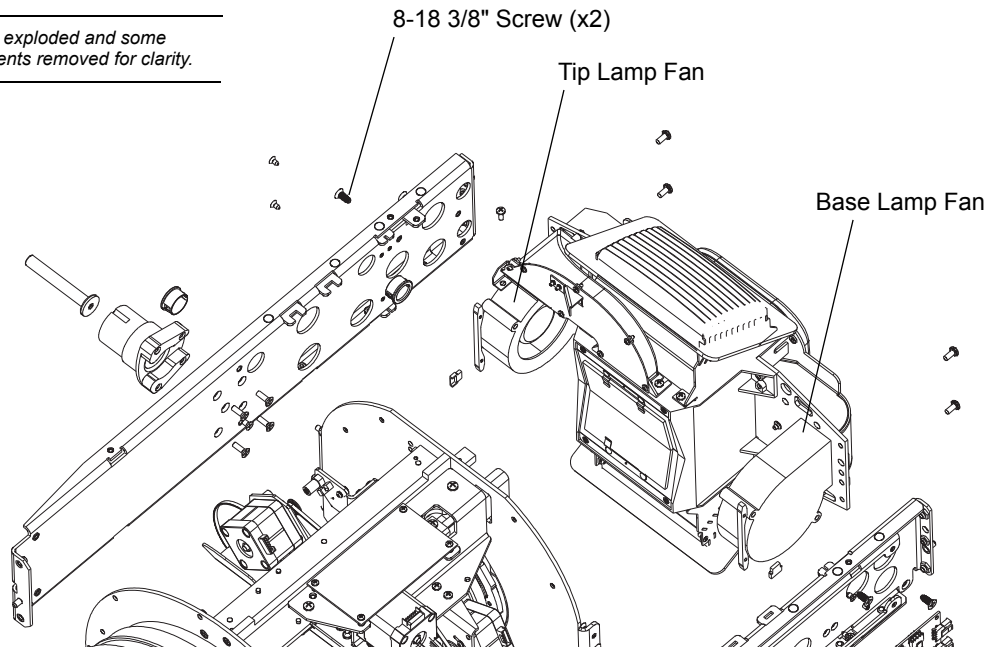
Tip Lamp Fan

Vari-Lite Part No: 23.9704.0003

To replace tip lamp fan:

- Step 1. Remove non tilt lock side rear side rail cover following procedure in [“Rear Side Rail Cover Removal”](#) on page 60.
- Step 2. At fan, disconnect wiring harness.
- Step 3. Remove 2 x 8-18 x 3/8" thread cutting screws and remove fan.

Note: _____
Drawing exploded and some components removed for clarity.



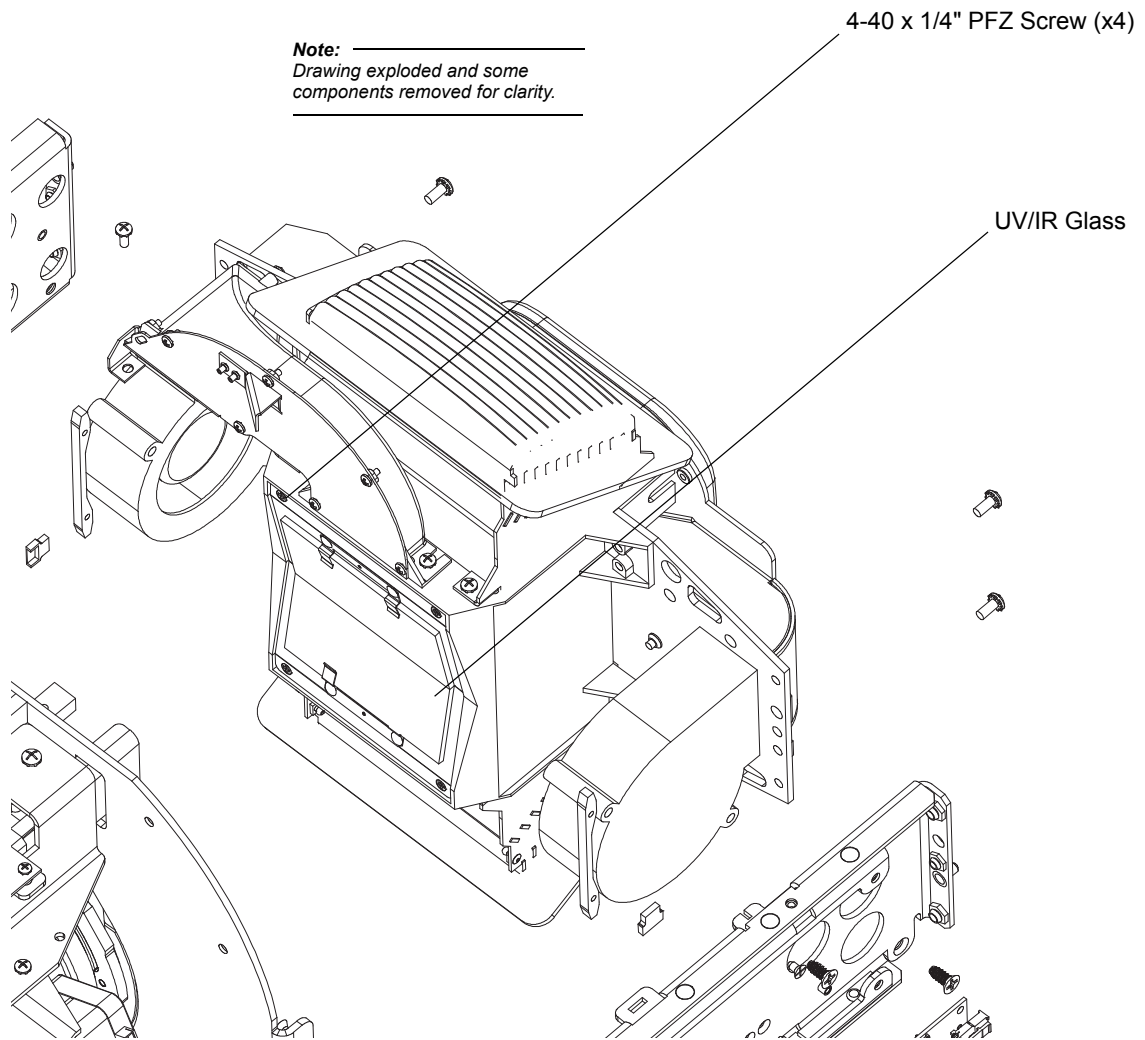
- Step 4. Replace in reverse order.

UV Glass Assembly

Vari-Lite Part No: 22.9704.0630

To replace UV glass assembly:

- Step 1. Remove color assembly following procedure in “Rear Side Rail Cover Removal” on page 60 “Color Assembly” on page 63.
- Step 2. Remove 4 x 4-40 x 1/4" PFZ screws and remove UV assembly.



Note: Before reassembly, be sure to clean any dirt, finger prints, etc. from assembly.

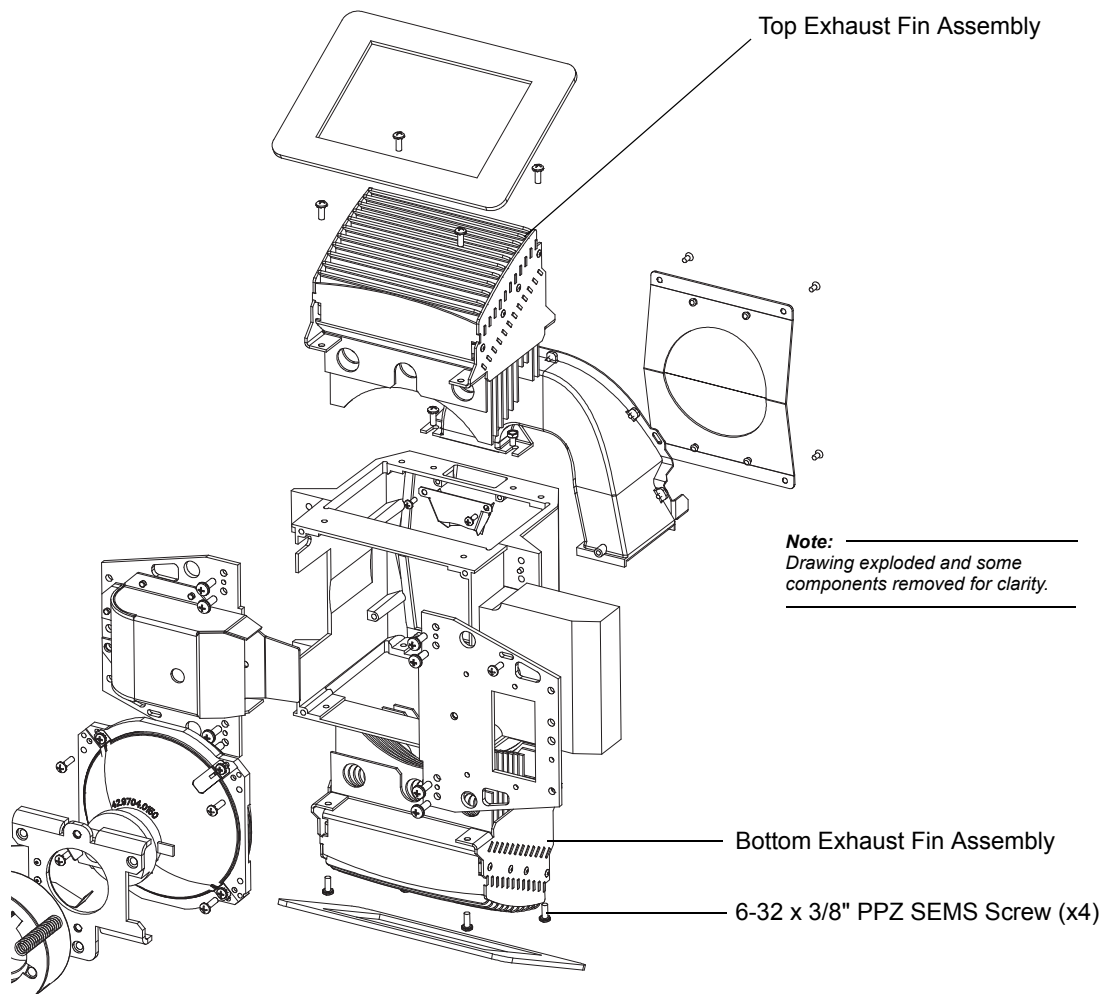
- Step 3. Replace in reverse.

Bottom Exhaust Fin Assembly

Vari-Lite Part No: 22.9704.1620

To remove bottom exhaust fin assembly:

- Step 1. Remove bottom head cover following procedure in “[Luminaire Head Covers Removal](#)” on [page 58](#).
- Step 2. Remove 4 x 6-32 x 3/8" PPZ SEMS screws.



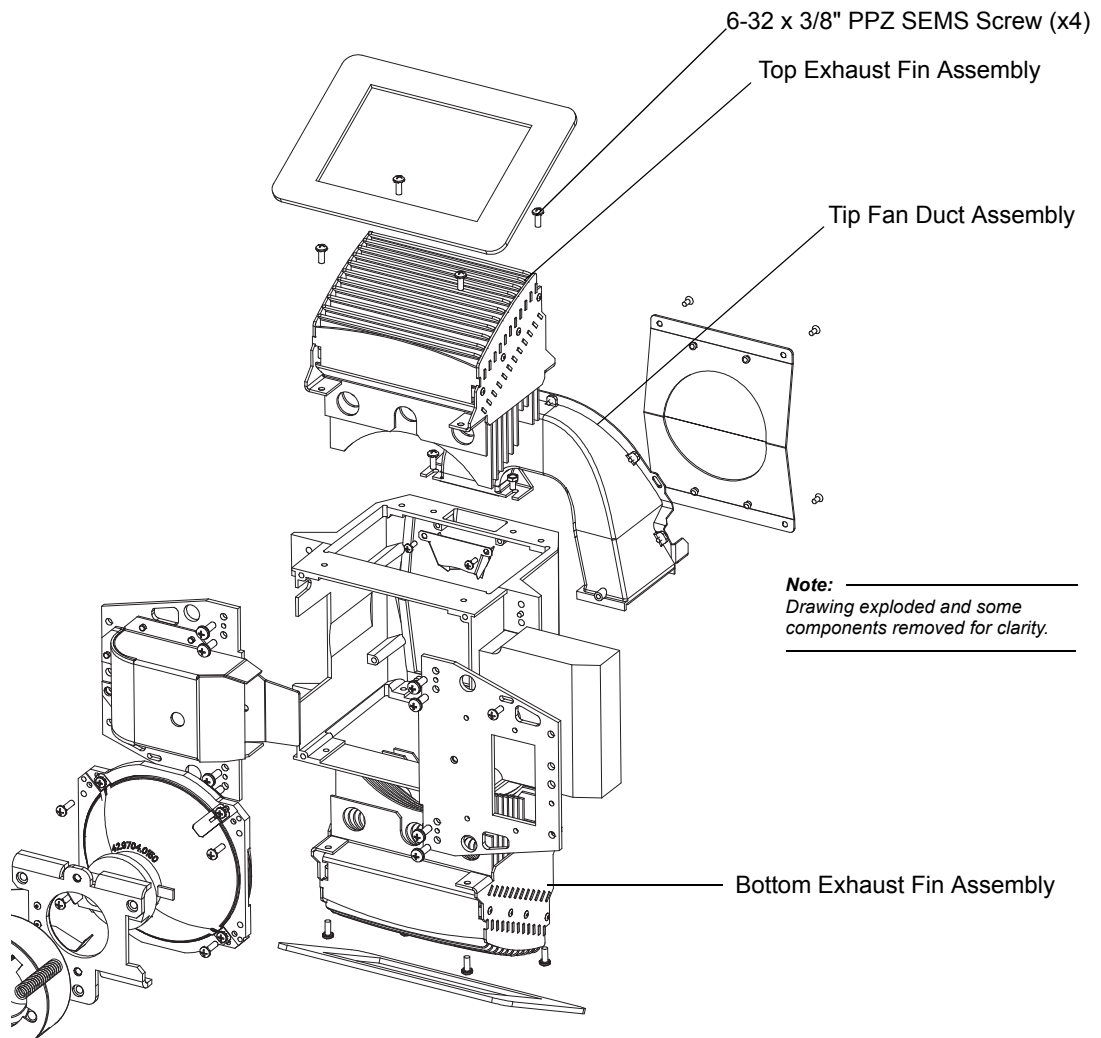
- Step 3. Remove exhaust fin assembly.
- Step 4. Replace in reverse order.

Top Exhaust Fin Assembly

Vari-Lite Part No: 22.9704.1620

To remove top exhaust fin assembly:

- Step 1. Remove top head cover following procedure in “[Luminaire Head Covers Removal](#)” on [page 58](#).
- Step 2. At tip fan duct, remove 1 x 6-32 x 3/8" PPZ plastic thread cutting screw and 1 6-32 x 3/8" PPZ SEMS screw.
- Step 3. Loosen 1 x 6-32 x 3/8" PPZ SEMS screw and slide tip fan duct forward.
- Step 4. Remove 4 - 6-32 x 3/8" PPZ SEMS screws and remove top exhaust fin assembly.



- Step 5. Remove exhaust fin assembly.
- Step 6. Replace in reverse order.

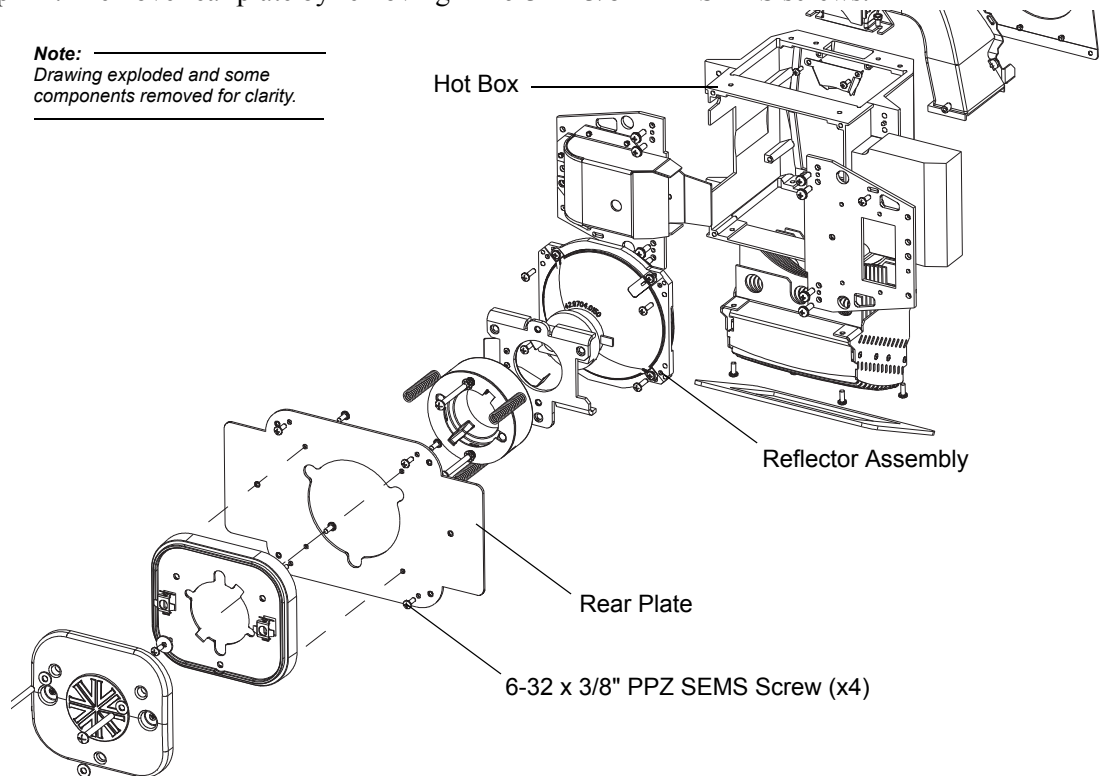
Reflector Assembly

Vari-Lite Part No: 21.9704.6619

To replace reflector assembly:

- Step 1. Remove lamp following procedure in “[Lamp Removal and Installation](#)” on page 12.
- Step 2. Remove rear cover following the procedure described in “[Rear Cover Removal](#)” on page 61.
- Step 3. Remove both exhaust fins following the procedures described in “[Bottom Exhaust Fin Assembly](#)” on page 71 and “[Top Exhaust Fin Assembly](#)” on page 72.
- Step 4. Remove rear plate by removing 4 x 6-32 x 3/8" PPZ SEMS screws.

Note: _____
 Drawing exploded and some
 components removed for clarity.



- Step 5. Remove 8 x 8-32 x 3/8" PPZ SEMS screws and remove hot box.
- Step 6. Remove 4 x 6-32 x 3/8" PPZ SEMS screws and remove reflector assembly from hot box.

Note: When replacing reflector, orient so the notched corner is in lower right hand corner with tip fan duct positioned on top. Before reassembly, be sure to clean any dirt, finger prints, etc. from reflector assembly.

- Step 7. Replace in reverse.

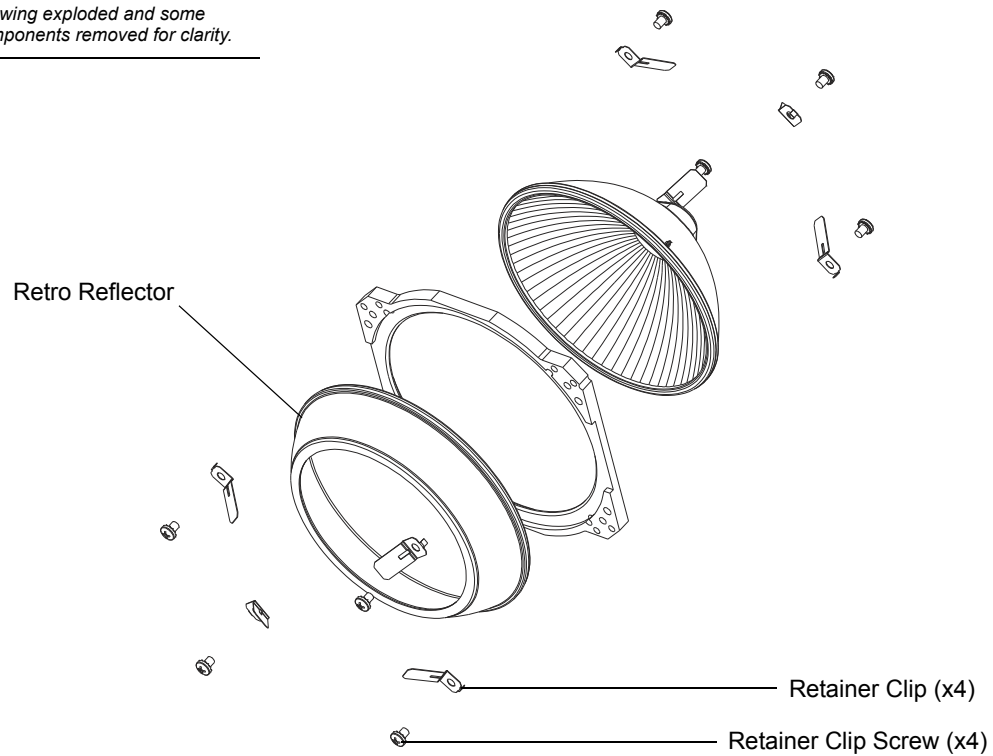
Retro Reflector

Vari-Lite Part No: 42.9704.0151

To replace retro reflector:

- Step 1. Remove reflector assembly following procedure in “[Reflector Assembly](#)” on page 73.
- Step 2. Loosen 4 x 6-32 x 3/16" PPZ screws, pivot retainer clips and remove retro reflector.

Note:
Drawing exploded and some components removed for clarity.



Note: Before reassembly, be sure to clean any dirt, finger prints, etc. from reflector assembly.

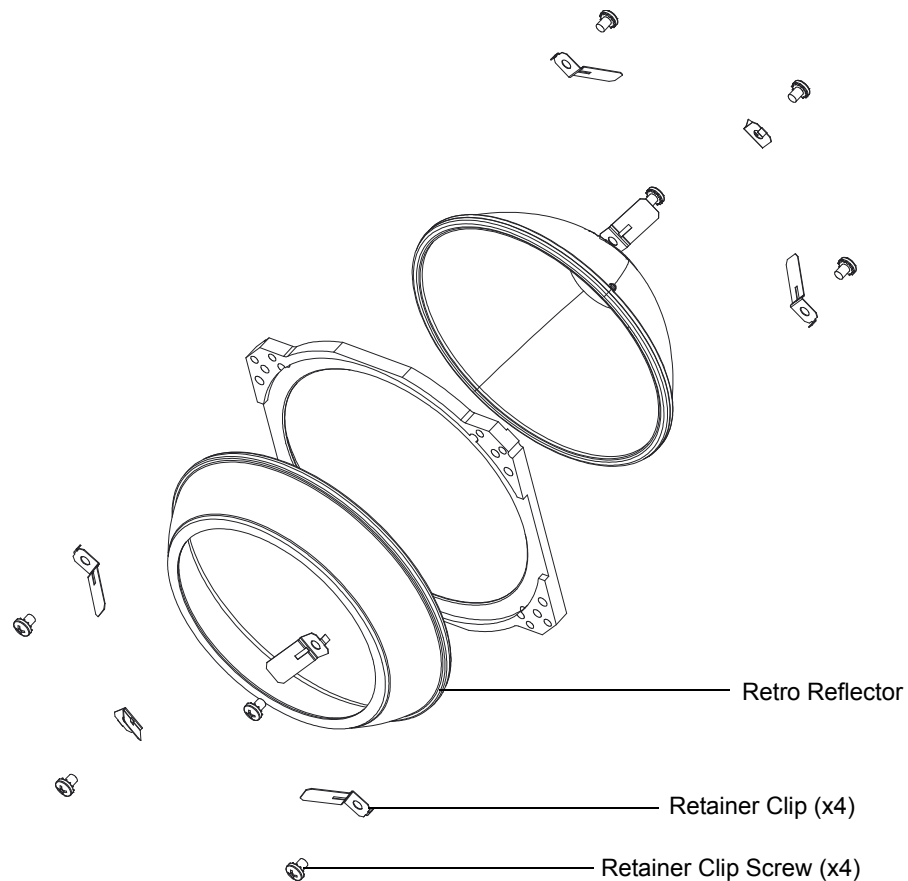
- Step 3. Replace in reverse.

Ellipsoidal Reflector

Vari-Lite Part No: 42.9704.6150

To replace ellipsoidal reflector:

- Step 1. Remove reflector assembly following procedure in “[Reflector Assembly](#)” on page 73.
- Step 2. Loosen 4 x 6-32 x 3/16" PPZ screws, pivot retainer clips and remove ellipsoidal reflector.



Note: Before reassembly, be sure to clean any dirt, finger prints, etc. from reflector assembly.

- Step 3. Replace in reverse order.

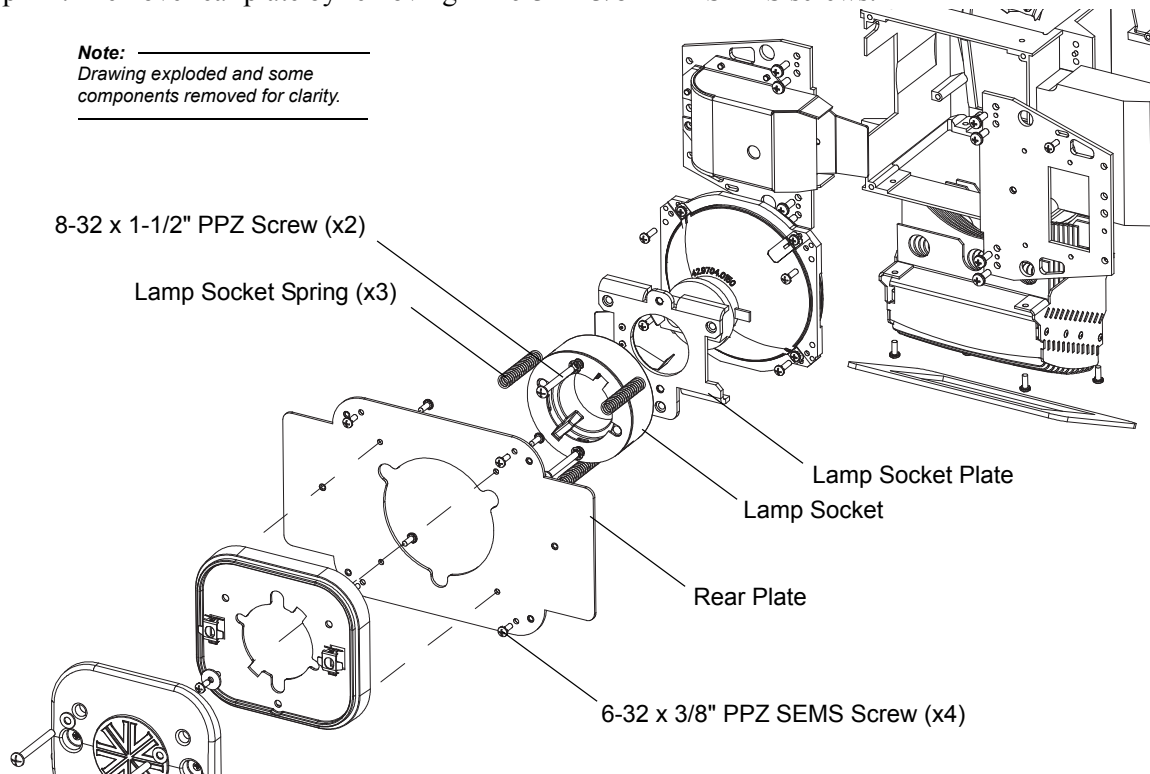
Lamp Socket

Vari-Lite Part No: 71.8101.0050

To replace lamp socket assembly:

- Step 1. Remove lamp following procedure in “Lamp Removal and Installation” on page 12.
- Step 2. Remove rear cover following procedure in “Rear Cover Removal” on page 61.
- Step 3. Detach lamp cover door tether from back of luminaire head and set cover aside.
- Step 4. Remove rear plate by removing 4 x 6-32 x 3/8" PPZ SEMS screws.

Note: _____
Drawing exploded and some components removed for clarity.



- Step 5. Remove wiring from socket by loosening set screws inside socket.
- Step 6. Remove 3 x 10-32 x 2" PPB screws, washers, and springs holding lamp socket plate.
- Step 7. Noting orientation of socket, remove 2 x 8-32 x 1-1/2" PPZ screws mounting socket*.

Note: *There should be two washers, one between socket and plate at each screw. If missing, replace (55.6517.0001)

- Step 8. Replace in reverse order.

Optics Components

Driver Board G (7 Way Board)

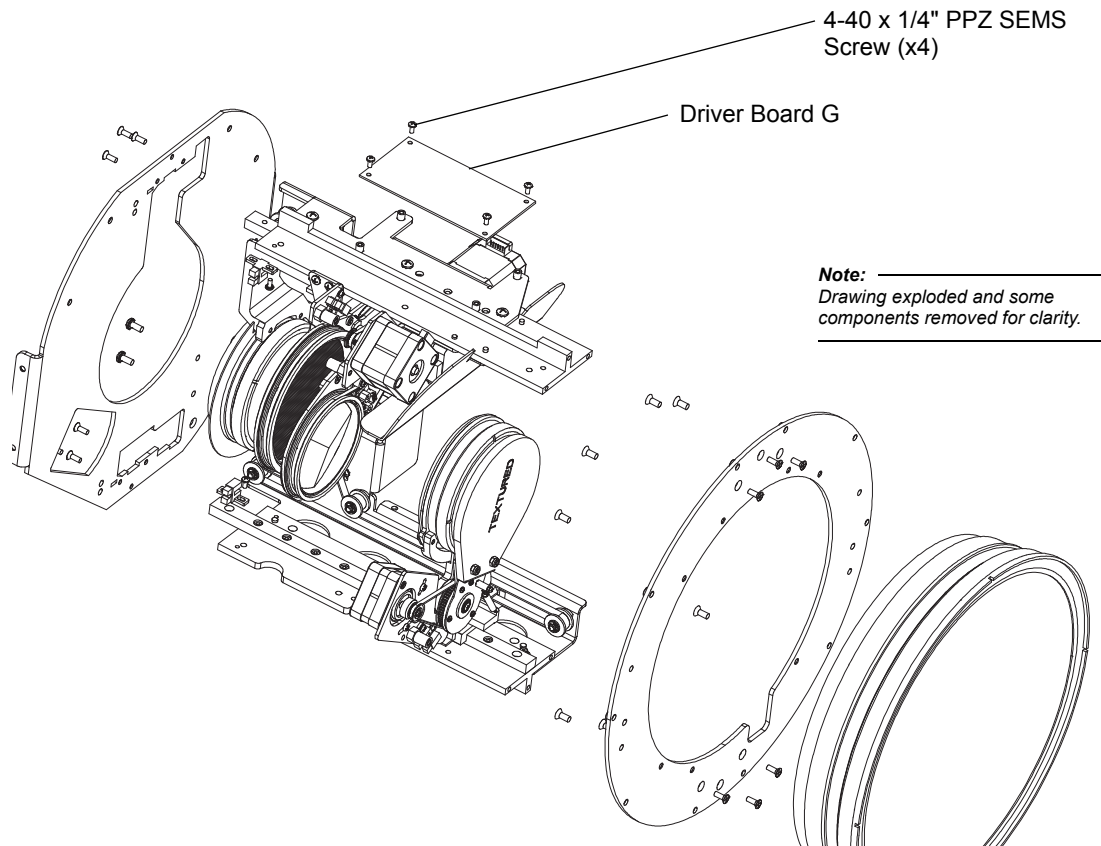
Vari-Lite Part No: 24.9704.1913

To replace driver board G:

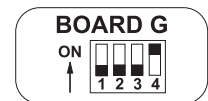
- Step 1. Remove top side head cover following procedure in [“Luminaire Head Covers Removal” on page 58.](#)
- Step 2. Disconnect wiring
- a. White/Red/Black - 36 & 12 VDC
 - b. COM in - labeled OPT G
 - c. Red/Black/Orange/Brown - inlet fans - labeled FAN1 FAN2 (note it matter which goes where, board is also labeled Fan1, Fan2)
 - d. Sensor 1 - 7
 - 1) 1 - GS1 P ROT - Prism Rotate Sensor
 - 2) 2 - GS2 P ARM - Prism Arm Sensor
 - 3) 3 - GS3 L ROT - Lenticular Lens Rotate Sensor
 - 4) 4 - GS4 L ARM - Lenticular Lens Arm Sensor
 - 5) 5 - GS5 EDGE - Edge Lens (Group 1) Sensor
 - 6) 6 - GS6 WASH - Wash Lens Sensor
 - 7) 7 - GS7 ZOOM - Zoom Lens (Group 2) Sensor
 - e. Motor 1 - 7
 - 1) 1 - GM1 P ROT - Prism Rotate Motor
 - 2) 2 - GM2 P ARM - Prism Arm Motor
 - 3) 3 - GM3 L ROT - Lenticular Lens Rotate Motor
 - 4) 4 - GM4 L ARM - Lenticular Lens Arm Motor
 - 5) 5 - GM5 EDGE - Edge Lens (Group 1) Motor
 - 6) 6 - GM6 WASH - Wash Lens Motor
 - 7) 7 - GM7 ZOOM - Zoom Lens (Group 2) Motor

- Continued next page -

- Step 3. Remove 4 x 4-40 x 1/4" PPZ SEMS screws and remove board. Note the two screws have cable saddles.



- Step 4. On replacement board, set dip switches as follows:
- a. DIP SW 1 OFF
 - b. DIP SW 2 OFF
 - c. DIP SW 3 OFF
 - d. DIP SW 4 ON



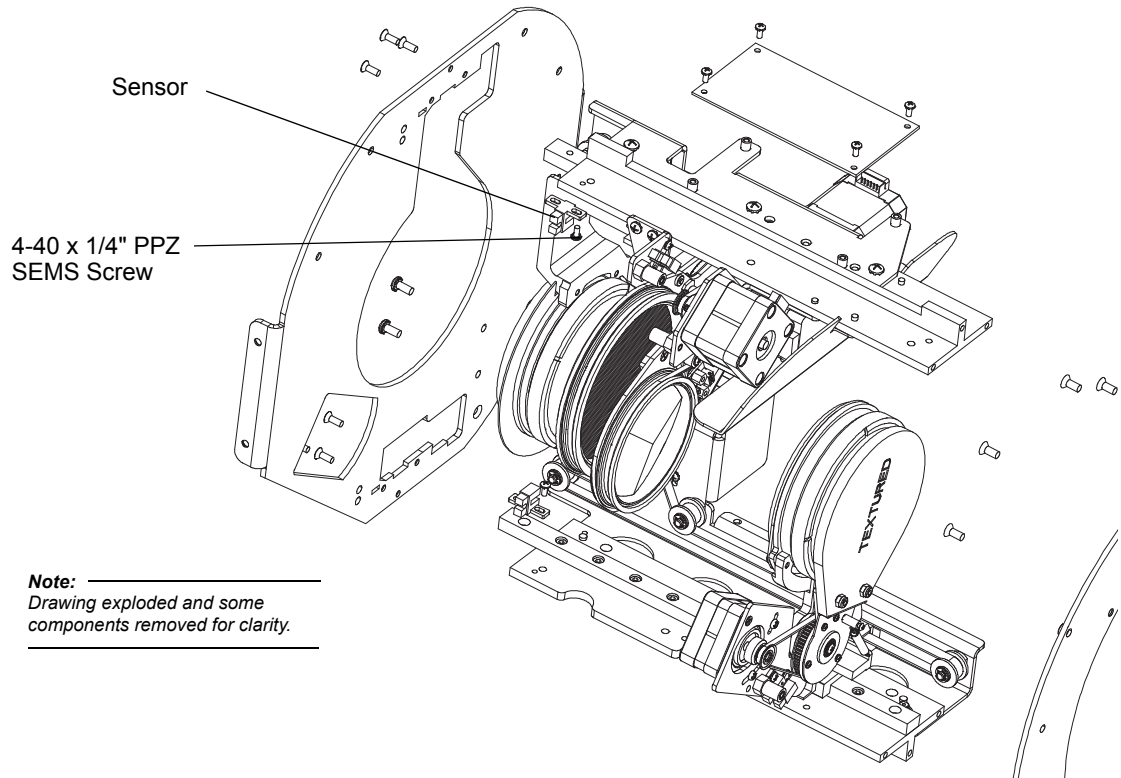
- Step 5. Replace in reverse. Ensure all wiring is fully seated.

Edge & Zoom Sensor

Vari-Lite Part No: 25.9687.0020

To replace edge and zoom sensor:

- Step 1. Remove both head covers following procedure in “[Luminaire Head Covers Removal](#)” on [page 58](#).
- Step 2. At sensor to be replaced, disconnect inline wiring connector.
- Step 3. Remove 1 x 4-40 x 1/4" PPZ SEMS screw.



- Step 4. Side sensor from cutout in bulkhead.

Note: When replacing, verify that optic sensor is installed thru the rectangular cutout in the rear bulkhead and is pressed all the way up against the bulkhead before tightening the mounting screw. This will set the proper position for lens calibration.

- Step 5. Continue in reverse.

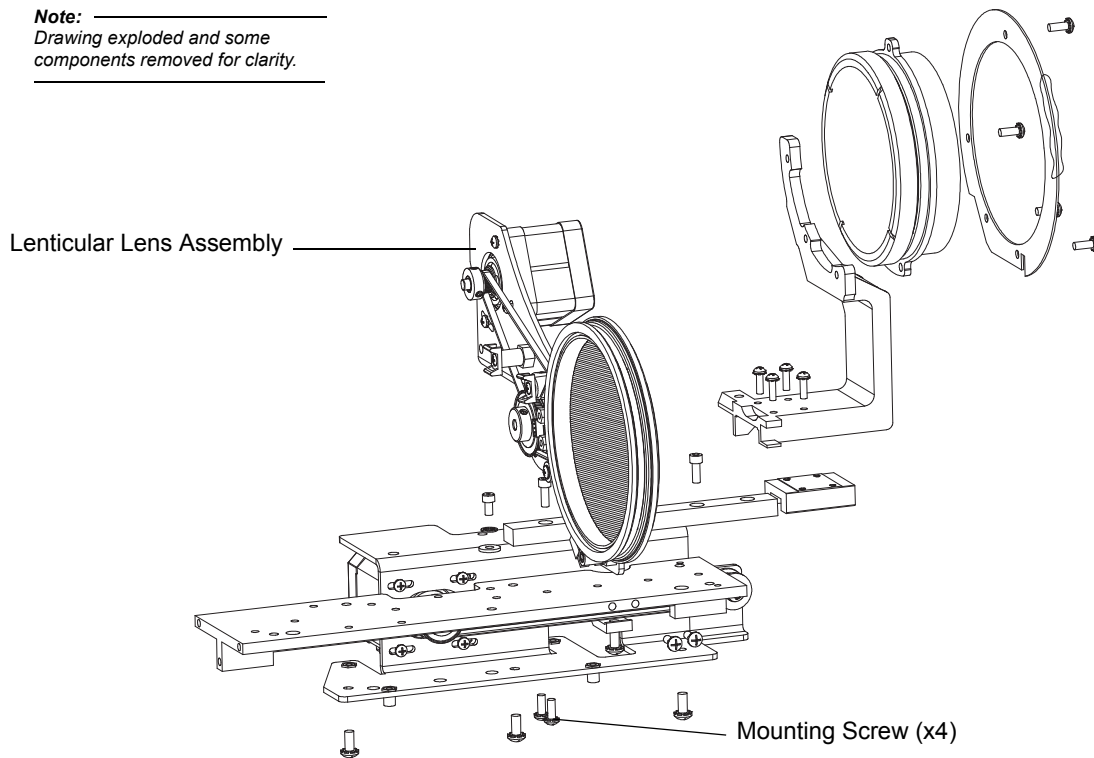
Lenticular Lens Assembly

Vari-Lite Part No: 21.9704.6310

To replace lenticular lens assembly:

- Step 1. Remove both head covers following procedure in “[Luminaire Head Covers Removal](#)” on [page 58](#).
- Step 2. Remove driver board G following procedure in “[Driver Board G \(7 Way Board\)](#)” on [page 77](#).
- Step 3. Disconnect following wiring:
- L ROT Motor and L ARM Motor
 - L ROT Sensor and L Arm Sensor (note placement of cable ties and cut)
- Step 4. Remove 4 x 6-32 x 3/8" PPZ SEMS screws and remove assembly.

Note: _____
*Drawing exploded and some
components removed for clarity.*



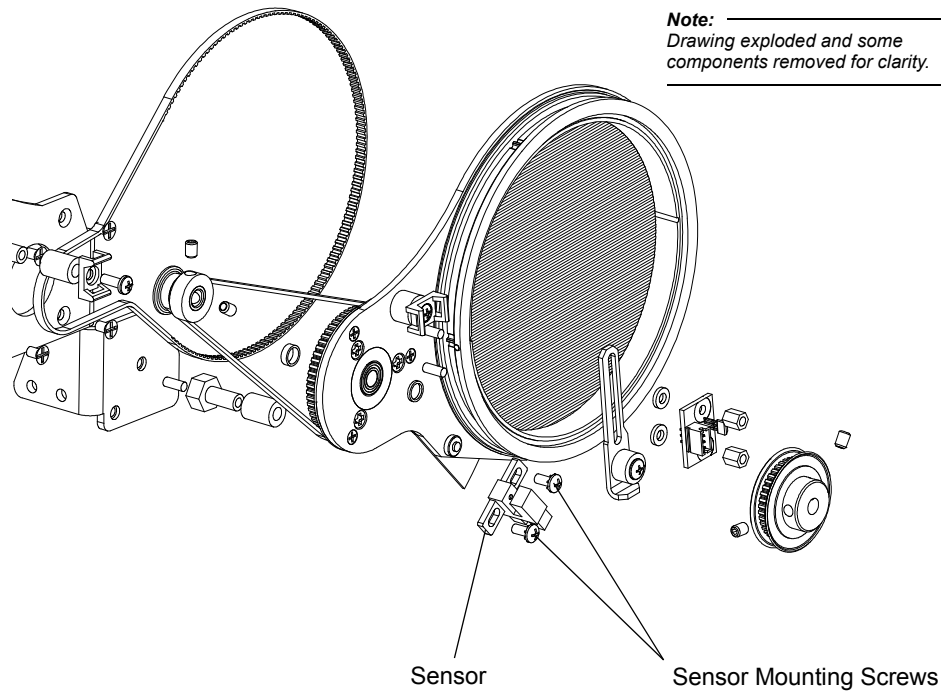
- Step 5. Replace in reverse.

Lenticular Lens Sensor

Vari-Lite Part No: 25.9687.0020

To replace lenticular lens sensor:

- Step 1. Remove both head covers following procedure in “[Luminaire Head Covers Removal](#)” on [page 58](#).
- Step 2. Disconnect inline wiring connector.
- Step 3. Remove 2 x 4-40 x 1/4" PPZ SEMS screws and remove sensor.



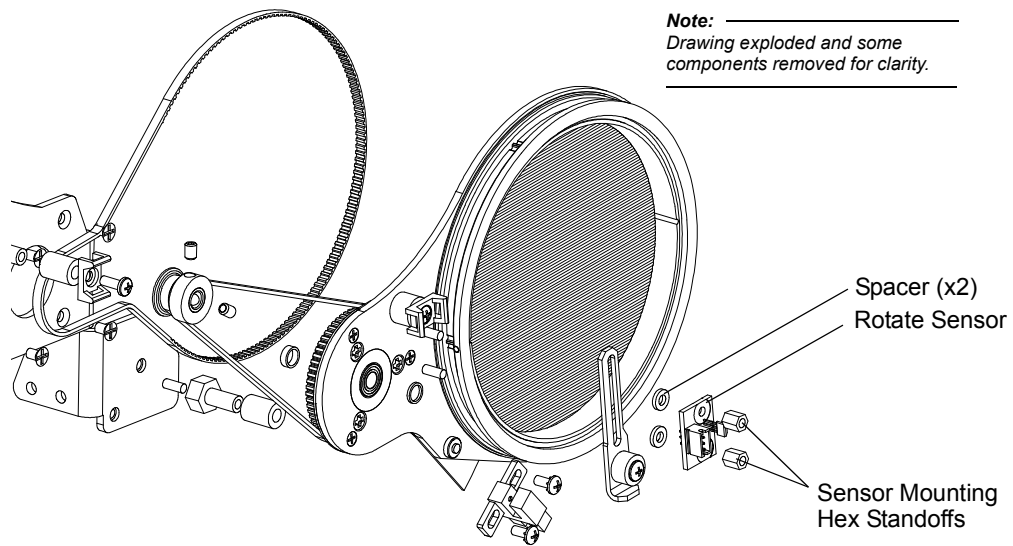
- Step 4. Replace in reverse.

Lenticular Rotate Sensor

Vari-Lite Part No: 24.9704.6314

To replace lenticular rotate sensor:

- Step 1. Remove lenticular lens assembly following procedure in “[Lenticular Lens Assembly](#)” on [page 80](#).
- Step 2. At sensor, remove 2 x 3/16" HEX standoffs*. There are spacers underneath and this will loosen belt tension.



Note: *On some fixtures these standoffs are 1/4" HEX. You will need to be very careful not to damage sensor when installing.

- Step 3. Remove sensor.
- Step 4. Replace in reverse.

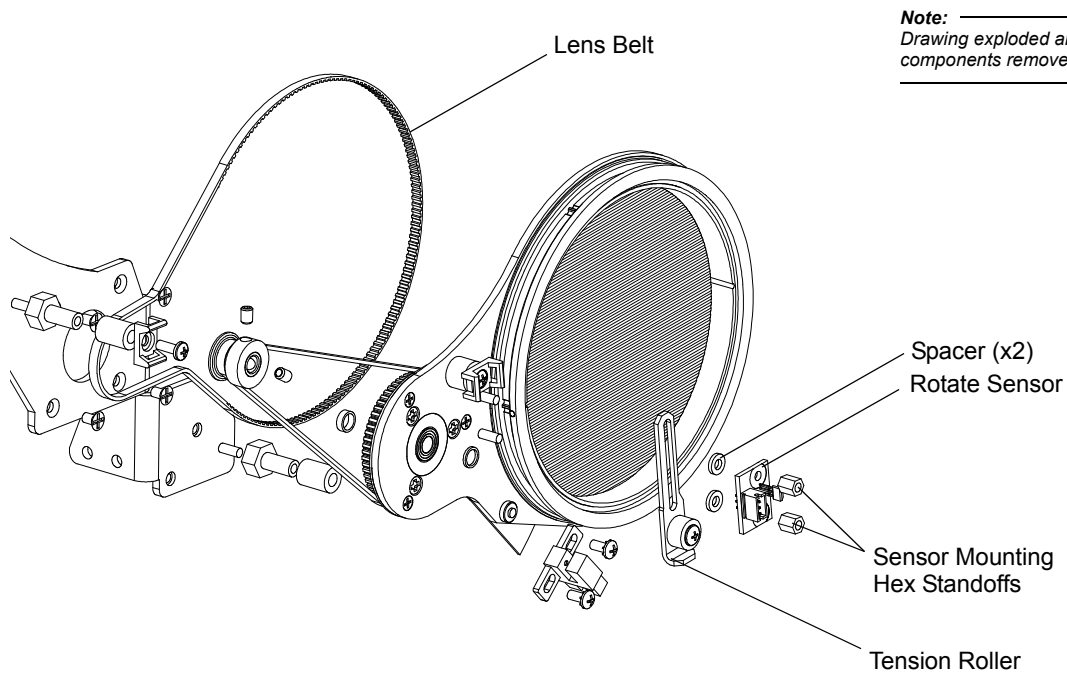
Lenticular Lens Belt

Vari-Lite Part No: 54.9704.5317

To replace lenticular lens belt:

- Step 1. Remove lenticular lens assembly following procedure in “[Lenticular Lens Assembly](#)” on [page 80](#).
- Step 2. At sensor, loosen 2 x 3/16" HEX standoffs*.

Note: *On some fixtures these standoffs are 1/4" HEX. You will need to be very careful not to damage sensor when loosening/tightening.



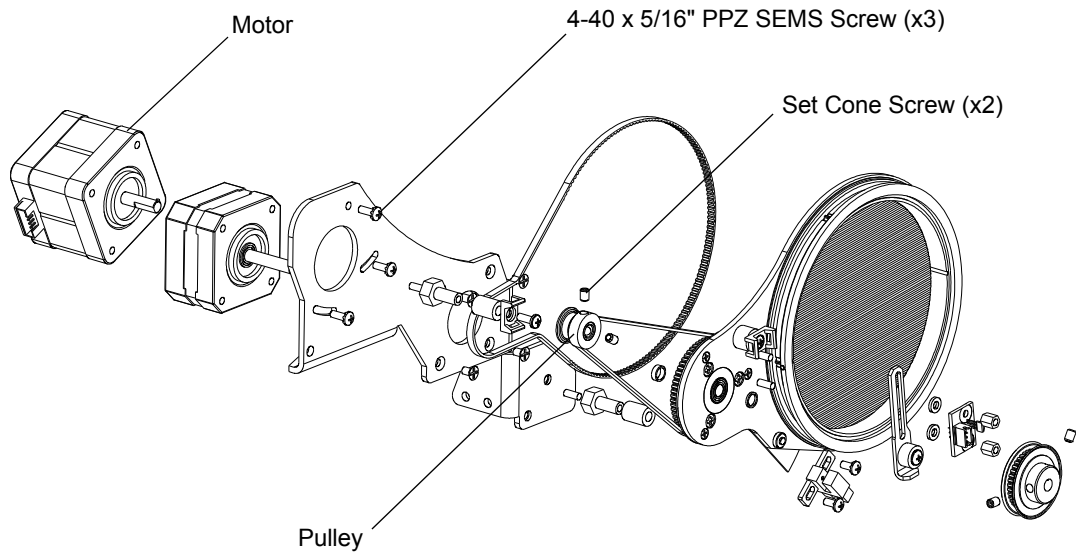
- Step 3. Slide tension roller away from belt.
- Step 4. Remove belt.
- Step 5. Replace in reverse.

Lenticular Arm Motor

Vari-Lite Part No: 44.9687.1209

To replace lenticular arm motor:

- Step 1. Remove lenticular lens assembly following procedure in “[Lenticular Lens Assembly](#)” on [page 80](#).
- Step 2. Remove 3 x 4-40 x 5/16" PPZ SEMS screws.



Note:
Drawing exploded and some components removed for clarity.

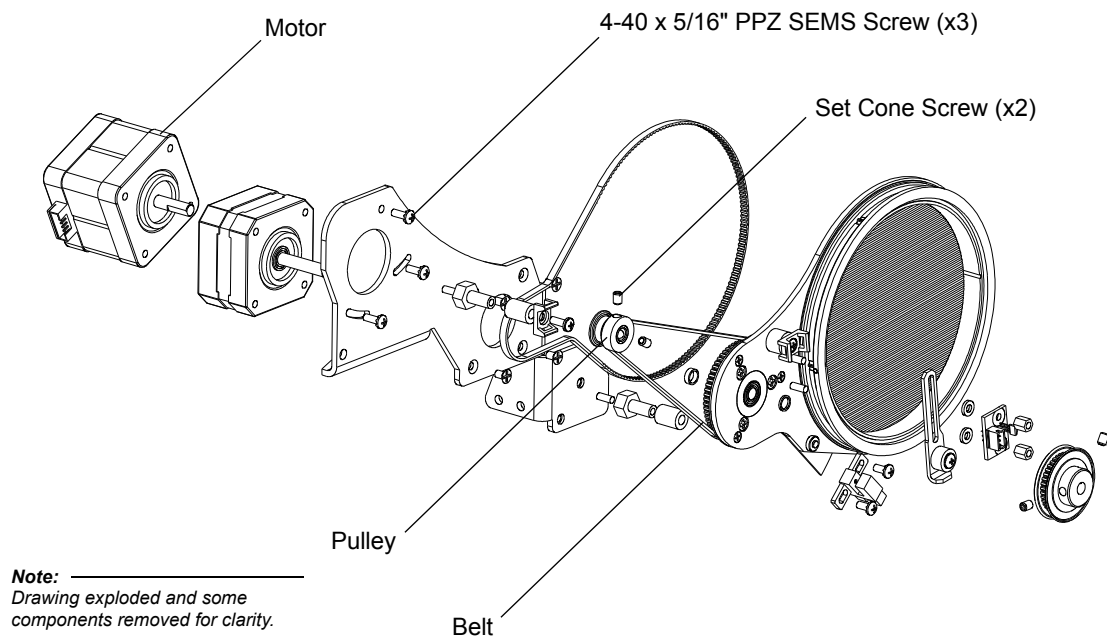
- Step 3. Remove motor.
- Step 4. Loosen 2 x 6-32 x 3/16" cone set screw and remove pulley.
- Step 5. Replace in reverse.

Lenticular Arm Belt

Vari-Lite Part No: 54.9704.6316

To replace lenticular arm belt:

- Step 1. Remove lenticular lens belt following procedure in “[Lenticular Lens Belt](#)” on page 83.
- Step 2. Loosen 2 x 6-32 x 3/16" cone set screw and remove rotate pulley and spacer from shaft.
- Step 3. Loosen 2 x 4-40 x 5/16" PPZ SEMS screws through slots and loosen arm belt motor tension.



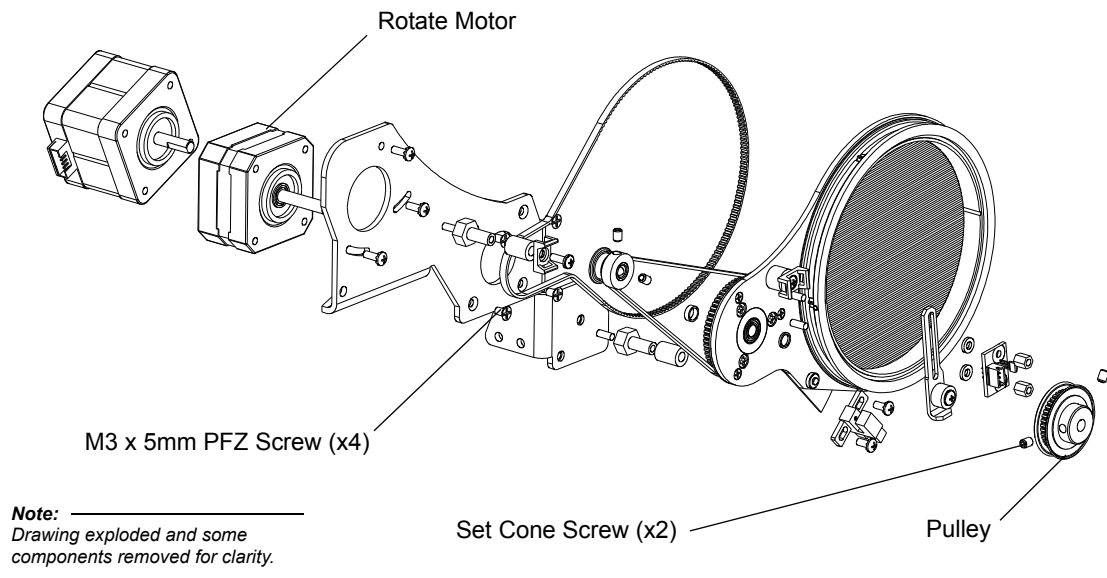
- Step 4. Remove lenticular lens arm from motor shaft.
- Step 5. Remove belt.
- Step 6. Replace in reverse.

Lenticular Rotate Motor

Vari-Lite Part No: 44.9704.0217

To replace lenticular rotate motor:

- Step 1. Remove lenticular arm belt following procedure in “Lenticular Arm Belt” on page 85.
- Step 2. Remove spacer between arm and motor.
- Step 3. Remove 4 x M3 x 5MM PFZ screws and remove motor.



- Step 4. Replace in reverse.

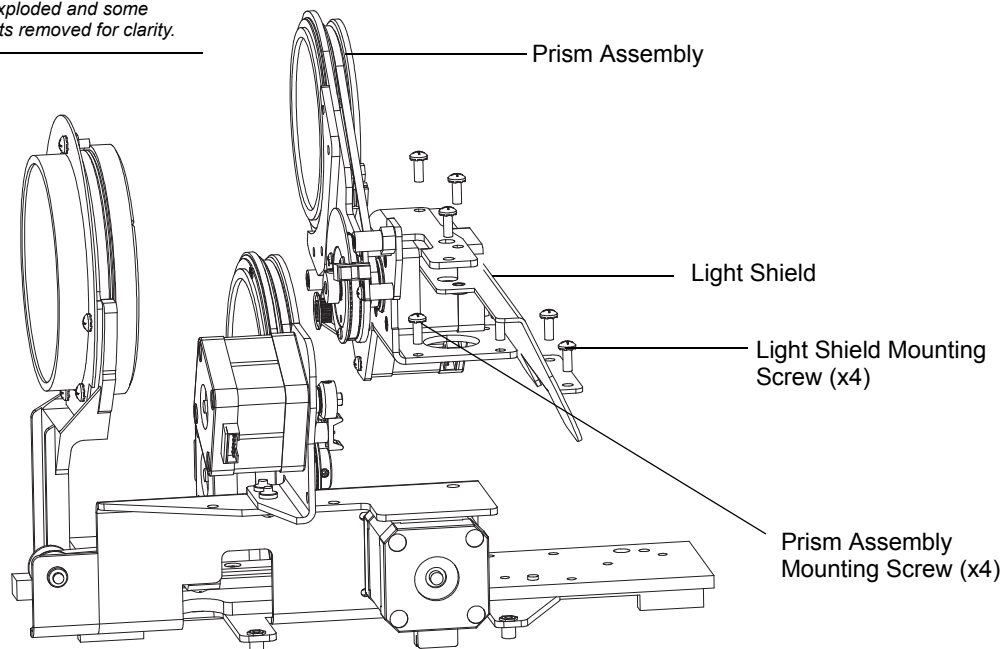
Prism Assembly

Vari-Lite Part No: 21.9704.6330

To replace prism assembly:

- Step 1. Remove both head covers following procedure in “[Luminaire Head Covers Removal](#)” on [page 58](#).
- Step 2. At light shield, remove 4 x 6-32 x 3/8" PPZ SEMS screws and remove.

Note: _____
 Drawing exploded and some
 components removed for clarity.



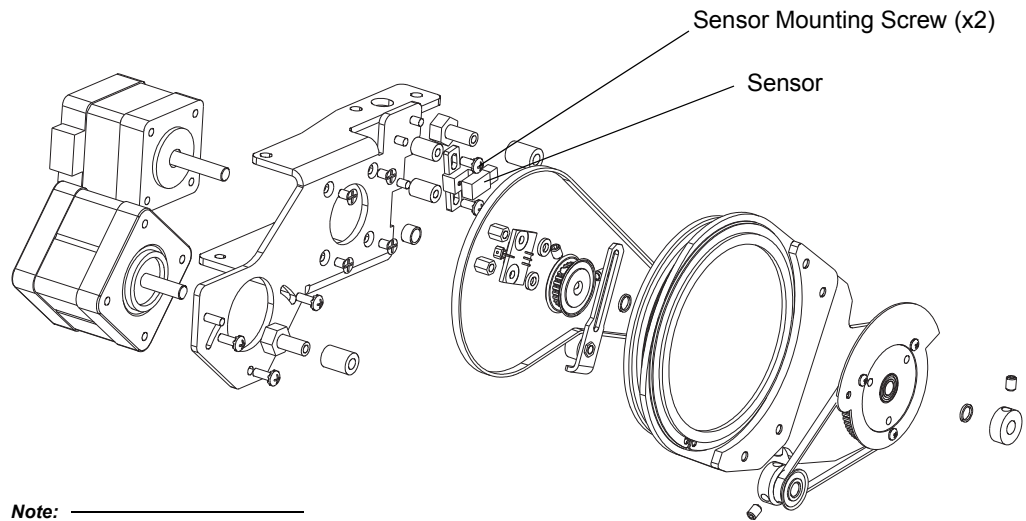
- Step 3. Disconnect wiring to prism rotate motor and prism arm motor as well as both sensors.
- Step 4. Remove 4 x 6-32 x 3/8" PPZ SEMS screws and remove assembly.
- Step 5. Replace in reverse.

Prism Arm Sensor

Vari-Lite Part No: 25.9687.0020

To replace prism arm sensor:

- Step 1. Remove both head covers following procedure in “[Luminaire Head Covers Removal](#)” on [page 58](#).
- Step 2. Disconnect inline wiring connector.
- Step 3. Remove 2 x 4-40 x 1/4" PPZ SEMS screws and remove sensor.



Note:
Drawing exploded and some components removed for clarity.

- Step 4. Replace in reverse.

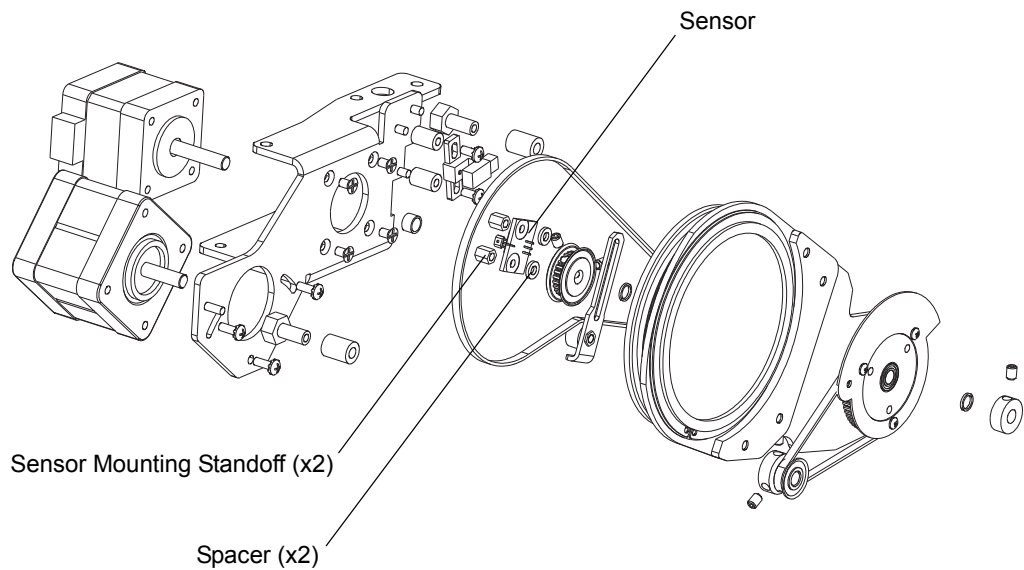
Prism Rotate Sensor

Vari-Lite Part No: 24.9704.6314

To replace prism rotate sensor:

- Step 1. Remove prism assembly following procedure in “Prism Assembly” on page 87.
- Step 2. At sensor, remove 2 x 3/16" HEX standoffs*. There are spacers underneath and this will loosen belt tension.

Note: *On some fixtures these standoffs are 1/4" HEX. You will need to be very careful not to damage sensor when installing.



Note: _____
Drawing exploded and some components removed for clarity.

- Step 3. Remove sensor.
- Step 4. Replace in reverse.

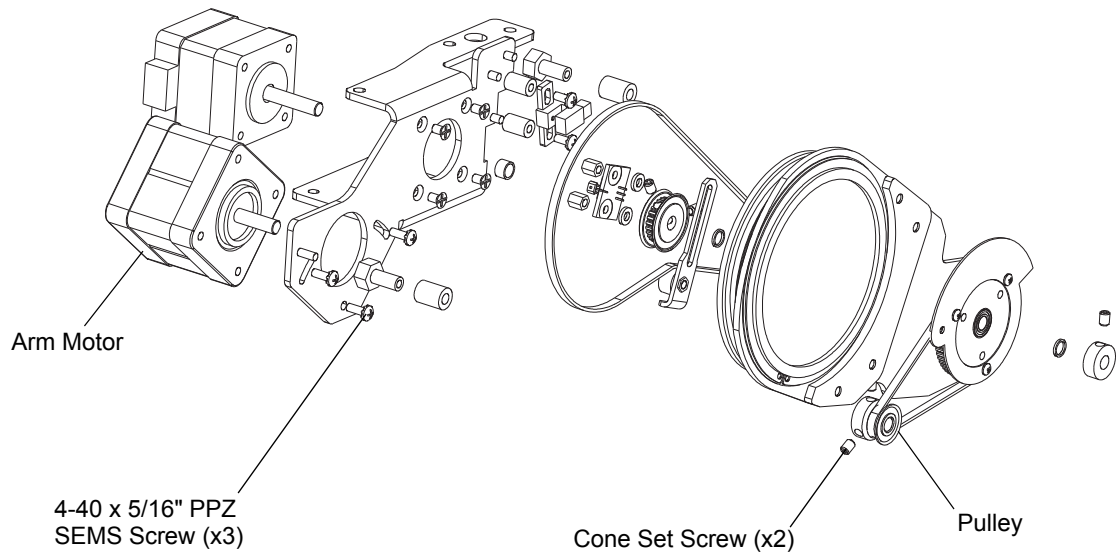
Prism Arm Motor

Vari-Lite Part No: 44.9687.1209

To replace prism motor:

- Step 1. Remove prism assembly following procedure in “Prism Assembly” on page 87..
- Step 2. Remove 3 x 4-40 x 5/16" PPZ SEMS screws and remove motor. *(Note connector orientation. It must be installed same.)*

Note: _____
Drawing exploded and some
components removed for clarity.



- Step 3. Loosen 2 x 6-32 x 3/16" cone set screw and remove pulley.
- Step 4. Replace in reverse.

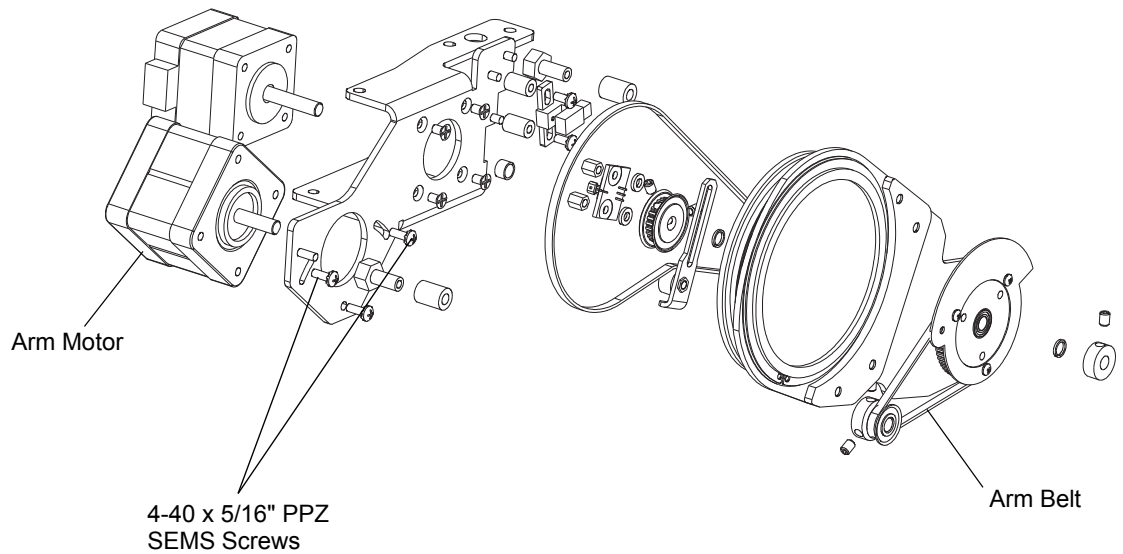
Prism Arm Belt

Vari-Lite Part No: 54.9704.1390

To replace prism arm belt:

- Step 1. Remove prism assembly following procedure in “Prism Assembly” on page 87.
- Step 2. Remove prism arm sensor following procedure in “Prism Arm Sensor” on page 88.
- Step 3. Loosen 2 x 4-40 x 5/16" PPZ SEMS screws mounting arm motor and remove belt.

Note: _____
Drawing exploded and some components removed for clarity.



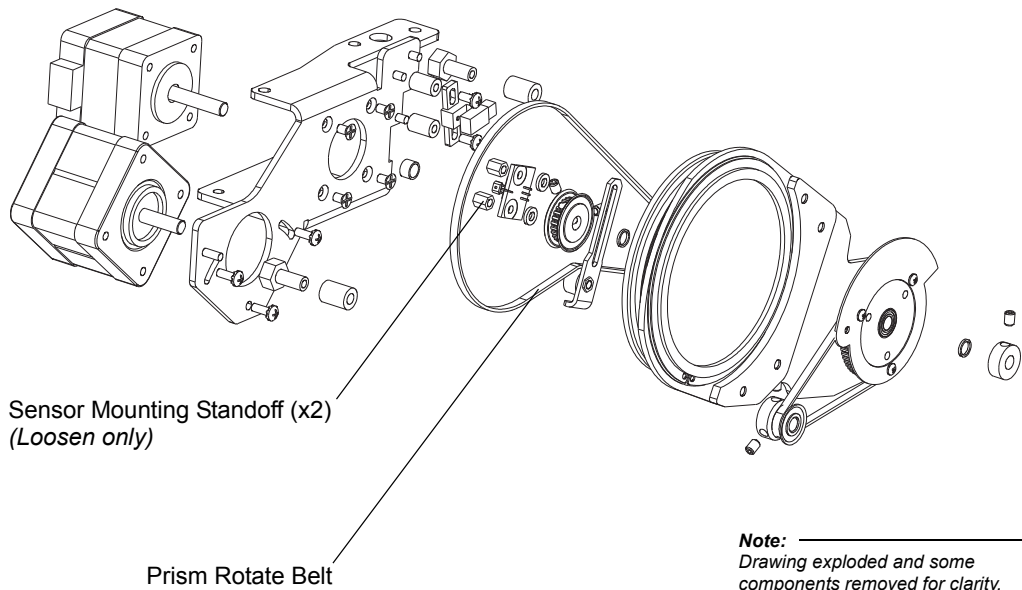
- Step 4. Replace in reverse.

Prism Rotate Belt

Vari-Lite Part No: 54.9704.5333

To replace prism rotate belt:

- Step 1. Remove prism arm belt following procedure in “Prism Arm Belt” on page 91.
- Step 2. At sensor, loosen 2 x 3/16" HEX standoffs*. Slide tension roller away from belt and remove belt.



Note: *On some fixtures these standoffs are 1/4" HEX. You will need to be very careful not to damage sensor when installing.

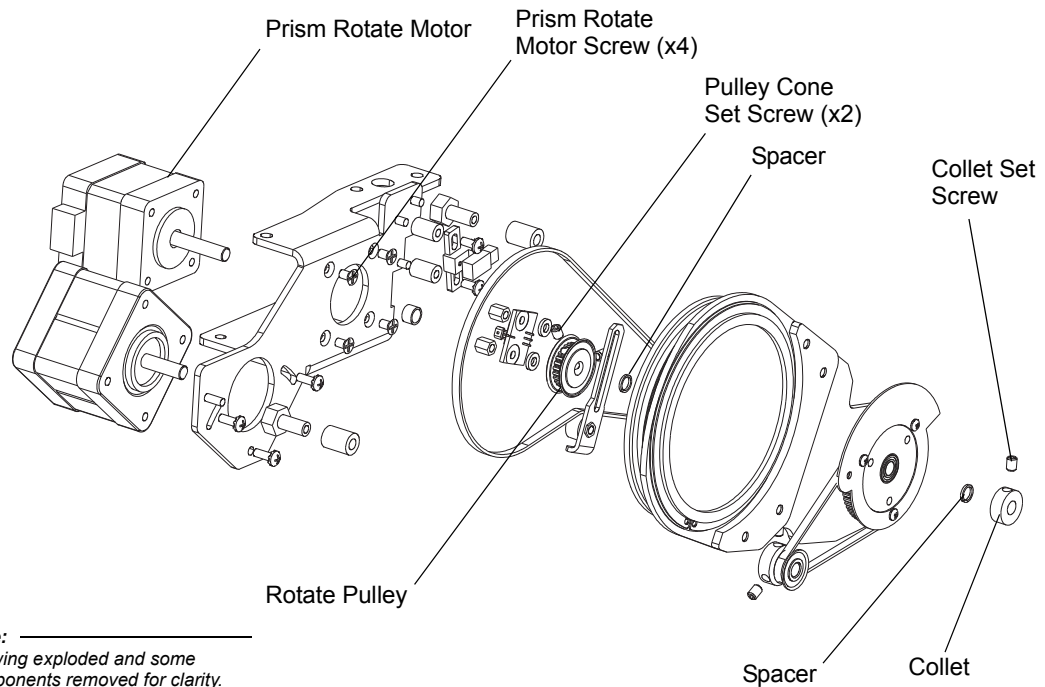
- Step 3. Replace in reverse.

Prism Rotate Motor

Vari-Lite Part No: 44.9704.1213

To replace prism rotate motor:

- Step 1. Remove prism rotate belt following procedure in “Prism Arm Belt” on page 91.
- Step 2. Loosen 1 x 6-32 x 3/16" cone set screw and remove collet and spacer from shaft.
- Step 3. Slide prism arm and spacer off shaft.
- Step 4. Remove 4 x M3 x 5mm PFZ screws and remove motor.
- Step 5. Loosen 2 x 6-32 x 3/16" cone set screws and remove pulley and spacer from shaft.



Note:
 Drawing exploded and some
 components removed for clarity.

- Step 6. Replace in reverse.

Prism Glass Change

Vari-Lite Part No: 21.9704.6395 (5 facet step - ships with product)

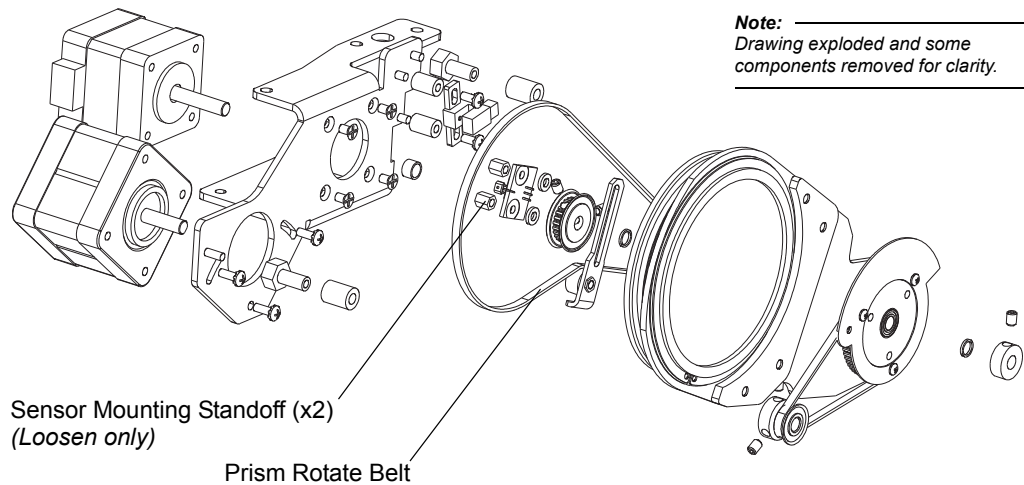
Vari-Lite Part No: 21.9704.6397 (7 facet)

Vari-Lite Part No: 21.9704.6393 (3 facet)

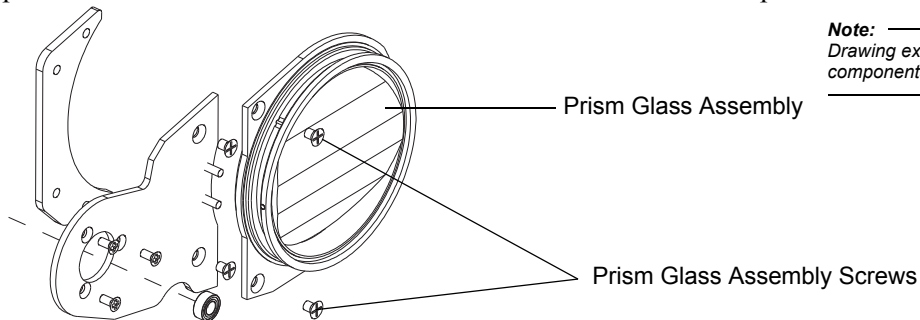
To change prism glass:

- Step 1. Remove both head covers following procedure in “[Luminaire Head Covers Removal](#)” on [page 58](#).
- Step 2. Disconnect wiring from prism index sensor.
- Step 3. At sensor, loosen 2 x 3/16" HEX standoffs*. Slide tension roller away from rotate belt and remove belt.

Note: *On some fixtures these standoffs are 1/4" HEX. You will need to be very careful not to damage sensor when installing.



- Step 4. Remove belt from prism.
- Step 5. Remove 2 x 6-32 x 1/4" PFB undercut screws and remove prism.



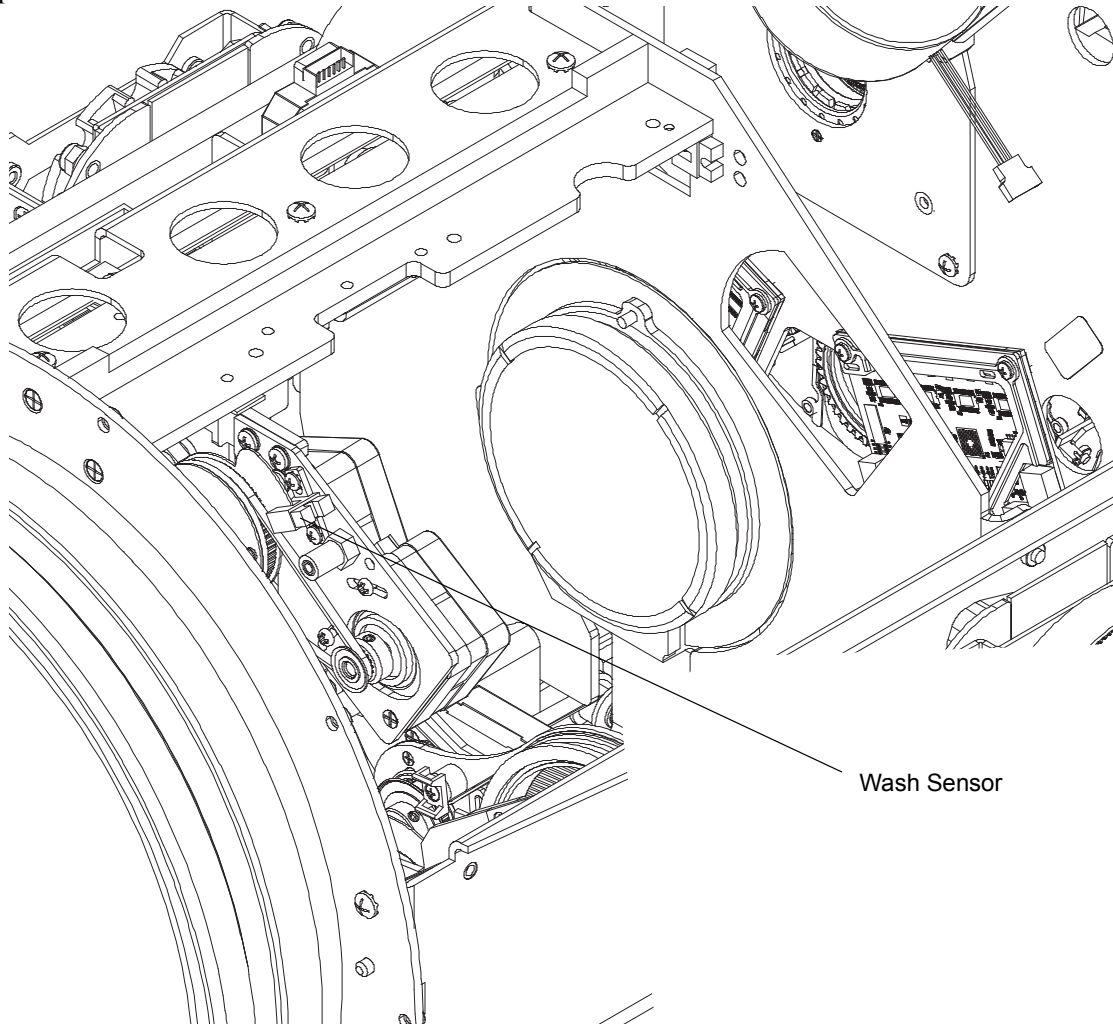
- Step 6. Replace in reverse.

Wash Lens Sensor

Vari-Lite Part No: 25.9687.0020

To replace wash lens sensor:

- Step 1. Remove both head covers following procedure in “[Luminaire Head Covers Removal](#)” on [page 58](#).
- Step 2. At sensor, disconnect inline connector in wiring.
- Step 3. Remove 2 x 4-40 x 1/4" PPZ SEMS screws and remove sensor.



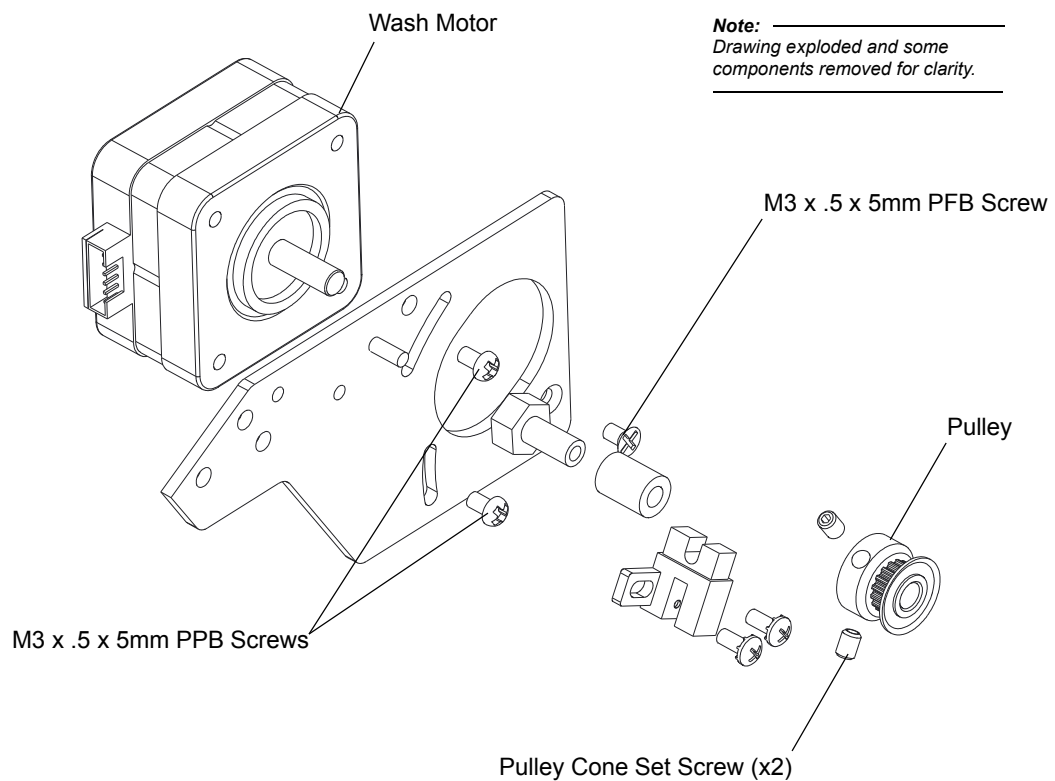
- Step 4. Replace in reverse.

Wash Lens Motor

Vari-Lite Part No: 44.9704.0418

To replace wash lens motor:

- Step 1. Remove both head covers following procedure in “[Luminaire Head Covers Removal](#)” on [page 58](#).
- Step 2. At motor, disconnect wiring harness.
- Step 3. Remove 2 x M3 x .5 x 5mm PPB screws and 1 M3 x .5 x 5mm PFB screws and remove motor.
- Step 4. Loosen 2 x 6-32 x 3/16" cone set screws and remove pulley.



- Step 5. Replace in reverse.

Wash Lens Belt or Wash Lens

Vari-Lite Part No: 54.9704.1390 (Wash Lens Belt)

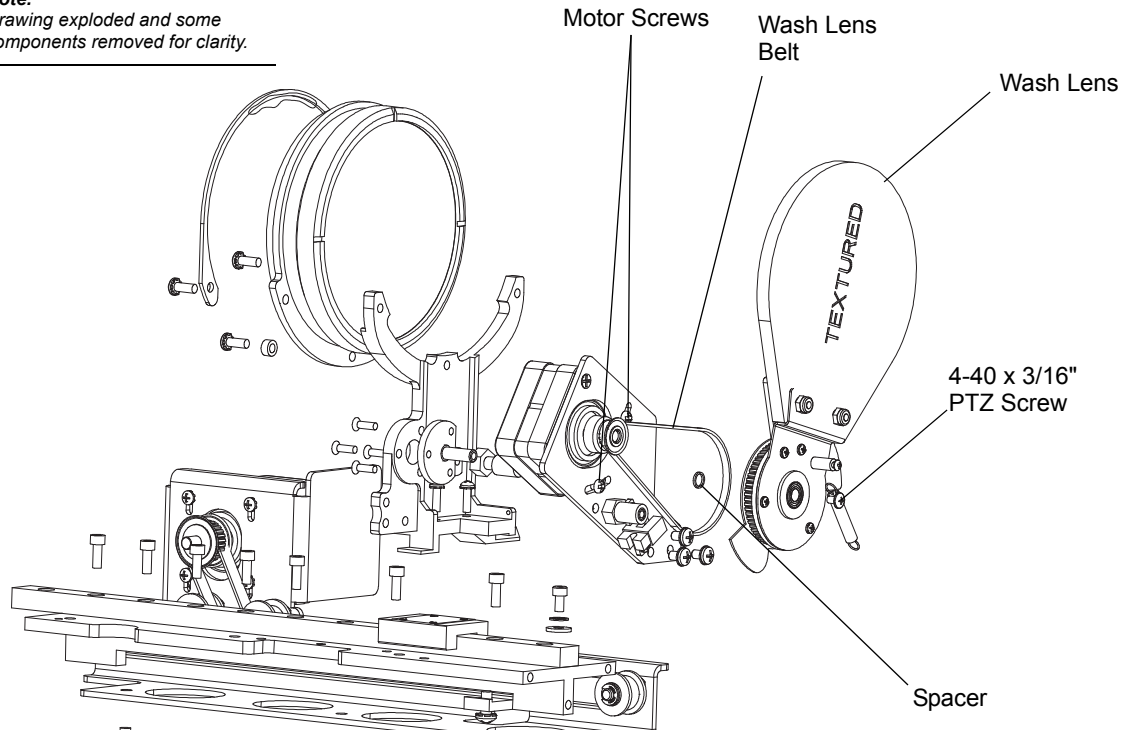
Vari-Lite Part No: 21.9704.6355 (Wash Lens)

To replace wash lens belt or wash lens:

- Step 1. Remove both head covers following procedure in “[Luminaire Head Covers Removal](#)” on [page 58](#).
- Step 2. At motor, loosen 2 x M3 x .5 x 5mm PPB screws and slide to loosen belt.
- Step 3. At wash lens arm, disconnect spring.
- Step 4. From center of wash lens arm shaft, remove 1 x 4-40 x 3/16" PTZ screw.
- Step 5. Move arm so tab is out of sensor and remove arm. Note there is spacer underneath; ensure it is still on shaft.

Note:

Drawing exploded and some components removed for clarity.



Note: If replacing wash lens, replace from here in reverse. Do not proceed to Step 6.

- Step 6. Remove belt.
- Step 7. Replace in reverse.

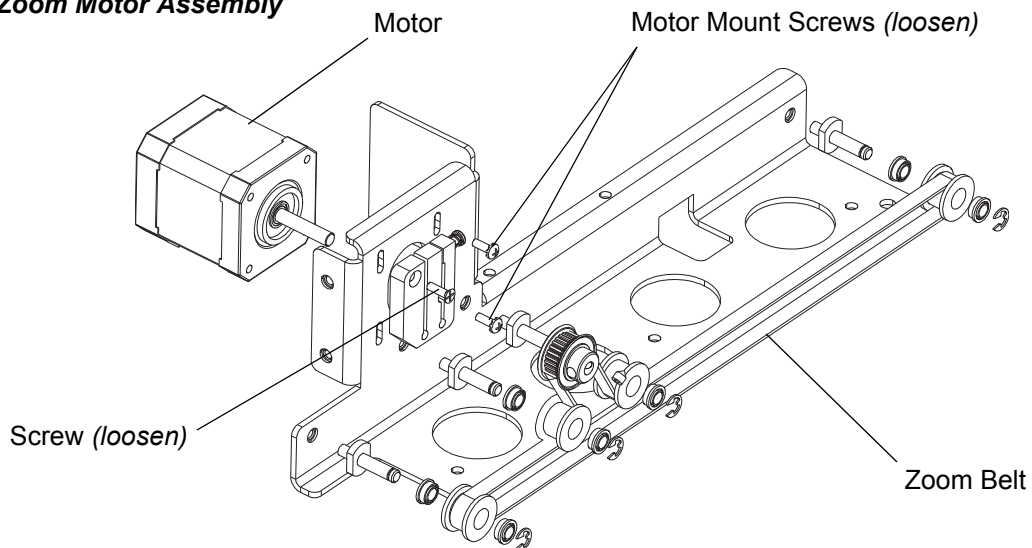
Zoom Belt

Vari-Lite Part No: 54.9704.6172

To replace zoom belt:

- Step 1. Remove both head covers following procedure in “[Luminaire Head Covers Removal](#)” on [page 58](#).
- Step 2. Remove 1 x 8-32 x 3/8" PPZ SEMS screw and belt drive clamp.
- Step 3. At zoom motor, loosen 2 x 4-40 x 5/16" PPZ SEMS screws and 1 x 4-40 x 3/8" PFZ screw to loosen belt tension.

Zoom Motor Assembly



Note:
Drawing exploded and some components removed for clarity.

- Step 4. Remove belt.
- Step 5. Replace in reverse.

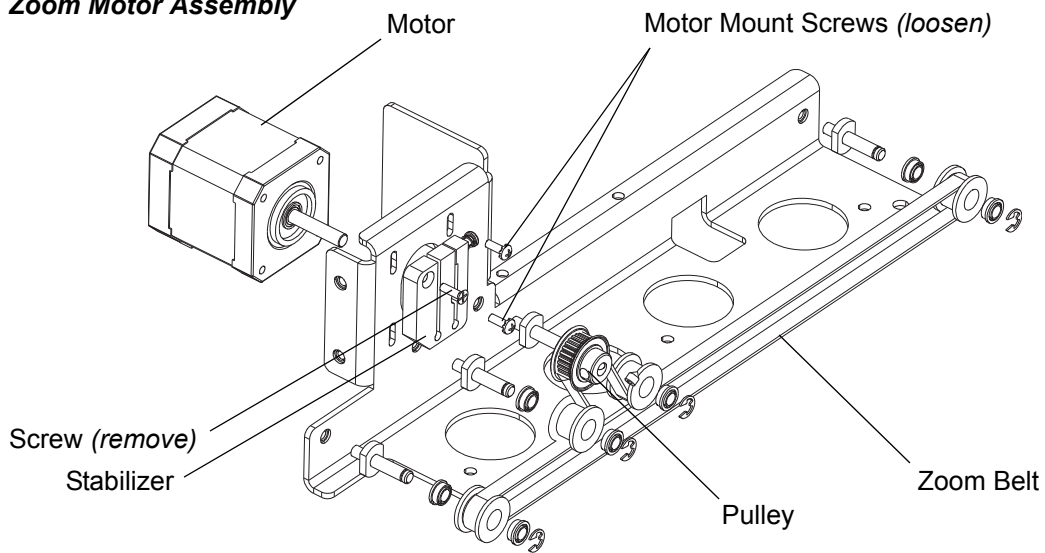
Zoom Stabilizer

Vari-Lite Part No: 21.9704.0330

To replace zoom stabilizer:

- Step 1. Remove both head covers following procedure in “[Luminaire Head Covers Removal](#)” on [page 58](#).
- Step 2. At zoom motor, loosen 2 x 4-40 x 5/16" PPZ SEMS screws and remove 1 x 4-40 x 3/8" PFZ screw.
- Step 3. Remove belt from pulley.
- Step 4. Loosen 1 x 6-32 x 3/16" cone set screw and remove pulley from shaft.

Zoom Motor Assembly



Note: _____
 Drawing exploded and some
 components removed for clarity.

- Step 5. Remove stabilizer.
- Step 6. Replace in reverse.

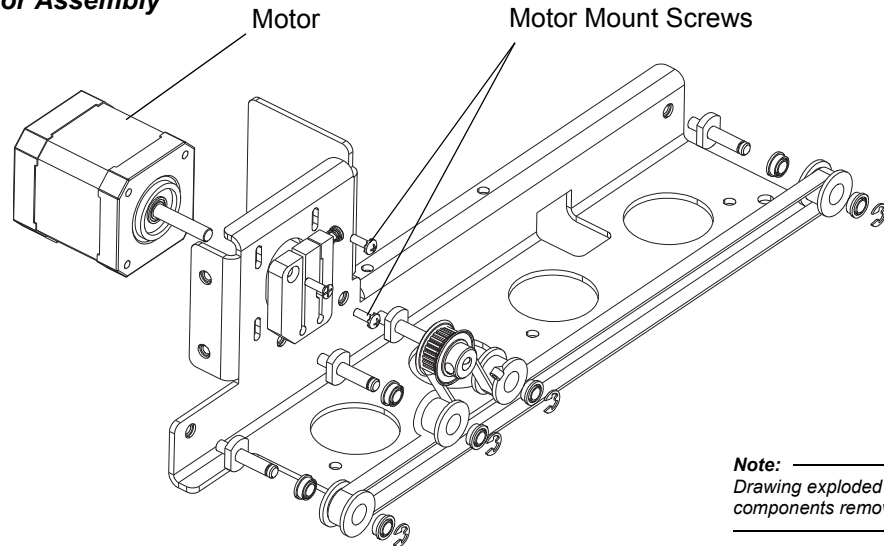
Zoom Motor

Vari-Lite Part No: 44.9704.1216

To replace zoom motor:

- Step 1. Remove zoom stabilizer following procedure in “Zoom Stabilizer” on page 99.
- Step 2. Remove 2 x 4-40 x 5/16" PPZ SEMS screws and remove motor.

Zoom Motor Assembly



- Step 3. Replace in reverse.

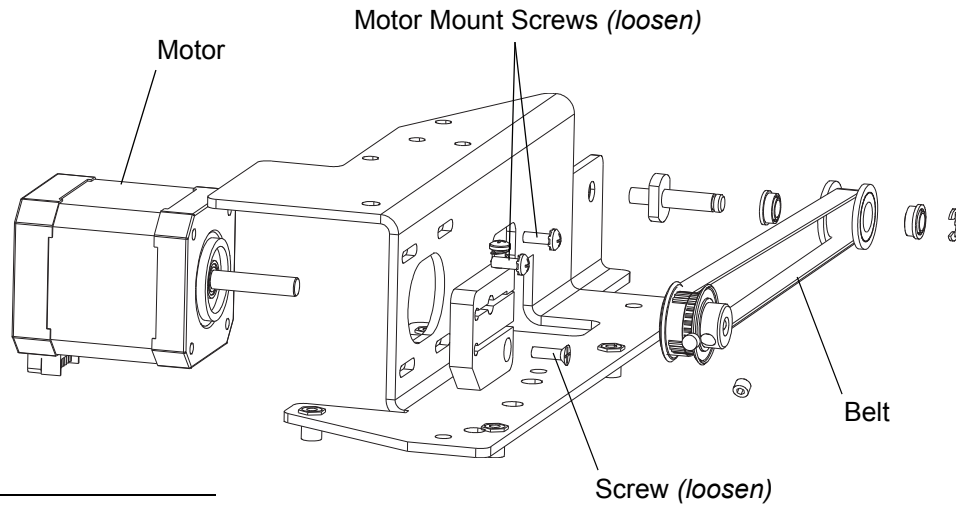
Edge Belt

Vari-Lite Part No: 54.9704.6165

To replace edge belt:

- Step 1. Remove prism assembly following procedure in “Prism Assembly” on page 87.
- Step 2. Remove 1 x 8-32 x 3/8" PPZ SEMS screw and belt drive clamp.
- Step 3. At edge motor, loosen 2 x 4-40 x 5/16" PPZ SEMS screws and 1 x 4-40 x 3/8" PFZ screw to loosen belt tension.

Edge Motor Assembly



Note:
Drawing exploded and some
components removed for clarity.

- Step 4. Remove belt.
- Step 5. Replace in reverse.

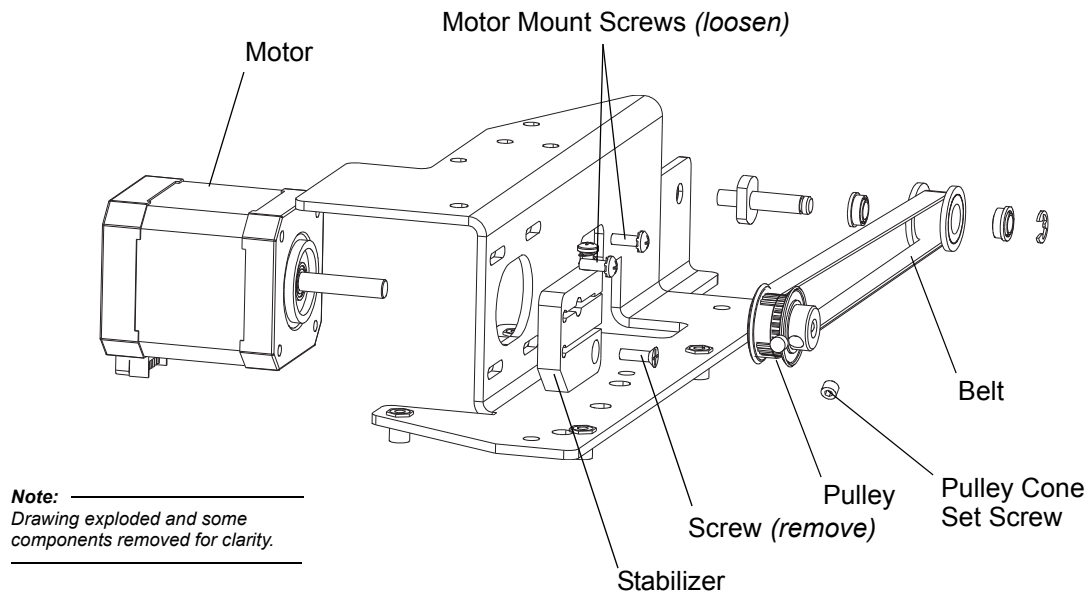
Edge Stabilizer

Vari-Lite Part No: 21.9704.0330

To replace edge stabilizer:

- Step 1. Remove prism assembly following procedure in “Prism Assembly” on page 87.
- Step 2. At edge motor, loosen 2 x 4-40 x 5/16" PPZ SEMS screws and remove 1 x 4-40 x 3/8" PFZ screw.
- Step 3. Remove belt from pulley.
- Step 4. Loosen 1 x 6-32 x 3/16" cone set screw and remove pulley from shaft.

Edge Motor Assembly



- Step 5. Remove stabilizer.
- Step 6. Replace in reverse.

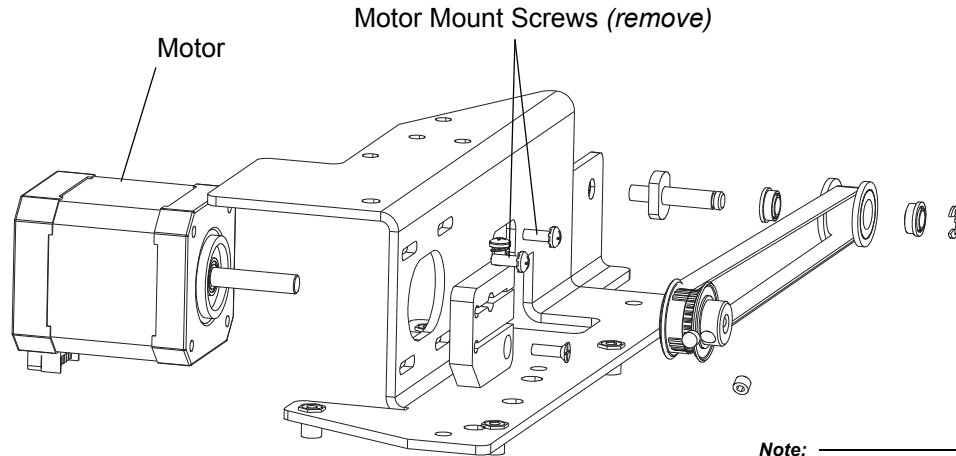
Edge Motor

Vari-Lite Part No: 44.9704.1216

To replace edge motor:

- Step 1. Remove edge stabilizer following procedure in “Edge Stabilizer” on page 102.
Step 2. Remove 2 x 4-40 x 5/16" PPZ SEMS screws and remove motor.

Edge Motor Assembly



- Step 3. Replace in reverse.

Gobo Assembly

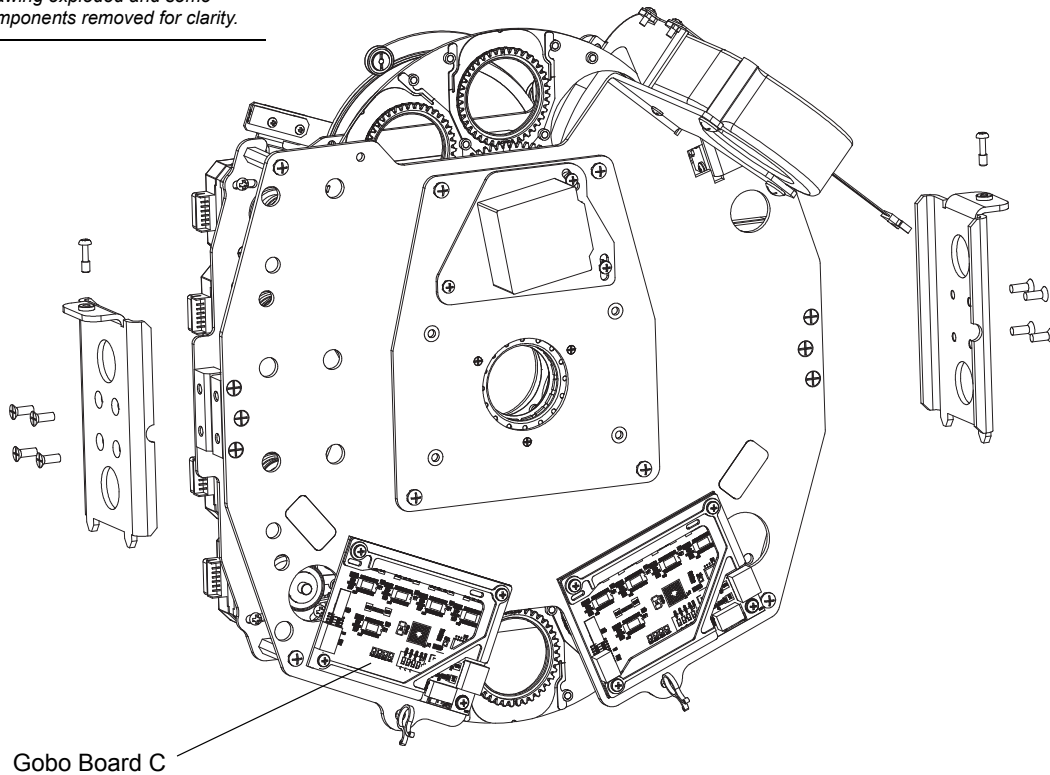
Driver Board C

Vari-Lite Part No: 24.9704.2901

To replace driver board C:

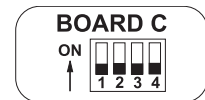
- Step 1. Remove gobo assembly following procedure in “Gobo / Animation Assembly” on page 62.
- Step 2. Remove 3 x 4-40 x 3/8" PPZ SEMS screws that mount driver board clamp and remove clamp.

Note: _____
Drawing exploded and some
components removed for clarity.



- Step 3. Disconnect wiring
 - a. COM in and out - each labeled motor driver (note, does not matter which goes in which connector on board)
 - b. Sensor 1 - 4
 - 1) 1 - CS1 G INDEX 2 - Gobo Wheel 2 Index Sensor
 - 2) 2 - CS2 G ROT 2 - Gobo Wheel 2 Wheel Sensor
 - 3) 3 - CS3 G ROT 1 - Gobo Wheel 1 Wheel Sensor

- 4) 4 - CS4 G INDEX 1 - Gobo Wheel 1 Index Sensor
- c. Motor 1 - 4
 - 1) 1 - CM1 G INDEX 2 - Gobo Wheel 2 Index Motor
 - 2) 2 - CM2 G ROT 2 - Gobo Wheel 2 Wheel Motor
 - 3) 3 - CM3 G ROT 1 - Gobo Wheel 1 Wheel Motor
 - 4) 4 - CM4 G INDEX 1 - Gobo Wheel 2 Index Motor
- Step 4. Remove 1 x 4-40 x 1/4" PPZ SEMS screw and remove board.
- Step 5. On replacement board, set dip switches as follows:
 - a. DIP SW 1 OFF
 - b. DIP SW 2 OFF
 - c. DIP SW 3 OFF
 - d. DIP SW 4 OFF
- Step 6. Replace in reverse. Ensure wiring connections are fully seated into board and that sensor connectors are on outside edge.



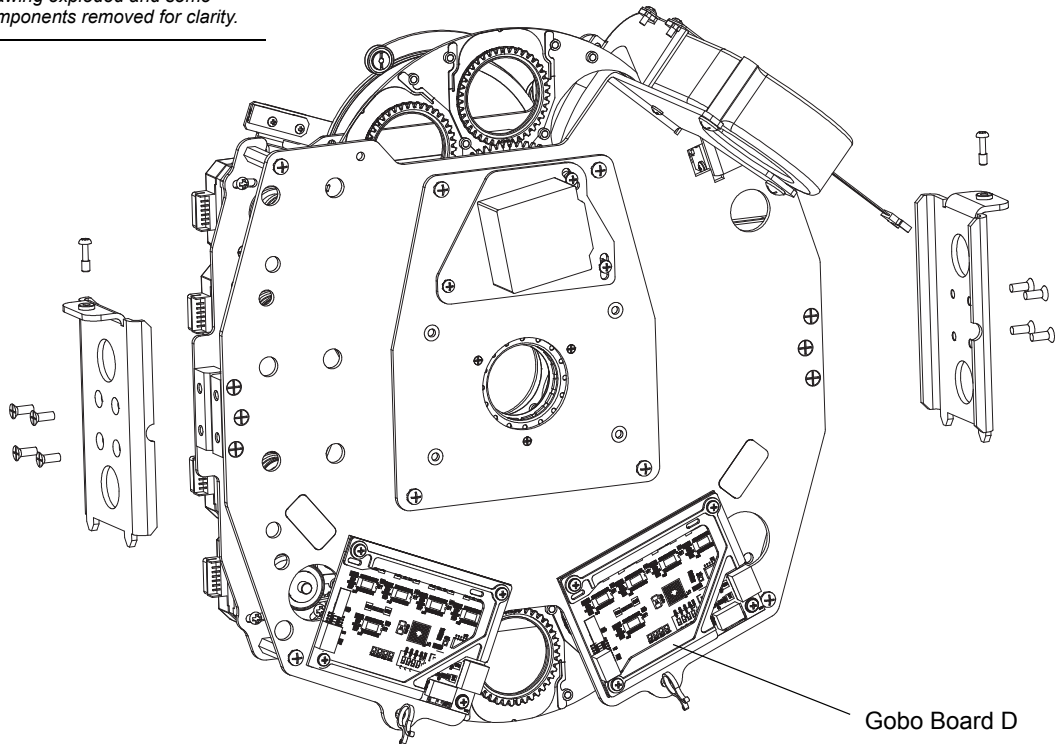
Driver Board D

Vari-Lite Part No: 24.9704.2901

To replace driver board D:

- Step 1. Remove gobo assembly following procedure in “Gobo / Animation Assembly” on page 62.
- Step 2. Remove 3 x 4-40 x 3/8" PPZ SEMS screws that mount driver board clamp and remove clamp.

Note: _____
Drawing exploded and some
components removed for clarity.



- Step 3. Disconnect wiring.
- COM in and out - Labeled Driver Board and shutter (note, does not matter which goes in which connector on board).
 - Yellow/Black/Green/Blue - Gobo Fan
 - Sensor 1 & 4
 - 1 - DS1 FX INDEX - Animation Wheel Index Sensor
 - 2) 4 - DS4 FX ARM - Animation Wheel Arm Sensor
 - Motor 1, 4 & 5
 - 1) 1 - DM1 FX INDEX - Animation Wheel Index Motor
 - 2) 4 - DM4 FX ARM - Animation Wheel Arm Motor

3) 5 - DM5 IRIS - Iris Motor

Step 4. Remove 1 x 4-40 x 1/4" PPZ SEMS screw and remove board.

Step 5. On replacement board, set dip switches as follows:

- a. DIP SW 1 ON
- b. DIP SW 2 OFF
- c. DIP SW 3 OFF
- d. DIP SW 4 OFF



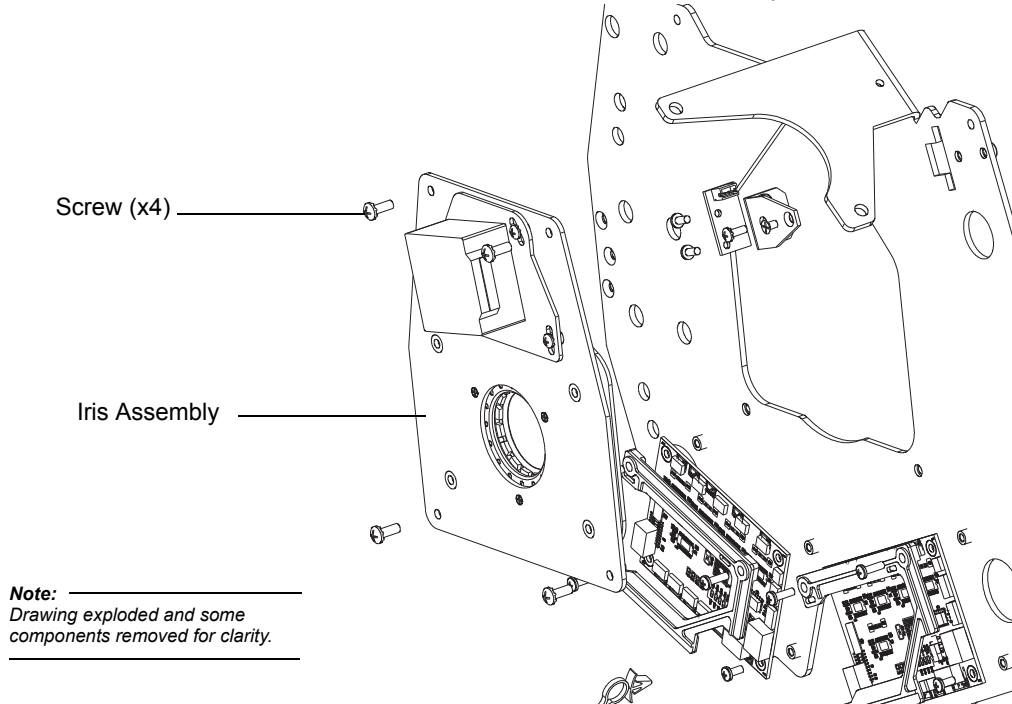
Step 6. Replace in reverse. Ensure wiring connections are fully seated into board and that sensor connectors are on outside edge.

Iris Assembly

Vari-Lite Part No: 21.9704.6272

To replace iris assembly:

- Step 1. Remove gobo assembly following procedure in “Gobo / Animation Assembly” on page 62.
- Step 2. Disconnect wiring from motor.
- Step 3. Remove 4 x 6-32 x 3/8" PPZ SEMS screws and remove assembly.



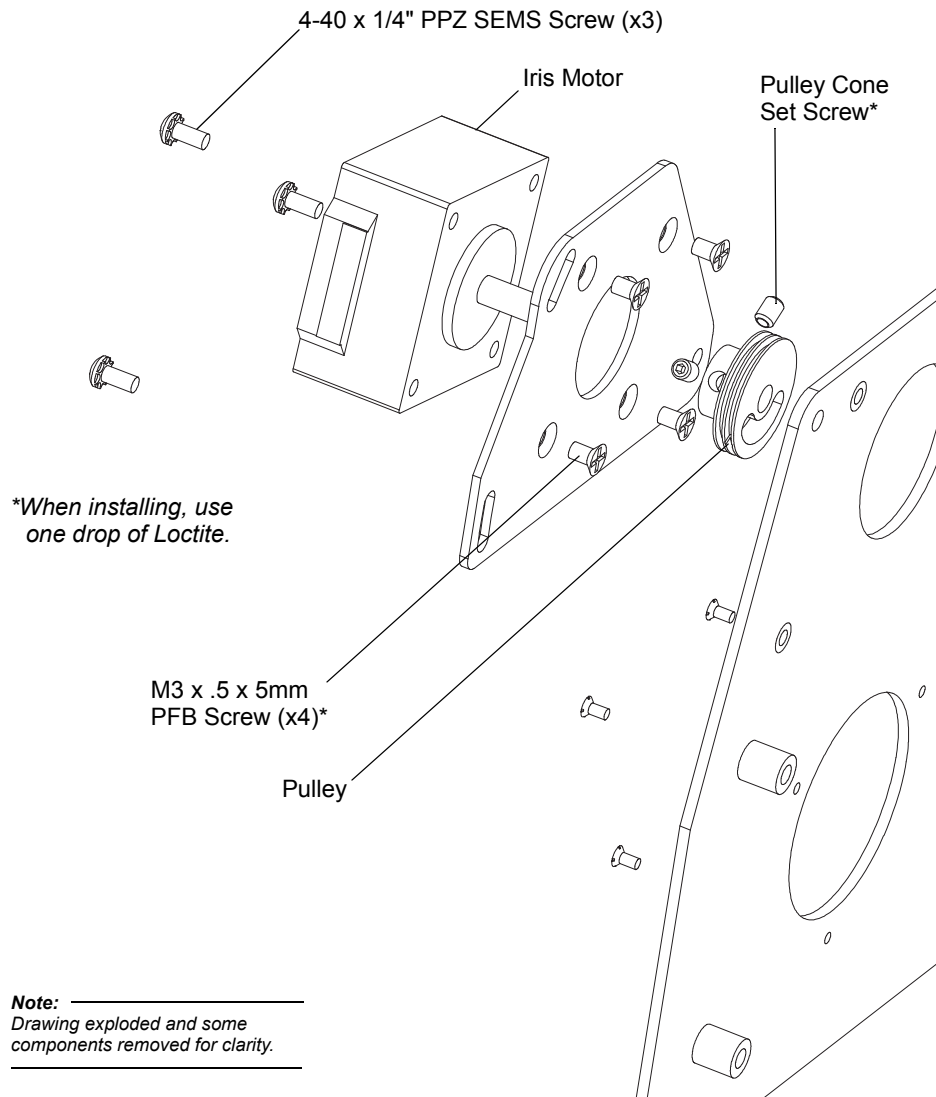
- Step 4. Replace in reverse.

Iris Motor

Vari-Lite Part No: 44.9704.0208

To replace iris motor:

- Step 1. Remove iris assembly following procedure in “Iris Assembly” on page 108.
- Step 2. Loosen 2 x 6-32 x 3/16" cone set screw from pulley.
- Step 3. Remove 3 x 4-40 x 1/4" PPZ SEMS screw and remove motor and mount from pulley.
- Step 4. Remove 4 x M3 x .5 x 5mm PFB screws and remove motor.



- Step 5. Replace in reverse.

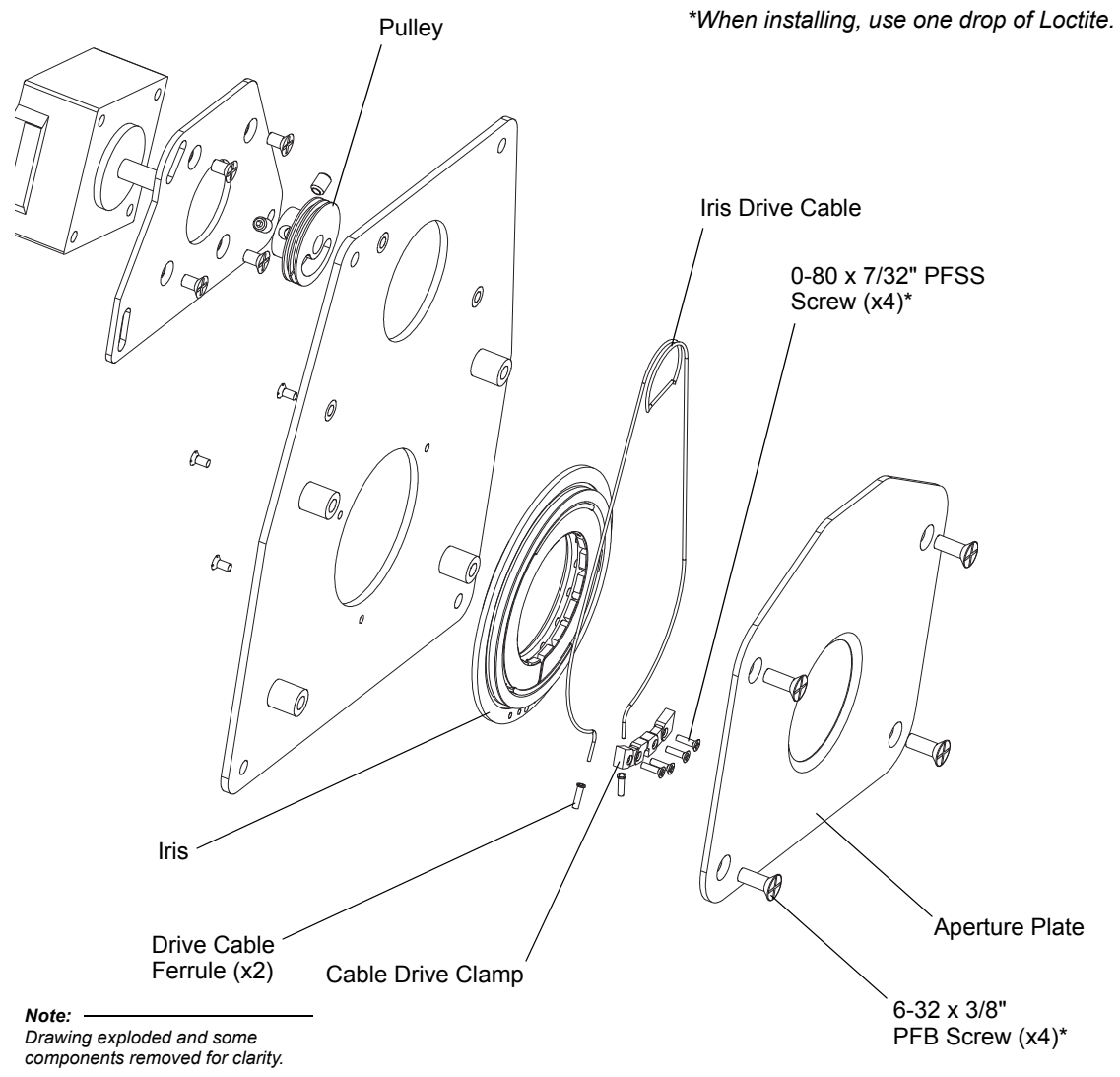
Iris Cable

Vari-Lite Part No: 14 inches of 54.9704.6293 (14-Inches)

Vari-Lite Part No: 52.8298.2216 (Ferrule, x2)

How to replace iris cable:

- Step 1. Remove iris assembly following procedure in “Iris Assembly” on page 108.
- Step 2. Remove aperture plate by removing 4 x 6-32 x 3/8" PFB screws.
- Step 3. Remove 4 x 0-80 x 7/32" PFSS screws and drive cable clamps.



- Step 4. Remove old cable from pulley.
- Step 5. On new, replacement iris cable:
- Mark the center of the new cable with a marker.

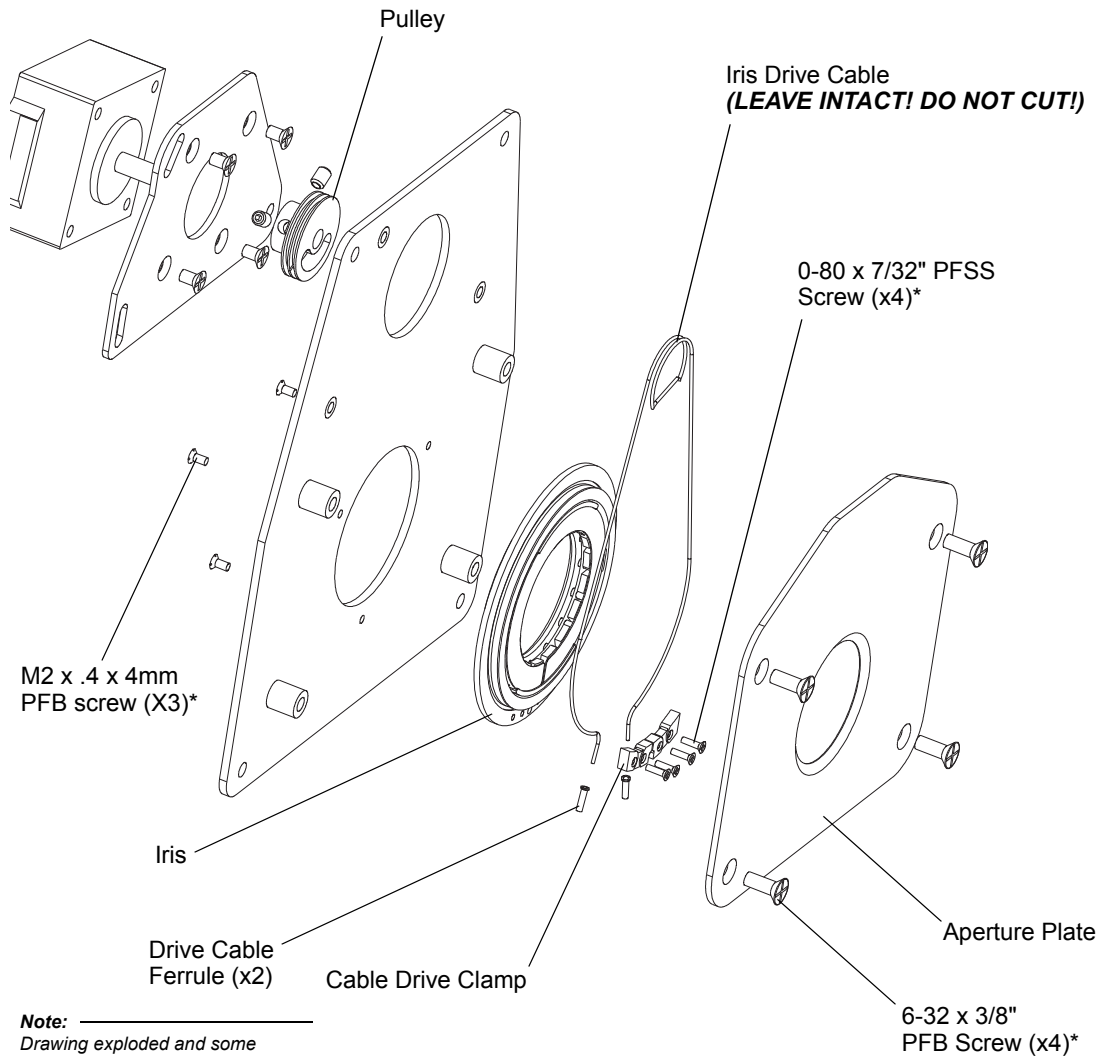
- b. Feed cable through slots in pulley so that center mark lines up with shaft when slot is facing iris.
 - c. Wrap into grooves of pulley.
- Step 6. Hold wire down with cable clamps and tighten 4 x 0-80 x 7/32" PFSS screws.
- Step 7. Insert new ferrules on end of cable flush with clamps. Crimp with pliers. Do not cut off excess cable at this time.
- Step 8. Adjust tension using motor slot screws.
- Step 9. Reinstall aperture plate removed in Step 2.
- Step 10. Trim cables and ferrules so they do not stick out from under aperture plate.
- Step 11. Replace remainder in reverse.

Iris Assembly

Vari-Lite Part No: 22.9704.0275

To replace iris assembly:

- Step 1. Remove iris cable following procedure in “Iris Cable” on page 110 up through Step 3 of the procedure. **Do not cut iris cable! It will be reinstalled.**
- Step 2. Remove 3 x M2 x .4 x 4mm PFB screws and remove iris assembly.



*When installing, use one drop of Loctite.

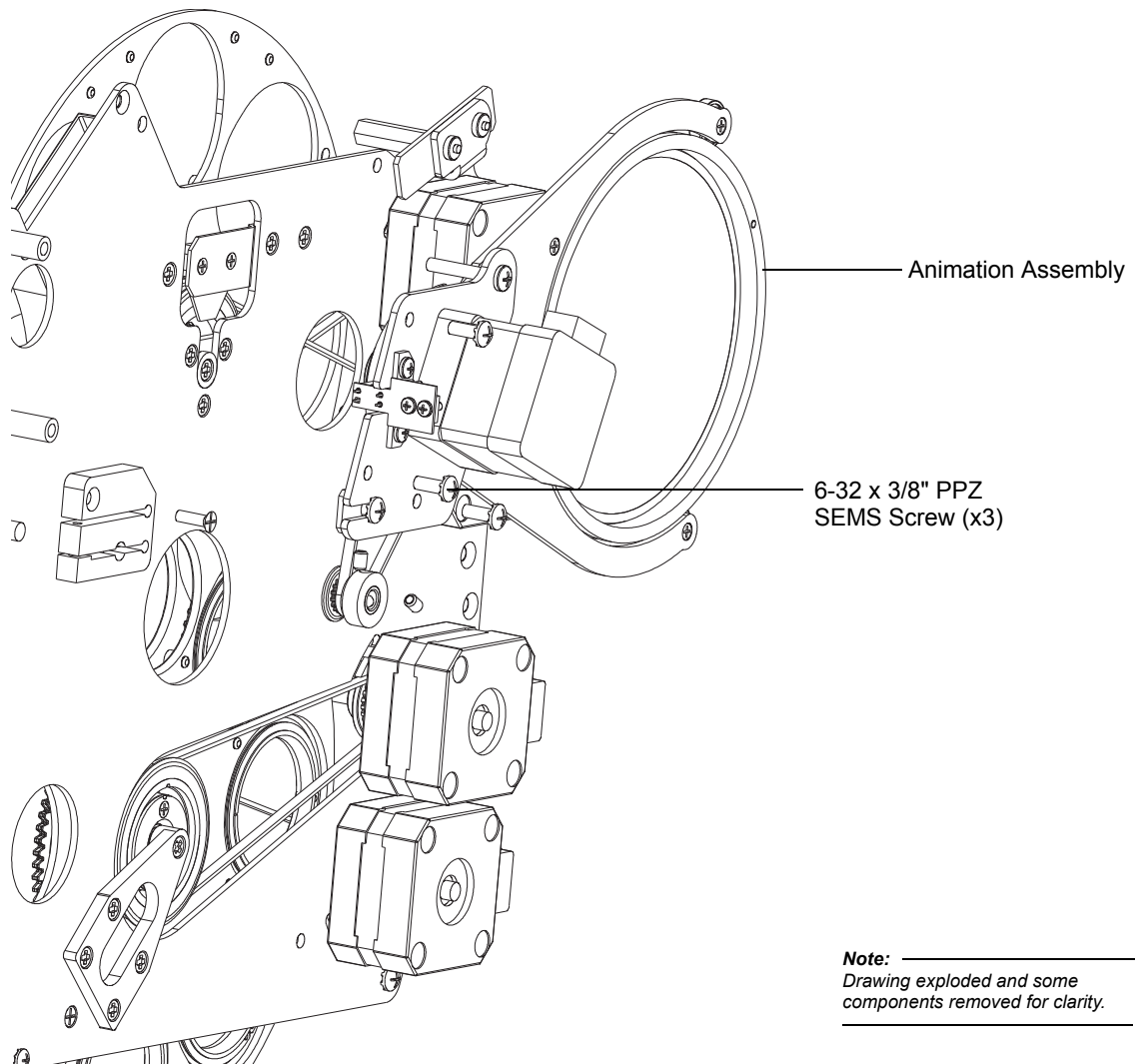
- Step 3. Replace in reverse.

Animation Assembly

Vari-Lite Part No: 21.9704.6353

To replace animation assembly:

- Step 1. Remove gobo assembly following procedure in “Gobo / Animation Assembly” on page 62.
- Step 2. Disconnect wiring from index motor and sensor.
- Step 3. Remove 3 x 6-32 x 3/8" PPZ SEMS screws.



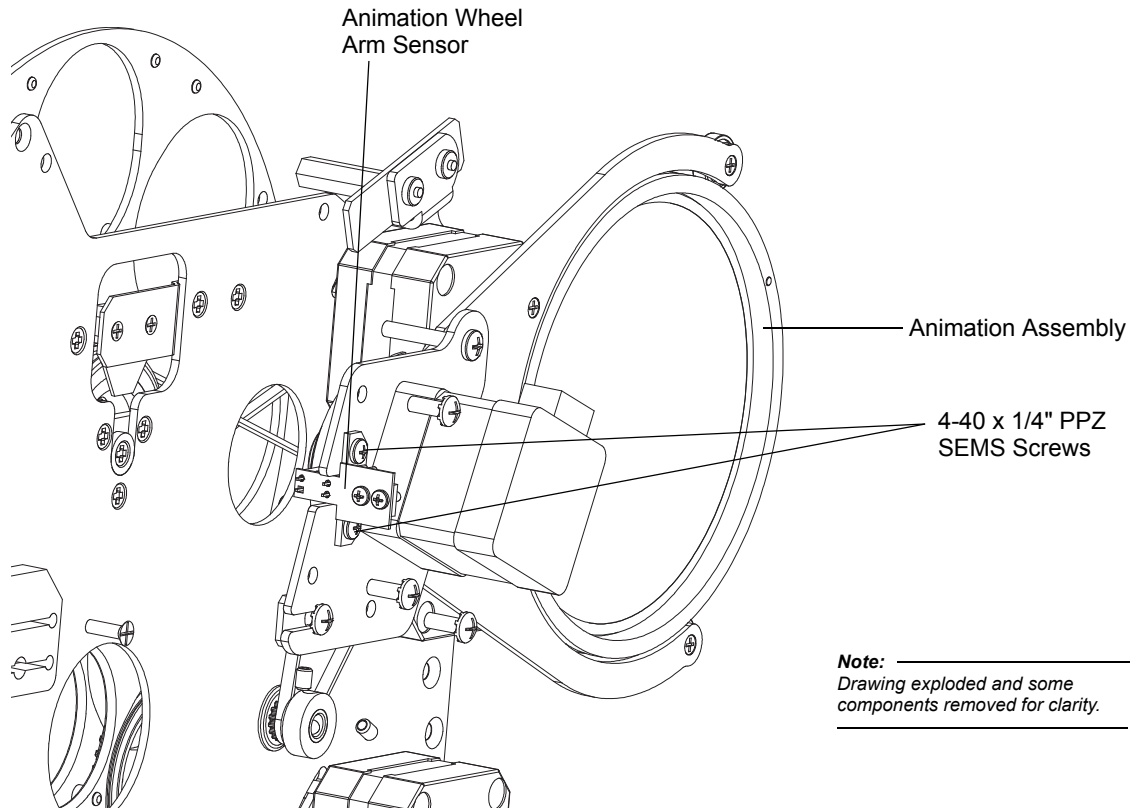
- Step 4. Remove animation assembly.
- Step 5. Replace in reverse.

Animation Wheel Arm Sensor

Vari-Lite Part No: 21.9687.2500

To replace animation wheel arm sensor:

- Step 1. Disconnect wiring harness from sensor.
- Step 2. Remove 2 x 4-40 x 1/4" PPZ SEMS screws and remove sensor.



- Step 3. Replace in reverse

Note: _____
Drawing exploded and some components removed for clarity.

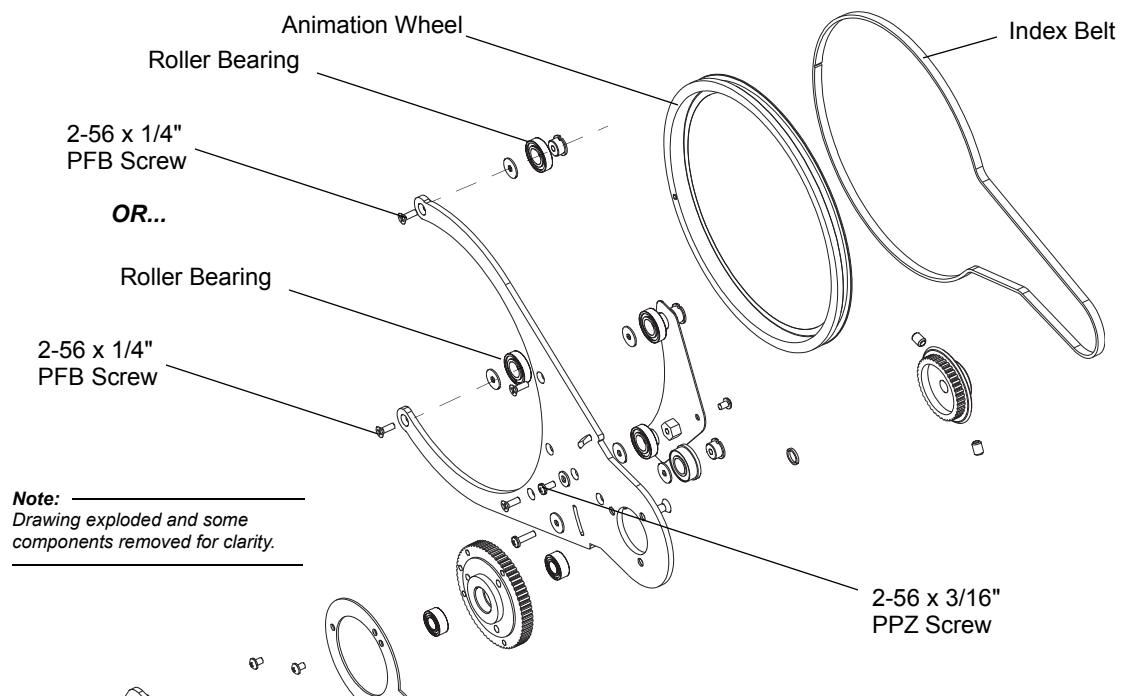
Animation Index Belt & Animation Wheel Removal

Vari-Lite Part No: 54.9704.0392 (Belt)

Vari-Lite Part No: 22.9704.6343 (Animation Wheel - Concurrent)

To replace animation index belt or remove animation wheel:

- Step 1. Remove animation assembly following procedure in [“Animation Assembly”](#) on page 113.
- Step 2. Remove 1 of the 2 roller bearings on outside edge by removing 1 x 2-56 x 1/4" PFB screws.
Note, these have Loctite 242 and may require some heat to remove.
- Step 3. Loosen 1 x 2-56 x 3/16" PPZ screws in tensioning bearing roller.



- Step 4. Remove animation wheel - if replacing wheel only, replace in reverse from here.
- Step 5. Remove index belt.
- Step 6. Replace in reverse.

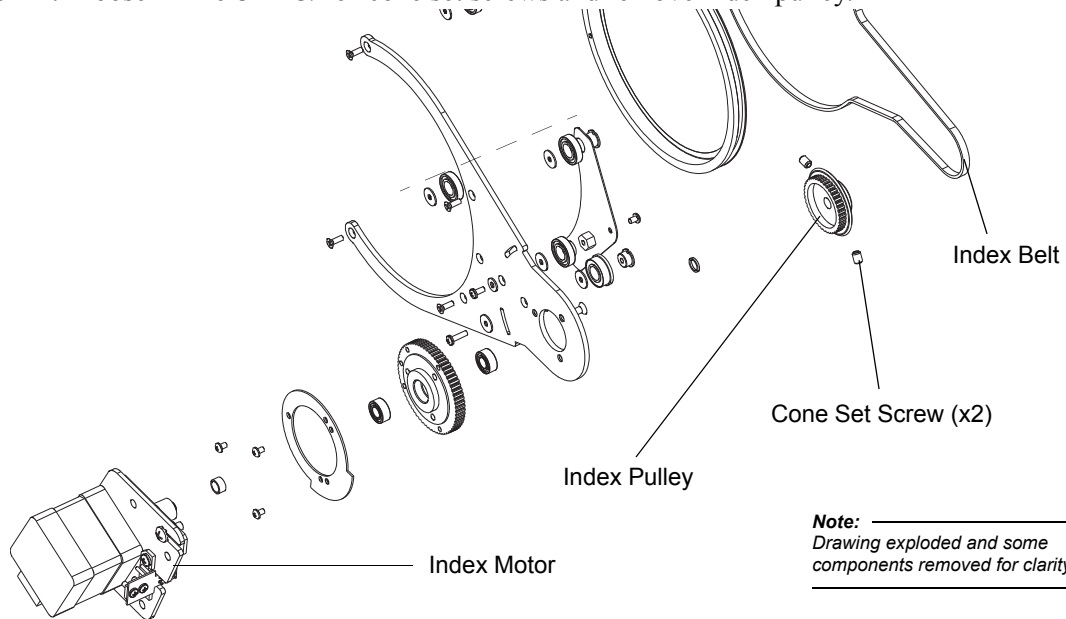
Animation Index Motor & Arm Belt

Vari-Lite Part No: 44.9704.1213 (Motor)

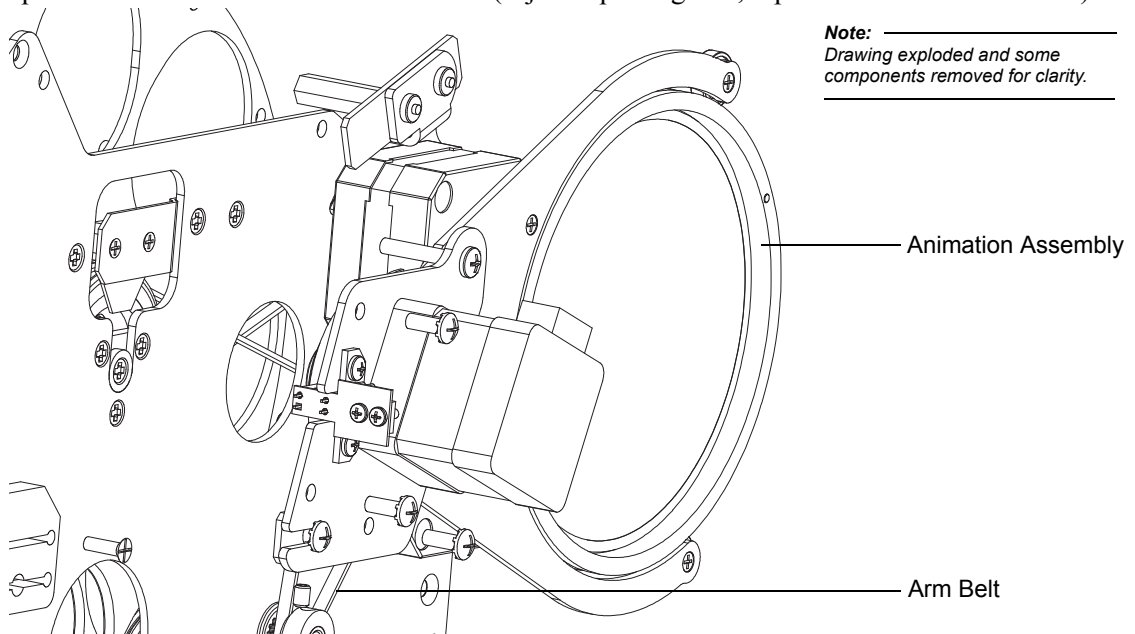
Vari-Lite Part No: 54.9704.1390 (Belt)

To replace animation index motor or arm belt:

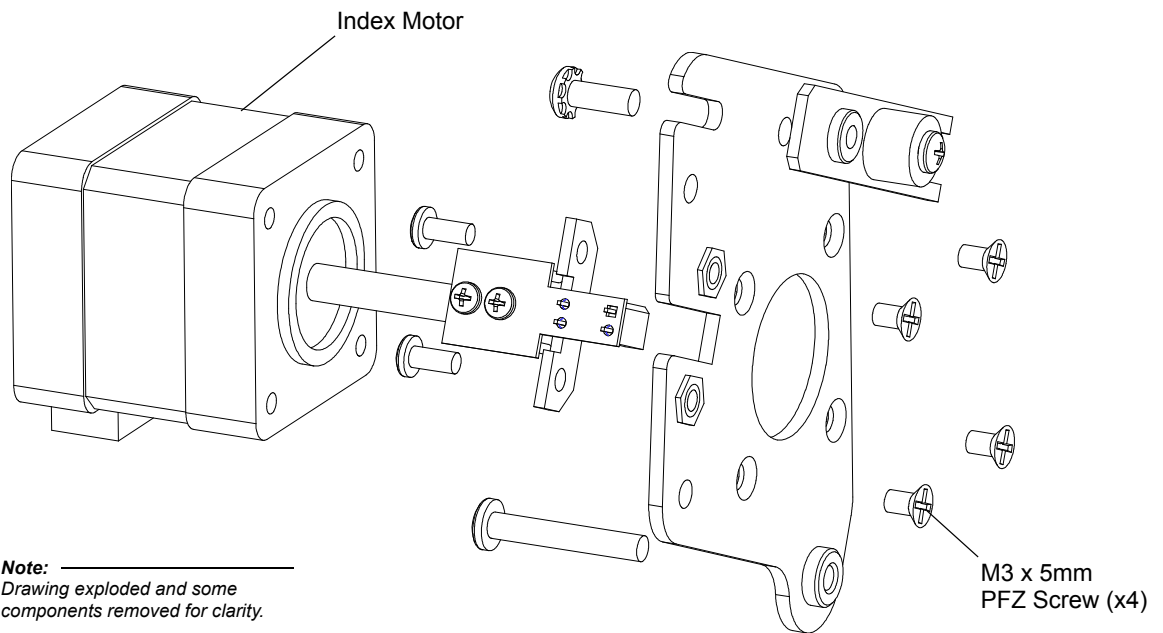
- Step 1. Remove animation wheel index belt following procedure in [“Animation Index Belt & Animation Wheel Removal”](#) on page 115.
- Step 2. Loosen 2 x 6-32 x 3/16" cone set screws and remove index pulley.



- Step 3. Remove arm and belt from shaft (if just replacing belt, replace in reverse from here).



Step 4. Remove 4 x M3 x 5mm PFZ screws and remove motor.



Step 5. Replace in reverse.

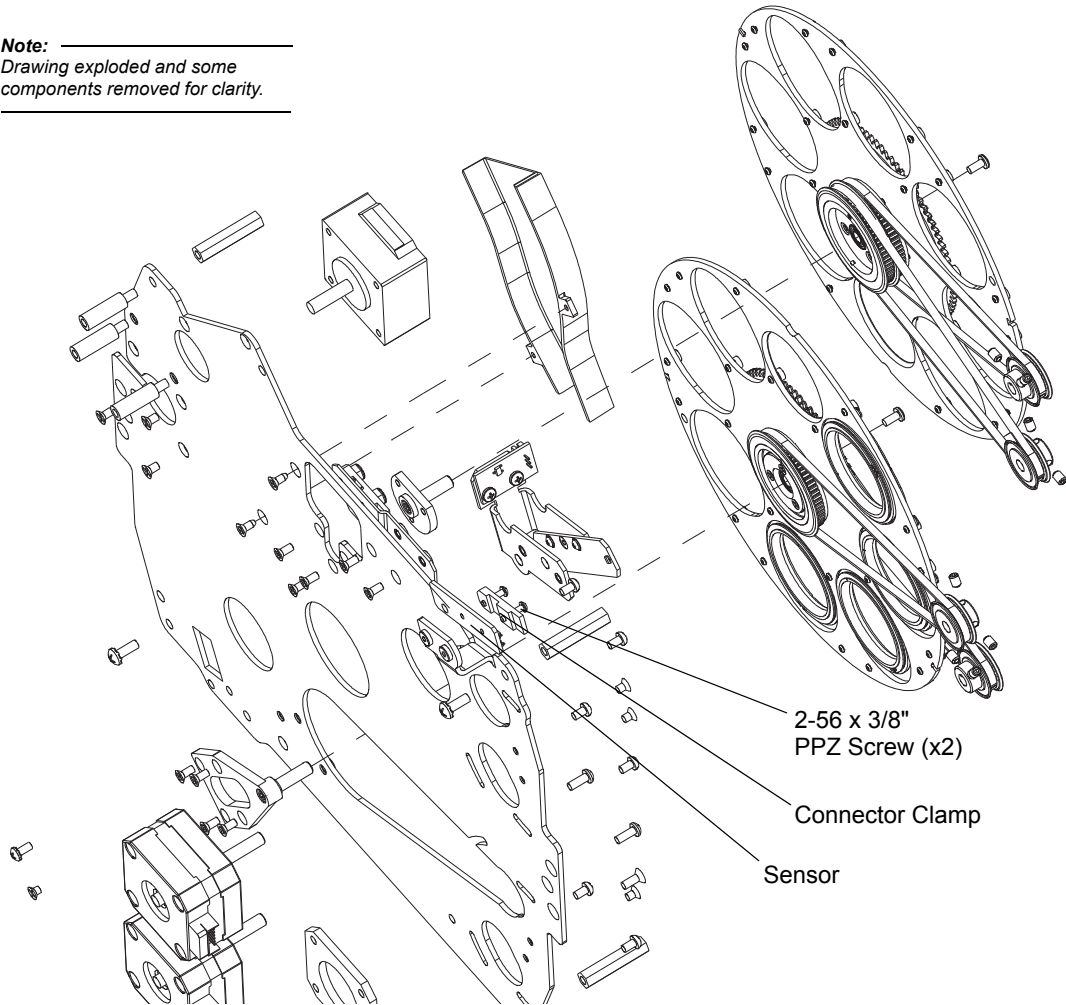
Animation Index Sensor

Vari-Lite Part No: 17.9704.0906

To replace animation index sensor:

Step 1. Remove 2 x 2-56 x 3/8" PPZ screws that mount sensor board and connector clamp.

Note:
Drawing exploded and some
components removed for clarity.



Step 2. Disconnect wiring from sensor.

Step 3. Replace in reverse.

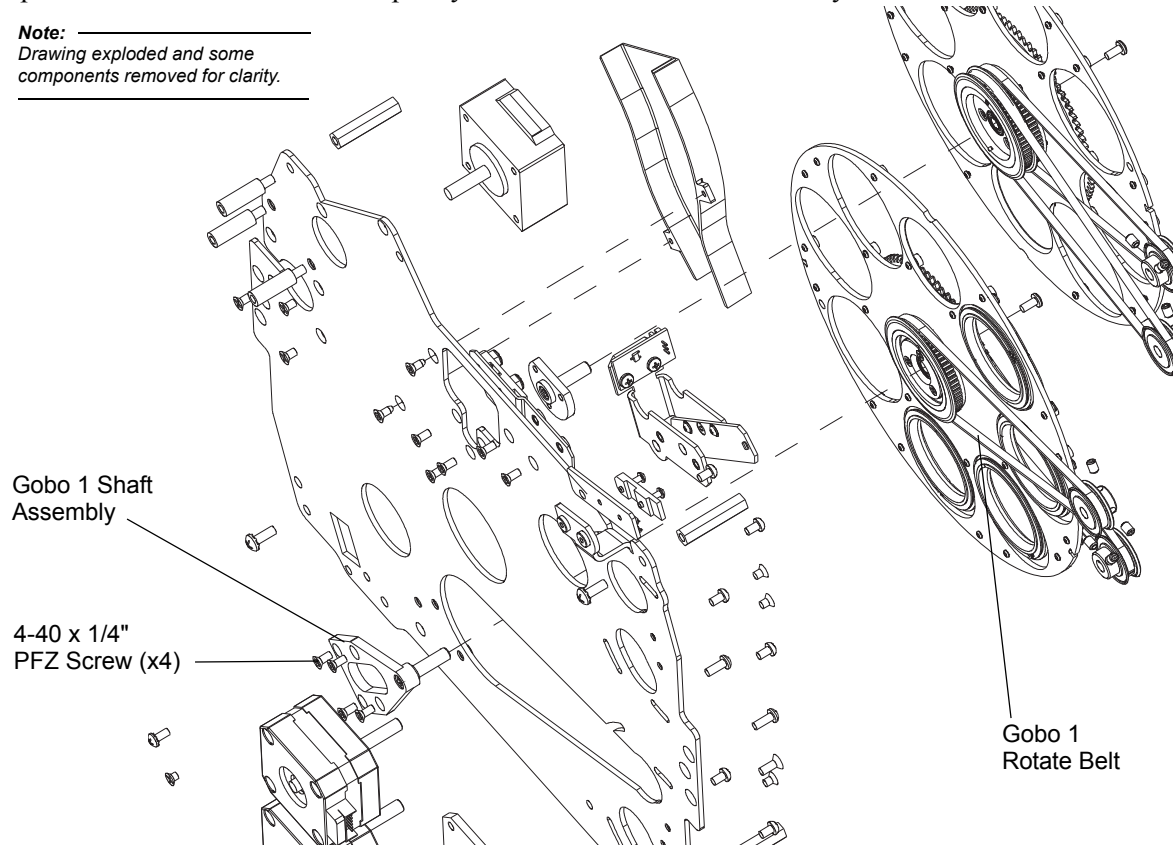
Gobo Wheel 1 Rotate Belt

Vari-Lite Part No: 54.9704.0290

To replace gobo wheel 1 rotate belt:

- Step 1. Remove gobo assembly following procedure in “Gobo / Animation Assembly” on page 62.
 Step 2. Remove 4 x 4-40 x 1/4" PFZ screws from gobo 1 shaft assembly.
 Step 3. Remove belt from drive pulley and slide around shaft assembly.

Note:
 Drawing exploded and some components removed for clarity.



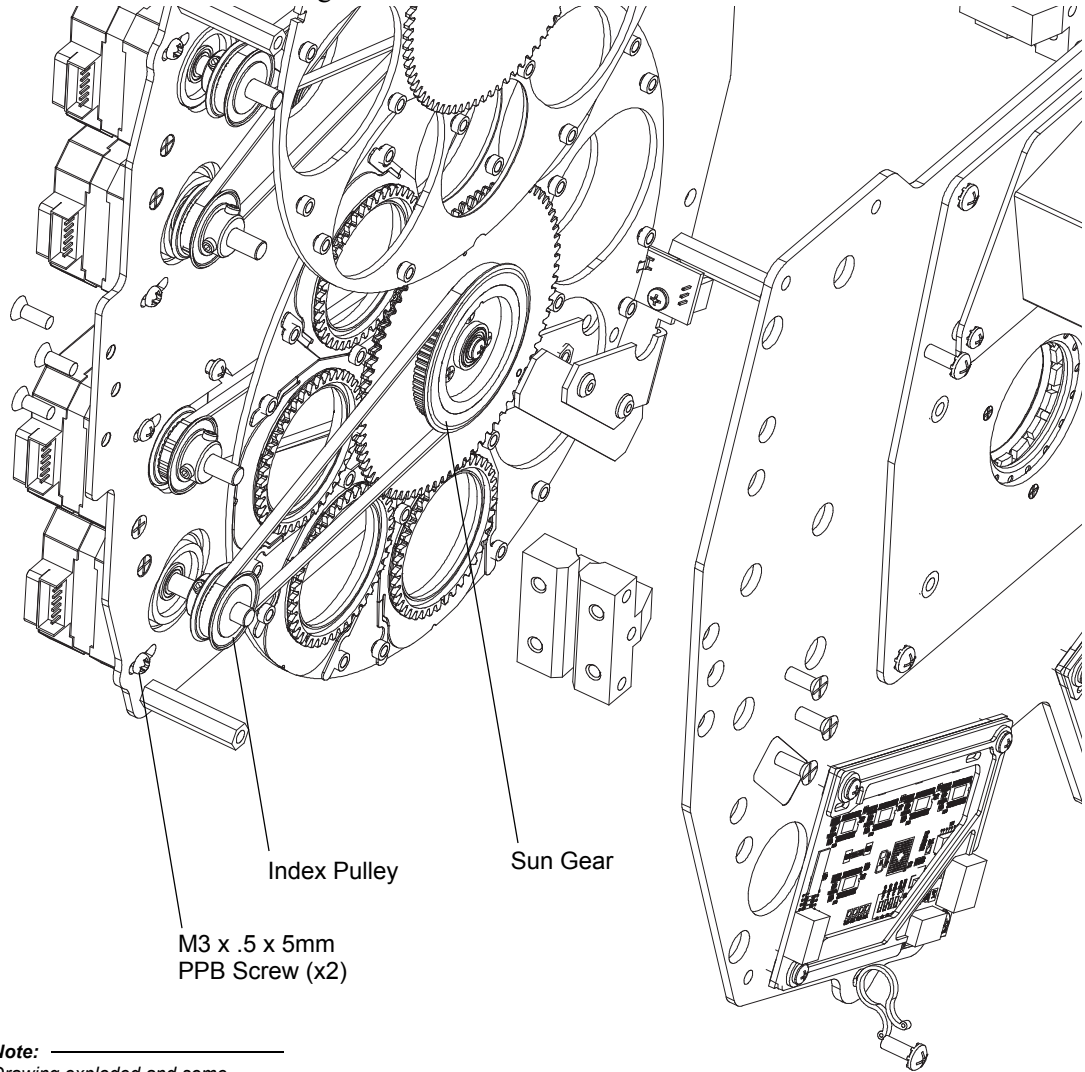
- Step 4. Replace in reverse.

Gobo Wheel 1 Index Belt

Vari-Lite Part No: 54.9698.0002

To replace gobo wheel 1 index belt:

- Step 1. Remove gobo assembly following procedure in “Gobo / Animation Assembly” on page 62.
- Step 2. Loosen 2 x M3 x .5 x 5mm PPB screws at index motor, remove belt from drive pulley.
- Step 3. Slide belt out from sun gear.



- Step 4. Replace in reverse.

Gobo Wheel 2 Index Belt & Rotate Belt

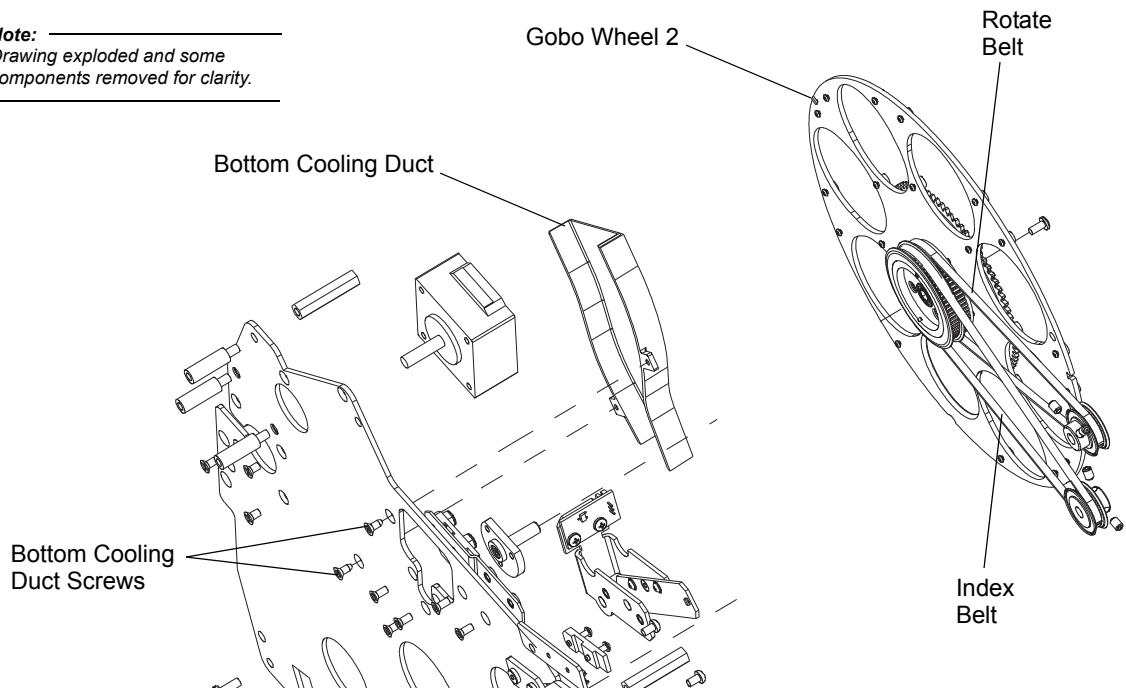
Vari-Lite Part No: 54.9704.0290 (Index Belt)

Vari-Lite Part No: 54.9698.0002 (Rotate Belt)

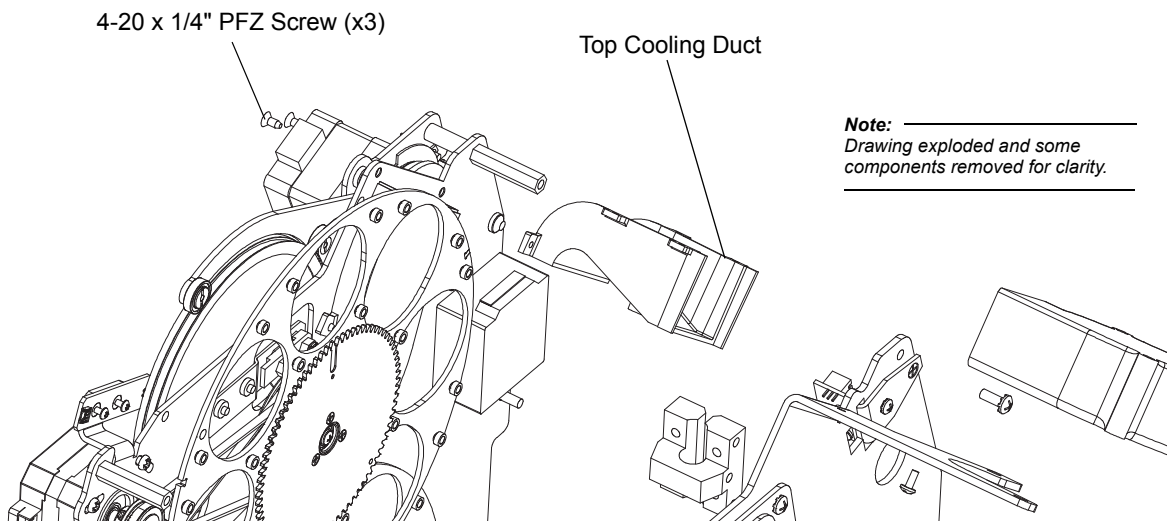
To replace gobo wheel 2 index belt or rotate belt:

- Step 1. Remove animation wheel assembly following procedure in [“Animation Assembly”](#) on page 113.
- Step 2. Remove bottom cooling duct by removing 2 x 4-20 x 1/4" PFZ plastic thread cutting screws.

Note: _____
Drawing exploded and some components removed for clarity.

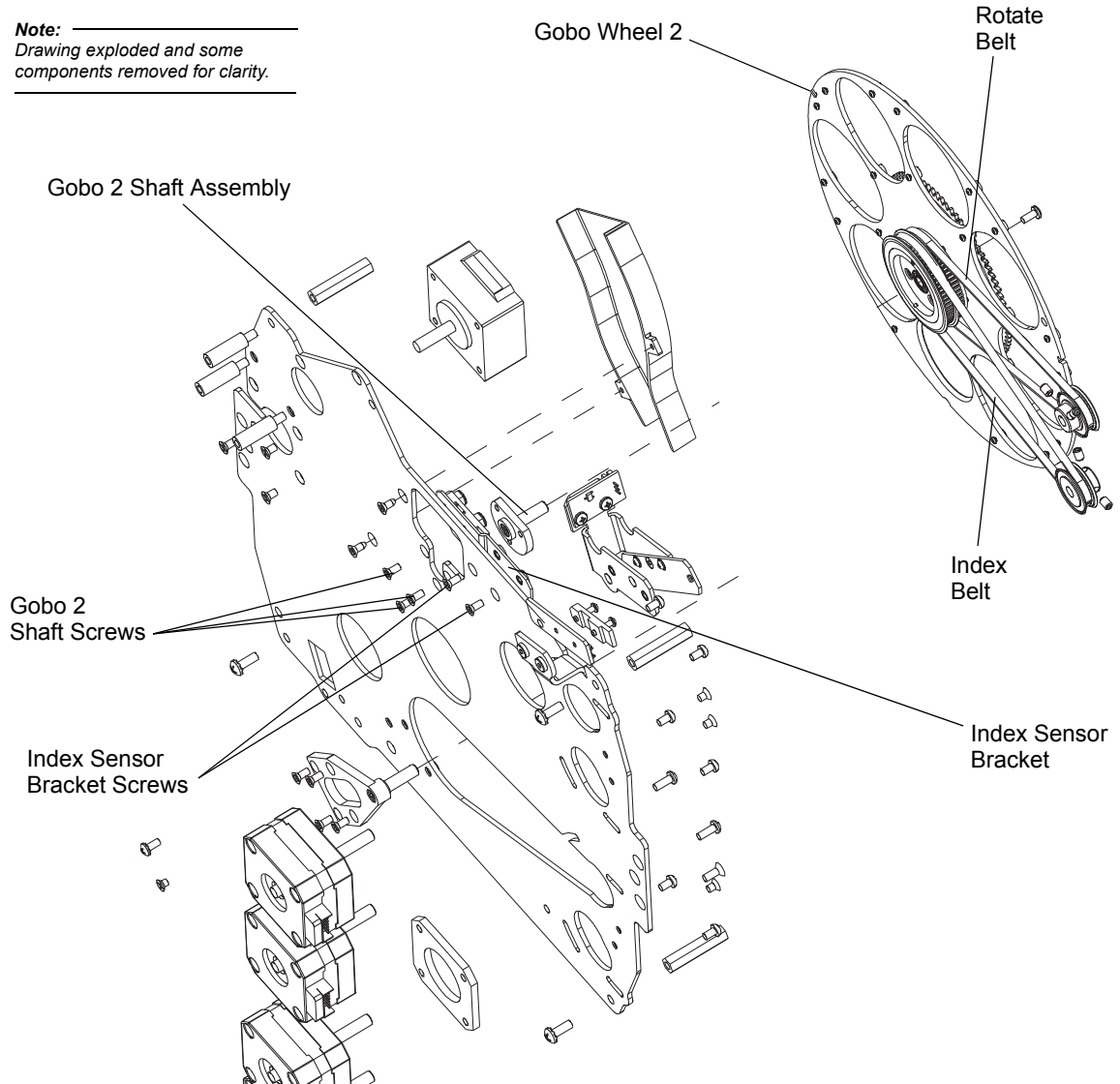


- Step 3. Remove top cooling duct by removing 3 x 4-20 x 1/4" PFZ plastic thread cutting screws.



Step 4. At index sensor, remove 2 x 4-40 x 1/4" PFZ screws and remove index sensor bracket.

Note: _____
Drawing exploded and some components removed for clarity.



Step 5. Remove 3 x M3 x .5 x 5mm PFB screws mounting gobo wheel 2 shaft assembly.

Step 6. Remove wheel assembly with belts.

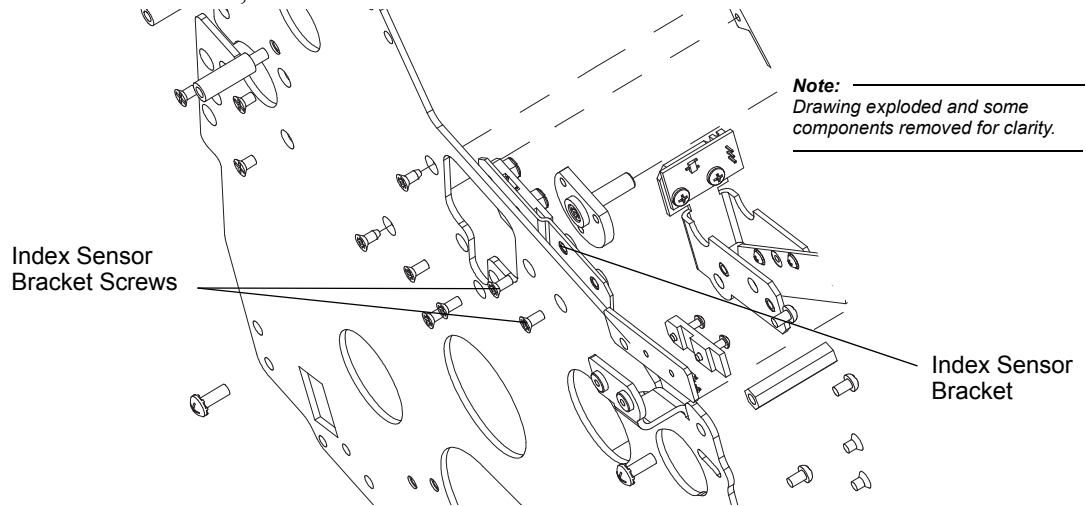
Step 7. Replace belt as required an assemble in reverse.

Gobo Wheel 2 Index Sensor

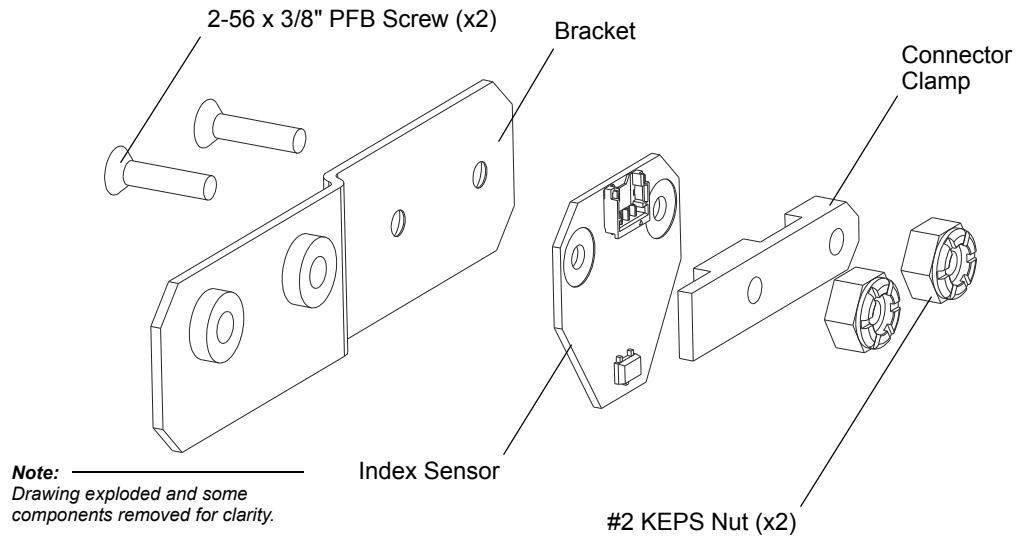
Vari-Lite Part No: 17.9704.0904

To replace gobo wheel 2 index sensor:

- Step 1. Remove gobo assembly following procedure in “Gobo / Animation Assembly” on page 62.
 Step 2. At index sensor, remove 2 x 4-40 x 1/4" PFZ screws and remove index sensor bracket.



- Step 3. Remove 2 x 2-56 x 3/8" PFB screws and 2 x #2 KEPS nuts.



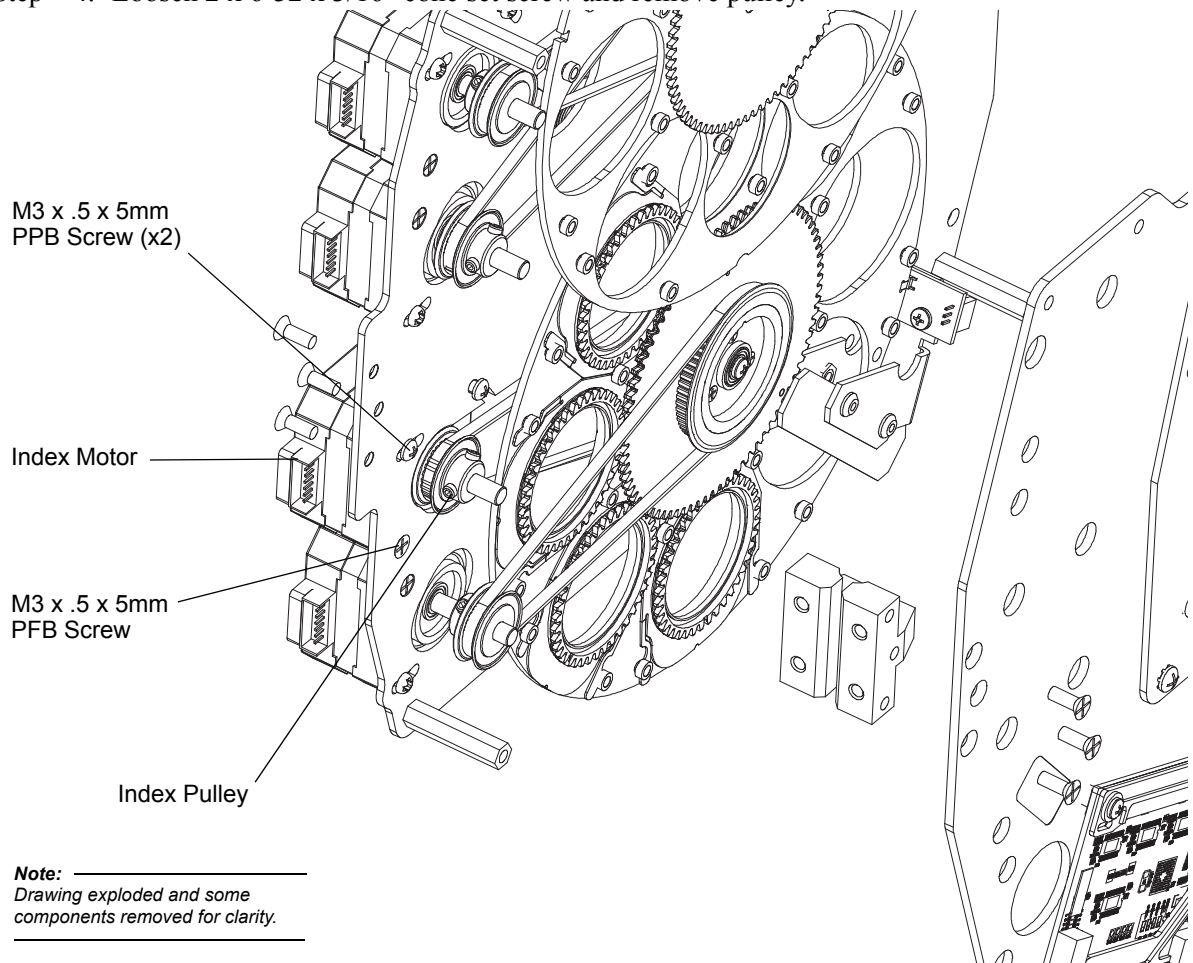
- Step 4. Remove sensor and connector clamp.
 Step 5. Disconnect wiring.
 Step 6. Replace in reverse.

Gobo Wheel 1 Index Motor

Vari-Lite Part No: 44.9704.0217

To replace gobo wheel 1 index motor:

- Step 1. Remove driver board C following procedure in “Driver Board C” on page 104.
- Step 2. Disconnect wiring.
- Step 3. Remove 2 x M3 x .5 x 5mm PPB screws and 1 x M3 x .5 x 5mm PFB screw and remove motor.
- Step 4. Loosen 2 x 6-32 x 3/16" cone set screw and remove pulley.



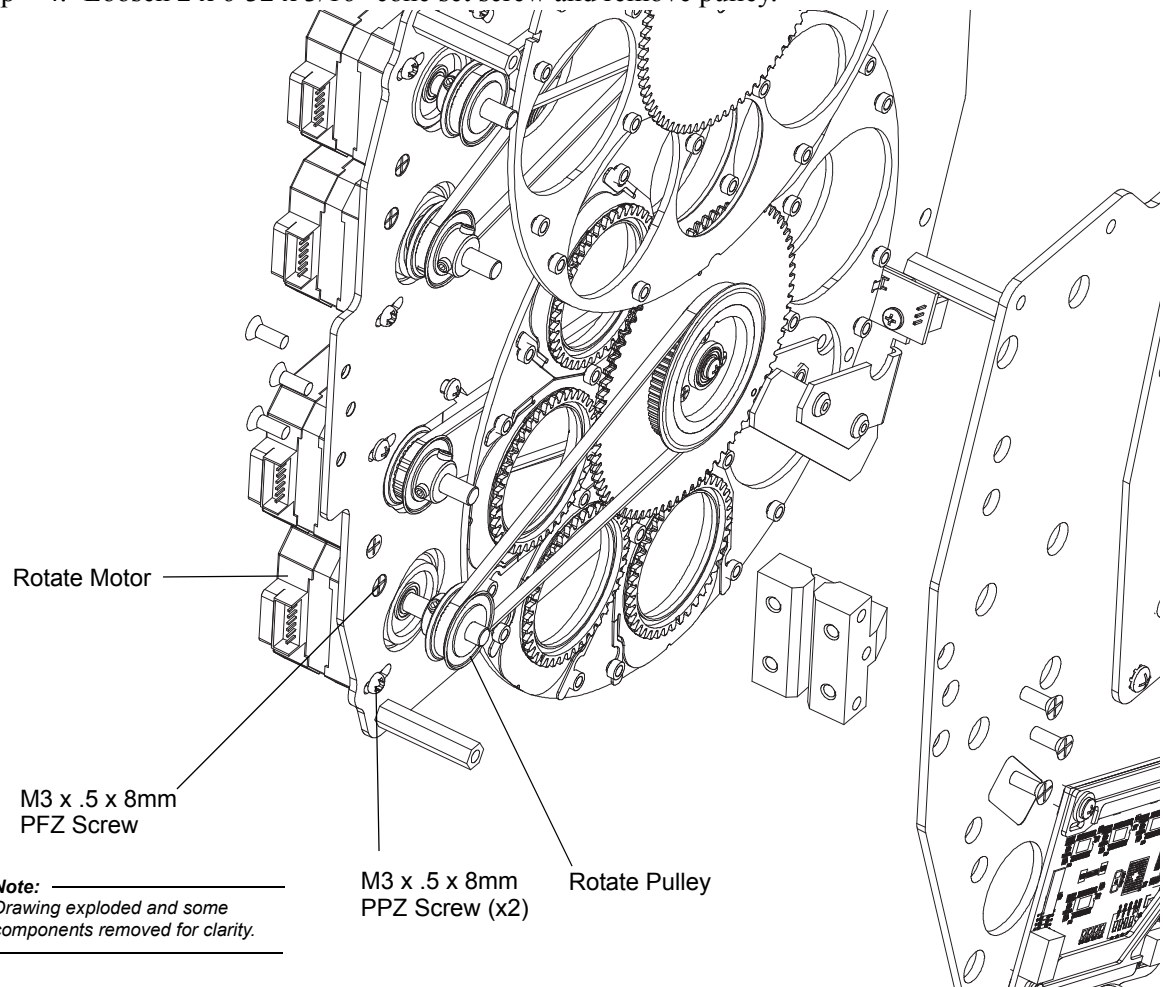
- Step 5. Replace in reverse.

Gobo Wheel 1 Rotate Motor

Vari-Lite Part No: 44.9704.0217

To replace gobo wheel 1 rotate motor:

- Step 1. Remove gobo assembly following procedure in “Gobo / Animation Assembly” on page 62.
- Step 2. Disconnect wiring from motor.
- Step 3. Remove 2 x M3 x .5 x 8mm PPZ screws and 1 x m3 x .5 x 8mm PFZ screw and remove motor and spacer.
- Step 4. Loosen 2 x 6-32 x 3/16" cone set screw and remove pulley.



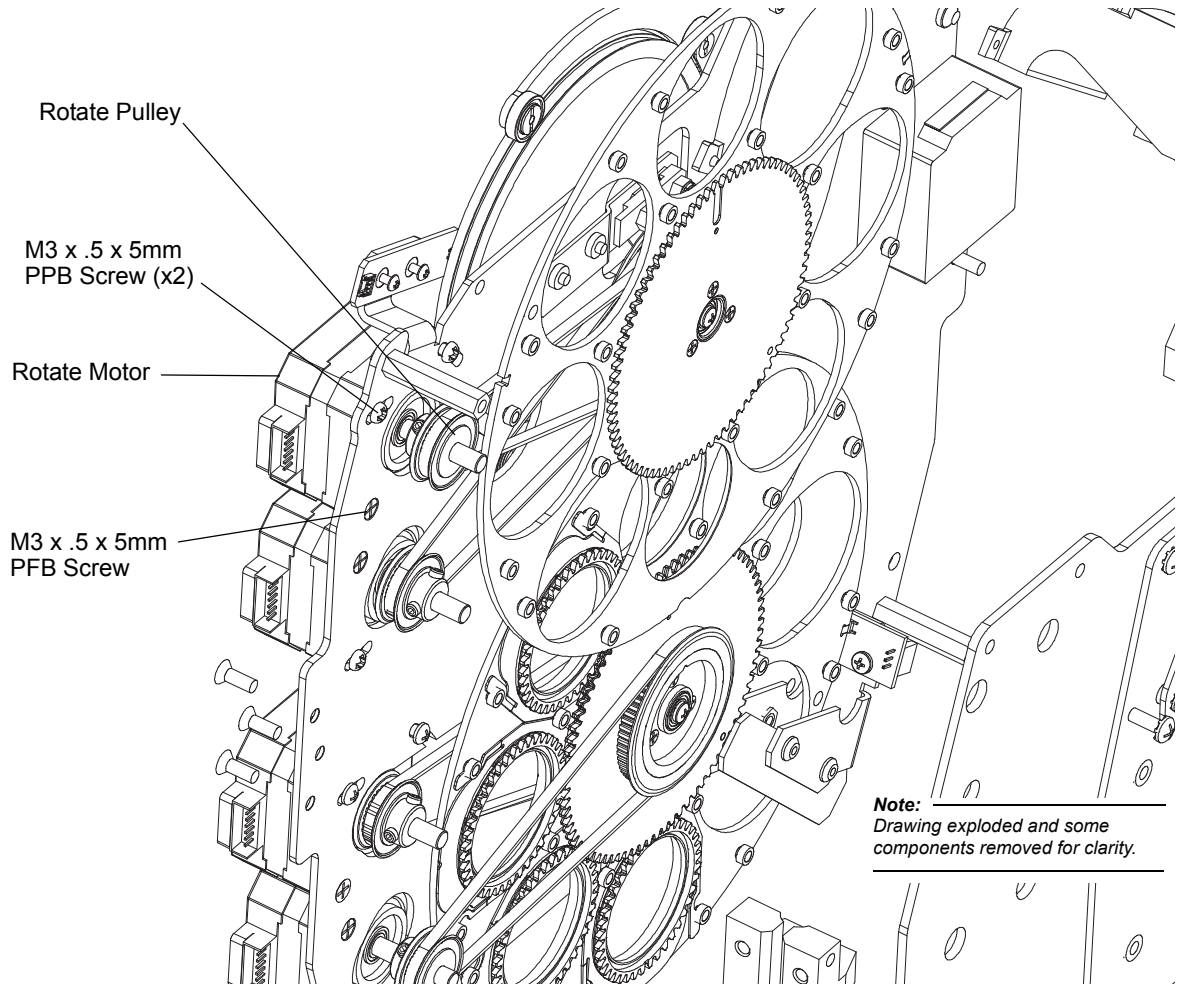
- Step 5. Replace in reverse order.

Gobo Wheel 2 Rotate Motor

Vari-Lite Part No: 44.9704.0217

To replace gobo wheel 2 rotate motor:

- Step 1. Remove gobo assembly following procedure in “Gobo / Animation Assembly” on page 62.
- Step 2. Disconnect wiring form motor.
- Step 3. Remove 2 x M3 x .5 x 5mm PPB screws and 1 x M3 x .5 x 5mm PFB screw and remove motor.



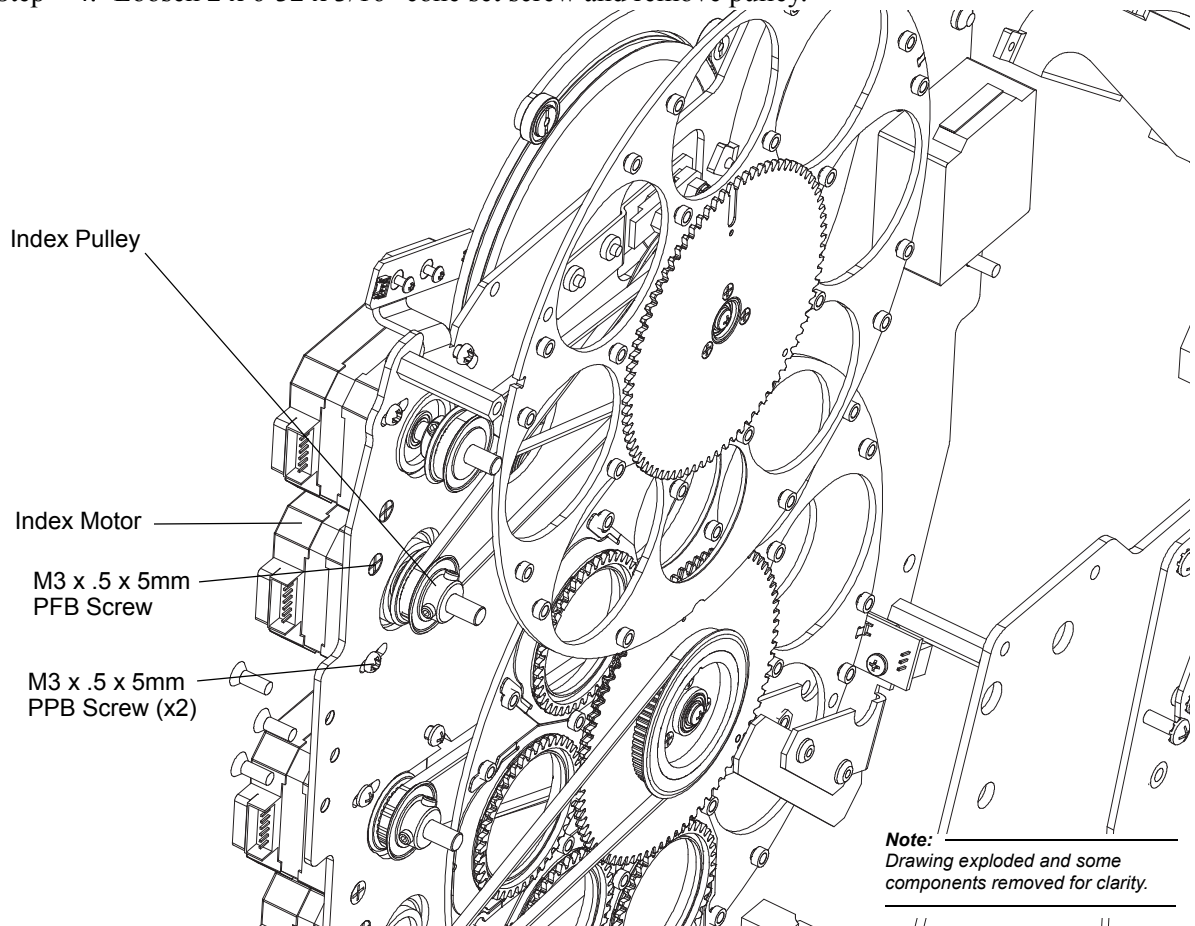
- Step 4. Loosen 2 x 6-32 x 3/16" cone set screw and remove pulley.
- Step 5. Replace in reverse order.

Gobo Wheel 2 Index Motor

Vari-Lite Part No: 44.9704.0217

To replace gobo wheel 2 index motor:

- Step 1. Remove gobo assembly following procedure in “Gobo / Animation Assembly” on page 62.
- Step 2. Disconnect wiring.
- Step 3. Remove 2 x M3 x .5 x 5mm PPB screws and 1 x M3 x .5 x 5mm PFB screw and remove motor.
- Step 4. Loosen 2 x 6-32 x 3/16" cone set screw and remove pulley.



- Step 5. Replace in reverse.

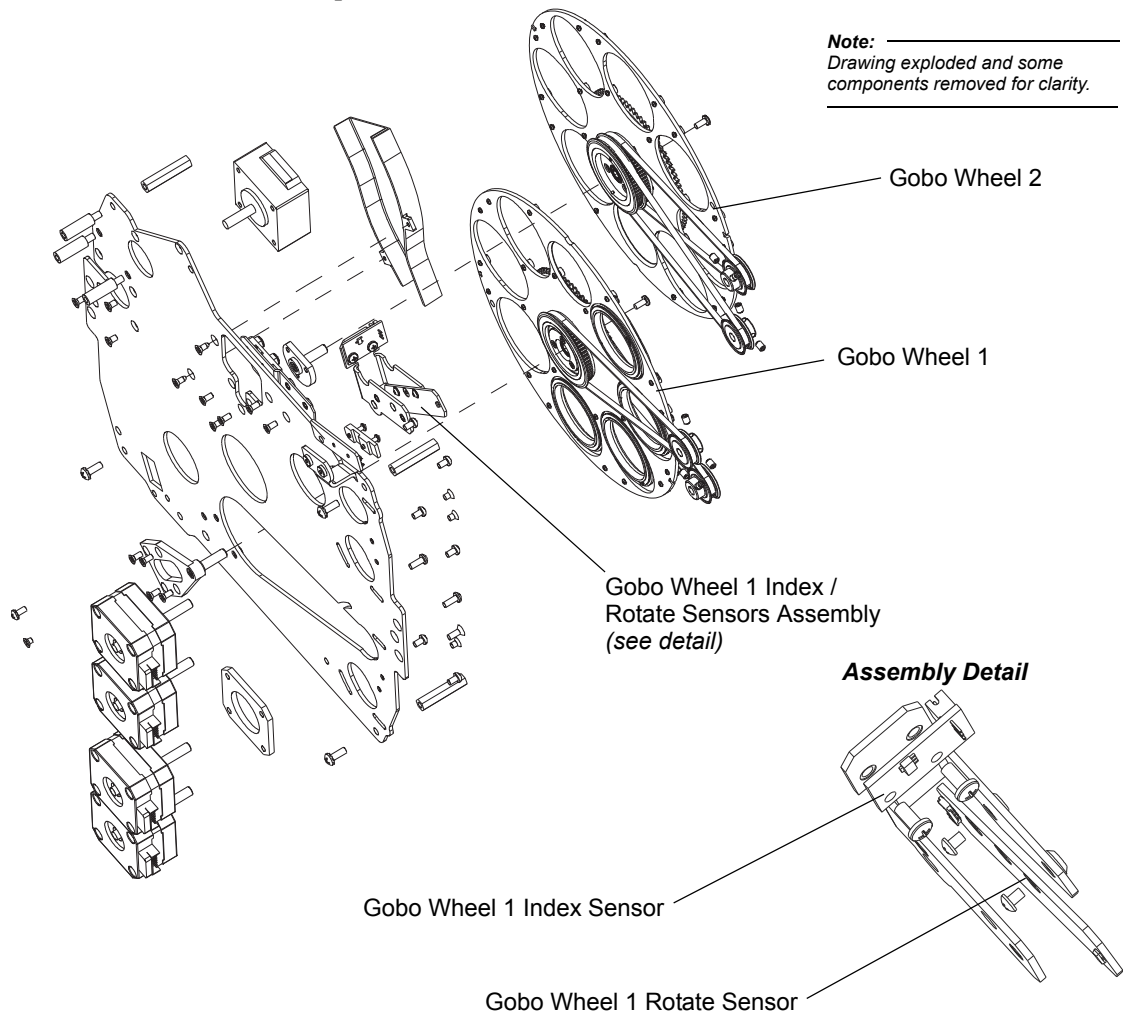
Gobo Wheel 1 Index Sensor & Wheel 1 Rotate Sensor

Vari-Lite Part No: 17.9704.0905 (Index Sensor)

Vari-Lite Part No: 24.9678.3240 (Rotate Sensor)

To replace gobo wheel 1 index sensor or rotate sensor:

- Step 1. Remove gobo assembly following procedure in “Gobo / Animation Assembly” on page 62.
- Step 2. Disconnect wiring from both sensors.
- Step 3. Remove 1 x 4-40 x 1/8" PFZ and 1 x 4-40 x 1/4" PPZ screws and remove assembly.
- Step 4. Depending on sensor to be replaced:
 - a. *If replacing Index Sensor:* Remove 2 x 2-56 x 1/8" PPZ screws and remove sensor, replace in reverse.
 - b. *If replacing Index Sensor:* At Rotate sensor, remove 2 x 4-40 x 1/4" PPZ screws and remove sensor, replace in reverse.



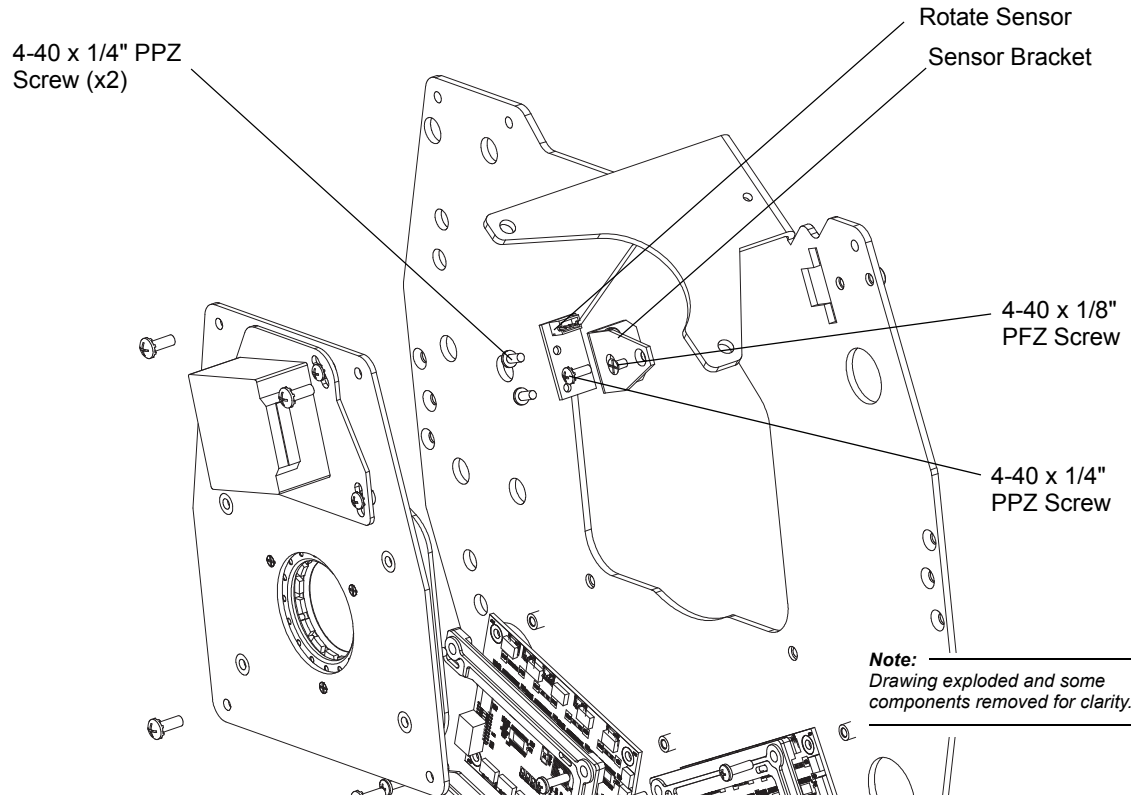
- Step 5. Replace assembly in reverse.

Gobo Wheel 2 Rotate Sensor

Vari-Lite Part No: 24.9678.3240

To replace gobo wheel 2 rotate sensor:

- Step 1. Remove gobo assembly following procedure in “Gobo / Animation Assembly” on page 62.
- Step 2. Disconnect wiring from sensor.
- Step 3. Remove 1 x 4-40 x 1/8" PFZ and 1 x 4-40 x 1/4" PPZ screws from bracket.



- Step 4. Angle bracket out of assembly.
- Step 5. Remove 2 x 4-40 x 1/4" PPZ screws and remove sensor.
- Step 6. Replace in reverse.

Animation Arm Motor & Motor Stabilizer

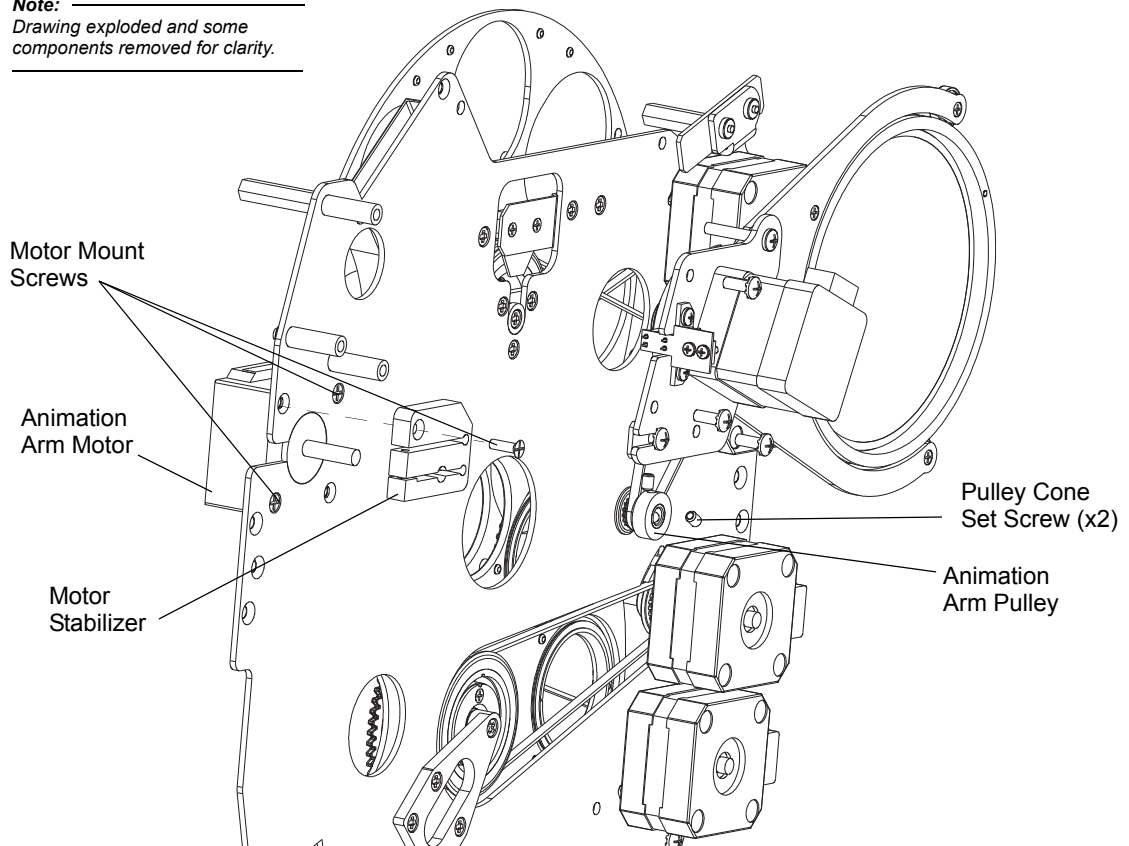
Vari-Lite Part No: 44.9704.0209 (Motor)

Vari-Lite Part No: 21.9698.0330 (Motor Stabilizer)

To replace animation arm motor or motor stabilizer:

- Step 1. Remove animation wheel assembly following procedure in [“Animation Assembly” on page 113](#).
- Step 2. At pulley, loosen 2 x 6-32 x 3/16" cone set screws and remove pulley.
- Step 3. At stabilizer, remove 1 x M3 x .5 x 10 mm PFZ screw and remove stabilizer. If just replacing motor stabilizer, reassemble from here in reverse. If replacing motor, proceed to next step.

Note:
Drawing exploded and some components removed for clarity.



- Step 4. Disconnect wiring from motor.
- Step 5. Remove 3 x M3 x .5 x 5mm PFB screws and remove motor.
- Step 6. Replace in reverse.

Color Assembly Components

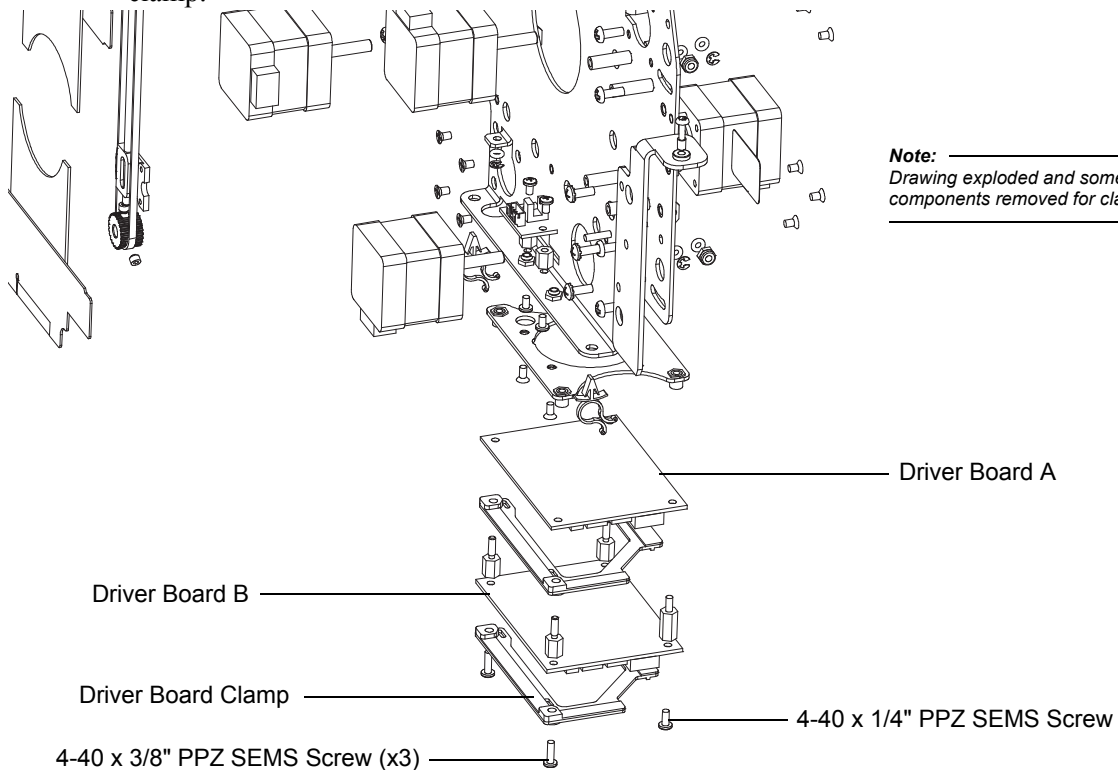
Vari-Lite Part No: 21.9704.7400

Driver Board B

Vari-Lite Part No: 24.9704.2901

To replace driver board B:

- Step 1. Remove color assembly following procedure in “Color Assembly” on page 63.
- Step 2. Remove 3 x 4-40 x 3/8" PPZ SEMS screws that mount driver board clamp and remove clamp.



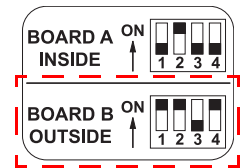
- Step 3. Disconnect wiring:
- Orange/Red/Black - 36 & 12 VDC
 - COM in - Labeled CLR B (note, does not matter which goes in which connector on board)
 - Red/Black/Yellow - Color Fan
 - Sensor 1 - 4
 - 1 - BS1 MAG - Magenta Sensor
 - 2 - BS2 FIX 2 - Fixed Color Wheel 2 Sensor
 - 3 - BS3 FIX 1 - Fixed Color Wheel 1 Sensor

- 4) 4 - BS4 YEL - Yellow Sensor
- e. Motor 1 - 4
 - 1) 1 - BM1 MAG - Magenta Motor
 - 2) 2 - BM2 FIX 2 - Fixed Color Wheel 2 Motor
 - 3) 3 - BM3 FIX 1 - Fixed Color Wheel 1 Motor
 - 4) 4 - BM4 YEL - Yellow Motor

Step 4. Remove 1 x 4-40 x 1/4" PPZ SEMS screw and remove board.

Step 5. On replacement board, set dip switches as follows:

- a. DIP SW 1 ON
- b. DIP SW 2 ON
- c. DIP SW 3 OFF
- d. DIP SW 4 ON



Step 6. Replace in reverse. Ensure wiring connections are fully seated into board.

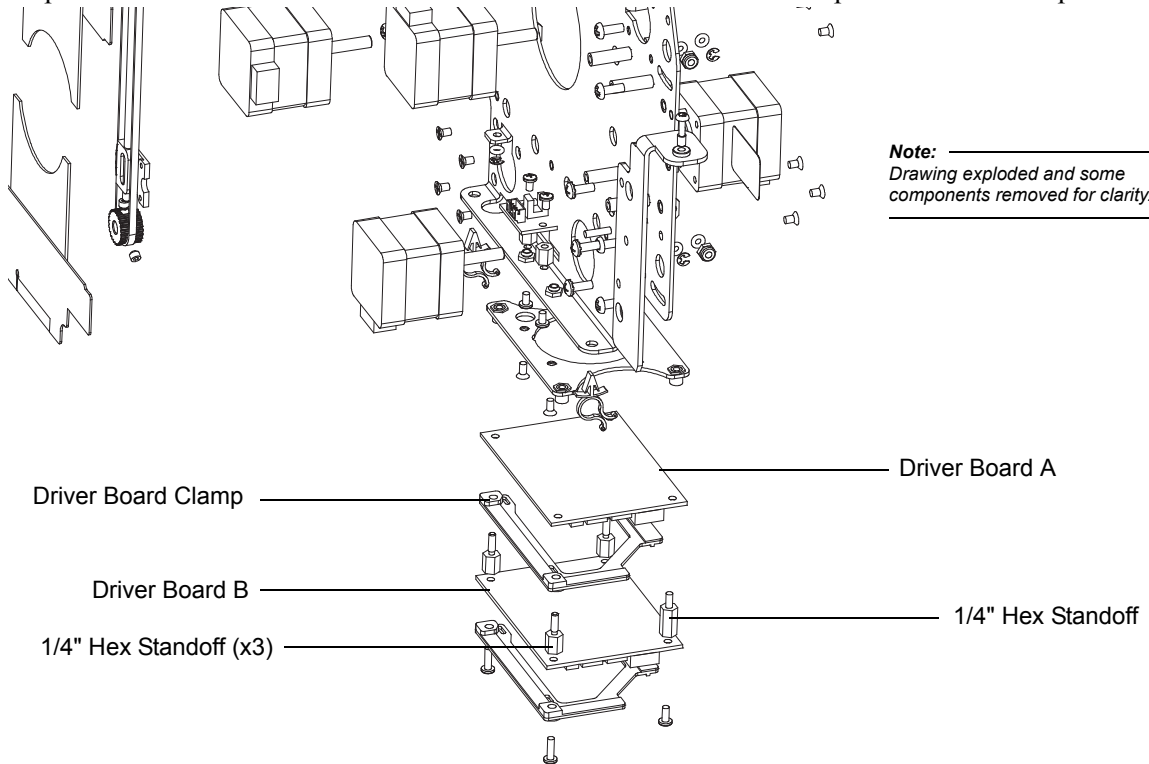
Driver Board A

Vari-Lite Part No: 24.9704.2901

To replace driver board A:

Step 1. Remove color assembly following procedure in “Color Assembly” on page 63.

Step 2. Remove 3 x 1/4" HEX standoffs that mount driver board clamp and remove clamp.



Step 3. Disconnect wiring:

- a. Orange/Red/Black - 36 & 12 VDC
- b. COM in and out - Labeled MTR DRVR & CLR A (note, does not matter which goes in which connector on board)
- c. Sensor 2 - 4
 - 1) 2 - AS2 CYAN - Cyan Sensor
 - 2) 3 - AS3 DIM - Dimmer Sensor
 - 3) 4 - AS4 CTO - CTO Sensor
- d. Motor 1 - 5
 - 1) 1 - AM1 STRB 2 - Strobe 2 Motor
 - 2) 2 - AM2 CYAN - Cyan Motor
 - 3) 3 - AM3 DIM - Dimmer Motor
 - 4) 4 - AM4 CTO - CTO Motor

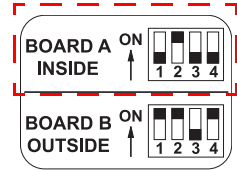
5) 5 - AM5 STRB 1 - Strobe 1 Motor

Step 4. Remove remaining 1/4" HEX standoff and remove board.

Step 5. On replacement board, set dip switches as follows:

- a. DIP SW 1 OFF
- b. DIP SW 2 ON
- c. DIP SW 3 OFF
- d. DIP SW 4 OFF

Step 6. Replace in reverse. Ensure wiring connections are fully seated into board.

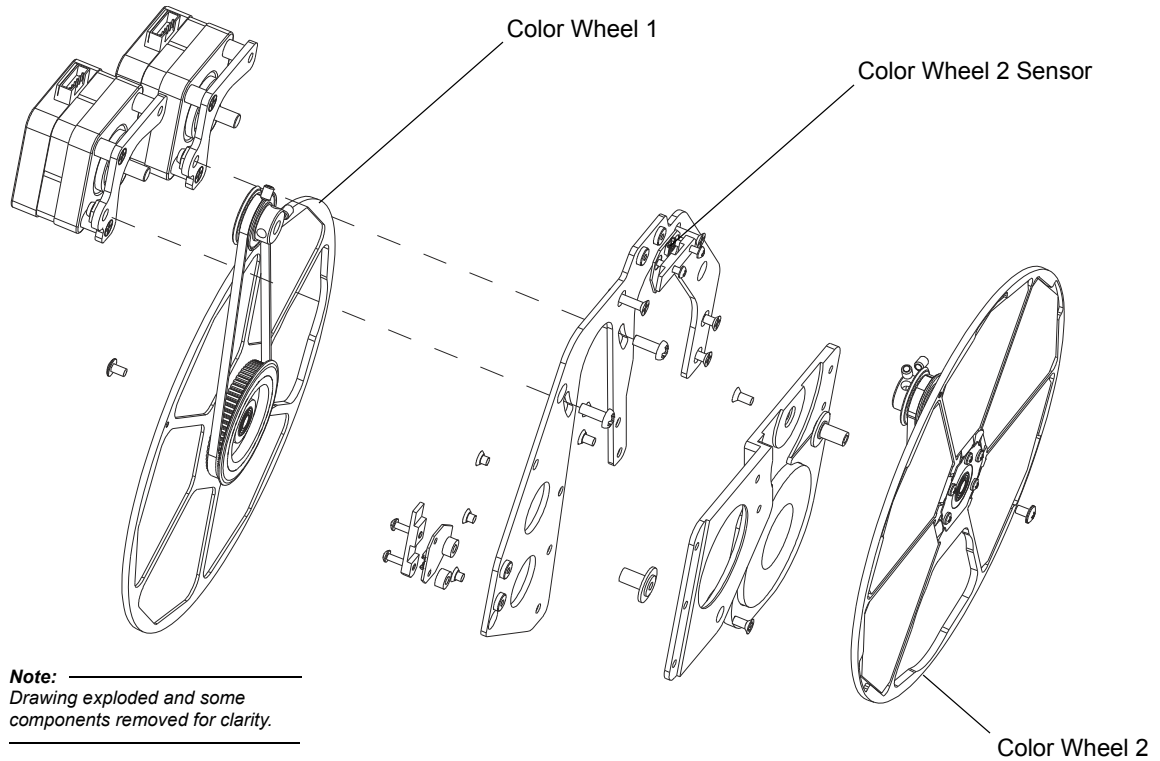


Color Wheel 2 Sensor

Vari-Lite Part No: 17.9704.0904

To replace color wheel 2 sensor:

- Step 1. Remove color assembly following procedure in “Color Assembly” on page 63.
- Step 2. Remove 2 x 2-56 x 3/8" PFZ screws and remove connector clamp.



- Step 3. Disconnect wiring.
- Step 4. Remove sensor.
- Step 5. Replace in reverse.

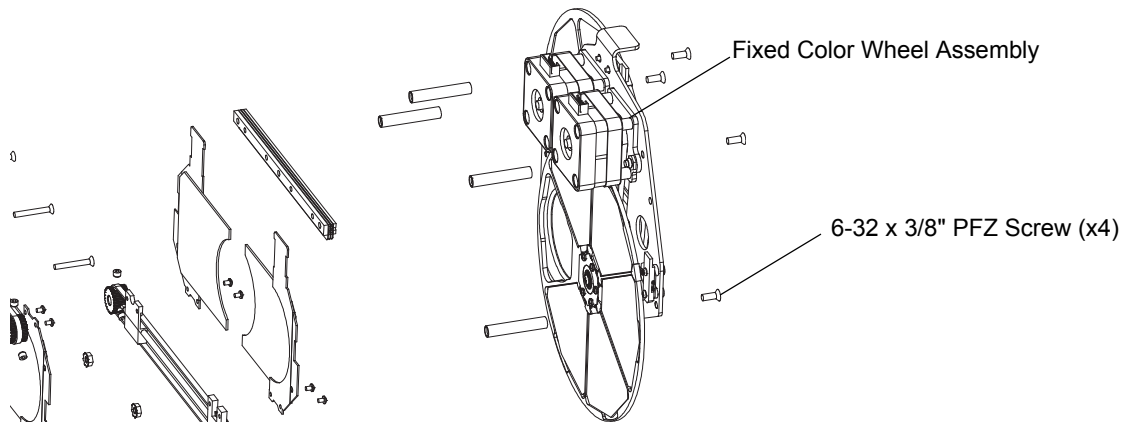
Fixed Color Wheel 1 Assembly & Color Wheel 1 Sensor

Vari-Lite Part No: 21.9704.0415 (Fixed Color Wheel 1)

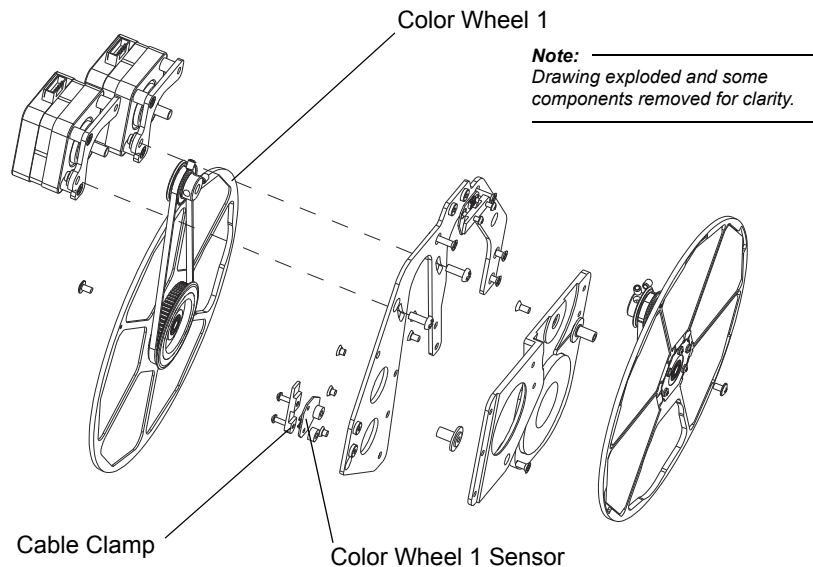
Vari-Lite Part No: 17.9704.0904 (Color Wheel 1 Sensor)

To replace fixed color wheel 1 or color wheel 1 sensor:

- Step 1. Remove color wheel 2 sensor following procedure in “Color Wheel 2 Sensor” on page 135.
- Step 2. Disconnect wiring from motors.
- Step 3. Remove 4 x 6-32 x 3/8" PFZ screws mounting assembly. Rotate wheel 2 so open hole gives access to screws.



- Step 4. Being careful of color wheel 1 sensor, lift assembly. Noting placement of cable ties, cut cable ties as required.
- Step 5. Remove 2 x 2-56 x 3/8" PFZ screws and remove connector clamp, wiring, sensor, and spacers.



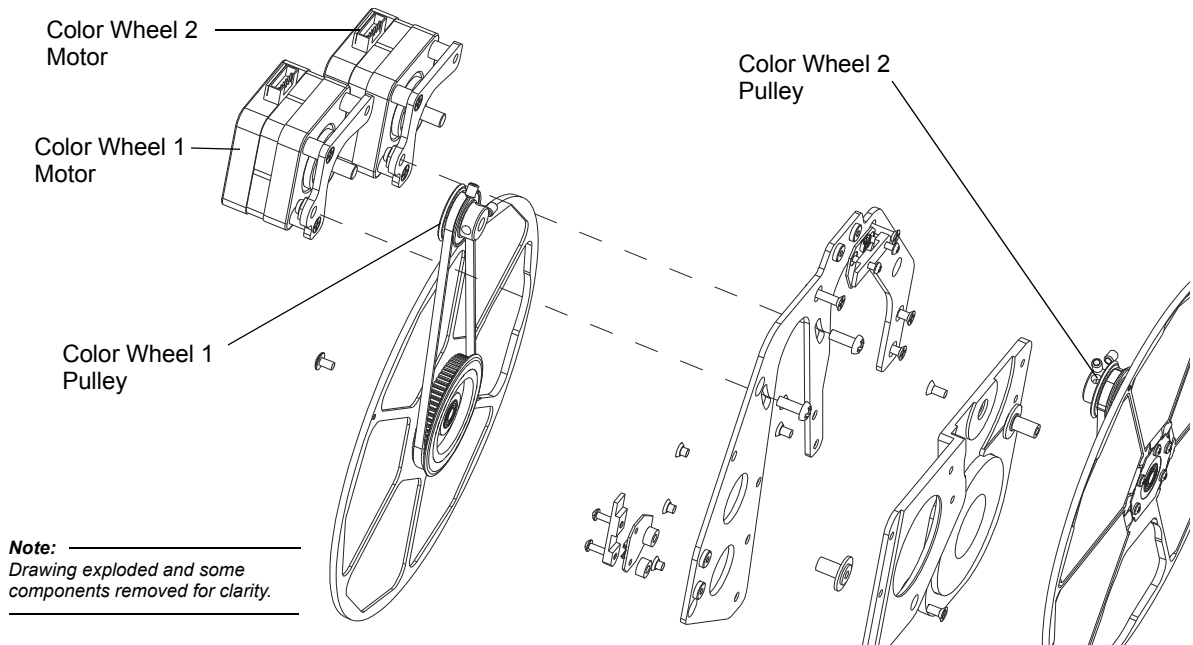
- Step 6. Replace in reverse.

Fixed Color Wheel 1 & 2 Motor

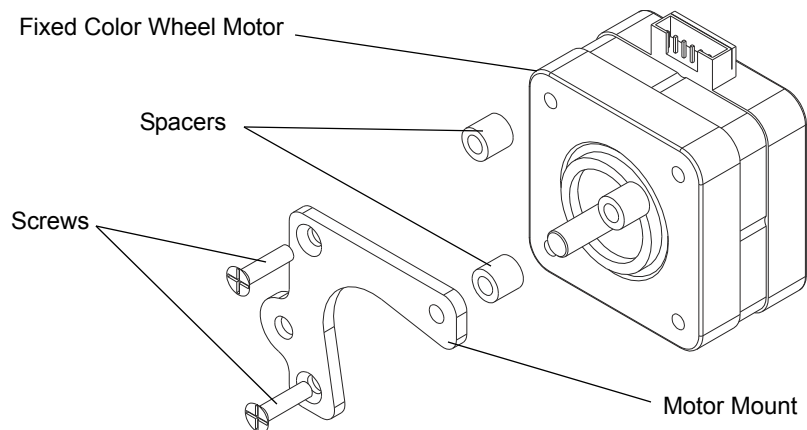
Vari-Lite Part No: 44.9704.0418

To replace fixed color wheel 1 & 2 motor:

- Step 1. Remove fixed color wheel assembly following procedure in “Fixed Color Wheel 1 Assembly & Color Wheel 1 Sensor” on page 136.
- Step 2. Remove 1 x 6-32 x 3/8" PPZ screw through slot and 1 x M3 x .5 x 14 mm PFZ screw and remove motor assembly.
- Step 3. Loosen 2 x 6-32 x 3/16" cone set screw and remove pulley.



- Step 4. Remove 2 x M3 x .5 x 12 mm PFZ screws and spacers and remove motor from mount.



- Step 5. Replace in reverse.

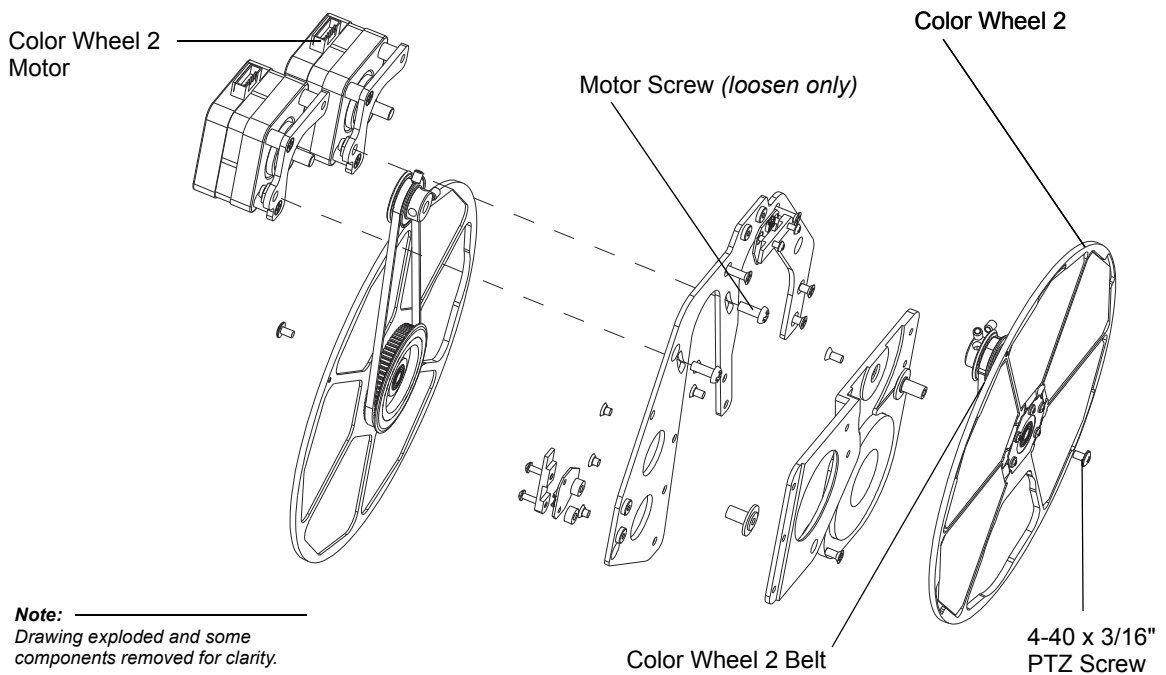
Fixed Color Wheel 2 & Belt

Vari-Lite Part No: 21.9704.0435 (Fixed Color Wheel 2)

Vari-Lite Part No: 54.9704.0390 (Belt)

To replace fixed color wheel 2 and belt:

- Step 1. Remove fixed color wheel assembly following procedure in [“Fixed Color Wheel 1 Assembly & Color Wheel 1 Sensor”](#) on page 136.
- Step 2. Loosen 1 x 6-32 x 3/8" PPZ screw, slide motor and loosen belt.
- Step 3. Remove 1 x 4-40 x 3/16" PTZ screw and remove wheel & belt.



- Step 4. Replace in reverse.

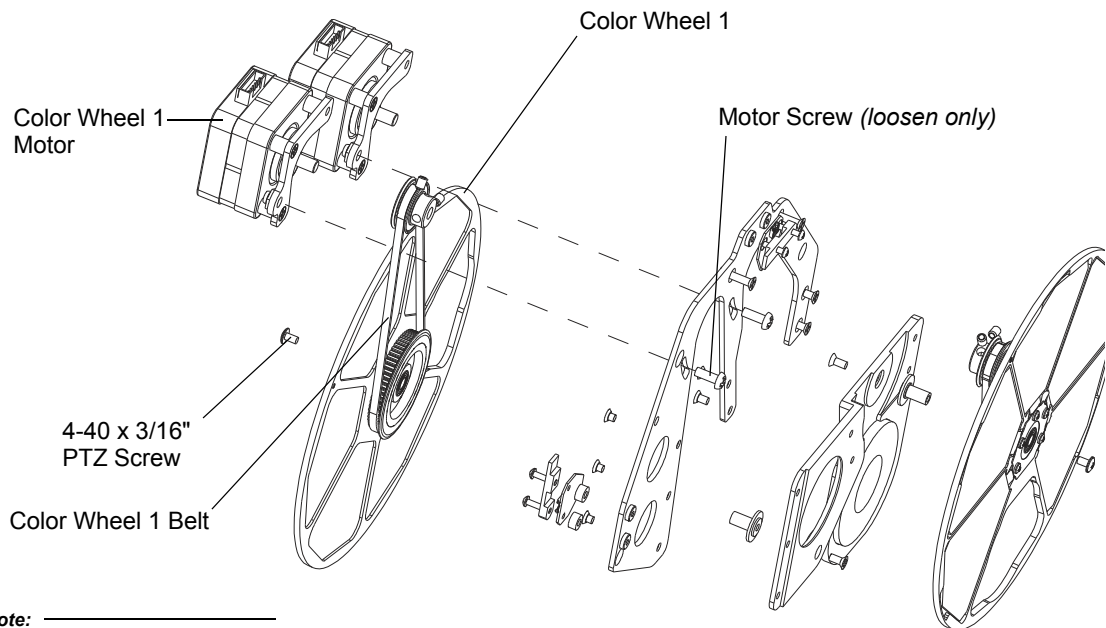
Fixed Color Wheel 1 & Belt

Vari-Lite Part No: 21.9704.0430 (Fixed Color Wheel 1)

Vari-Lite Part No: 54.9698.0002 (Belt)

To replace fixed color wheel 1 and belt:

- Step 1. Remove fixed color wheel assembly following procedure in [“Fixed Color Wheel 1 Assembly & Color Wheel 1 Sensor”](#) on page 136.
- Step 2. Loosen 1 x 6-32 x 3/8" PPZ screw, slide motor and loosen belt.
- Step 3. Remove 1 x 4-40 x 3/16" PTZ screw and remove wheel & belt.



Note:
Drawing exploded and some
components removed for clarity.

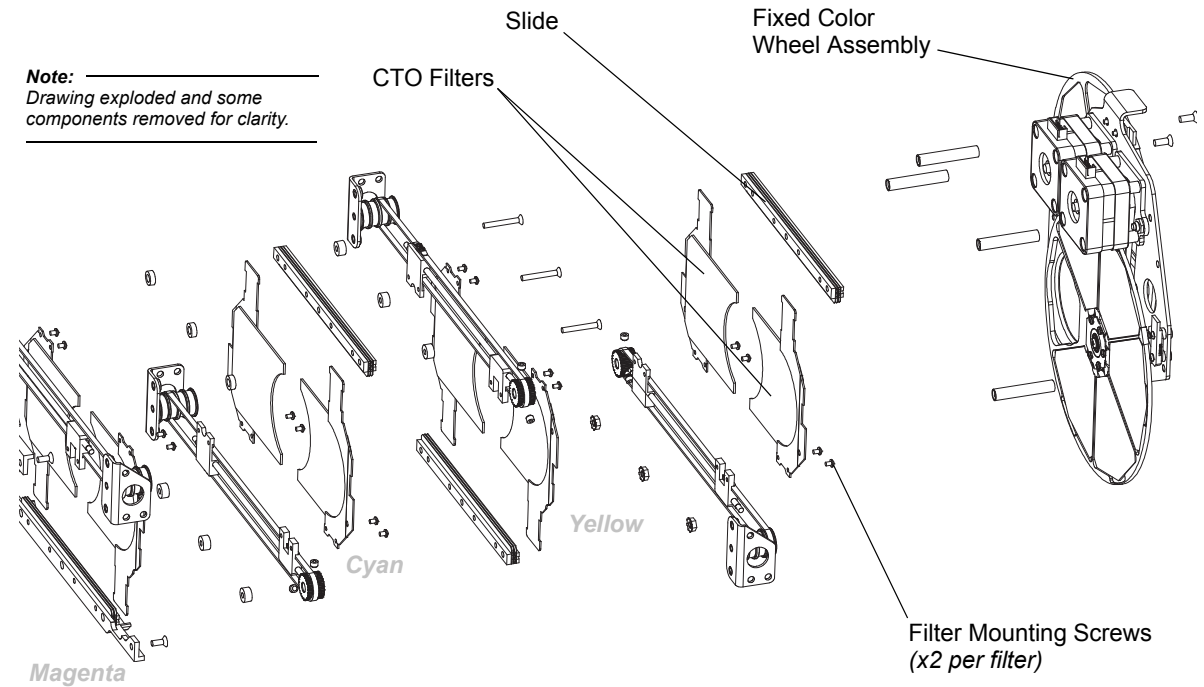
- Step 4. Replace in reverse.

CTO Filters

Vari-Lite Part No: 22.9704.6478 (x2)

To replace CTO filters:

- Step 1. Remove fixed color wheel assembly following procedure in “Fixed Color Wheel 1 Assembly & Color Wheel 1 Sensor” on page 136.
- Step 2. At top filter, remove 2 x 2-56 x 3/16" PPZ screws and lift filter from slide.
- Step 3. At bottom filter, remove 2 x 2-56 x 1/8" PPZ screws and lift filter from slide.



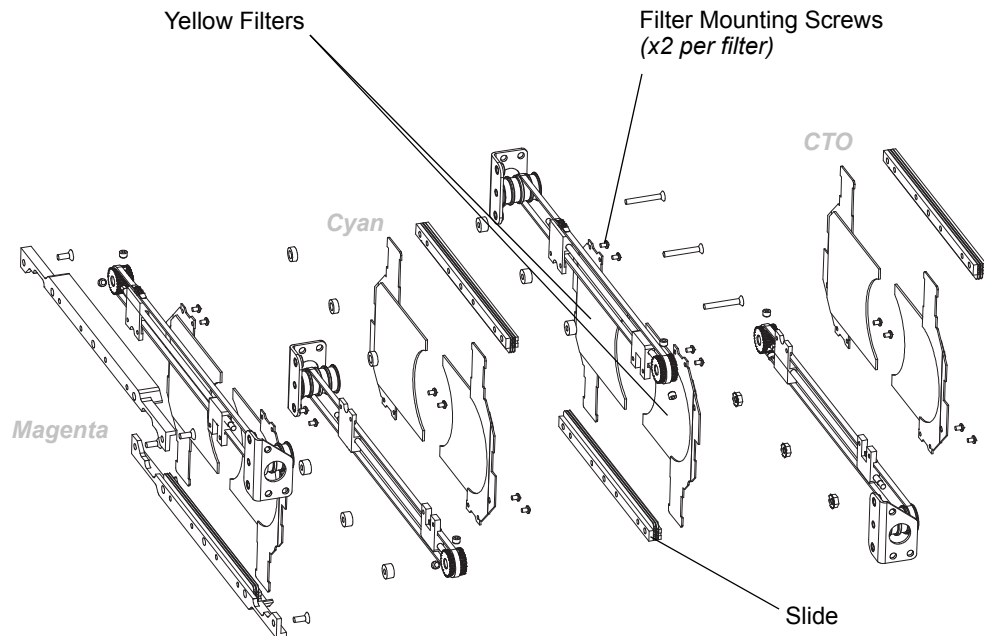
- Step 4. Replace in reverse.

Yellow Filters

Vari-Lite Part No: 22.9704.6476 (x2)

To replace yellow filters:

- Step 1. Remove CTO filters following procedure in “CTO Filters” on page 140.
 Step 2. At top filter, remove 2 x 2-56 x 3/16" PPZ screws and lift filter from slide.
 Step 3. At bottom filter, remove 2 x 2-56 x 1/8" PPZ screws and lift filter from slide.



Note: _____
 Drawing exploded and some
 components removed for clarity.

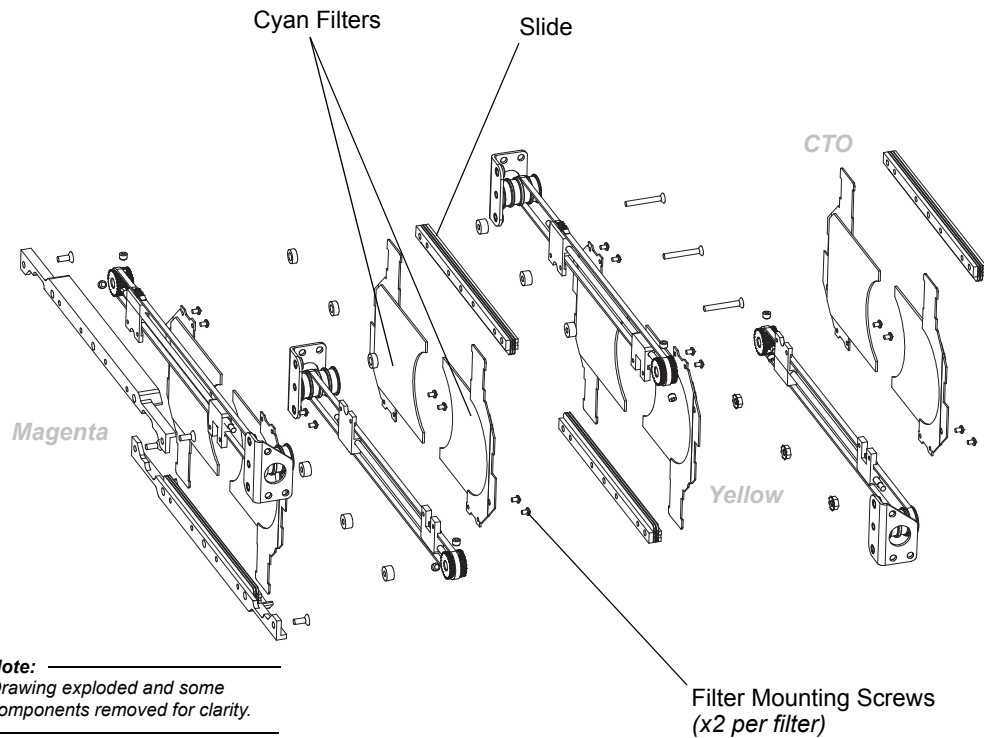
- Step 4. Replace in reverse.

Cyan Filters

Vari-Lite Part No: 22.9704.6474 (x2)

To replace cyan filters:

- Step 1. Remove yellow filters following procedure in "CTO Filters" on page 140.
- Step 2. At top filter, remove 2 x 2-56 x 3/16" PPZ screws and lift filter from slide.
- Step 3. At bottom filter, remove 2 x 2-56 x 1/8" PPZ screws and lift filter from slide.



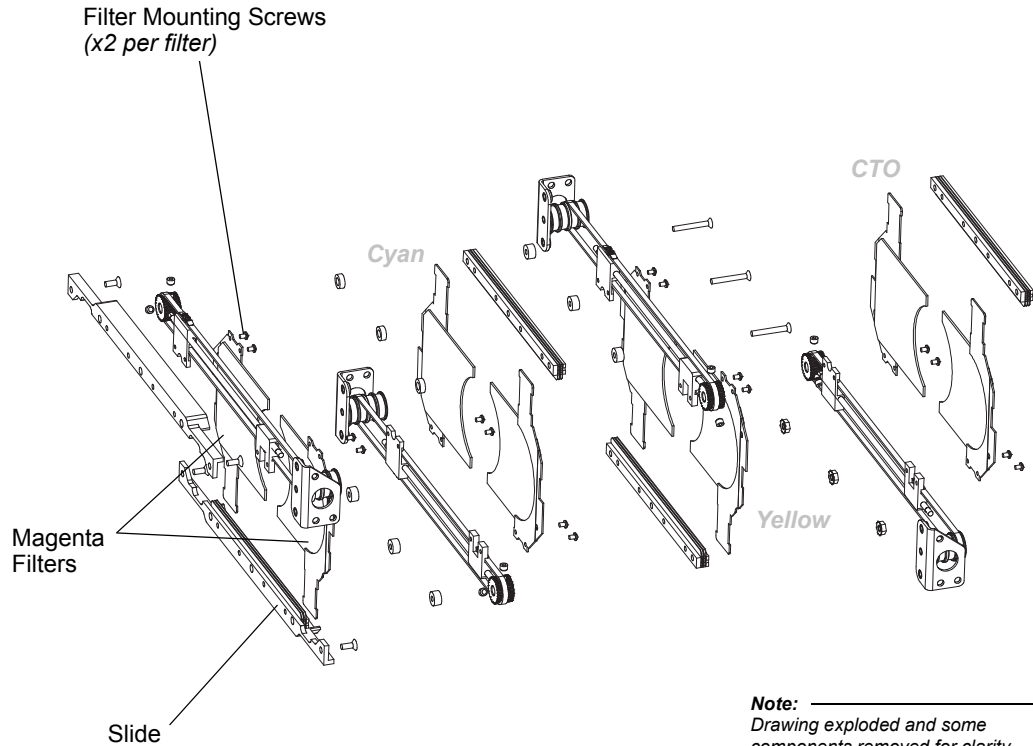
- Step 4. Replace in reverse.

Magenta Filters

Vari-Lite Part No: 22.9704.6472 (x2)

To replace magenta filters:

- Step 1. Remove cyan filters following procedure in “Cyan Filters” on page 142.
 Step 2. At top filter, remove 2 x 2-56 x 3/16" PPZ screws and lift filter from slide.
 Step 3. At bottom filter, remove 2 x 2-56 x 1/8" PPZ screws and lift filter from slide.



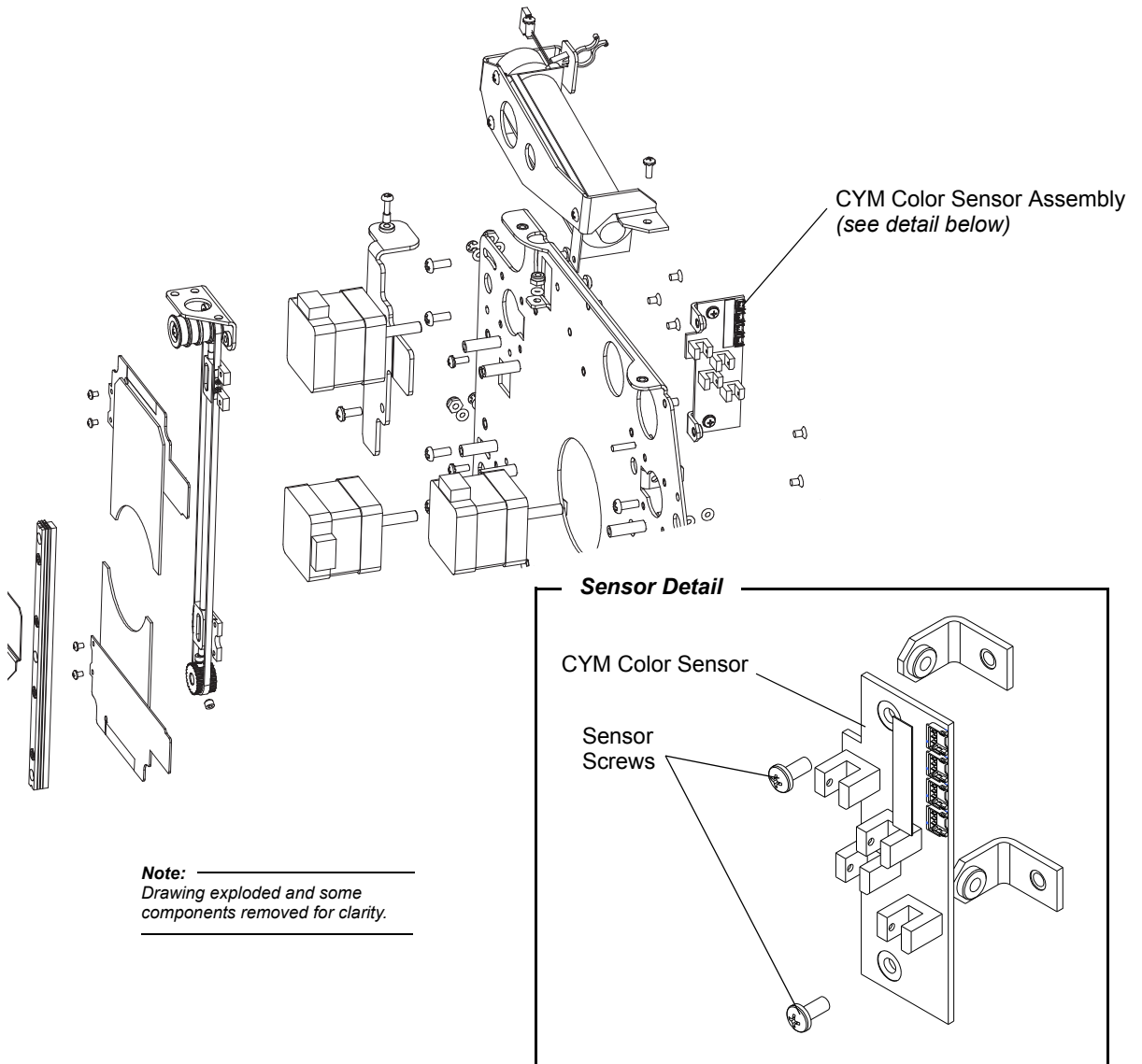
- Step 4. Replace in reverse.

CYM Color Sensor

Vari-Lite Part No: 24.9704.0903

To replace CYM color sensor:

- Step 1. Remove fixed color wheel assembly following procedure in “Fixed Color Wheel 1 Assembly & Color Wheel 1 Sensor” on page 136.
- Step 2. Disconnect wiring from CYM color sensor.
- Step 3. Remove 2 x 4-40 x 1/4" PPZ screws and remove sensor.



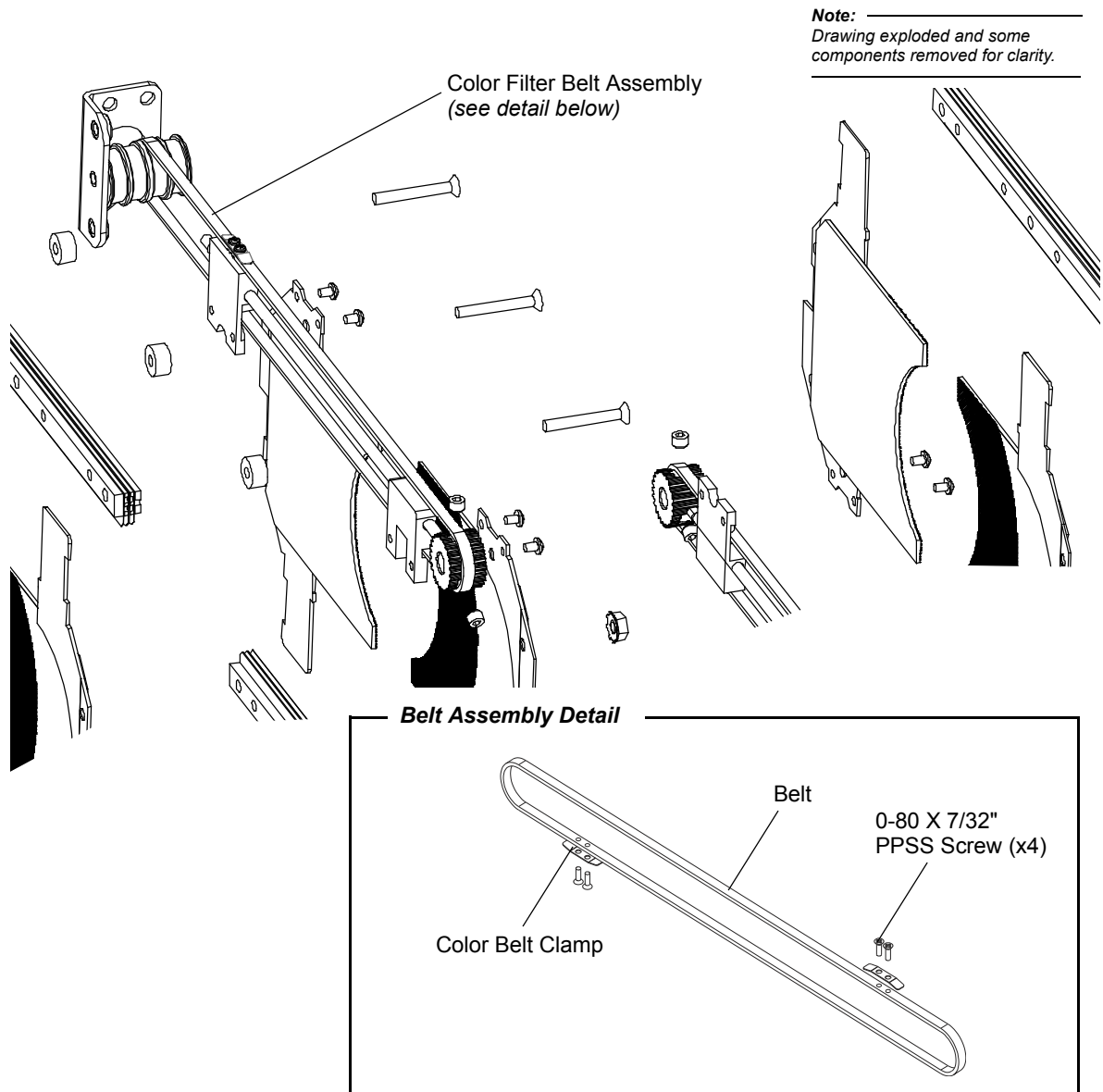
- Step 4. Replace in reverse.

Color Belt Assembly

Vari-Lite Part No: 21.9704.0412

To replace color belt assembly:

- Step 1. Remove required color filters following procedure in “CTO Filters” on page 140 or “Yellow Filters” on page 141 or “Cyan Filters” on page 142 or “Magenta Filters” on page 143.
- Step 2. Loosen belt tension by loosening 1 x 6-32 x 3/8" PPZ screws through slot and sliding roller.
- Step 3. At each slide, remove 2 x 0-80 x 7/32" PPSS (or PFS) screws and remove belt assembly (note, these screws and belt clamps will come with replacement belt).



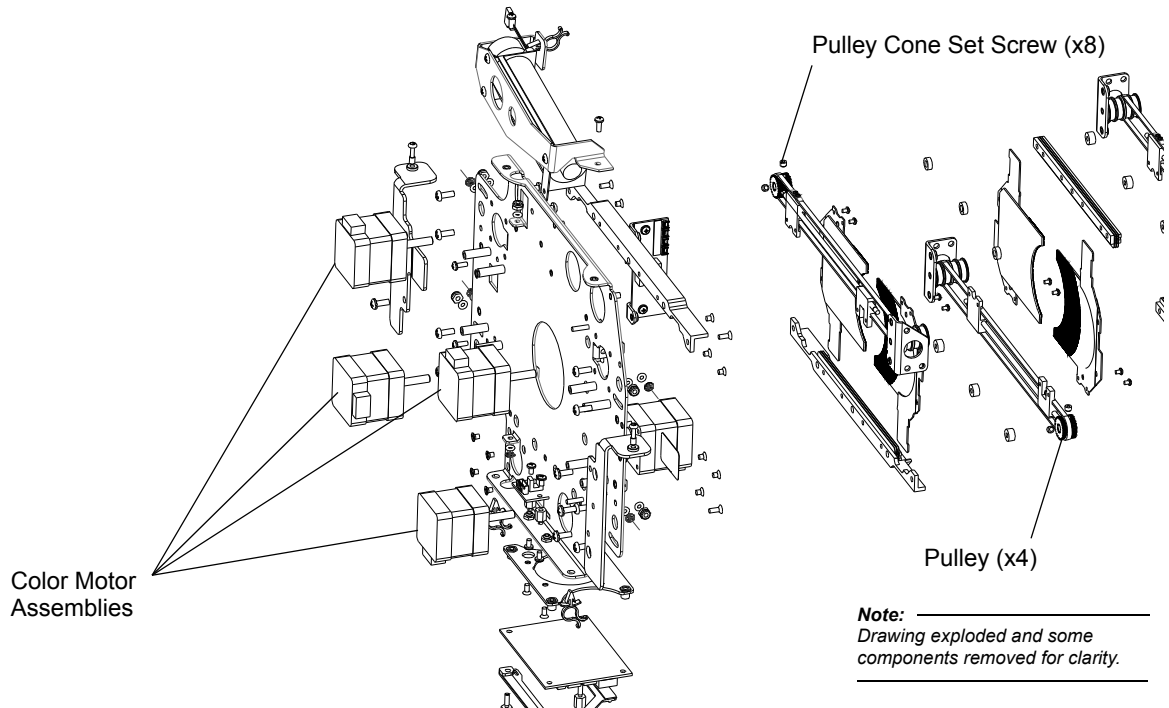
- Step 4. Replace in reverse.

Color Motor Assembly

Vari-Lite Part No: 44.9704.1213

To replace color motor assembly:

- Step 1. Remove fixed color wheel assembly following procedure in “Fixed Color Wheel 1 Assembly & Color Wheel 1 Sensor” on page 136.
- Step 2. Disconnect wiring from motor.
- Step 3. Loosen belt tension by loosening 1 x 6-32 x 3/8" PPZ screw through slot and sliding roller.
- Step 4. Remove 1 x M3 x .5 x 8mm PFZ screw and 3 x M3 x .5 x 5mm PFZ screw and remove motor.
- Step 5. Loosen 2 x 8-32 x .125" set screw and remove pulley.



- Step 6. Replace in reverse.

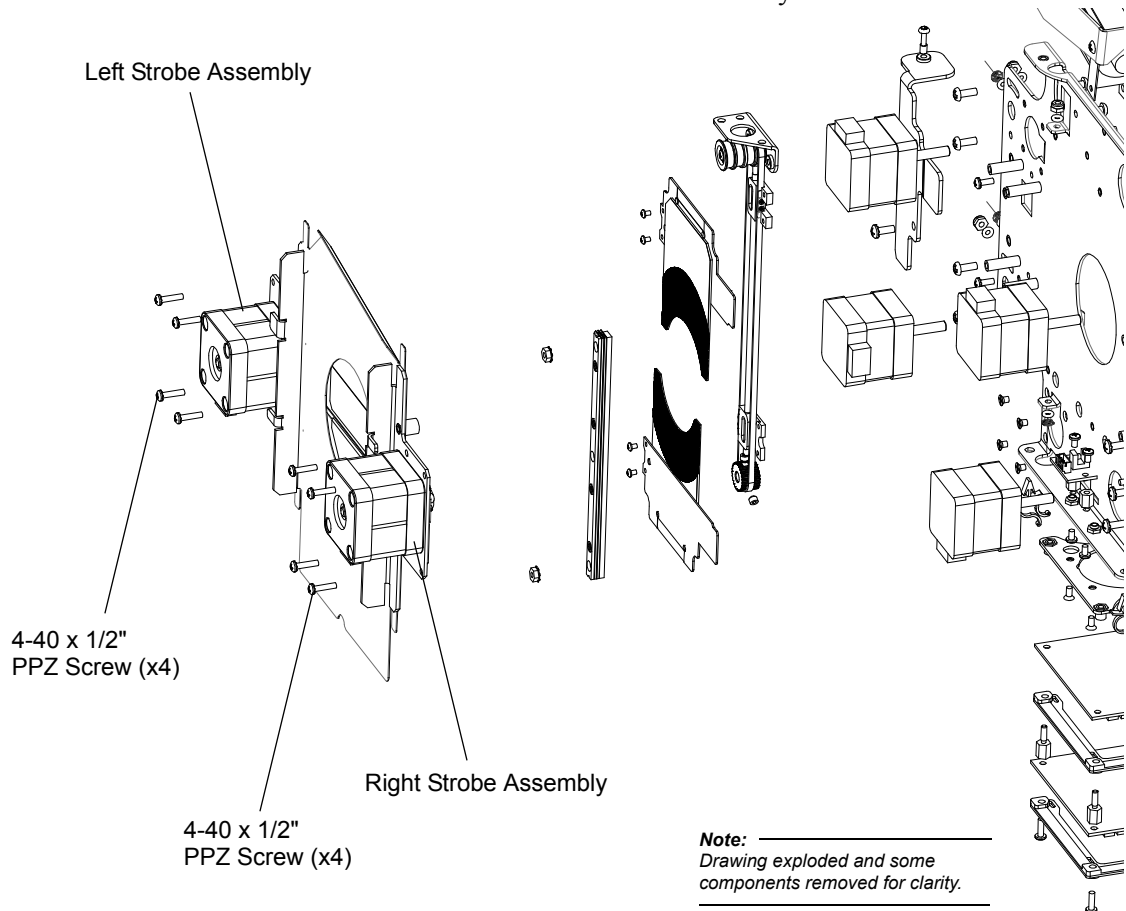
Strobe Assembly

Vari-Lite Part No: 21.9704.0431 (Left)

Vari-Lite Part No: 21.9704.0432 (Right)

To replace the left or right strobe assembly:

- Step 1. Remove color assembly following procedure in “Color Assembly” on page 63.
- Step 2. Disconnect wiring from strobe motors.
- Step 3. Remove 4 x 4-40 x 1/2" PPZ screws from each motor assembly.



Step 4. Carefully pull wiring from around motor.

Step 5. Lift both left and right assemblies.

Note: Right assembly has light shield attached.

Step 6. Replace in reverse order.

Strobe Blades

Vari-Lite Part No: 22.9704.0453 (Left)

Vari-Lite Part No: 22.9704.0454 (Right)

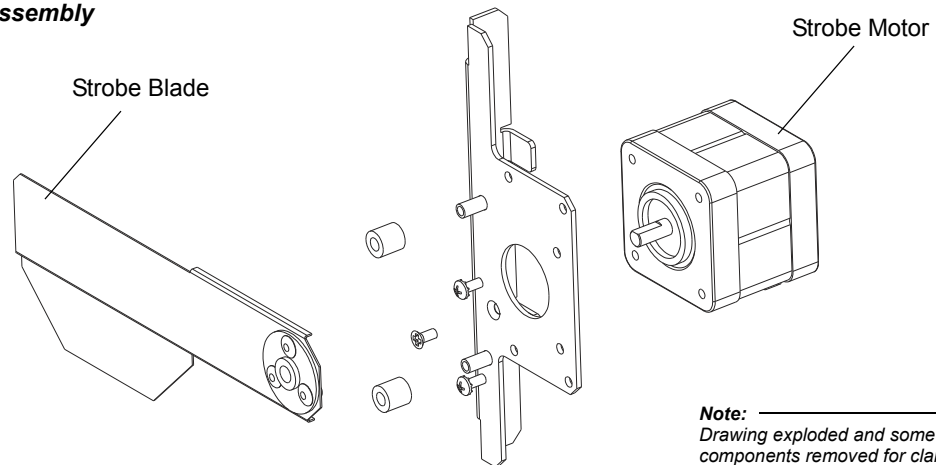
To replace left or right strobe blades:

- Step 1. Remove strobe assembly following procedure in “[Strobe Assembly](#)” on page 147.
- Step 2. Mark location of existing blade against stop in closed position (straight out from motor)*.

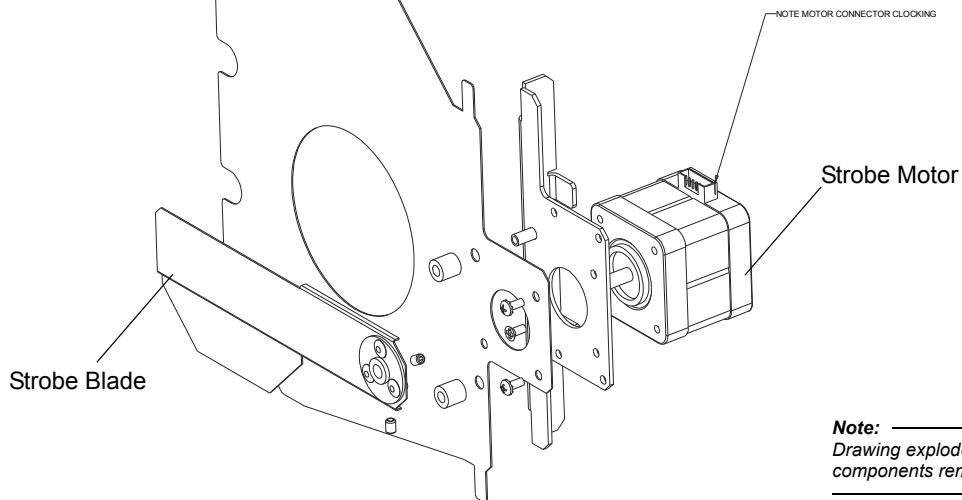
Note: *If you do not mark, leave a gap of 0.060" for right, 0.035" for left between hub and motor.

- Step 3. Loosen 2 x 6-32 x 3/16" cone set screw and remove blade assembly (note, replacement assembly comes with these screws).

Left Strobe Assembly

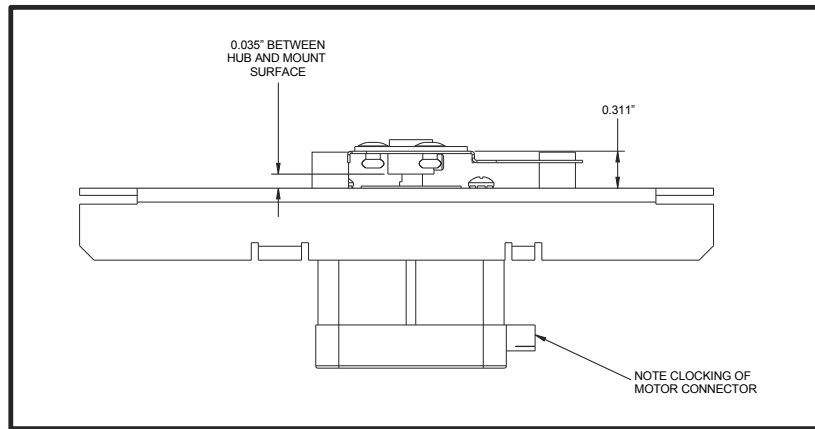


Right Strobe Assembly

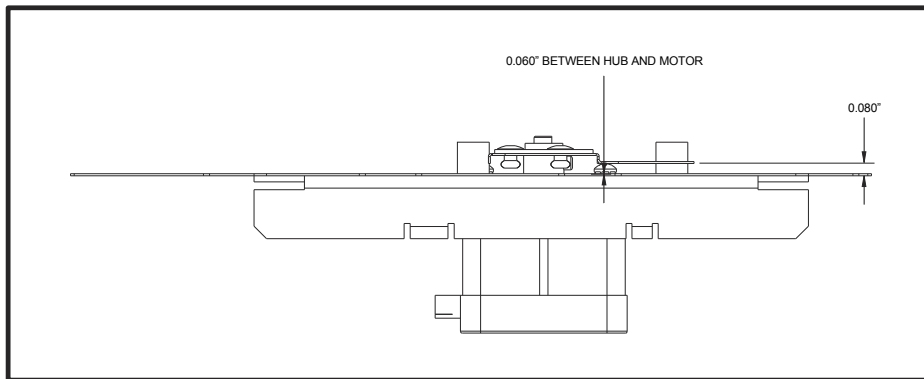


- Step 4. Replace by following these sub steps in order:
- Power motor.
 - Place blade assembly on motor shaft.
 - Align to mark on stop in closed position as described in Step 2. OR, 0.060" for right, 0.035" for left gap between hub and motor.
 - Tighten set screws while holding blade against stop.

Left Strobe Assembly



Right Strobe Assembly



- Step 5. Continue reassembly in reverse.

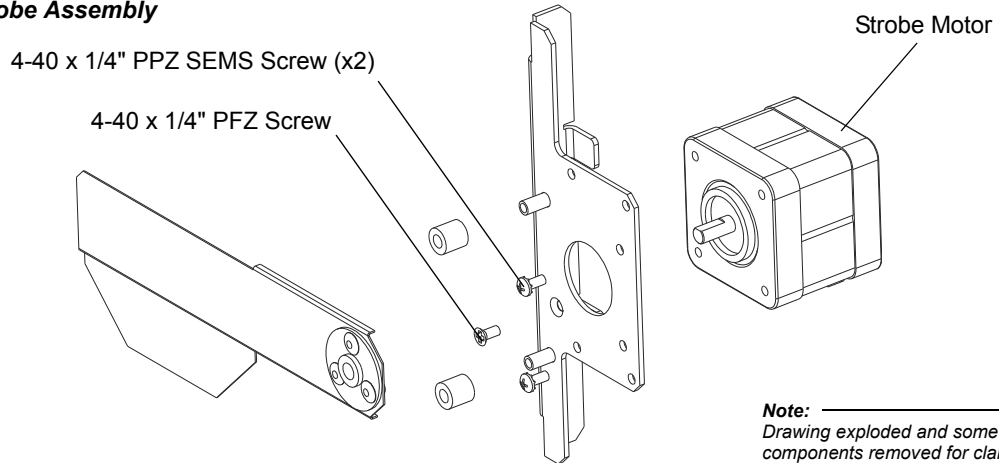
Strobe Motor

Vari-Lite Part No: 44.9687.1204

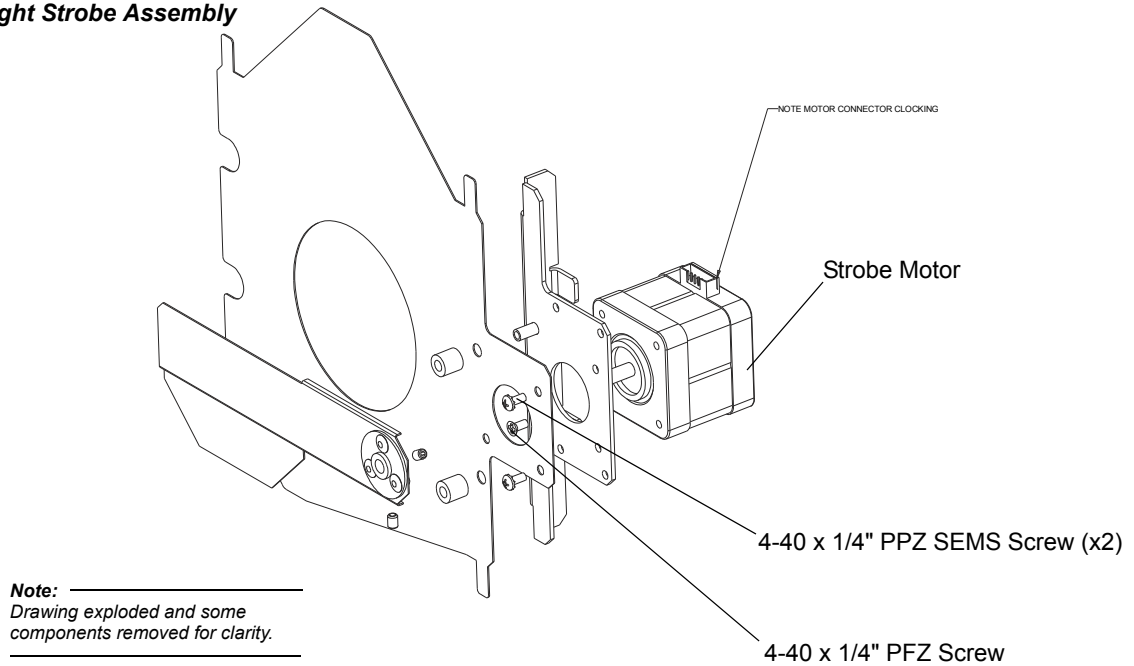
To replace strobe motor:

- Step 1. Remove strobe blade following procedure in “Strobe Blades” on page 148.
- Step 2. Remove 2 x 4-40 x 1/4" PPZ SEMS screws and 1 x 4-40 x 1/4" PFZ screw and remove motor, noting connector position in relation to bracket.

Left Strobe Assembly



Right Strobe Assembly



- Step 3. Replace in reverse.

Dimmer Flags

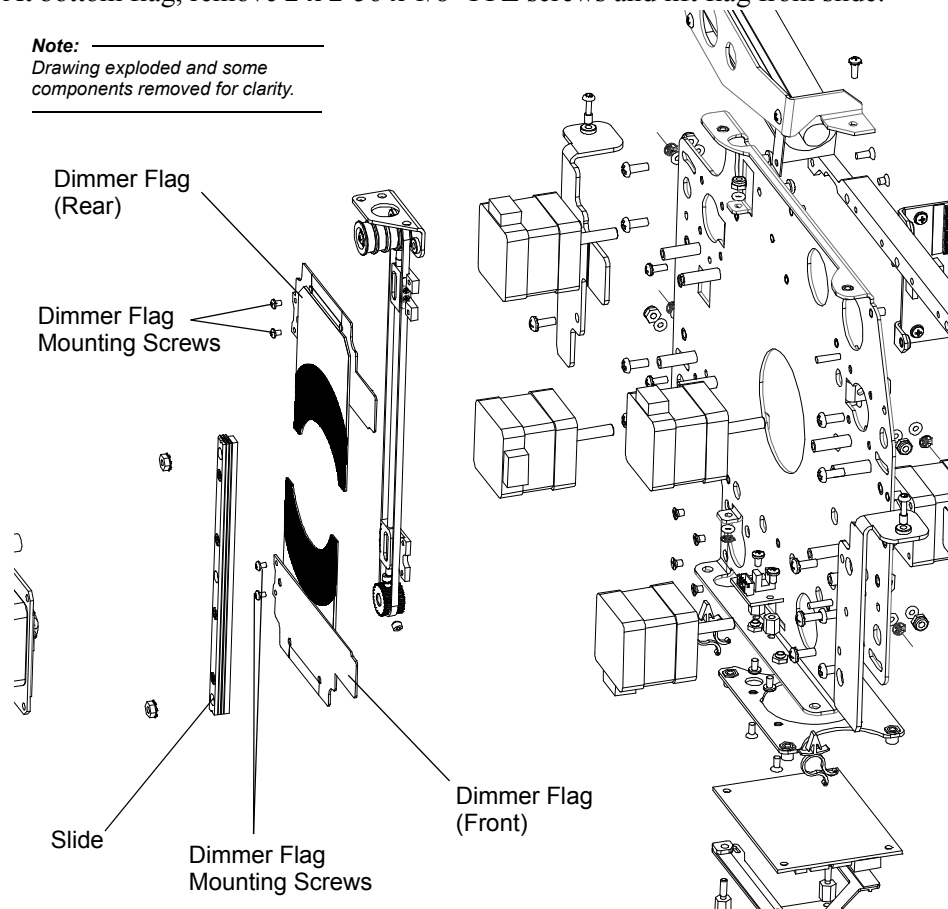
Vari-Lite Part No: 22.9704.5480 (Rear)

Vari-Lite Part No: 22.9704.5470 (Front)

To replace dimmer flags:

- Step 1. Remove strobe assembly following procedure in “[Strobe Assembly](#)” on page 147.
- Step 2. At rear flag, remove 2 x 2-56 x 3/16" PPZ screws and lift flag from slide.
- Step 3. At bottom flag, remove 2 x 2-56 x 1/8" PPZ screws and lift flag from slide.

Note:
Drawing exploded and some components removed for clarity.



Note: There may be washers added between flag and slide as required to prevent scraping. If using, make sure they do not stick out the edge of the slide.

- Step 4. Replace in reverse, ensuring that dark side of carriers face away from you.

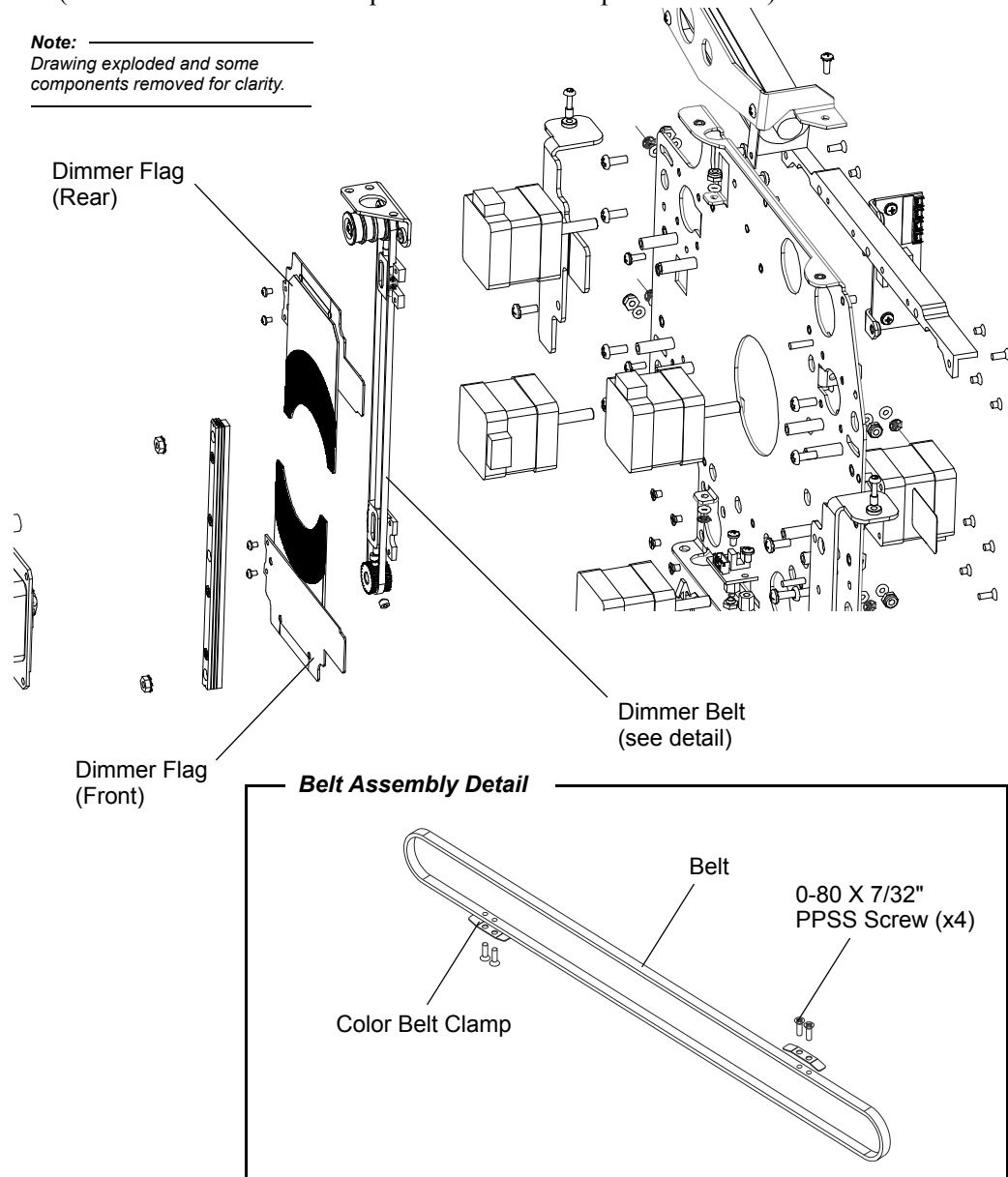
Dimmer Belt

Vari-Lite Part No: 21.9704.0411

To replace dimmer belt:

- Step 1. Remove dimmer flags following procedure in “Dimmer Flags” on page 151.
- Step 2. Loosen belt tension by loosening 1 x 6-32 x 3/8" PPZ screws through slot and sliding roller.
- Step 3. At each slide, remove 2 x 0-80 x 7/32" PPSS (or PFS) screws and remove belt assembly (these screws and belt clamps will come with replacement belt).

Note:
Drawing exploded and some components removed for clarity.



- Step 4. Replace in reverse.

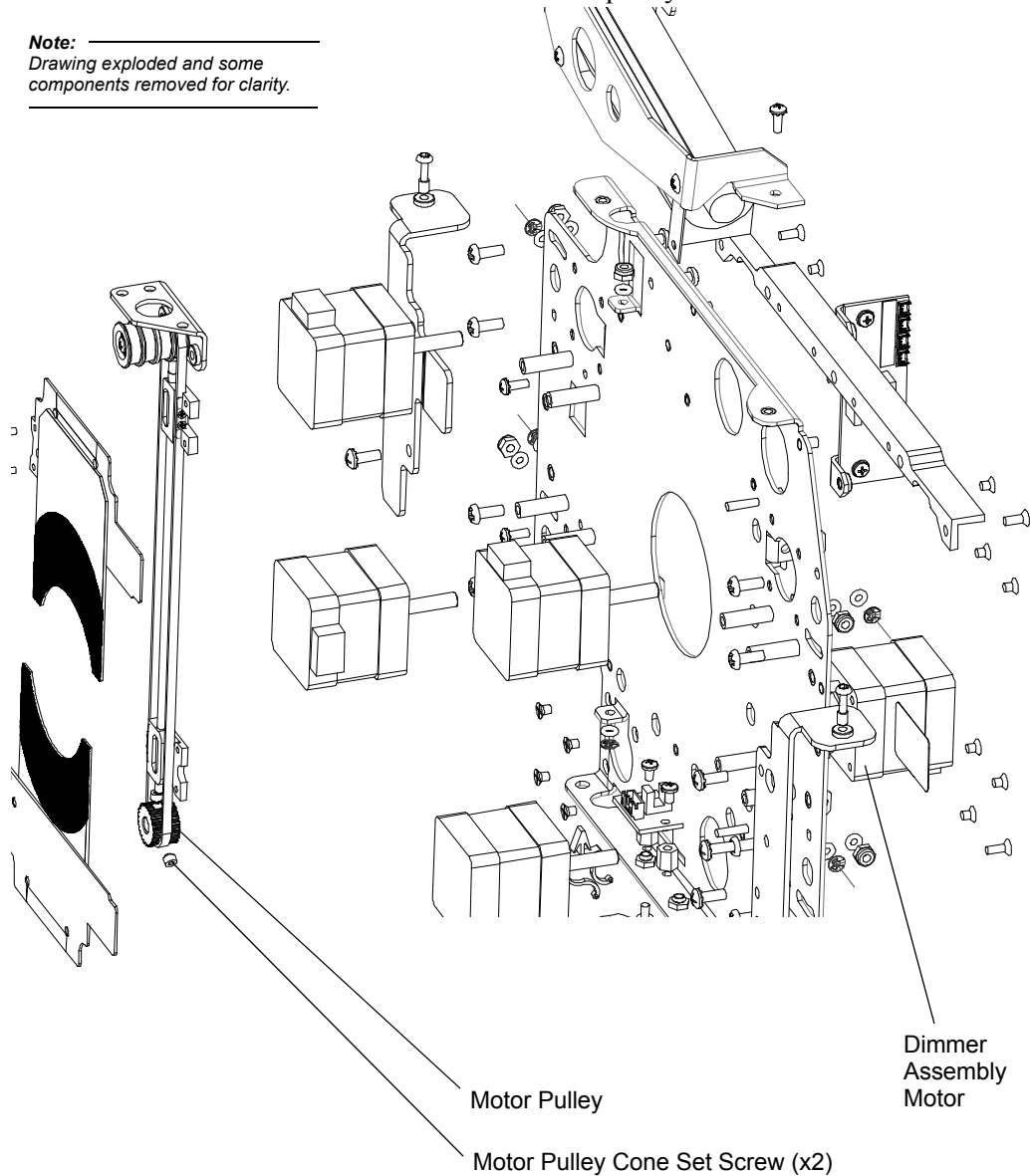
Dimmer Motor

Vari-Lite Part No: 44.9704.1214

To replace dimmer motor:

- Step 1. Remove strobe assembly following procedure in “Strobe Assembly” on page 147.
- Step 2. Disconnect wiring from motor.
- Step 3. Loosen belt tension by loosening 1 x 6-32 x 3/8" PPZ screw through slot and sliding roller.
- Step 4. Remove 4 x M3 x .5 x 5 mm PFZ screw and remove motor.
- Step 5. Loosen 2 x 8-32 x .125" set screw and remove pulley.

Note: _____
 Drawing exploded and some
 components removed for clarity.



- Step 6. Replace in reverse.

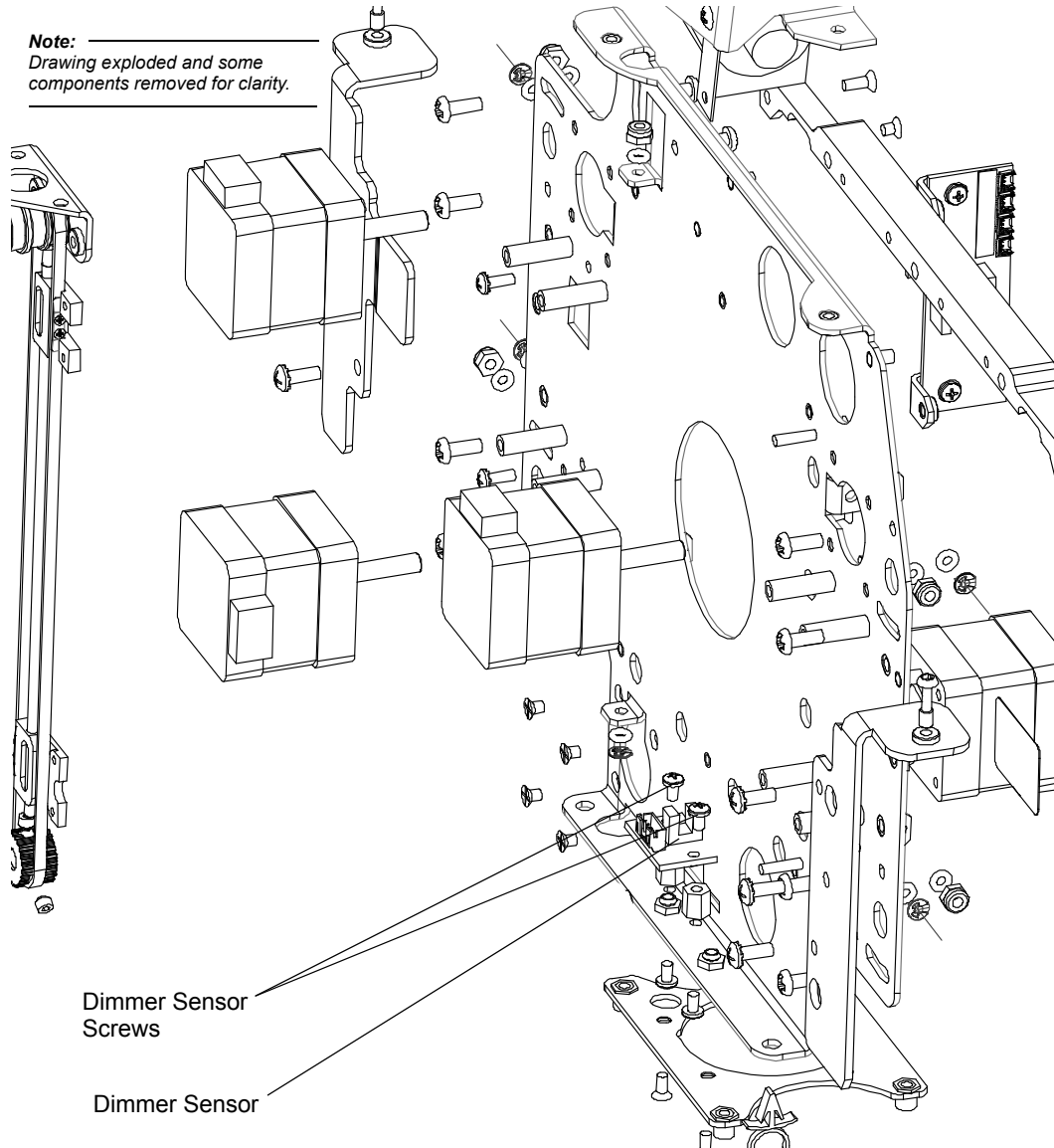
Dimmer Sensor

Vari-Lite Part No: 24.9698.1231

To replace dimmer sensor:

- Step 1. Remove strobe assembly following procedure in “Strobe Assembly” on page 147.
- Step 2. Disconnect wiring from sensor.
- Step 3. Remove 2 x 4-40 x 3/16" PPZ screws and remove sensor.

Note:
Drawing exploded and some
components removed for clarity.



- Step 4. Replace in reverse.

CHAPTER 3.

Illustrated Parts Breakdown

This chapter contains illustrated parts breakdowns for all VL4000 BeamWash Luminaire assemblies.

- **Drawing Trees**
- **Principle of Operation**
- **Top Assembly**
- **Head Assembly**
- **Yoke Assembly**
- **Enclosure Assembly**
- **Cable Assemblies**



SERVICE

Drawing Trees

VL4000 BeamWash Luminaire (Part 1)

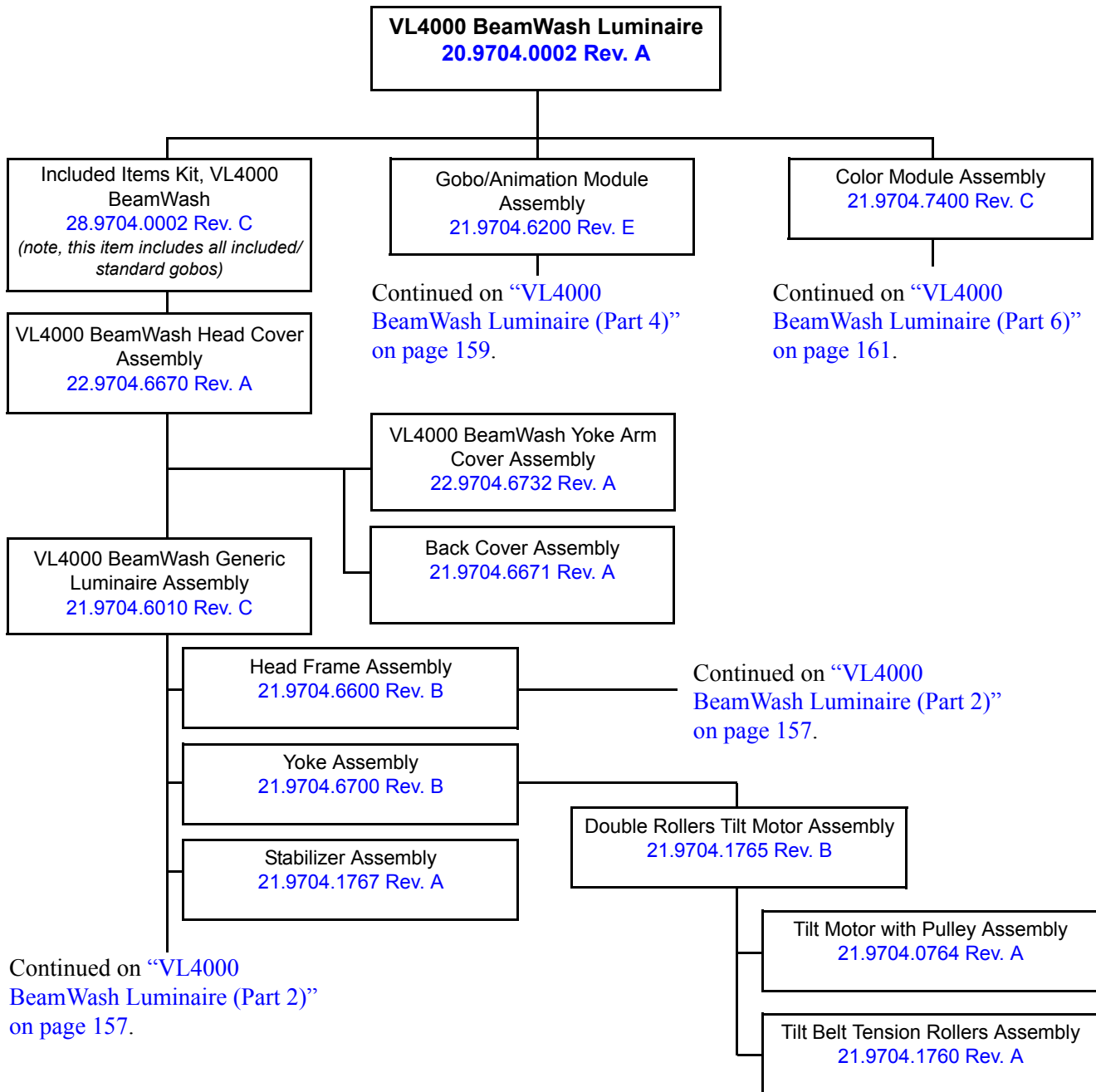


Figure 3-1: VL4000 BeamWash Luminaire Subassembly Drawing Tree Part 1

VL4000 BeamWash Luminaire (Part 2)

Continued from “VL4000 BeamWash Luminaire (Part 1)” on

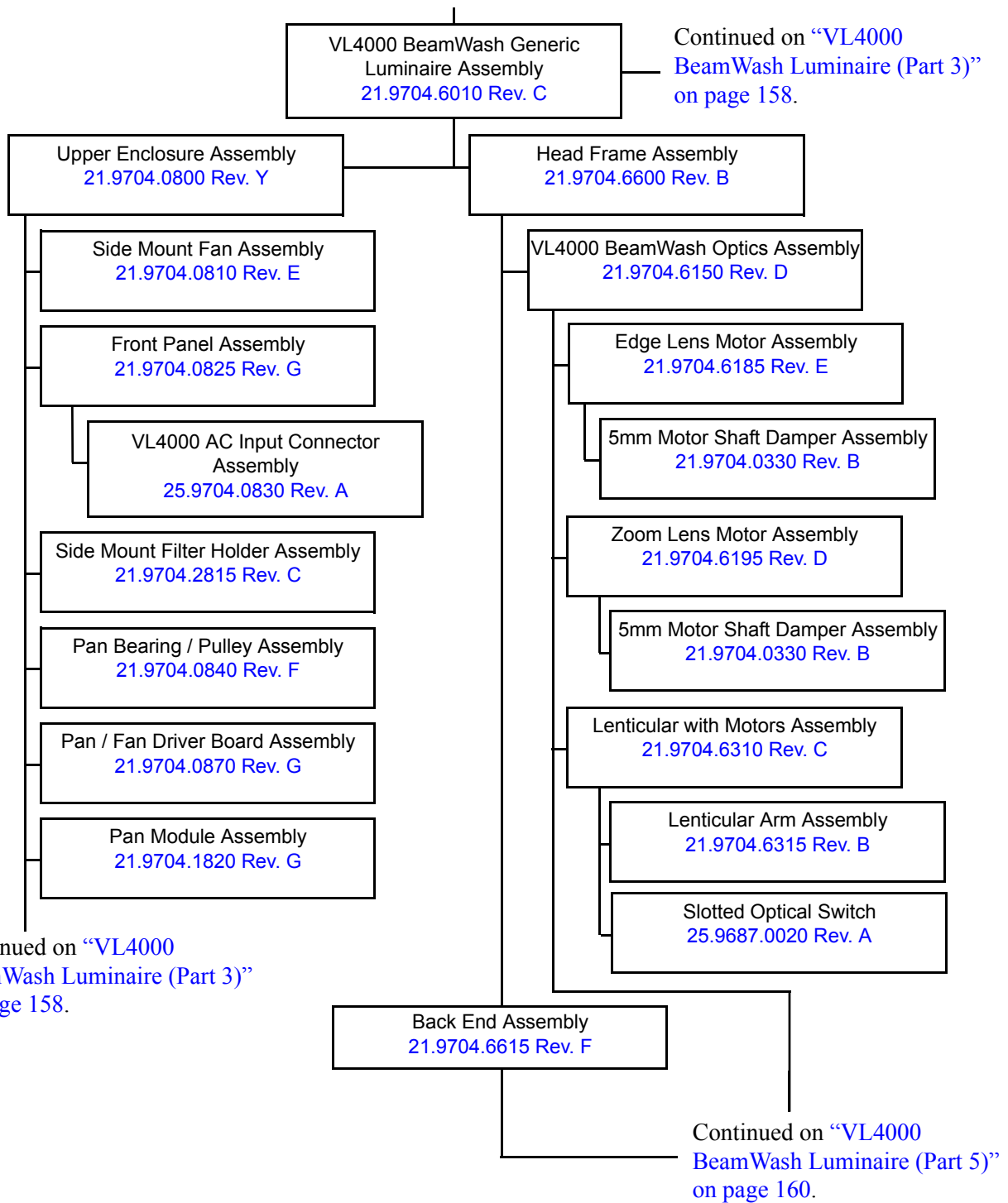


Figure 3-2: VL4000 BeamWash Luminaire Subassembly Drawing Tree Part 2

VL4000 BeamWash Luminaire (Part 3)

Continued from “VL4000 BeamWash Luminaire (Part 2)” on

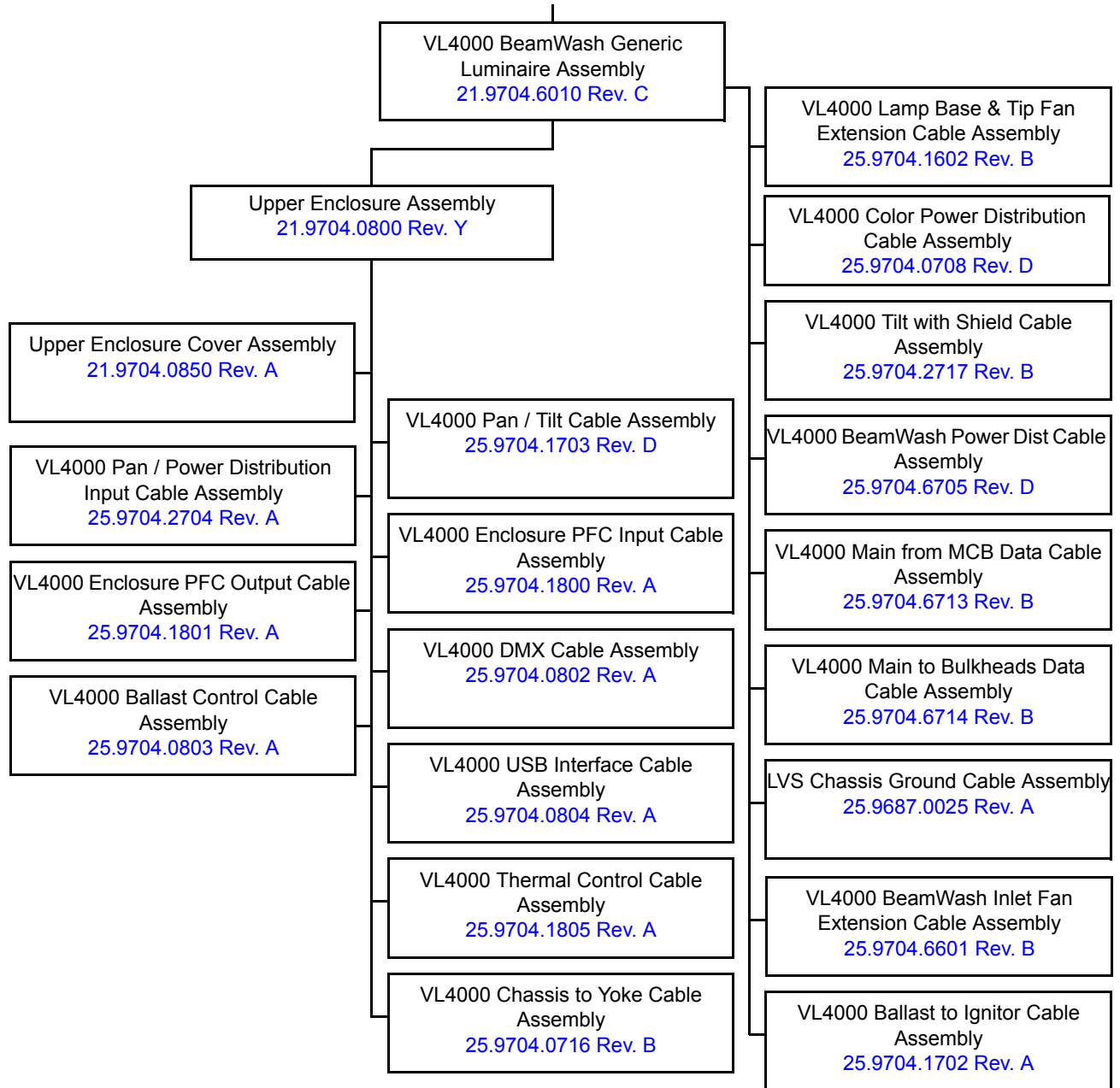


Figure 3-3: VL4000 BeamWash Luminaire Subassembly Drawing Tree Part 3

VL4000 BeamWash Luminaire (Part 4)

Continued from “VL4000 BeamWash Luminaire (Part 1)” on page 156.

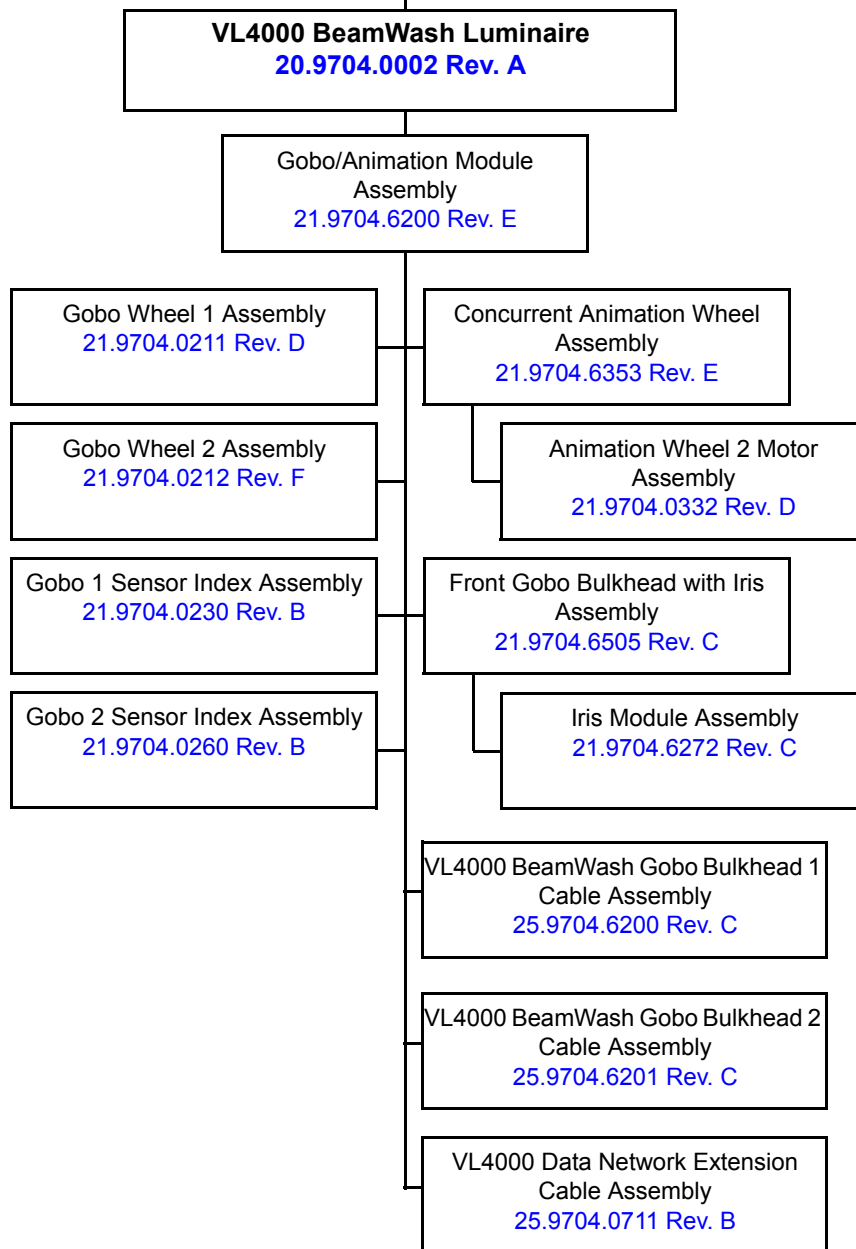
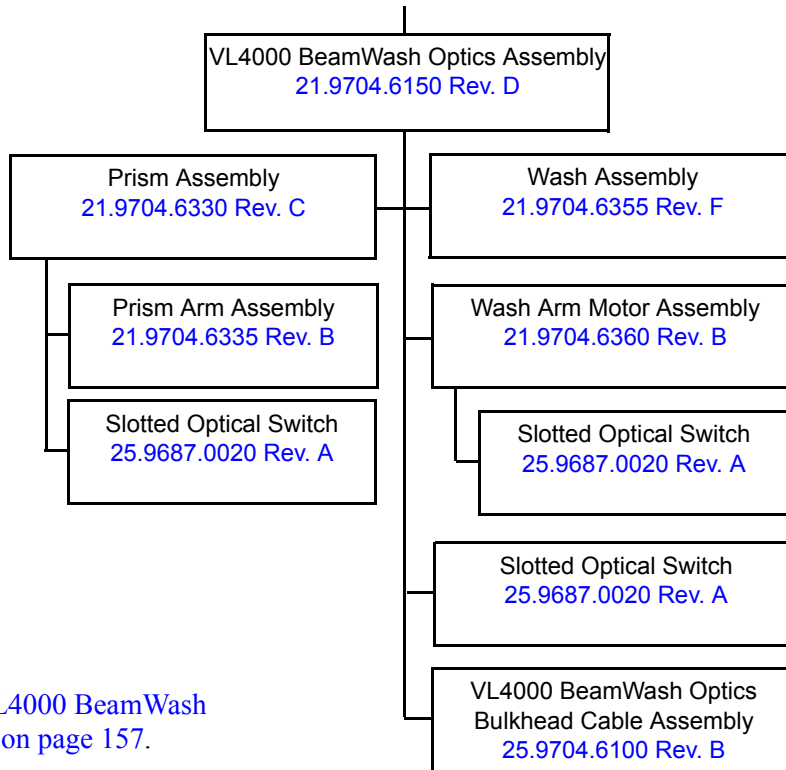


Figure 3-4: VL4000 BeamWash Luminaire Subassembly Drawing Tree Part 4

VL4000 BeamWash Luminaire (Part 5)

Continued from “VL4000 BeamWash Luminaire (Part 2)” on page 157.



Continued from “VL4000 BeamWash Luminaire (Part 2)” on page 157.

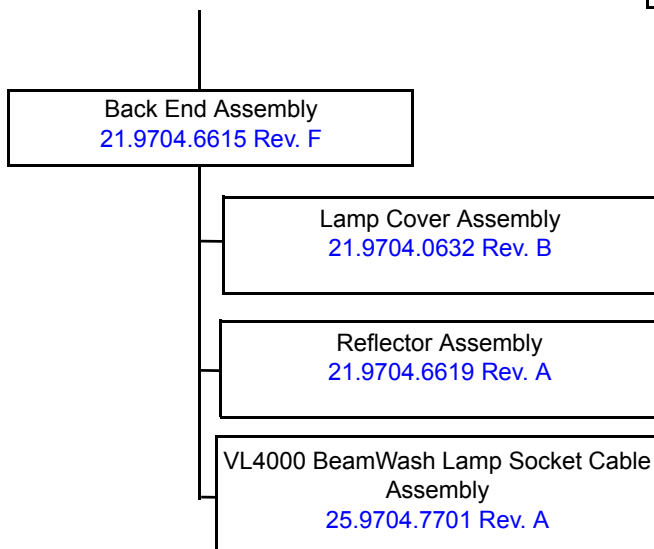


Figure 3-5: VL4000 BeamWash Luminaire Subassembly Drawing Tree Part 5

VL4000 BeamWash Luminaire (Part 6)

Continued from “VL4000 BeamWash Luminaire (Part 1)” on page 156.

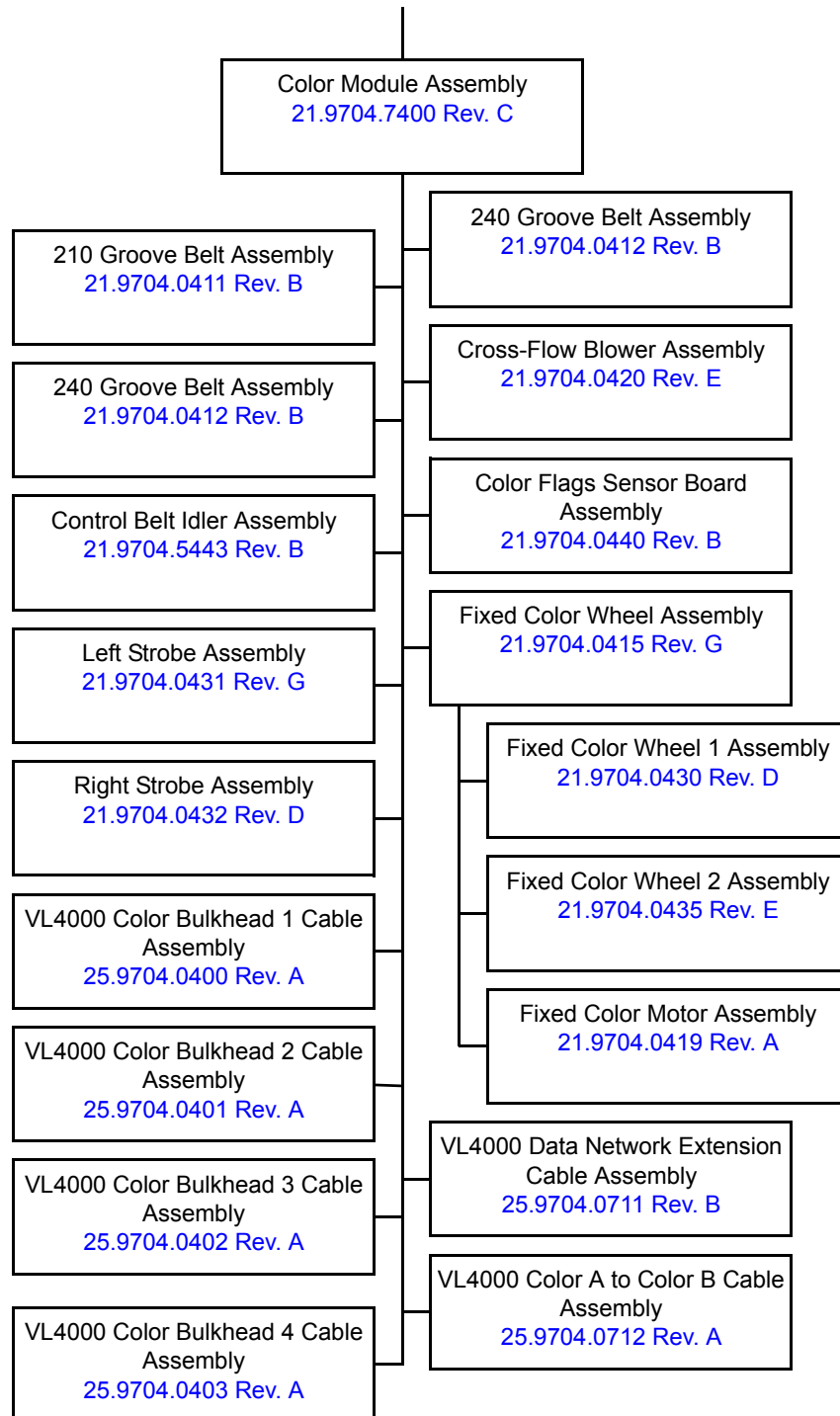
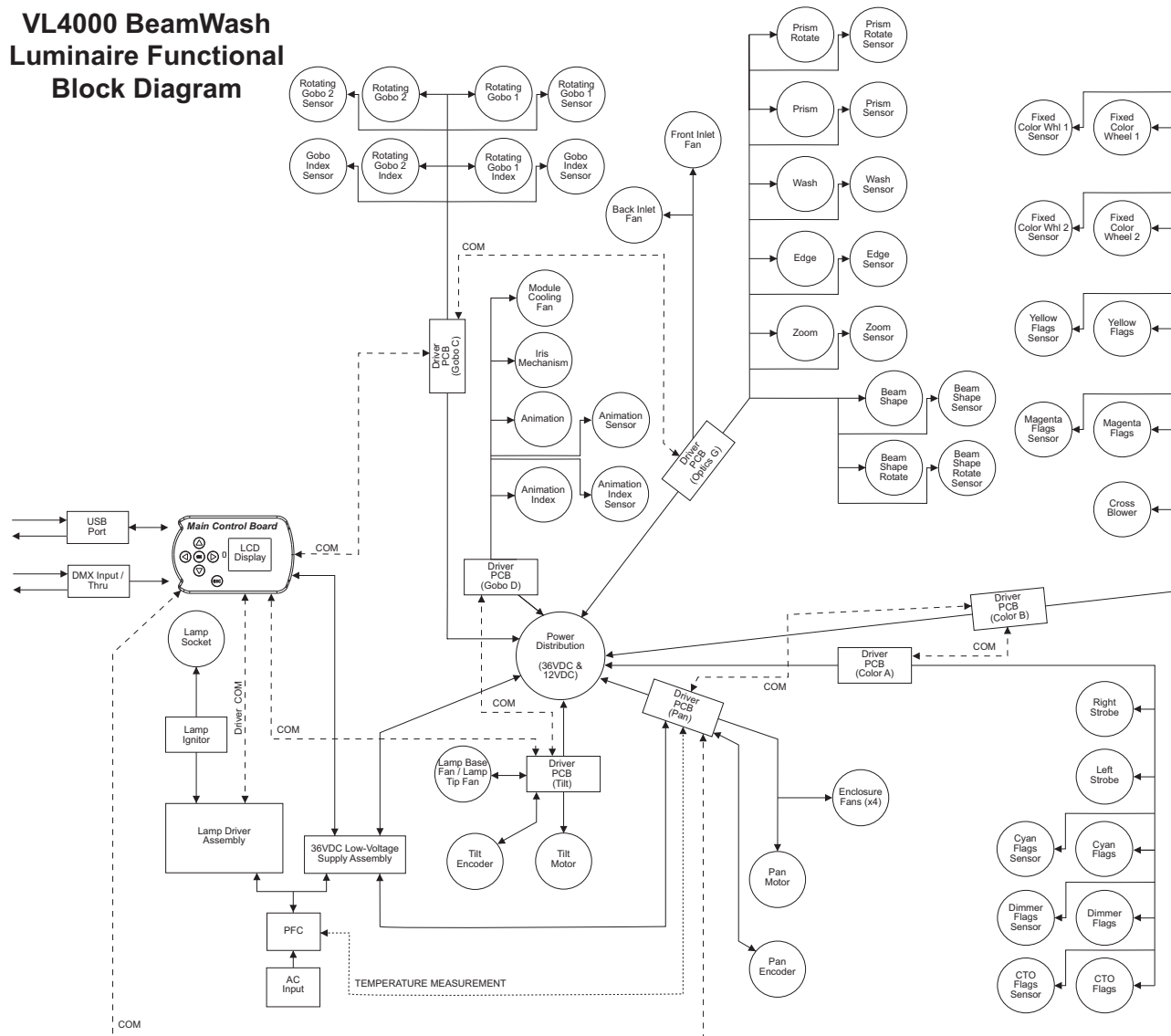


Figure 3-6: VL4000 BeamWash Luminaire Subassembly Drawing Tree Part 6

Principle of Operation

VL4000 BeamWash Functional Block Diagram

VL4000 BeamWash
Luminaire Functional
Block Diagram



Note: Signal and driver lines shown for routing reference only. Lines shown are not representative of actual cable assemblies.

Top Assembly

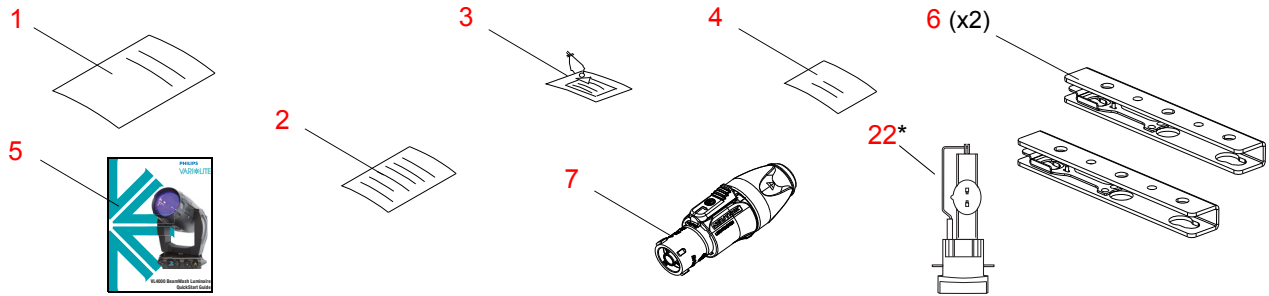
Included Items Kit, VL4000 BeamWash

28.9704.0002 Rev. C

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

No.	Item	Qty.	UM.	Description
1	02.8001.0002	1	EA	VARI-LITE QUALITY ASSURANCE CERT.
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	02.9704.0002	1	EA	UNPACK/QUICKSTART GUIDE, VL4000 BEAMWASH
-	07.9704.0002	1	EA	CARDBOARD SHIPPING BOX, VL4000 BEAMWASH (not shown)
6	22.9704.0835	2	EA	FAB ASSY, BRACKET TRUSS HOOK
7	25.9704.0862	1	EA	POWERCON, NEUTRIK NAC3FX (TRUE1)
8	41.9704.6010	1	EA	GOBO ASSY, STACKED OVALS (POS 1-2)
9	41.9704.4428	1	EA	GOBO ASSY, CHOPPED (POS 1-3)
10	41.9704.4429	1	EA	GOBO ASSY, SLICED (POS 1-4)
11	41.9704.5011	1	EA	GOBO ASSY, NIGHT SKY (POS 1-5)
12	41.9704.4430	1	EA	GOBO ASSY, BLADES (POS 1-6)
13	41.9704.4431	1	EA	GOBO ASSY, PSYCLONE (POS 1-7)
14	41.9704.6004	1	EA	GOBO ASSY, CIRCLE OF HOLES (POS 1-8)
15	41.9704.4411	1	EA	GOBO ASSY, CIRCLE OF EIGHTS (POS 2-2)
16	41.9704.4412	1	EA	GOBO ASSY, PUNCH CARD (POS 2-3)
17	41.9704.4413	1	EA	GOBO ASSY, VERTICAL BARS (POS 2-4)
18	41.9704.4414	1	EA	GOBO ASSY, LATTICE (POS 2-5)
19	41.9704.4415	1	EA	GOBO ASSY, WAVY TRIANGLE (POS 2-6)
20	41.9704.4416	1	EA	GOBO ASSY, DOT BUFFET (POS 2-7)
21	41.9704.4291	1	EA	GOBO ASSY, QUADCONE, RED (POS 2-8)
22	71.9704.1200	1	EA	LAMP, 1200 WATT, PHILIPS MSR GOLD FASTFIT

Included Items Kit, VL4000 BeamWash (continued)



<p>8</p> <p>Stacked Ovals</p>	<p>9</p> <p>Chopped</p>	<p>10</p> <p>Sliced</p>	<p>11</p> <p>Night Sky</p>	<p>12</p> <p>Blades</p>
<p>13</p> <p>Psychone</p>	<p>14</p> <p>Circle of Holes</p>	<p>15</p> <p>Circle of Eights</p>	<p>16</p> <p>Punch Card</p>	<p>17</p> <p>Vertical Bars</p>
<p>18</p> <p>Lattice</p>	<p>19</p> <p>Wavy Triangle</p>	<p>20</p> <p>Dot Buffet</p>	<p>21</p> <p>Quadcone, Red</p>	

Figure 3-7: Included Items Kit, VL4000 BeamWash Luminaire



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.

VL4000 BeamWash Luminaire

20.9704.0002 Rev. A

Refer to [Figure 3-8](#)

No.	Item	Qty.	UM.	Description
1	04.9704.6001	1	EA	VL4000 BEAMWASH PRODUCT ID LABEL
2	04.9704.6145	1	EA	LABEL VL4000 BEAMWASH, WARNING AND COMPLIANCE
3	10.9704.6641	2	EA	FILTER, FOAM, HEAD INLET
4	10.9704.6672	2	EA	FRONT SIDE RAIL COVER
5	10.9704.6673	2	EA	REAR SIDE RAIL COVER
6	10.9704.6674	1	EA	COVER, NOSE, VL4000 BEAMWASH
7	21.9704.6010	1	EA	ASSY, GENERIC LUMINAIRE, VL4000
8	21.9704.6200	1	EA	ASSY, GOBO/ANIMATION
9	21.9704.6671	1	EA	ASSY, BACK COVER
10	21.9704.7400	1	EA	ASSY, COLOR MODULE
11	22.9704.6670	2	EA	ASSY, HEAD COVER, VL4000 BEAMWASH
12	22.9704.6732	2	EA	ASSY, YOKE ARM COVER, VL4000 BEAMWASH
13	28.9704.0002	1	EA	INCLUDED ITEM KIT, VL4000 BEAMWASH (NOT SHOWN)
14	53.6543.0001	16	EA	SCREW, 6-32 X 3/8" PPB
15	53.6558.0010	4	EA	SCRE, 6-32 X 1/4" LZ PPZ SEMS-EXT WSHR
16	53.6614.0001	2	EA	SCREW, 6-32 X 5/8" PPB

VL4000 BeamWash Luminaire (continued)

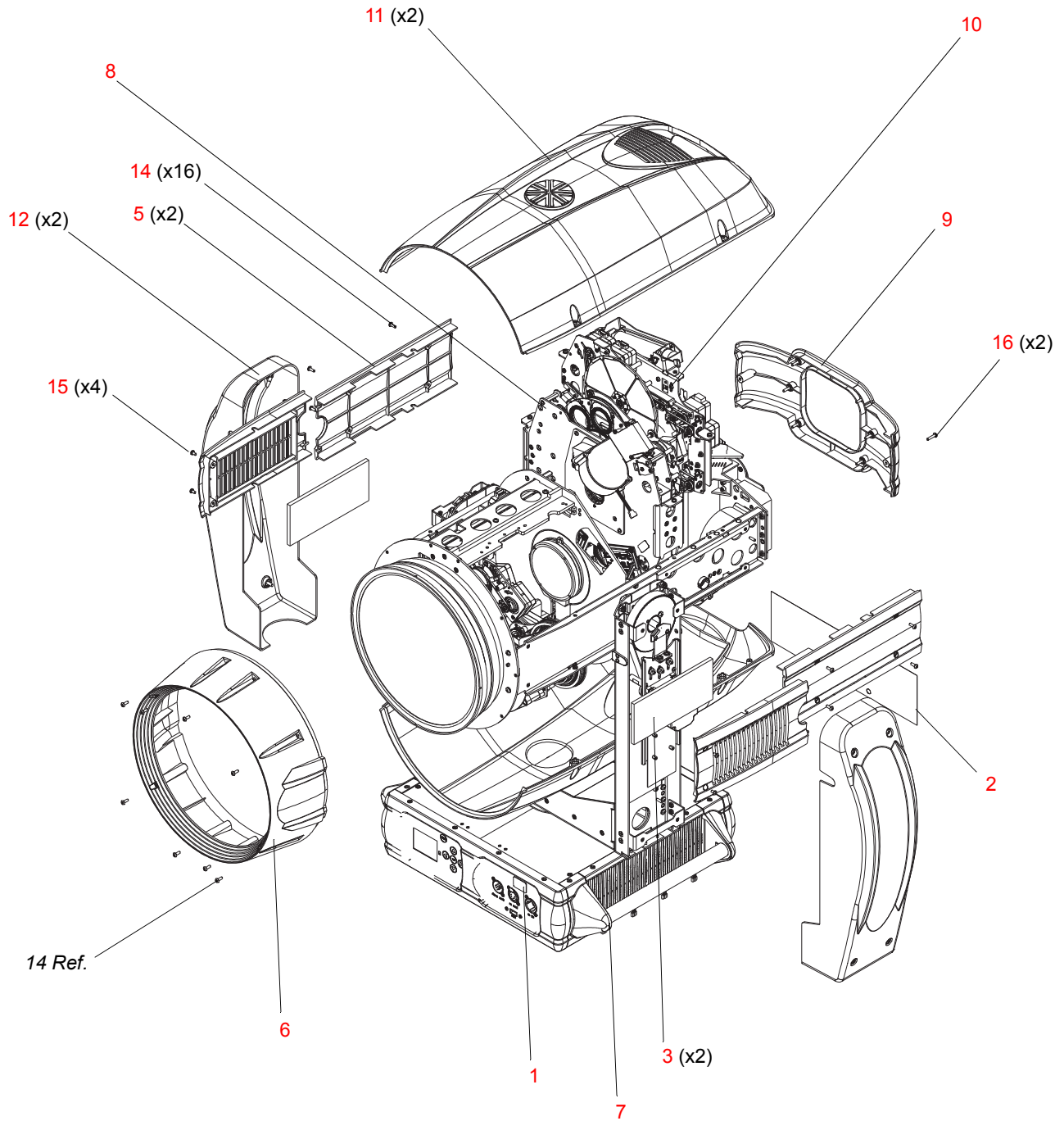


Figure 3-8: VL4000 BeamWash Luminaire

VL4000 BeamWash Generic Luminaire Assembly

21.9704.6010 Rev. C

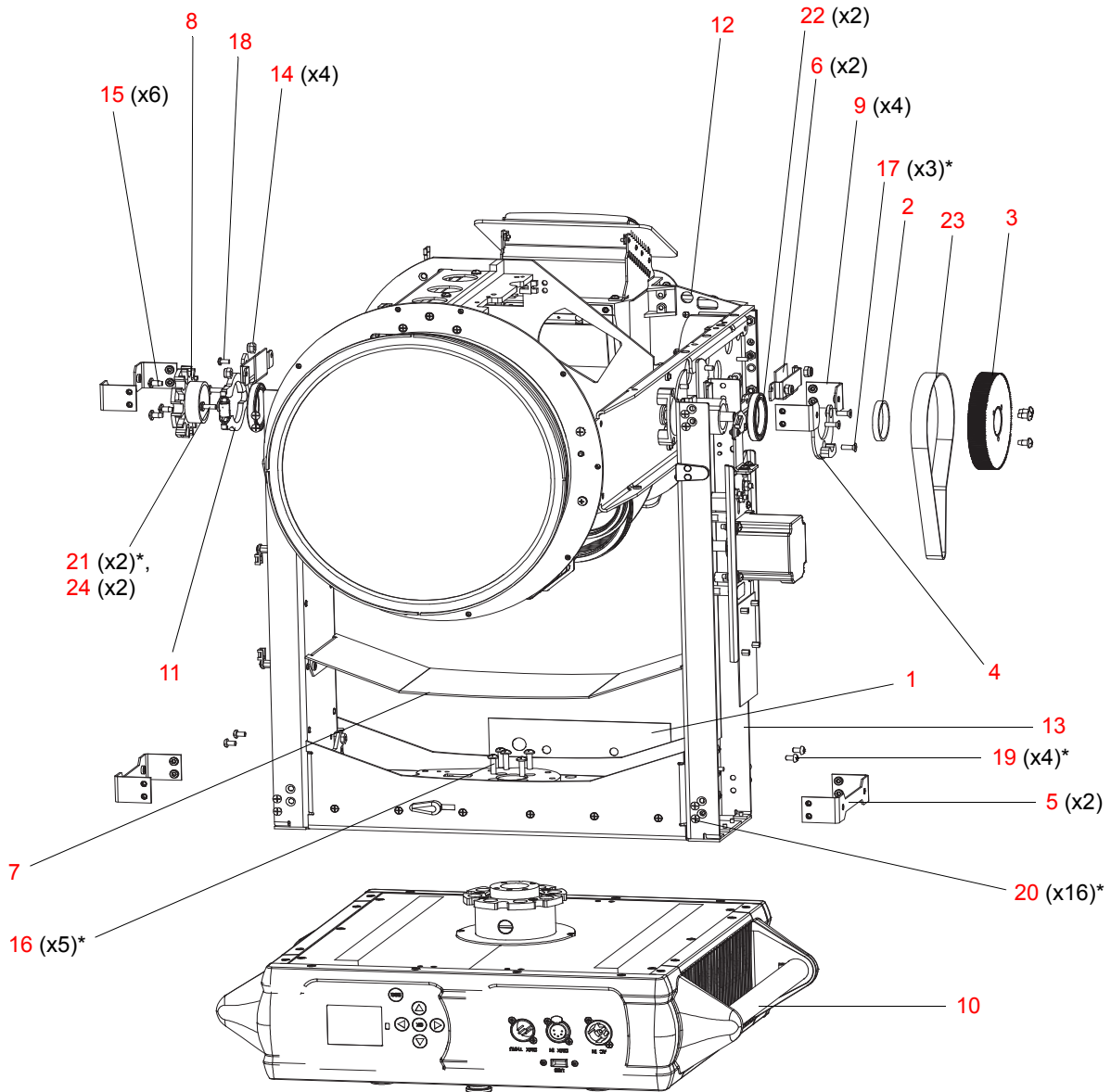
Refer to [Figure 3-9](#)

No.	Item	Qty.	UM.	Description
1	04.9704.0137	1	EA	LABEL, LAMP CHANGE, 1200W FASTFIT
2	10.9704.0706	1	EA	BEARING SPACER, SHORT
3	10.9704.0707	1	EA	PULLEY, DRIVEN, TILT
4	10.9704.0711	1	EA	TILT STOP
5	10.9704.0734	2	EA	COVER MOUNT, YOKE ARM
6	10.9704.1712	2	EA	TILT BEARING HOLDER
7	10.9704.1733	1	EA	COVER, YOKE BASE
8	10.9704.1742	1	EA	TILT LOCK CYLINDER
9	10.9704.2733	4	EA	COVER MOUNT, YOKE ARM
10	21.9704.0800	1	EA	ASSY, UPPER ENCLOSURE, 1200W/1400W
11	21.9704.1767	1	EA	ASSY, STABILIZER
12	21.9704.6600	1	EA	ASSY, HEAD FRAME
13	21.9704.6700	1	EA	ASSY, YOKE
-	25.9704.1602	1	EA	CABLE ASSY, VL4000 FAN EXT, LAMP BASE & TIP (not shown)
-	25.9704.0708	1	EA	CABLE ASSY, VL4000 PWR DIST OUTPUT, COLOR (not shown)
-	25.9704.2717	1	EA	CABLE ASSY, VL4000 TILT WITH SHIELD (not shown)
-	25.9704.6705	1	EA	CABLE ASSY, VL4000 BW PWR DIST OUTPUT MAIN (not shown)
-	25.9704.6713	1	EA	CABLE ASSY, VL4000 DATA, MAIN FROM MCB (not shown)
-	25.9704.6714	1	EA	CABLE ASSY, VL4000 BW DATA, MAIN TO BLKHDS (not shown)
-	25.9687.0025	1	EA	CABLE ASSY, SVL ENCLOSURE TO YOKE CHASSIS GND (not shown)
-	25.9704.6601	1	EA	CABLE ASSY, VL4000 BW INLET FAN EXT (not shown)
-	25.9704.1702	1	EA	CABLE ASSY, VL4000 BALLAST TO IGNITOR (not shown)
14	53.2202.0008	4	EA	NUT, 8-32 HEX SS NYLON INSERT
15	53.5910.0375	6	EA	SCREW, 10-32 X 1/2", PPSS TYPE F
16	53.6517.0625	5	EA	SCREW, 10-32 X 5/8" PPZ
17	53.6521.0500	3	EA	SCREW, 8-32 X 1/2" SOCKET, FLATHEAD, ALLOY STEEL
18	53.6525.0001	1	EA	SCREW, 6-32 X 5/16" PPZ
19	53.6546.0002	4	EA	SCREW, 8-32 X 5/16" PPZ
20	53.6552.0011	16	EA	SCREW, 8-32 X 1/4" PFZ
21	53.6575.0010	2	EA	SCREW, 8-32 X 1/2" PPZ SEMS
22	54.9687.0250	2	EA	BEARING, 68072RS
23	54.9698.0224	1	EA	BELT, TIMING, S2M 210GRV 15MM WIDE URTH/KVLR

VARILITE* - VL4000 BEAMWASH LUMINAIRE SERVICE MANUAL**

No.	Item	Qty.	UM.	Description
24	55.6503.0004	2	EA	WASHER, #8 FLAT ZINC

**VL4000 BeamWash Generic Luminaire Assembly
(continued)**



*APPLY LOCTITE 242 TO THREADS PRIOR TO INSTALLATION.

Figure 3-9: VL4000 BeamWash Generic Luminaire Assembly

VL4000 BeamWash Head Cover Assembly

22.9704.6670 Rev. A

Refer to [Figure 3-10](#)

No.	Item	Qty.	UM.	Description
1	07.5049.0001	1	EA	LANYARD, NYLON COATED, 8" LG
2	10.9704.6670	1	EA	COVER, HEAD, TOP/BOTTOM
3	53.5655.0250	1	EA	SCREW, #6 X 1/4" PPZ PLASTIC THD
4	53.6685.0500	4	EA	SCREW, #6-32 X 1/2" PPB CAPTIVE
5	55.2011.0003	1	EA	SNAP, SPRING 3/16" EYE DIA S

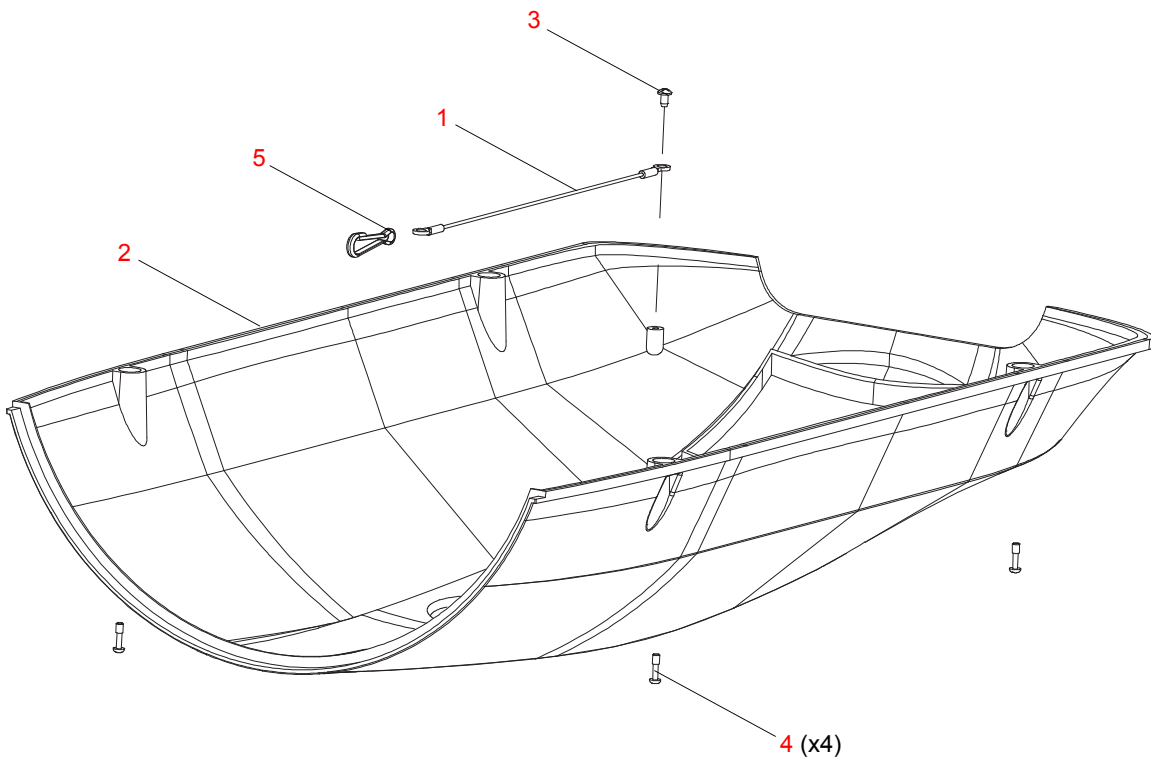


Figure 3-10: VL4000 BeamWash Head Cover Assembly

VL4000 BeamWash Yoke Arm Cover Assembly

22.9704.6732 Rev. A

Refer to [Figure 3-11](#)

No.	Item	Qty.	UM.	Description
1	10.9704.6732	1	EA	COVER, YOKE ARM, BEAMWASH
2	53.2008.0008	4	EA	NUT, #8 PUSH
3	53.6521.0001	4	EA	SCREW, 8-32 X 1/2 PPB

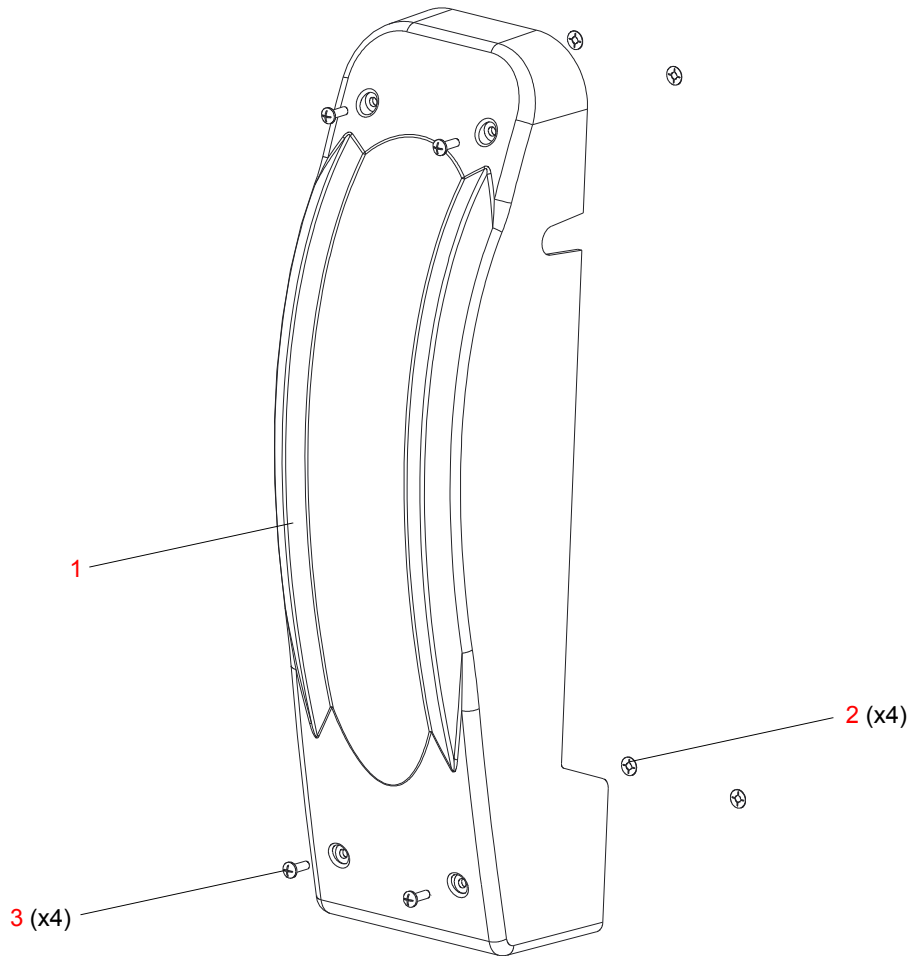


Figure 3-11: VL4000 BeamWash Yoke Arm Cover Assembly

Stabilizer Assembly

21.9704.1767 Rev. A

Refer to [Figure 3-12](#)

No.	Item	Qty.	UM.	Description
1	10.9704.1762	1	EA	BRACKET, STABILIZER
2	10.9704.1757	1	EA	STABILIZER, TILT, 1.600" SHAFT DIA
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" WIRE DIA

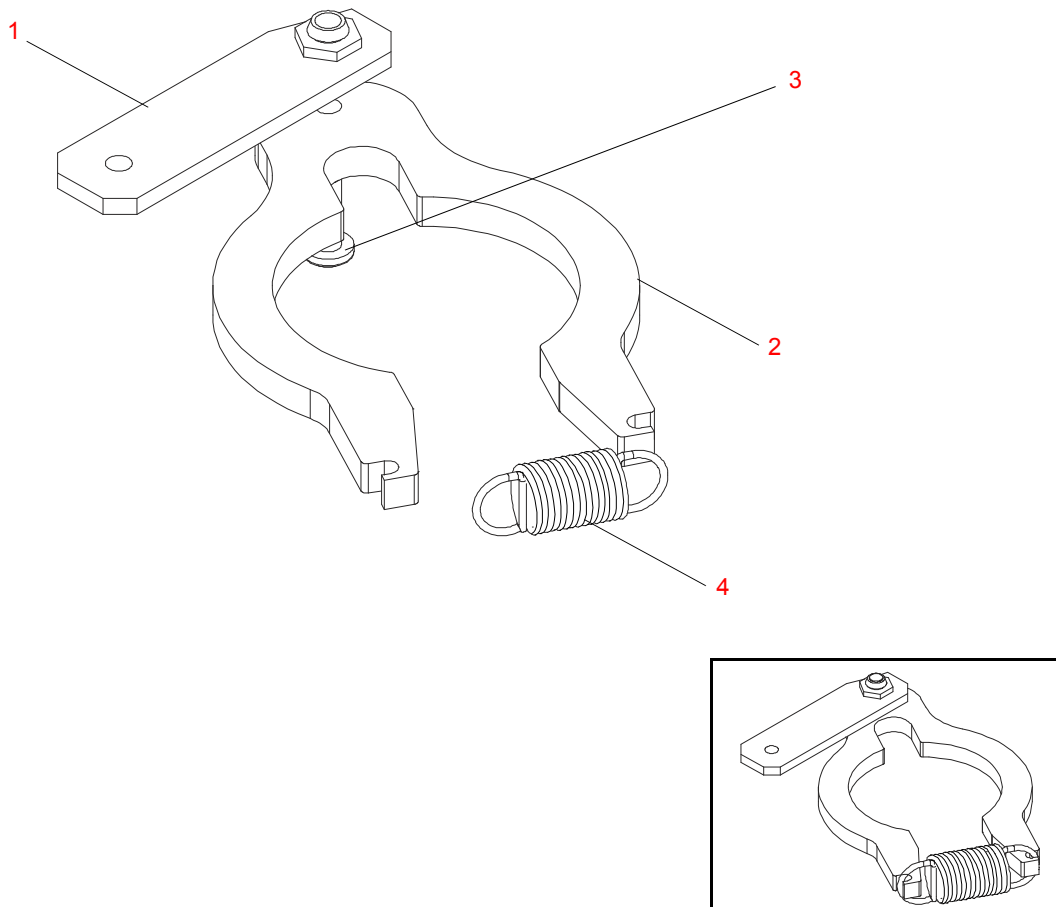


Figure 3-12: Stabilizer Assembly

Back Cover Assembly

21.9704.6671 Rev. A

Refer to [Figure 3-13](#)

No.	Item	Qty.	UM.	Description
1	10.9704.0671	1	EA	COVER, HEAD, REAR
2	53.6614.0001	6	EA	SCREW, 6-32 X 5/8", PPB
3	55.6538.0002	6	EA	WASHER, #6 NYLON, NATURAL
4	55.6879.0006	6	EA	WASHER, #6, SELF RETAINING, 0.032 THK, NYLON

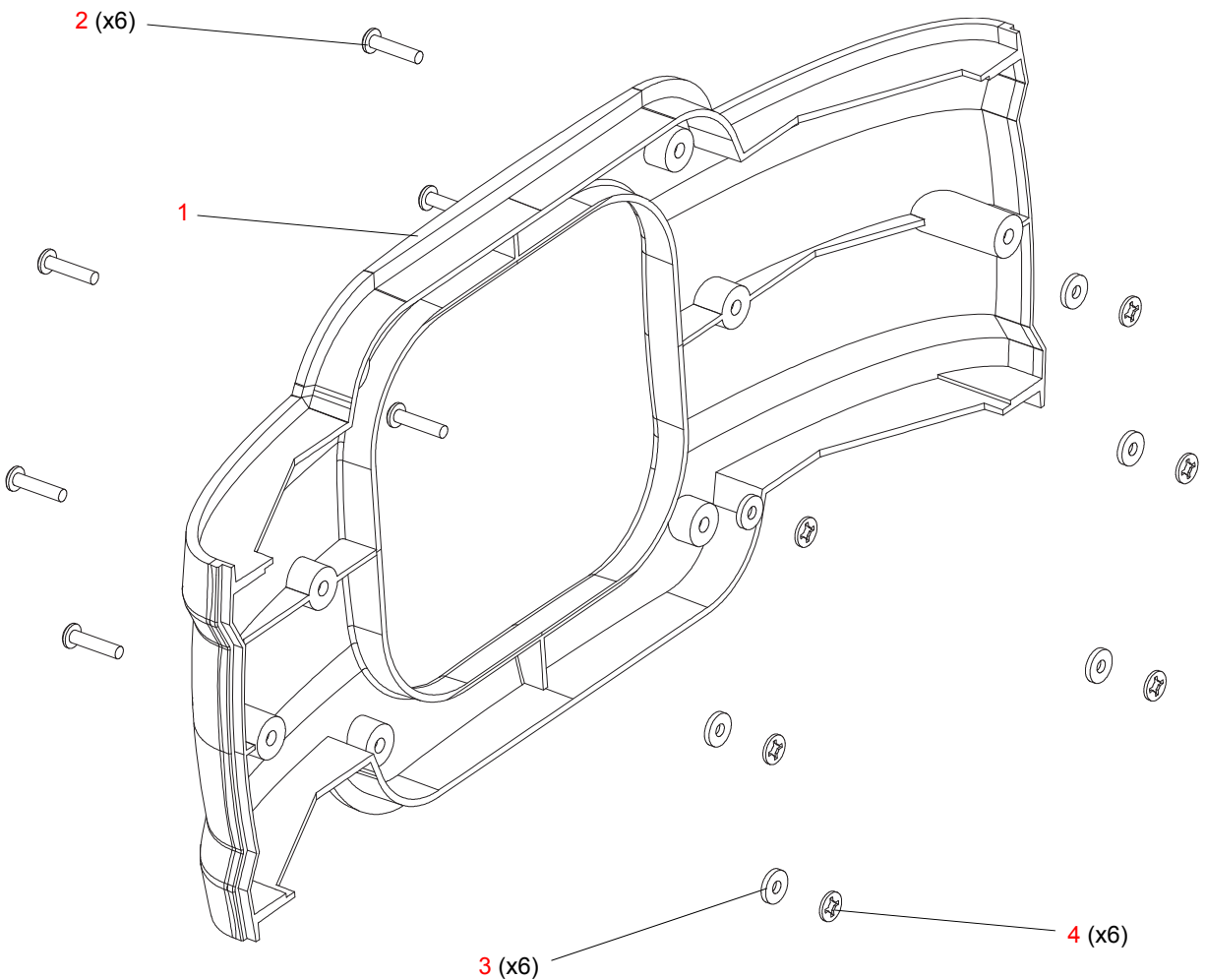


Figure 3-13: Back Cover Assembly

Notes

Head Assembly

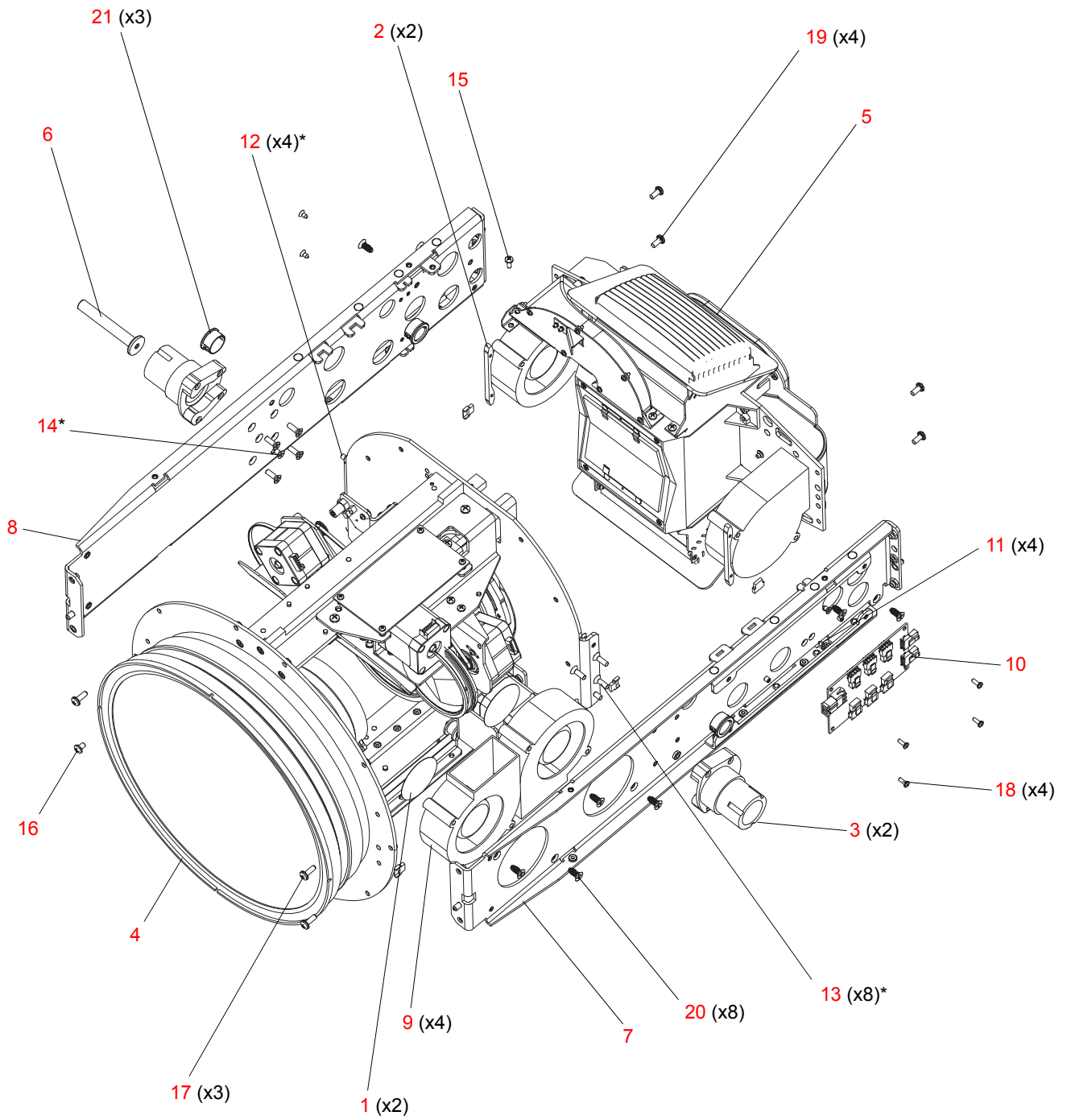
Head Frame Assembly

21.9704.6600 Rev. B

Refer to [Figure 3-14](#)

No.	Item	Qty.	UM.	Description
1	04.9704.6699	2	EA	LABEL, FAN LABEL BLACKOUT
2	10.9704.0640	2	EA	GUIDE, MODULE, HEAD
3	10.9704.0701	2	EA	TILT TUBE
4	21.9704.6150	1	EA	ASSY, OPTICS
5	21.9704.6615	1	EA	ASSY, BACK END, BEAMWASH
6	22.9704.1629	1	EA	ASSY, VL4K TILT MAGNET
7	22.9704.6605	1	EA	ASSY, SIDE RAIL, RIGHT
8	22.9704.6608	1	EA	ASSY, SIDE RAIL, LEFT
9	23.9704.0003	4	EA	FAN ASSY, VL4000 LAMP TIP AND BASE
10	24.9704.2909	1	EA	BOARD, 12V REGULATOR/DISTRO
11	53.5655.0251	4	EA	SCREW, 6-20 X 1/4" PFZ THREAD FORMING
12	53.6545.0003	4	EA	SCREW, 8-32 X 3/8" PFZ
13	53.6552.0001	8	EA	SCREW, 8-32 X 1/2" PFZ
14	53.6552.0011	1	EA	SCREW, 8-32 X 1/4" PFZ
15	53.6558.0009	1	EA	SCREW, 6-32 X 3/8" LG PPZ SEMS
16	53.6575.0008	1	EA	SCREW, 8-32 X 1/4" PPZ SEMS
17	53.6575.0010	3	EA	SCREW, 8-32 X 1/2" PPZ SEMS
18	53.6596.0001	4	EA	SCREW, 4-40 X 5/16" PPZ
19	53.6682.0022	4	EA	SCREW, 8-32 X 3/8" PPZ SEMS
20	55.6576.0001	8	EA	SCREW, #10-16 X 3/8" TYPE B PPZ
21	55.6775.0011	3	EA	BUSHING, SNAP, 0.609 ID, 0.75 MT HOLE, BLACK

Head Frame Assembly (continued)



*APPLY LOCTITE 242 TO THREADS PRIOR TO INSTALLATION.

Figure 3-14: Head Frame Assembly

VL4000 BeamWash Optics Assembly

21.9704.6150 Rev. D

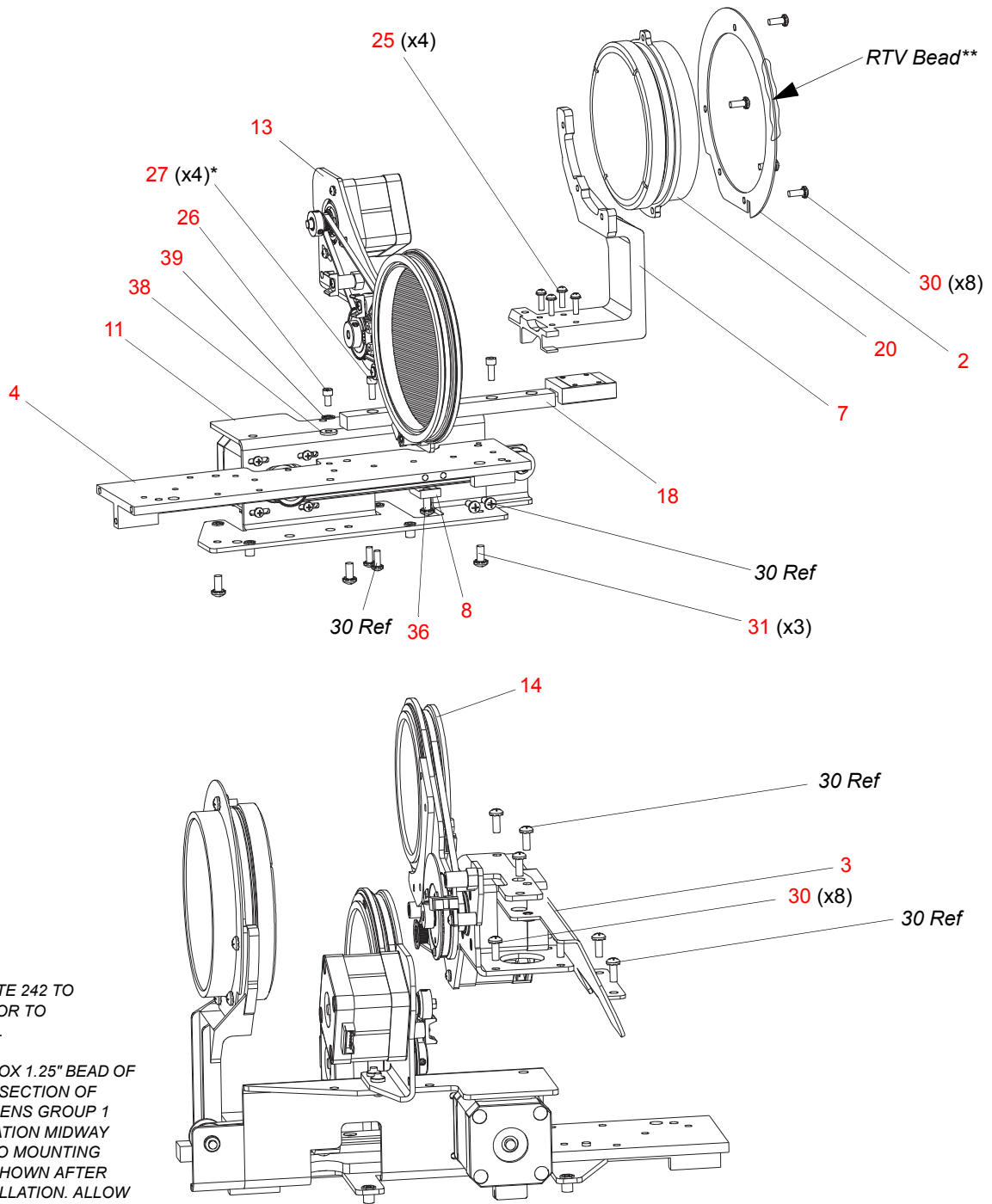
Refer to [Figure 3-15](#) and [Figure 3-16](#)

No.	Item	Qty.	UM.	Description
1	10.9704.0240	1	EA	SPACER, 0.197" ID, 0.250" OD, 0.032" THK
2	10.9704.6170	1	EA	LIGHT BAFFLE, LENS GROUP 1
3	10.9704.6174	1	EA	SHIELD, OPTICS MOTORS
4	10.9704.6180	2	EA	RAIL MOUNT, VL4000 BEAMWASH OPTICS
5	10.9704.6181	1	EA	MOUNT, LENS GROUP 3
6	10.9704.6182	1	EA	REAR ASSY MOUNT SUPPORT
7	10.9704.6186	1	EA	MOUNT, LENS GROUP 1
8	10.9704.6188	2	EA	CLAMP, BELT DRIVE
9	10.9704.6189	1	EA	MOUNT, LENS GROUP 2
10	10.9704.6325	1	EA	ARM STOP MOUNT
11	21.9704.6185	1	EA	ASSY, EDGE LENS MOTOR
12	21.9704.6195	1	EA	ASSY, ZOOM LENS MOTOR
13	21.9704.6310	1	EA	ASSY, LENTICULAR W/ MOTORS
14	21.9704.6330	1	EA	ASSY, PRISM
15	21.9704.6355	1	EA	ASSY, WASH
16	21.9704.6360	1	EA	ASSY, WASH ARM MOTOR
17	22.9704.0264	1	EA	SHAFT ASSY, GOBO WHEEL 2
18	22.9704.6113	1	EA	LINEAR RAIL, 268 MM, 1 CARRIAGE
19	22.9704.6114	1	EA	LINEAR RAIL, 131 MM, 1 CARRIAGE
20	22.9704.6151	1	EA	ASSY, LENS GROUP 1, VL4000 BEAMWASH
21	22.9704.6152	1	EA	ASSY, LENS GROUP 2, VL4000 BEAMWASH
22	22.9704.6153	1	EA	ASSY, LENS GROUP 3, VL4000 BEAMWASH
23	24.9704.1913	1	EA	#BD, 7-WAY MOTOR DRIVER
24	25.9687.0020	2	EA	SWITCH, SLOTTED OPTICAL
-	25.9704.6100	1	EA	CABLE ASSY, VL4000 BW OPTICS BLKHD CABLE (NOT SHOWN)
25	53.6513.0032	8	EA	SCREW, M3 X 0.5 X 10 MM LG PPZ SEMS
26	53.6522.0004	2	EA	SCREW, 6-32 X 1/4" SOC HD
27	53.6523.0001	9	EA	SCREW, 6-32 X 3/8", SCB
28	53.6545.0003	7	EA	SCREW, 8-32 X 3/8" PFZ
29	53.6558.0007	3	EA	SCREW, 6-32 X 1/4" PPZ SEMS
30	53.6558.0009	19	EA	SCREW, 6-32 X 3/8" PPZ SEMS

VARI*LITE - VL4000 BEAMWASH LUMINAIRE SERVICE MANUAL

No.	Item	Qty.	UM.	Description
31	53.6575.0009	8	EA	SCREW, 8-32 X 3/8" PPB SEMS
32	53.6599.0001	4	EA	SCREW, 4-40 X 3/8" PFZ
33	53.6601.0002	1	EA	SCREW, 4-40 X 3/16" PTZ
34	53.6608.0001	12	EA	SCREW, 6-32 X 3/8" PFB
35	53.6682.0002	6	EA	SCREW, 4-40 X 1/4" PPZ SEMS
36	53.6682.0022	2	EA	SCREW, 8-32 X 3/8" PPZ SEMS
37	54.9704.1390	1	EA	BELT, TIMING, MXL, 106 GRV, .125" WD, URETH/KEV
38	55.6528.0001	2	EA	WASHER, #6 FLAT ZINC
39	55.6538.0001	2	EA	WASHER, #6 LOCK INTERNAL TOOTH
40	55.6588.0003	1	EA	SPACER, 1/4" ROUND, #6, 0.125" LG
41	55.6738.0005	0.425	IN	TUBING, SILICONE, 4 MM ID, 8 MM OD, SOFT RED
42	55.6568.1250	1	EA	SPRING, EXTSN, 0.188" OD, 0.022" WD, 1.25" LG, MW
43	04.9704.6105	1	EA	DIP SWITCH LABEL, BOARD G
44	10.9704.6171	1	EA	LIGHT BAFFLE, LENS GROUP 2

VL4000 BeamWash Optics Assembly (continued)



*APPLY LOCTITE 242 TO THREADS PRIOR TO INSTALLATION.

**APPLY APPROX 1.25" BEAD OF RTV TO INTERSECTION OF BAFFLE AND LENS GROUP 1 APPROX LOCATION MIDWAY BETWEEN TWO MOUNTING SCREWS AS SHOWN AFTER BAFFLE INSTALLATION. ALLOW TO AIR CURE.

Figure 3-15: VL4000 BeamWash Optics Assembly (Part 1)

VL4000 BeamWash Optics Assembly (continued)

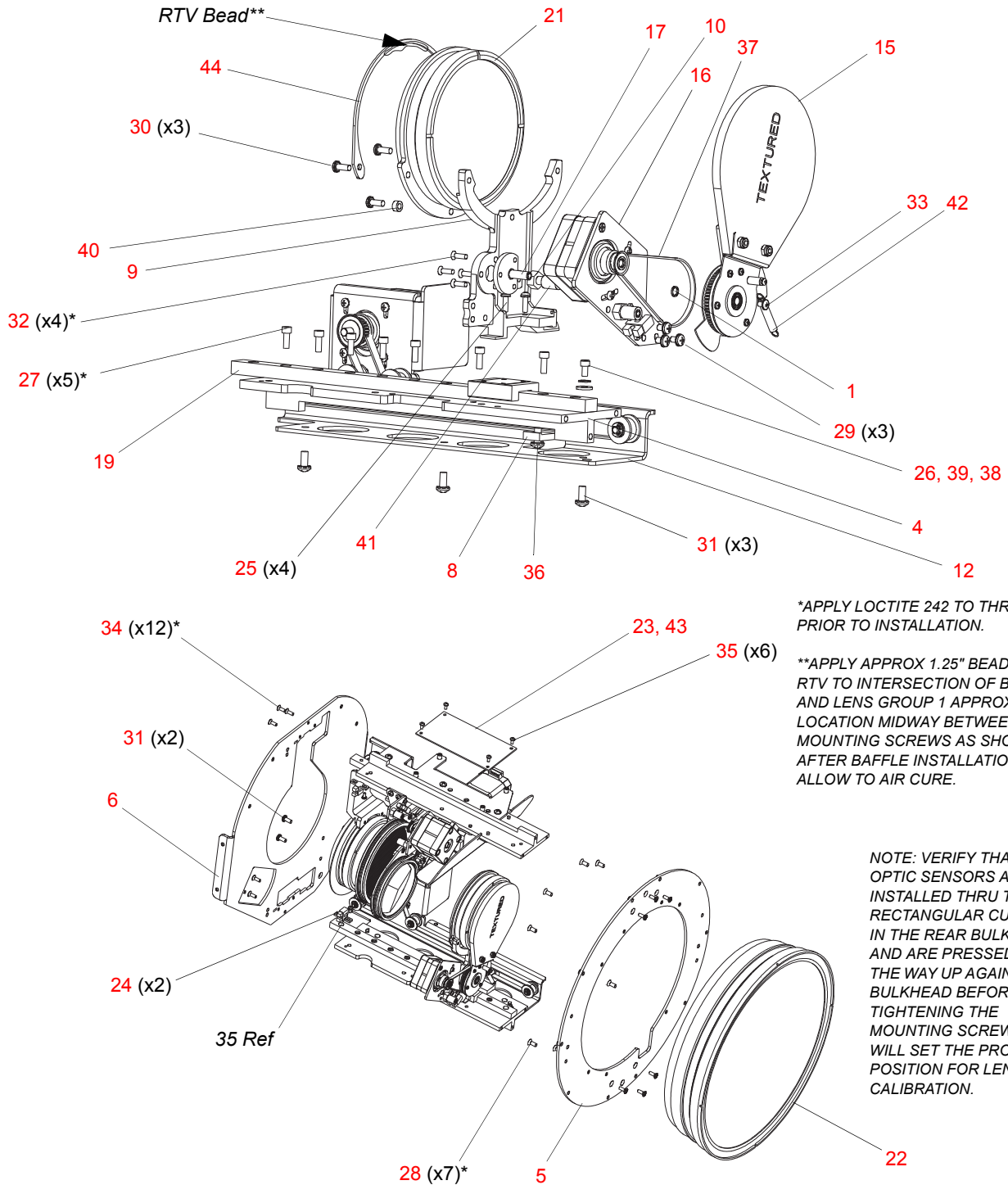


Figure 3-16: VL4000 BeamWash Optics Assembly (Part 2)

Edge Lens Motor Assembly

21.9704.6185 Rev. E

Refer to [Figure 3-17](#)

No.	Item	Qty.	UM.	Description
1	10.9678.1131	1	EA	FORWARD PULLEY SHAFT, BEARING
2	10.9704.1212	1	EA	MOTOR PULLEY W/ FLANGES
3	10.9704.6185	1	EA	MOUNT PLATE, BELT DRIVE
4	21.9704.0330	1	EA	ASSY, DAMPER, MOTOR SHAFT, 5 MM
5	44.9704.1216	1	EA	MOTOR, SIZE 17, 24 MM SHAFT, HIGH TORQUE
6	53.5560.0187	2	EA	SCREW, SET 8-32 X 3/16" L
7	53.6596.0002	2	EA	SCREW, 4-40 X 5/16" LG PPZ SEMS
8	53.6599.0001	1	EA	SCREW, 4-40 X 3/8" PFZ
9	54.1262.0001	2	EA	BEARING, FLANGED, 0.1875" BORE
10	54.2053.0001	1	EA	MXT T BELT PULLEY, 20 GRV, 0.25" WD
11	54.9704.6165	1	EA	TIMING BELT, MXL, 140 TEETH, 0.250" WIDE, URETH/KEV
12	55.2234.0001	1	EA	E-RING, 0.188" SHAFT DIA, CAR SP

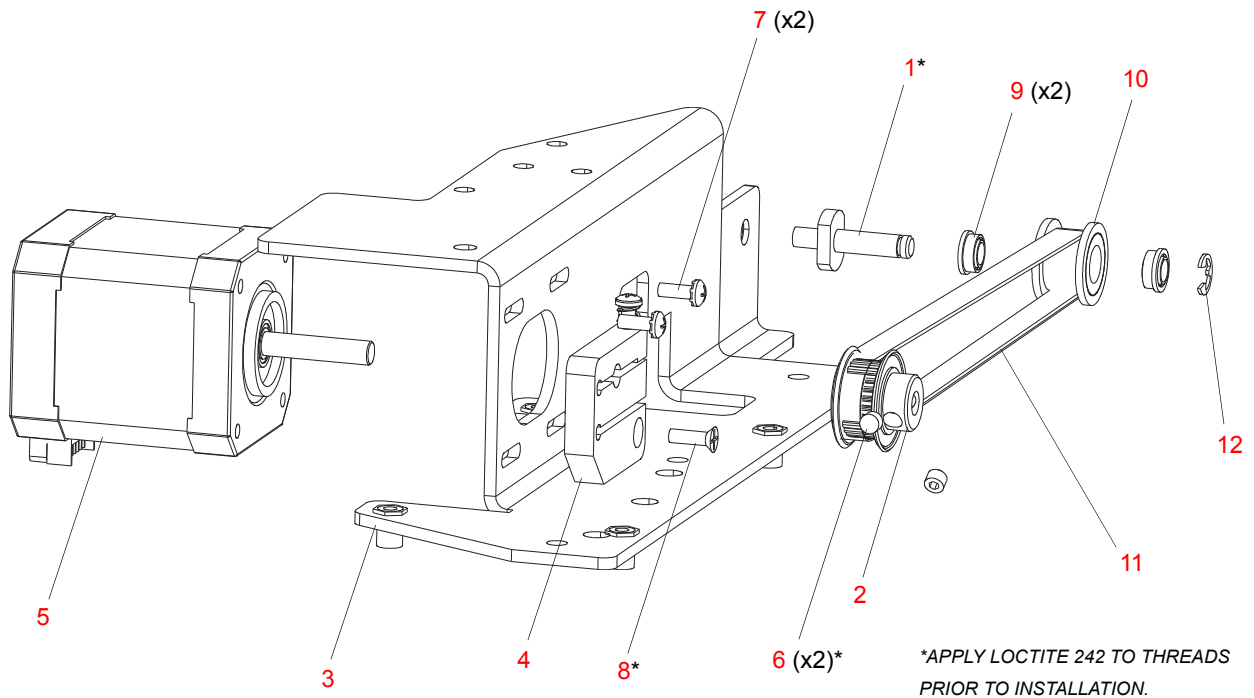


Figure 3-17: Edge Lens Motor Assembly

5mm Motor Shaft Damper Assembly

21.9704.0330 Rev. B

Refer to [Figure 3-18](#)

No.	Item	Qty.	UM.	Description
1	55.6568.0113	1	EA	COMPRESSION SPRING
2	10.9698.0335	1	EA	DAMPER, MOTOR SHAFT, 5MM
3	53.6556.0001	1	EA	SCREW, 4-40 X 3/4" PPZ

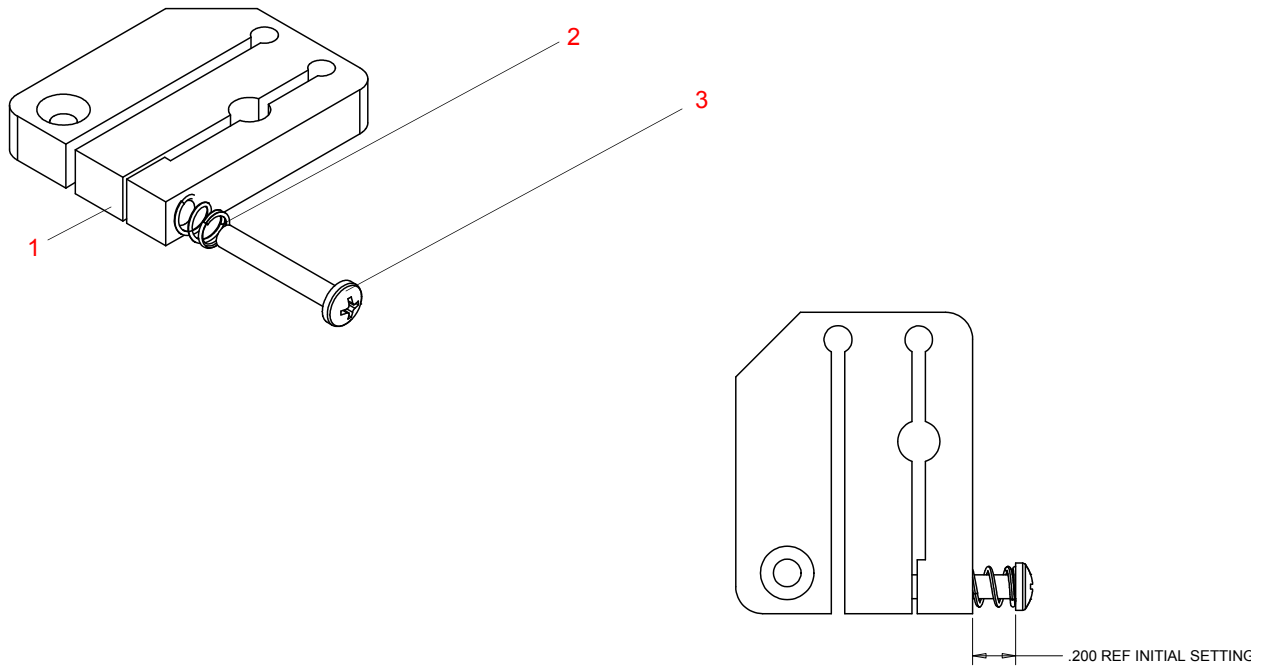


Figure 3-18: 5mm Motor Shaft Damper Assembly

Zoom Lens Motor Assembly

21.9704.6195 Rev. D

Refer to [Figure 3-19](#)

No.	Item	Qty.	UM.	Description
1	10.9678.1131	1	EA	FORWARD PULLEY SHAFT, BEARING
2	10.9704.1212	1	EA	MOTOR PULLEY W/ FLANGES
3	10.9704.6195	1	EA	MOUNT PLATE, BELT DRIVE
4	21.9704.0330	1	EA	ASSY, DAMPER, MOTOR SHAFT, 5 MM
5	44.9704.1216	1	EA	MOTOR, SIZE 17, 24 MM SHAFT, HIGH TORQUE
6	53.5560.0187	2	EA	SCREW, SET 8-32 X 3/16" L
7	53.6596.0002	2	EA	SCREW, 4-40 X 5/16" LG PPZ SEMS
8	53.6599.0001	1	EA	SCREW, 4-40 X 3/8" PFZ
9	54.1262.0001	8	EA	BEARING, FLANGED, 0.1875" BORE
10	54.2053.0001	4	EA	MXT T BELT PULLEY, 20 GRV, 0.25" WD
11	54.9704.6172	1	EA	TIMING BELT, MXL, 315 TEETH, 0.250" WIDE, URETH/KEY
12	55.2234.0001	4	EA	E-RING, 0.188" SHAFT DIA, CAR SP

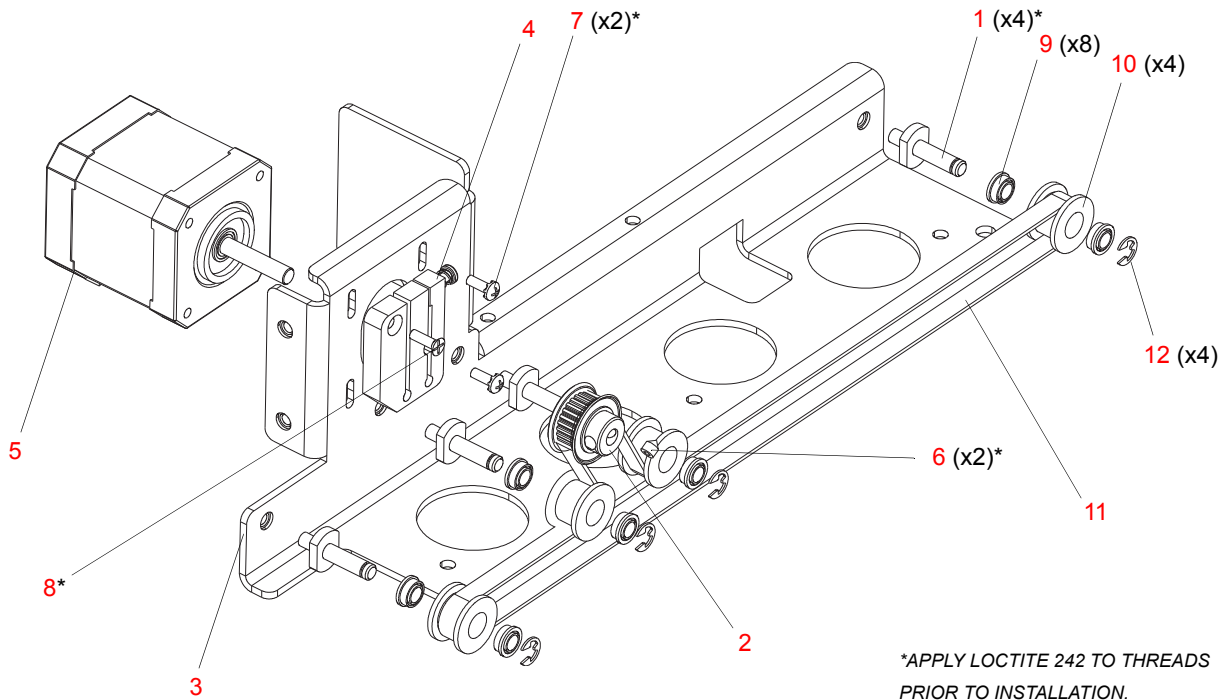


Figure 3-19: Zoom Lens Motor Assembly

Lenticular with Motors Assembly

21.9704.6310 Rev. C

Refer to [Figure 3-20](#)

No.	Item	Qty.	UM.	Description
1	10.9704.0240	1	EA	SPACER, 0.197" ID, 0.250" OD, 0.032" THK
2	10.9704.1233	1	EA	PULLEY, 16 GRV, 0.125" WD, ANIMATION ARM DRIVE
3	10.9704.6315	1	EA	MOTOR MOUNT, LENTICULAR
4	10.9704.6318	2	EA	SPACER, 0.125" ID, 0.250" OD, 0.046" THK
5	10.9704.6323	1	EA	DRIVE PULLEY, LENTICULAR
6	10.9704.6325	2	EA	ARM STOP MOUNT
7	10.9704.6340	1	EA	SPACER, OPTICS, 0.198" ID, 0.250" OD, 0.082" THK
8	21.9704.6239	1	EA	ASSY, TENSION ADJUSTMENT ROLLER, <i>COMPRISED OF:</i>
8a	10.9704.6237	1	EA	<i>PLATE, TENSION ADJUST, ANIMATION WHEEL</i>
8b	10.9704.6238	1	EA	<i>ROLLER, TENSION ADJUST, ANIMATION WHEEL</i>
8c	53.6601.0002	1	EA	<i>SCREW, 4-40 X 3/16" PTZ</i>
9	21.9704.6315	1	EA	ASSY, ARM, LENTICULAR
10	24.9704.6314	1	EA	SENSOR BOARD, INDEX
11	25.9687.0020	1	EA	SWITCH, SLOTTED OPTICAL
12	44.9687.1209	1	EA	MOTOR SIZE-17, SHAFT 0.70"
13	44.9704.0217	1	EA	MOTOR SIZE-17, 24MM SHAFT, SHORT STACK
14	53.6513.0002	4	EA	SCREW, M3 X 5MM, PFZ
15	53.6578.0002	4	EA	SCREW, 6-32 X 3/16", SET, CUP PNT
16	53.6596.0001	1	EA	SCREW, 4-40 X 5/16" PPZ
17	53.6596.0002	3	EA	SCREW, 4-40 X 5/16" LG PPZ SEMS
18	53.6682.0002	2	EA	SCREW, 4-40 X 1/4, PPZ, SEMS
19	54.9704.5317	1	EA	BELT, TIMING, MXL, 200 GRV, 0.125" WD, SILICONE/KEV
20	54.9704.6316	1	EA	BELT, TIMING, MXL, 135 GRV, 0.125" WD, URETH/KEV
21	55.2179.0009	1	EA	CABLE ANCHOR MOUNT, #4 SCREW
22	55.9704.6305	2	EA	STANDOFF, 3/16" HEX, 4-40 X 7/32", F-F
23	55.6738.0005	0.85	IN.	TUBING, SILICONE, 4MM ID, 8MM, OD, SOFT RED, (0.425")

Lenticular with Motors Assembly (continued)

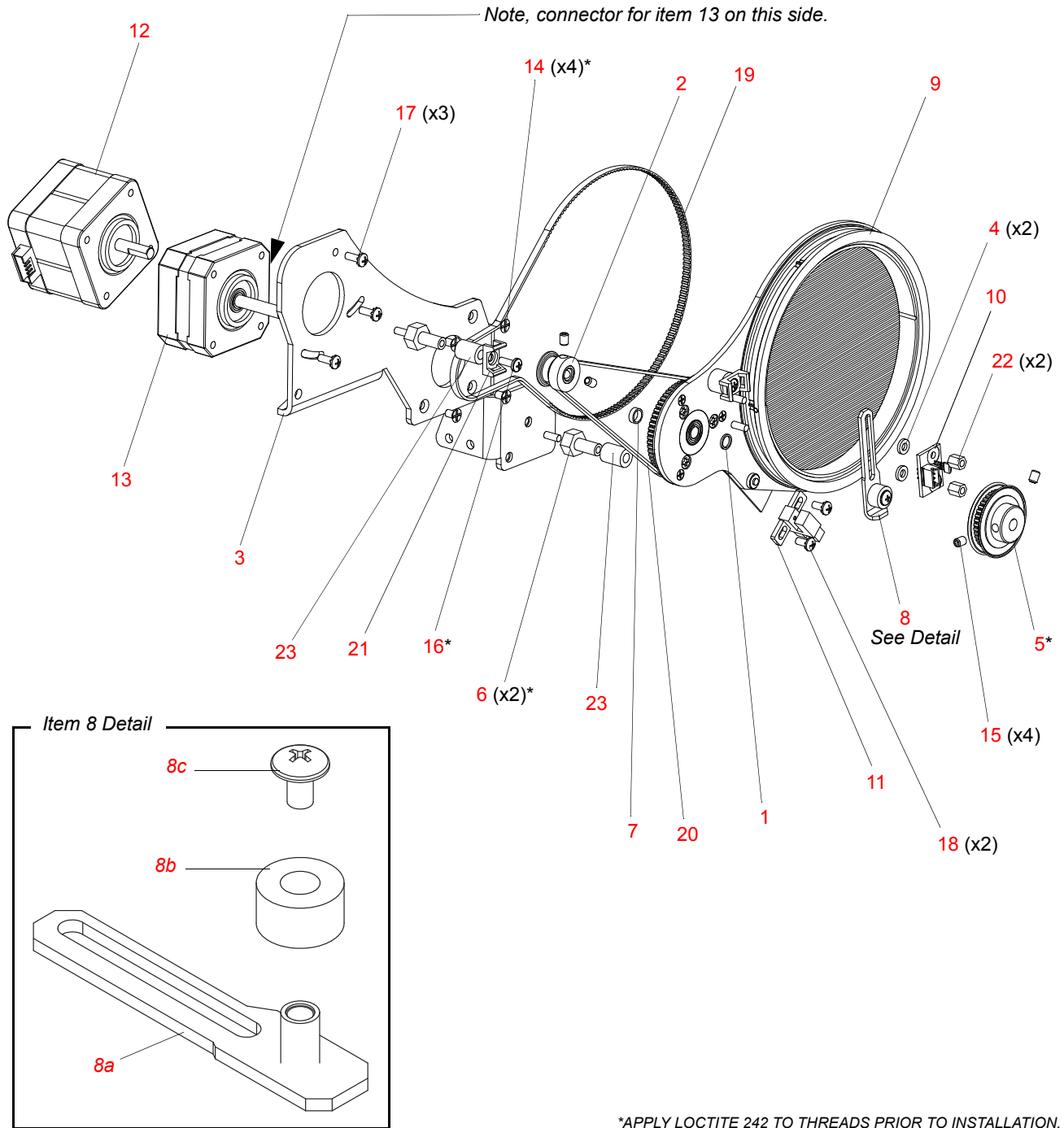


Figure 3-20: Lenticular with Motors Assembly

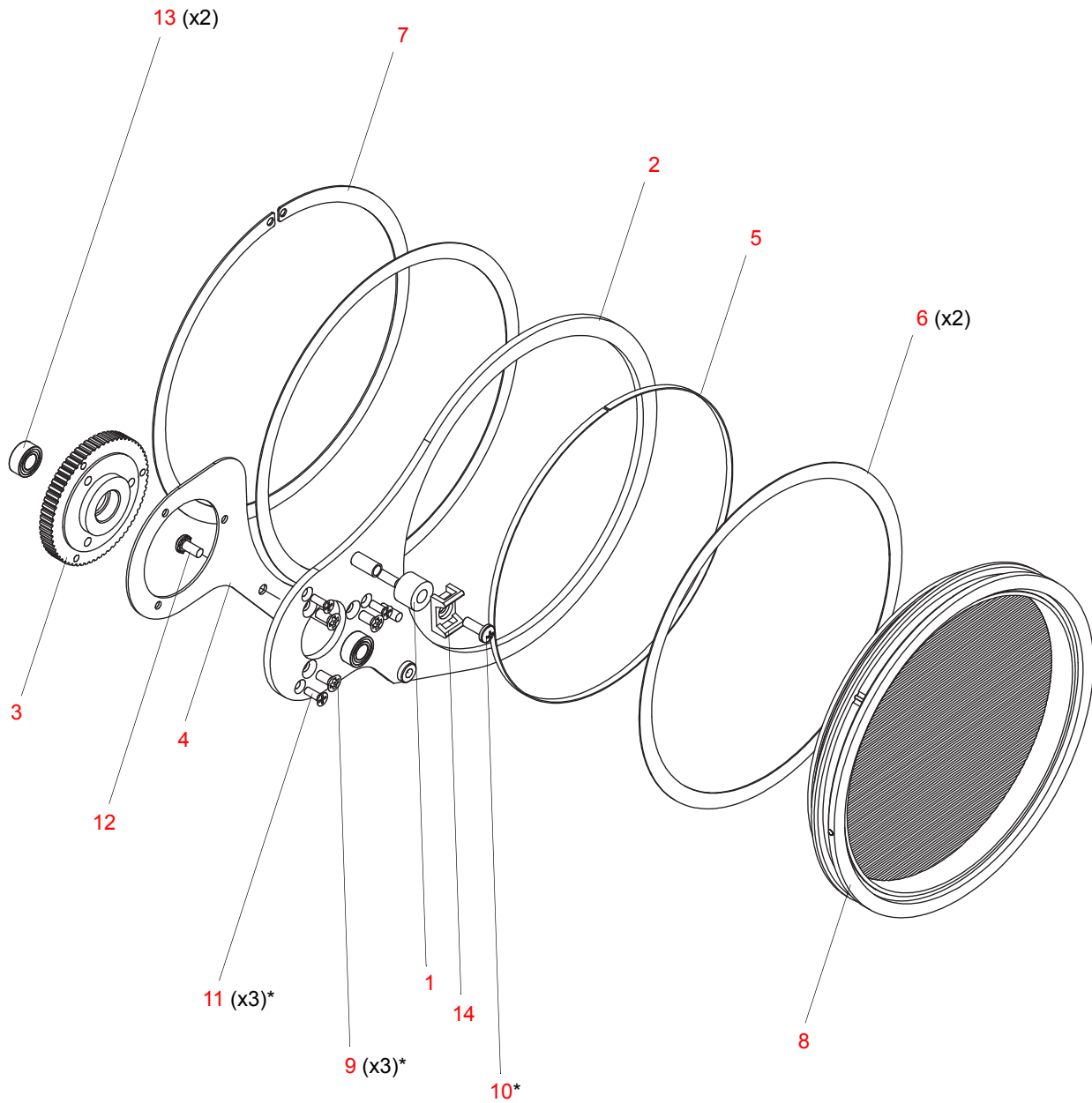
Lenticular Arm Assembly

21.9704.6315 Rev. B

Refer to [Figure 3-21](#)

No.	Item	Qty.	UM.	Description
1	10.9704.0238	1	EA	ROLLER, TENSION ADJUST, ANIMATION WHEEL
2	10.9704.6311	1	EA	ARM, LENTICULAR
3	10.9704.6313	1	EA	INDEX PULLEY, LENTICULAR
4	10.9704.6322	1	EA	FLAG, LENTICULAR
5	10.9704.6362	1	EA	TEFLON BEARING, BORE, LENTICULAR
6	10.9704.6391	2	EA	SPACER, TEFLON, LENTICULAR
7	10.9704.6394	1	EA	RETAINING RING, PRISM
8	22.9704.6147	1	EA	ASSY, LENTICULAR, W/ GLASS
9	53.6559.0001	3	EA	SCREW, 4-40 X 1/4" PFZ
10	53.6596.0001	1	EA	SCREW, 4-40 X 5/16" PPZ
11	53.6659.0015	3	EA	SCREW, 2-56 X 1/4" PFB
12	53.6682.0002	1	EA	SCREW, 4-40 X 1/4" PPZ SEMS
13	54.9687.1253	2	EA	BEARING, NPB, MR105ZZK13
14	55.2179.0009	1	EA	CABLE ANCHOR MOUNT, #4 SCREW

Lenticular Arm Assembly (continued)



*APPLY LOCTITE 242 TO THREADS PRIOR TO INSTALLATION.

Figure 3-21: Lenticular Arm Assembly

Prism Assembly

21.9704.6330 Rev. C

Refer to [Figure 3-22](#)

No.	Item	Qty.	UM.	Description
1	10.9704.0233	1	EA	DRIVE PULLEY, ANIMATION/FIXED COLOR
2	10.9704.0240	2	EA	SPACER, 0.197" ID, 0.250" OD, 0.032" THK
3	10.9704.1233	1	EA	PULLEY, 16 GRV, 0.125" WD, ANIMATION ARM DRIVE
4	10.9704.6173	1	EA	COLLET, MOTOR SHAFT
5	10.9704.6318	2	EA	SPACER, 0.125" ID, 0.250" OD, 0.046" THK
6	10.9704.6325	2	EA	ARM STOP MOUNT
7	10.9704.6331	1	EA	PRISM MOTOR MOUNT
8	10.9704.6341	1	EA	SPACER, 0.198" ID, 0.250" OD, 0.157" THK
9	21.9704.6239	1	EA	ASSY, TENSION ADJUSTMENT ROLLER, <i>COMPRISED OF:</i>
9a	10.9704.6237	1	EA	<i>PLATE, TENSION ADJUST, ANIMATION WHEEL</i>
9b	10.9704.6238	1	EA	<i>ROLLER, TENSION ADJUST, ANIMATION WHEEL</i>
9c	53.6601.0002	1	EA	<i>SCREW, 4-40 X 3/16" PTZ</i>
10	21.9704.6335	1	EA	ASSY, PRISM ARM
11	24.9704.6314	1	EA	SENSOR BOARD, INDEX
12	25.9687.0020	1	EA	SWITCH, SLOTTED OPTICAL
13	44.9687.1209	1	EA	MOTOR, SIZE-17, SHAFT 0.70"
14	44.9704.1213	1	EA	MOTOR, SIZE-14, SHAFT 24 MM LG
15	53.6513.0002	4	EA	SCREW, M3 X 5 MM PFZ
16	53.6578.0002	2	EA	SCREW, 6-32 X 3/16" SET CUP PNT
17	53.6596.0002	3	EA	SCREW, 4-40 X 5/16" LG PPZ SEMS
18	53.6682.0002	2	EA	SCREW, 4-40 X 1/4" PPZ SEMS
19	54.9704.1390	1	EA	BELT, TIMING, MXL, 106 GRV, 0.125" WD, WRETH/KEV
20	54.9704.5333	1	EA	BELT, TIMING, MXL, 180 GRV, 0.125" WD, WRETH/KEV
21	55.9704.6305	2	EA	STANDOFF, 3/16" HEX, 4-40 X 7/32", F-F
22	55.9704.6332	2	EA	STANDOFF, 1/4" RD, 4-40 X 3/8", F-F
23	55.6738.0005	0.85	IN.	TUBING, SILICONE, 4MM ID, 8MM, OD, SOFT RED, (0.425")

Prism Assembly (continued)

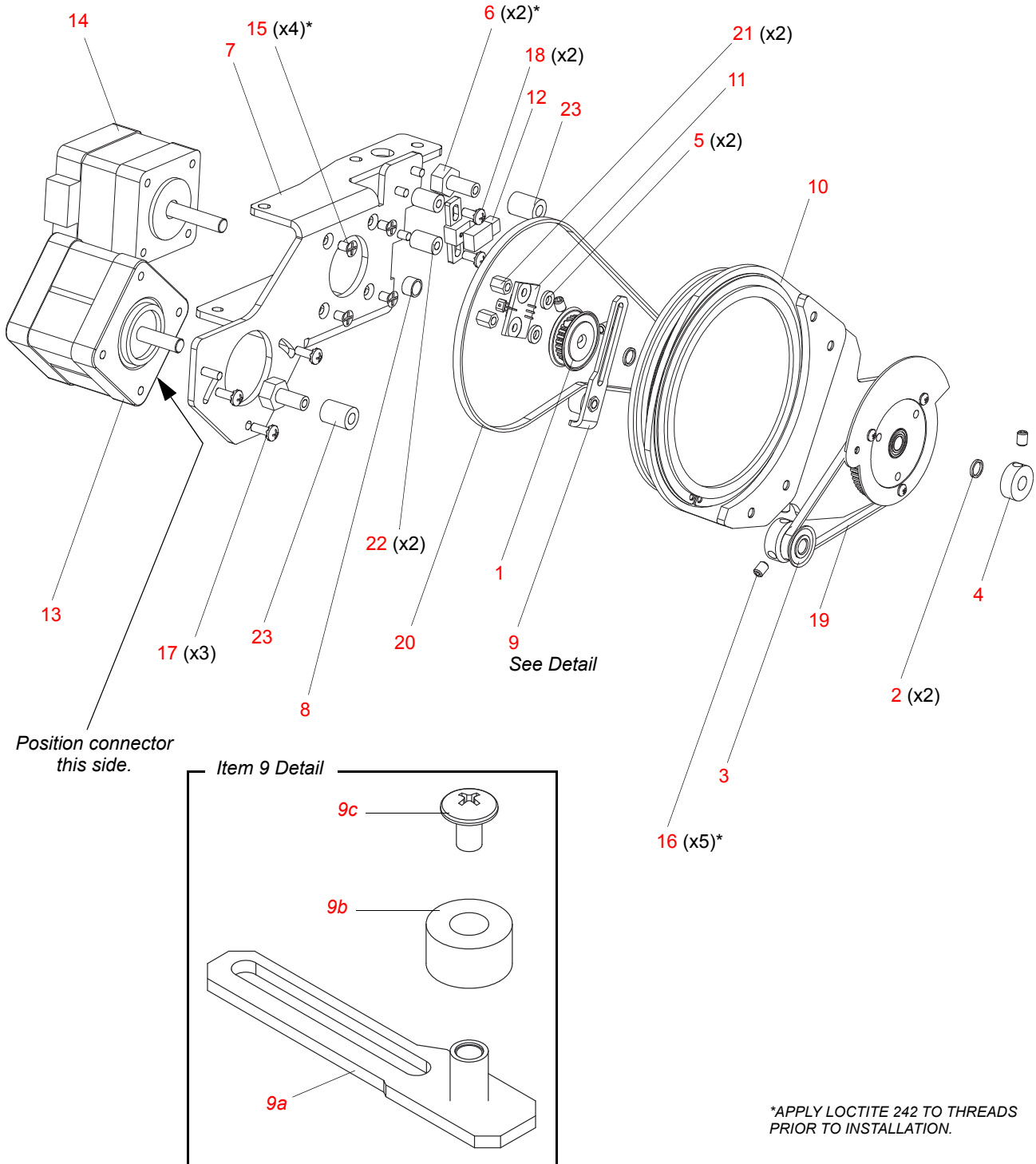


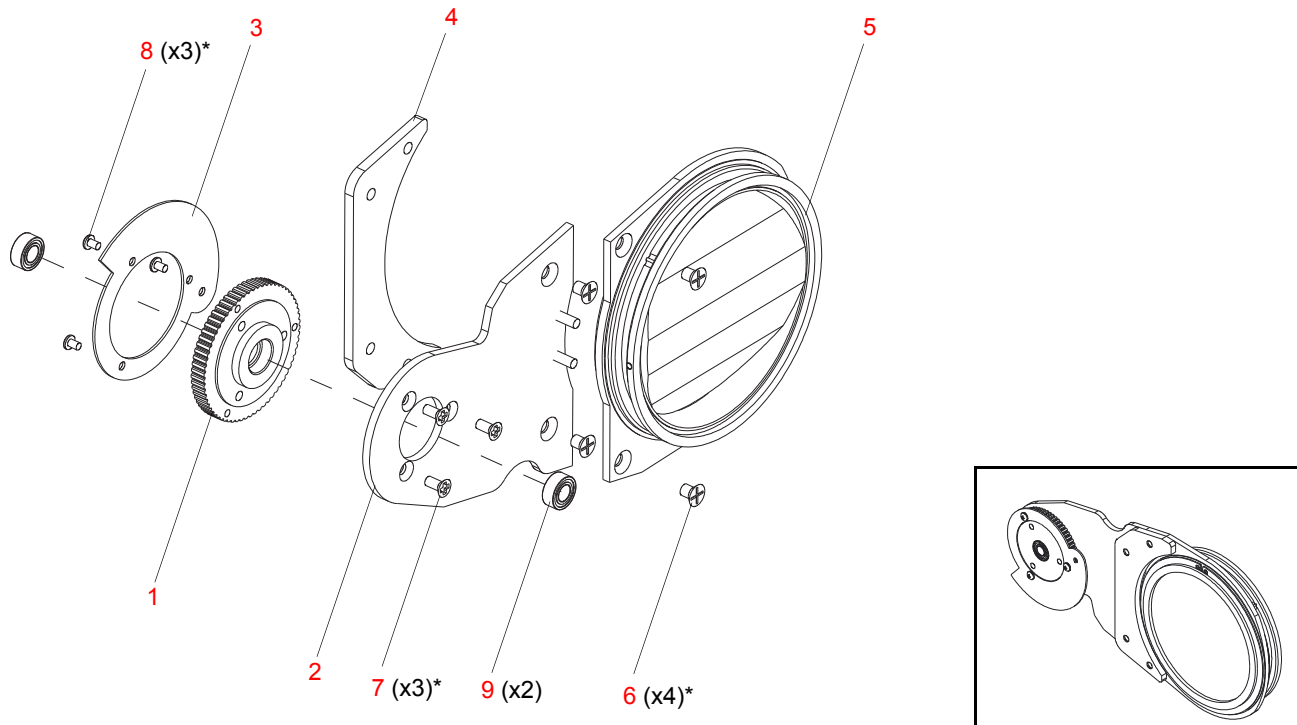
Figure 3-22: Prism Assembly

Prism Arm Assembly

21.9704.6335 Rev. B

Refer to [Figure 3-23](#)

No.	Item	Qty.	UM.	Description
1	10.9704.6313	1	EA	INDEX PULLEY, LENTICULAR
2	10.9704.6321	1	EA	ARM, PRISM
3	10.9704.6324	1	EA	FLAG, ANIMATION ARM
4	10.9704.6327	1	EA	COUPLER, PRISM ARM
5	21.9704.6395	1	EA	ASSY, 5-FACET LINEAR PRISM, INTERCHANGEABLE
6	53.5564.0188	2	EA	SCREW, 6-32 X 1/4" PFB UNDERCUT
7	53.6559.0001	3	EA	SCREW, 4-40 X 1/4" PFZ
8	53.6659.0012	3	EA	SCREW, 2-56 X 1/8" PPZ
9	54.9687.1253	2	EA	BEARING, NPB, MR105ZZK13



*APPLY LOCTITE 242 TO THREADS PRIOR TO INSTALLATION.

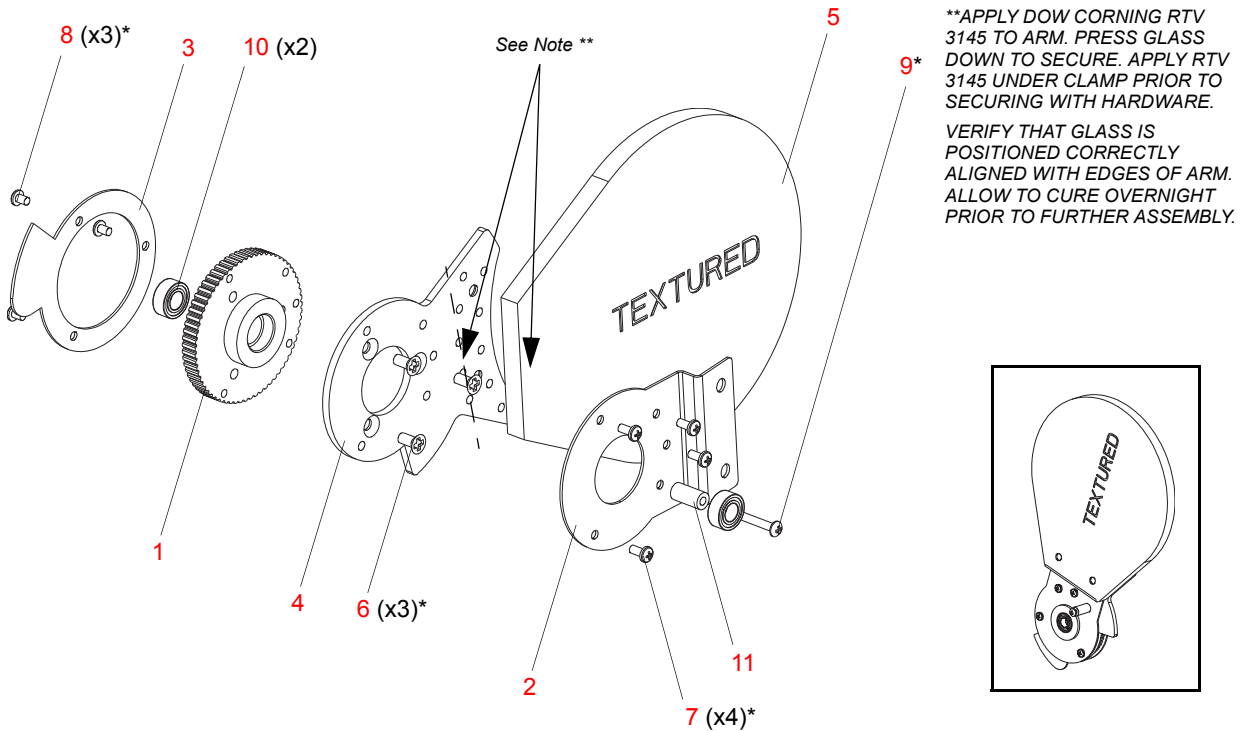
Figure 3-23: Prism Arm Assembly

Wash Assembly

21.9704.6355 Rev. F

Refer to [Figure 3-24](#)

No.	Item	Qty.	UM.	Description
1	10.9704.6317	1	EA	INDEX PULLEY, ARM
2	10.9704.6319	1	EA	CLAMP, WASH GLASS
3	10.9704.6320	1	EA	PULLEY FLANGE, WASH
4	10.9704.6351	1	EA	ARM, WASH
5	42.9704.6155	1	EA	GLASS, WASH
6	53.6559.0001	3	EA	SCREW, 4-40 X 1/4" PFZ
7	53.6659.0006	4	EA	SCREW, 2-56 X 3/16" PPZ
8	53.6659.0012	3	EA	SCREW, 2-56 X 1/8" PPZ
9	53.6659.0075	1	EA	SCREW, 2-56 X 3/4" PPZ
10	54.9687.1253	2	EA	BEARING, NPB, MR105ZZK13
11	55.6506.0002	1	EA	SPACER, RD, #2 ID, 3/16" OD, 3/8" LG, ALUM



*APPLY LOCTITE 242 TO THREADS PRIOR TO INSTALLATION.

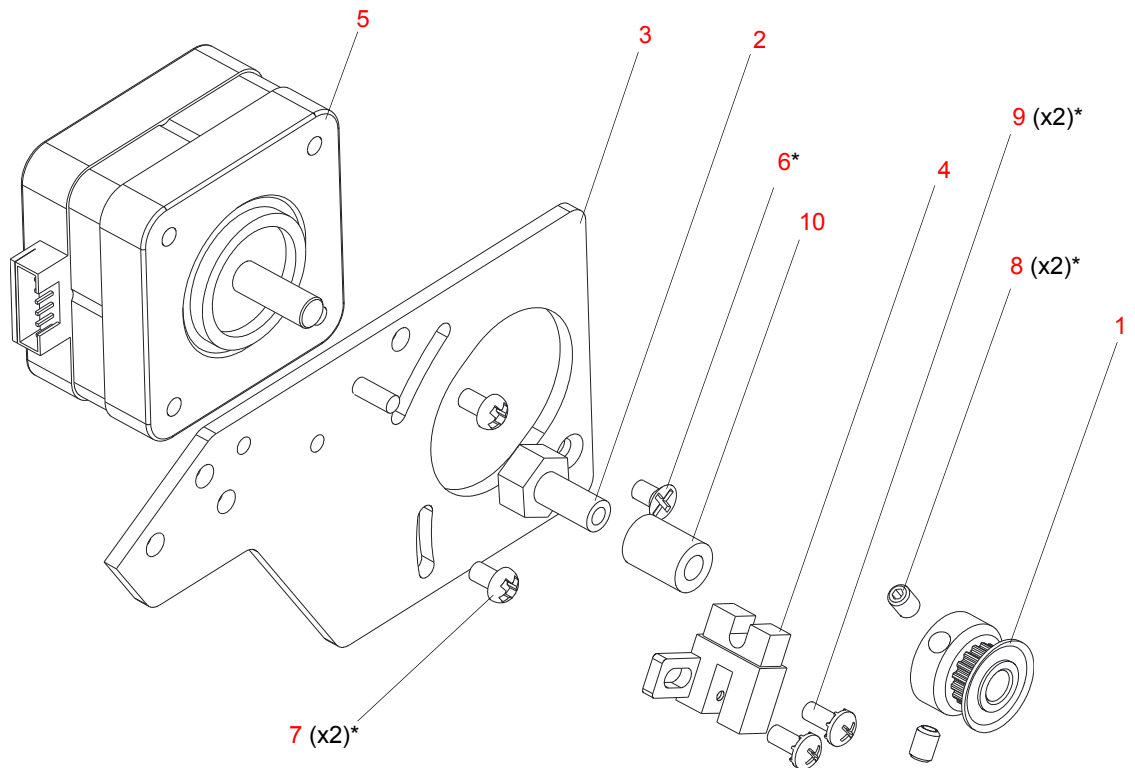
Figure 3-24: Wash Assembly

Wash Arm Motor Assembly

21.9704.6360 Rev. B

Refer to [Figure 3-25](#)

No.	Item	Qty.	UM.	Description
1	10.9704.1233	1	EA	PULLEY, 16 GRV, 0.125" WD, ANIMATION ARM DRIVE
2	10.9704.6325	1	EA	ARM STOP MOUNT
3	10.9704.6352	1	EA	FROST PIVOT MOTOR MOUNT
4	25.9687.0020	1	EA	SWITCH, SLOTTED OPTICAL
5	44.9704.0418	1	EA	MOTOR, SIZE-17, 14MM SHAFT
6	53.6513.0008	1	EA	SCREW, M3 X 0.5 X 5MM LG PFB METRIC
7	53.6513.0019	2	EA	SCREW, M3 X 0.5MM PPB
8	53.6578.0002	2	EA	SCREW, 6-32 X 3/16", SET, CUP PNT
9	53.6682.0002	2	EA	SCREW, 4-40 X 1/4" PPZ SEMS
10	55.6738.0005	0.425	IN.	TUBING, SILICONE, 4MM ID, 8MM, OD, SOFT RED, (0.425")



*APPLY LOCTITE 242 TO THREADS PRIOR TO INSTALLATION.

Figure 3-25: Wash Arm Motor Assembly

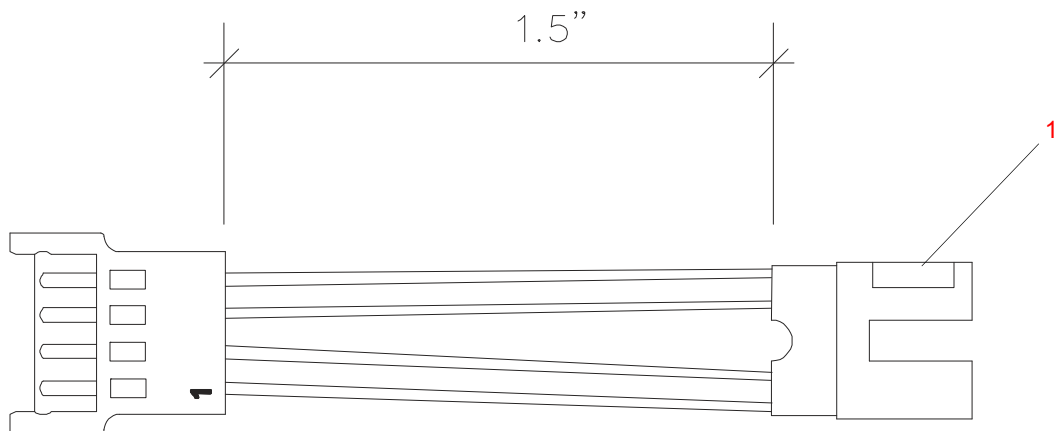
Slotted Optical Switch

25.9687.0020 Rev. A

Refer to [Figure 3-26](#)

Note: This part is only available as an assembly. Shown for reference only.

No.	Item	Qty.	UM.	Description
1	25.9687.0020	1	EA	SWITCH, SLOTTED OPTICAL



WIRE CHART		
CONNECTOR	SENSOR	DESCRIPTION
PIN 1	BLACK	IREC CATHODE
PIN 2	RED	IREC ANODE
PIN 3	GREEN	DETECTOR EMITTER
PIN 4	WHITE	DETECTOR COLLECTOR

Figure 3-26: Slotted Optical Switch

Back End Assembly

21.9704.6615 Rev. F

Refer to [Figure 3-27](#)

No.	Item	Qty.	UM.	Description
1	0-100071	3	EA	SCREW, PHMS, PH, 10-32 X 1.75", S, BO
2	10.9704.0613	1	EA	MOUNT, HOT BOX
3	10.9704.0628	2	EA	LIGHT SEAL, FIN ASSY
4	10.9704.1639	1	EA	DIVERTER, LAMP TIP
5	10.9704.2614	1	EA	PLATE, REAR
6	10.9704.6675	1	EA	COUNTERWEIGHT, HEAD, REAR
7	12.9704.0612	1	EA	HOT BOX, MACHINED CASTING
8	12.9704.1629	1	EA	EXTENSION, BACKCAP, MACHINED CASTING
9	21.9704.0632	1	EA	ASSY, LAMP COVER
10	21.9704.6619	1	EA	ASSY, REFLECTOR
11	22.9704.0630	1	EA	ASSY, UV GLASS
12	22.9704.0633	1	EA	ASSY, MOUNTED LAMP BASE DUCT
13	22.9704.1618	1	EA	ASSY, LAMP SOCKET PLATE
14	22.9704.1620	2	EA	FIN ASSY, EXHAUST, TRI-BEND
15	22.9704.2636	1	EA	DUCT ASSY, LAMP TIP
-	25.9704.7701	1	EA	CABLE ASSY, VL4000 BW LAMP SOCKET (NOT SHOWN)
16	53.6522.2500	1	EA	SCREW, 6-32 X 1/4" HEX MACH, ZINC
17	53.6558.0003	1	EA	SCREW, 6-32 X 3/8" PPZ PLASTIC THD
18	53.6558.0009	18	EA	SCREW, 6-32 X 3/8" LG PPZ SEMS
19	53.6559.0001	4	EA	SCREW, 4-40 X 1/4" PFZ
20	53.6575.0005	2	EA	SCREW, 8-32 X 1-1/2" PPZ
21	53.6575.0010	8	EA	SCREW, 8-32 X 1/2" PPZ SEMS
22	53.6596.0002	6	EA	SCREW, 4-40 X 5/16" LG PPZ SEMS
23	53.6613.0008	4	EA	SCREW, 6-32 X 1/2" PPZ SEMS
24	55.2233.2006	2	EA	DZUS RAPIER SNAP-IN RETAINER
25	55.6503.0001	2	EA	WASHER, #8 LOCK INT TOOTH
26	55.6546.0004	3	EA	WASHER, TEFLON, 0.201" ID X 0.433" OD
27	55.6568.1750	3	EA	SPRING, CPRSN, 0.360" OD, 1.75" LG, 0.045" DIA SS
28	55.6636.0003	1	EA	WASHER, 0.562" OD X 0.156" ID X 0.046" THK ZINC
29	71.8101.0050	1	EA	LAMP SOCKET, BENDER AND WIRTH, PJGX50

Back End Assembly (continued)

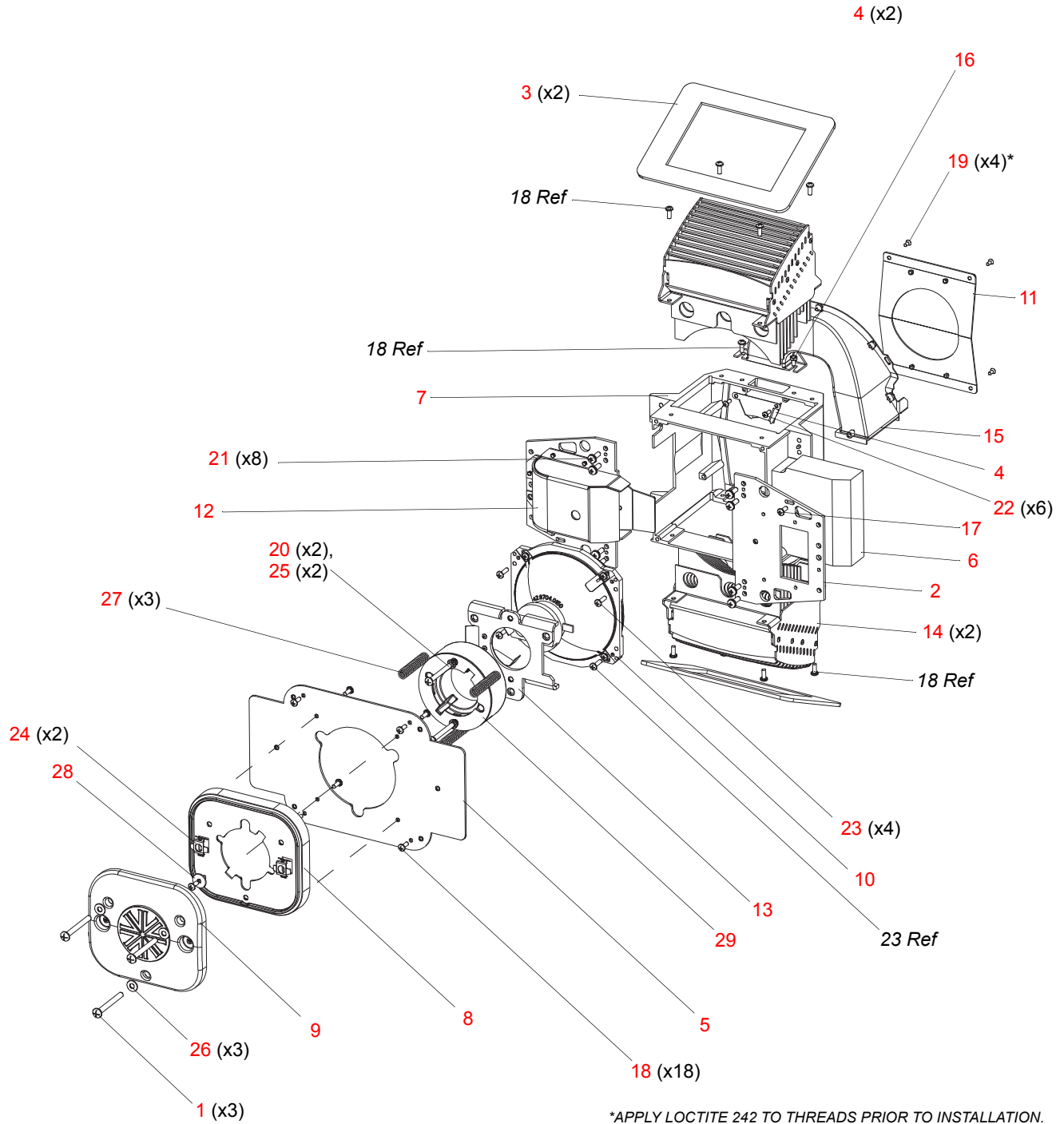


Figure 3-27: Back End Assembly

Reflector Assembly

21.9704.6619 Rev. A

Refer to [Figure 3-28](#)

No.	Item	Qty.	UM.	Description
1	10.9704.0618	8	EA	CLIP, REFLECTOR MOUNT
2	10.9704.6617	1	EA	REFLECTOR MOUNT PLATE
3	42.9704.0151	1	EA	REFLECTOR, RETRO
4	42.9704.6150	1	EA	REFLECTOR, PRIMARY, SMOOTH
5	53.6525.0188	8	EA	SCREW, 6-32 X 3/16" LG PPZ

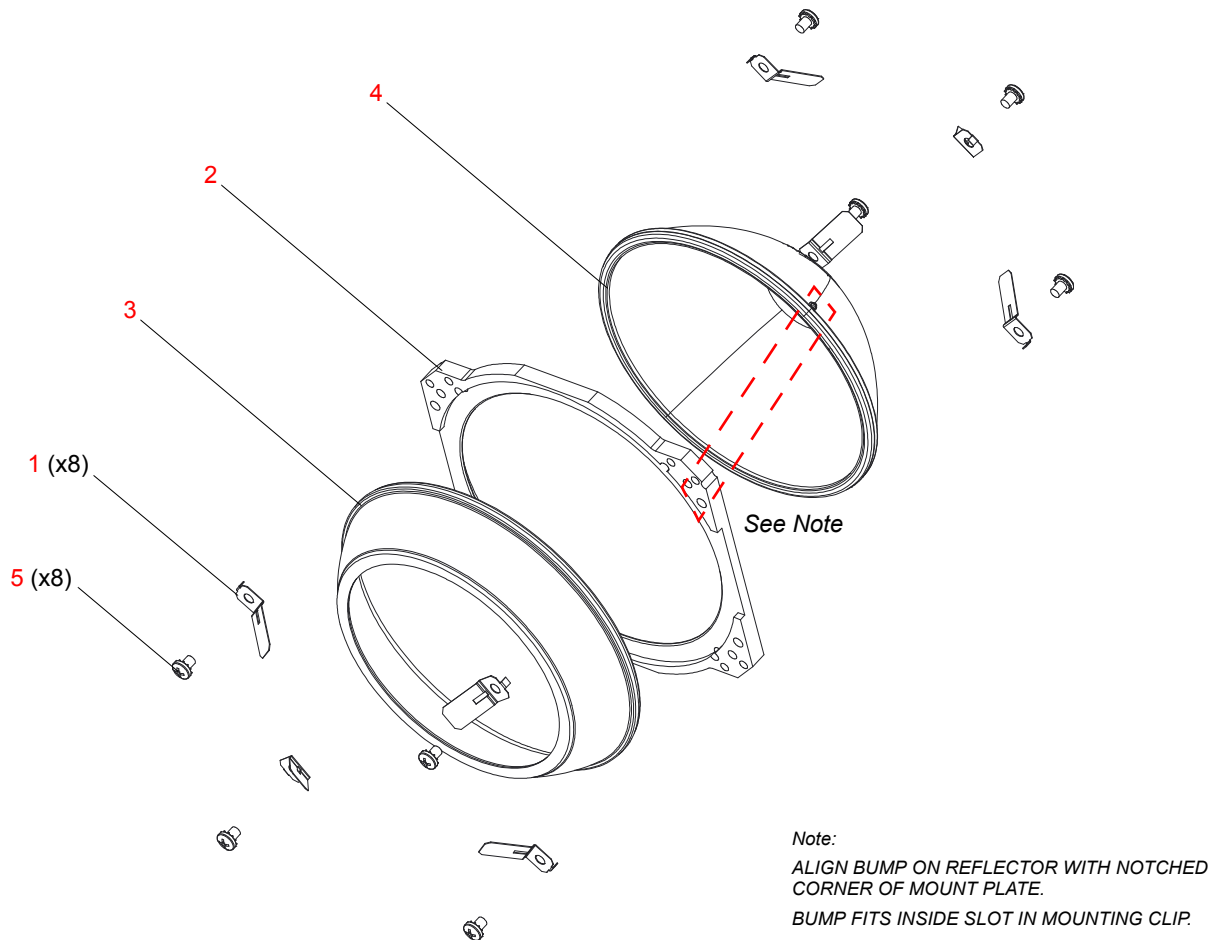


Figure 3-28: Reflector Assembly

Lamp Cover Assembly

21.9704.0632 Rev. B

Refer to [Figure 3-29](#)

No.	Item	Qty.	UM.	Description
1	10.9638.0233	1	EA	TETHER, REMOVABLE COVER
2	10.9704.1630	1	EA	HEAD COVER, LAMP SOCKET
3	53.5655.0250	1	EA	SCREW, #6 X 1/4" LG PLASTIC THREADING
4	55.2233.2003	2	EA	DZUS RAPIER, 1/4-TURN STUD RETAINER, 5 MM
5	55.2233.2005	2	EA	DZUS RAPIER, 1/4-TURN STUD, 5 MM, 12 MM LG

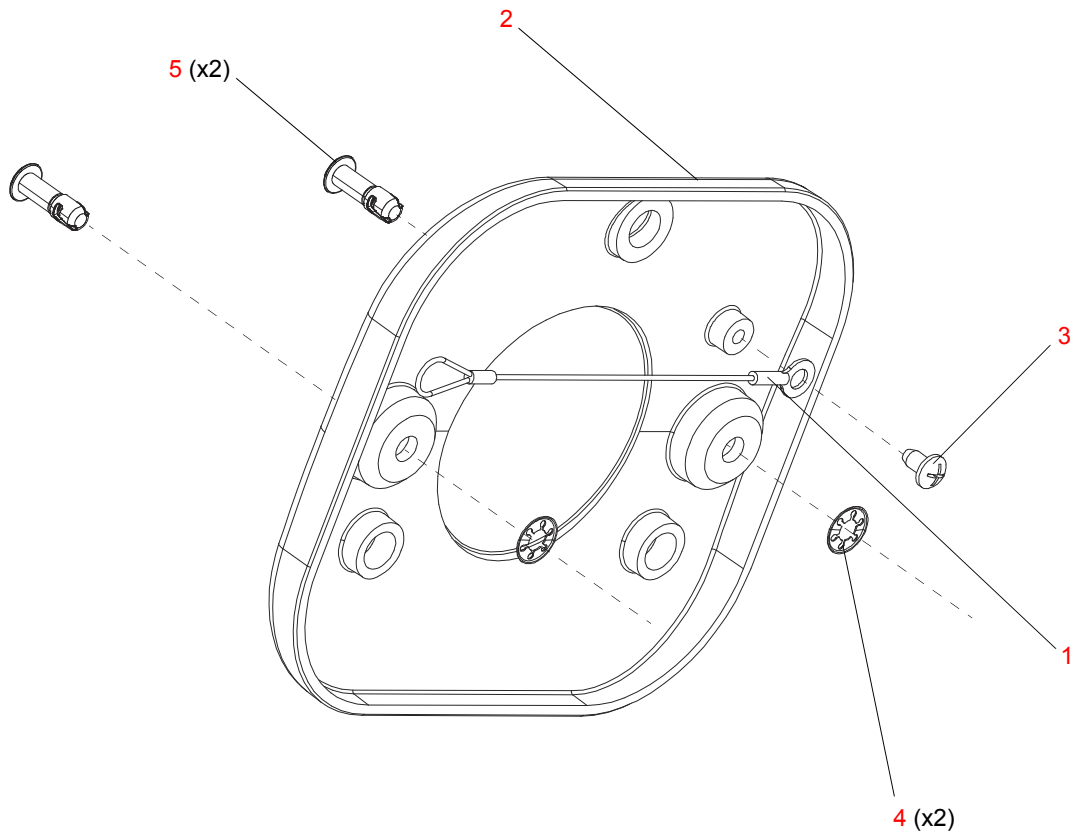


Figure 3-29: Lamp Cover Assembly

Notes

Gobo/Animation Module Assembly

21.9704.6200 Rev. E

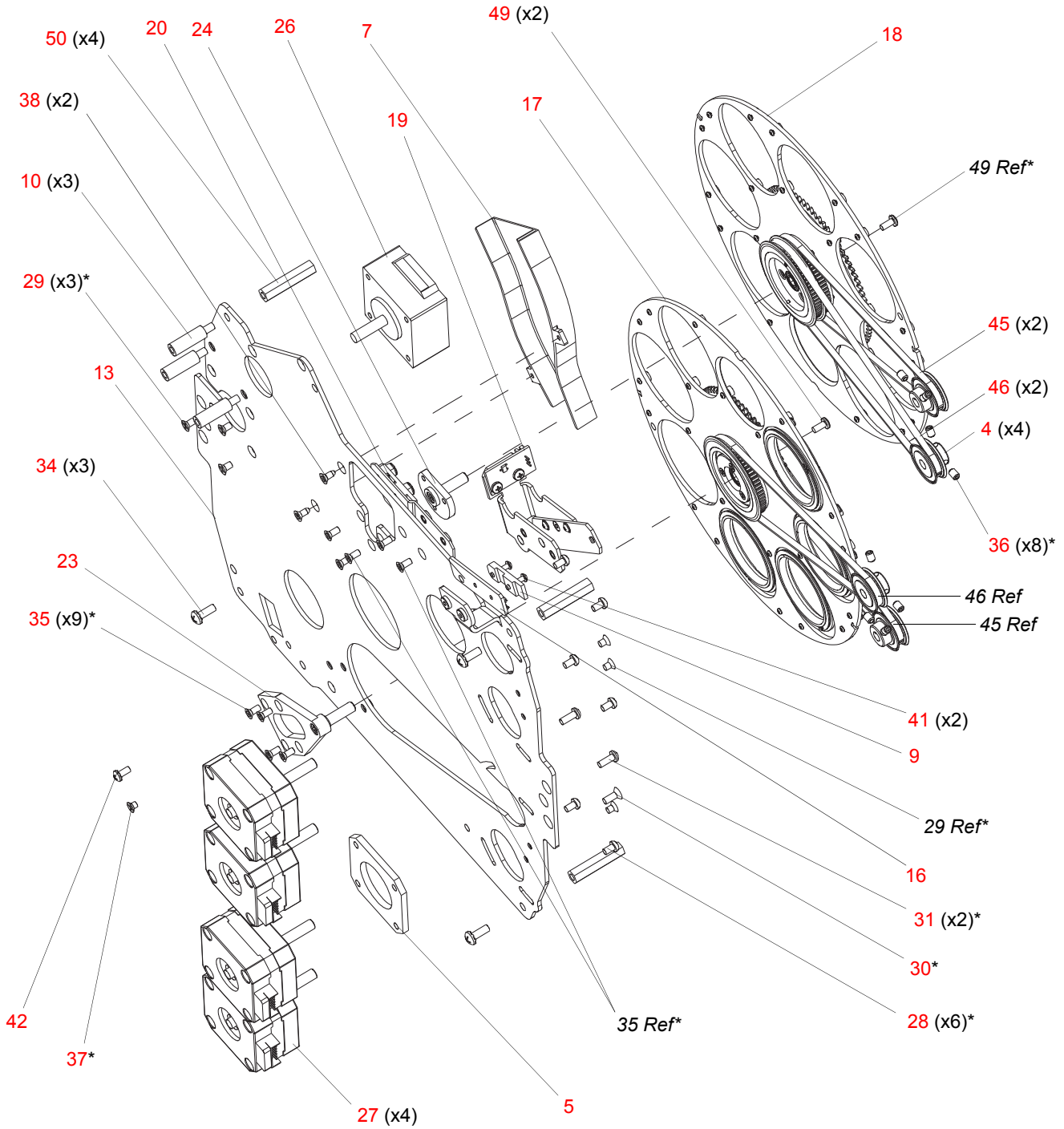
Refer to [Figure 3-30](#), [Figure 3-31](#), [Figure 3-32](#), and [Figure 3-33](#)

No.	Item	Qty.	UM.	Description
1	04.9704.0203	1	EA	DIPSWITCH LABEL, GOBO BOARD C
2	04.9704.0204	1	EA	DIPSWITCH LABEL, GOBO BOARD D
3	21.9698.0330	1	EA	ASSY, DAMPER, MOTOR SHAFT 5MM <i>COMPRISED OF:</i>
3a	10.9698.0335	1	EA	<i>DAMPER, MOTOR SHAFT 5 MM</i>
3b	53.6604.0500	1	EA	<i>SCREW, 4-24 X 1/2" PPB, HI-LO</i>
4	10.9704.0223	4	EA	DRIVE PULLEY, GOBO WHEEL
5	10.9704.0249	1	EA	SPACER, MOTOR, SIZE 15
6	10.9704.0270	1	EA	COOLING DUCT, GOBO BULKHEAD, TOP
7	10.9704.0271	1	EA	COOLING DUCT, GOBO BULKHEAD, BOTTOM
8	10.9704.0272	1	EA	COVER, COOLING DUCT, GOBO BULKHEAD
9	10.9704.0290	1	EA	CLAMP, CONNECTOR, SENSOR BOARD
10	10.9704.0323	3	EA	STANDOFF, ANIMATION MODULE, SHORT, #6-32
11	10.9704.1233	1	EA	PULLEY 16 GROOVE, ANIMATION ARM DRIVE
12	10.9704.6231	2	EA	BLOCK SPACER, EDGE, GOBO BULKHEAD
13	10.9704.6245	1	EA	BULKHEAD, MIDDLE, GOBO MODULE
14	10.9704.6251	1	EA	BULKHEAD, LEFT, GOBO BULKHEAD
15	10.9704.6252	1	EA	BULKHEAD, RIGHT, GOBO BULKHEAD
16	17.9704.0906	1	EA	PCB ASSY, WHEEL POSITION SENSOR
17	21.9704.0211	1	EA	ASSY, GOBO WHEEL 1
18	21.9704.0212	1	EA	ASSY, GOBO WHEEL 2
19	21.9704.0230	1	EA	ASSY, SENSOR, GOBO 1 INDEX
20	21.9704.0260	1	EA	ASSY, SENSOR, GOBO 2 INDEX
21	21.9704.6353	1	EA	ASSY, ANIMATION WHEEL, CONCURRENT
22	21.9704.6505	1	EA	ASSY, IRIS BULKHEAD
23	22.9704.0261	1	EA	SHAFT ASSY, GOBO WHEEL 1
24	22.9704.0264	1	EA	SHAFT ASSY, GOBO WHEEL 2
25	23.9704.0005	1	EA	FAN ASSY, VL4000 INLET AND GOBO
-	25.9704.6200	1	EA	CABLE ASSY, VL4000 BW GOBO BULKHEAD, CABLE 1
-	25.9704.6201	1	EA	CABLE ASSY, VL4000 BW GOBO BULKHEAD, CABLE 2
-	25.9704.0711	3	EA	CABLE ASSY, VL4000 DATA NETWORK EXTENSION
26	44.9704.0209	1	EA	MOTOR, SIZE 15, 5 X 17 MM SHAFT

VARI*LITE - VL4000 BEAMWASH LUMINAIRE SERVICE MANUAL

No.	Item	Qty.	UM.	Description
27	44.9704.0217	4	EA	MOTOR, SIZE 17, 24 MM SHAFT, SHORT STACK
28	53.6513.0019	6	EA	SCREW, M3 X .5 X 5 MM LG, PPB, METRIC
29	53.6513.0008	6	EA	SCREW, M3 X .5 X 5 MM LG, PFB, METRIC
30	53.6513.0023	1	EA	SCREW, M3 X .5 X 8 MM LG PFZ METRIC
31	53.6513.0024	2	EA	SCREW, M3 X .5 X 8 MM LG PPZ METRIC
32	53.6513.0034	1	EA	SCREW, M3 X .5 X 10 MM LG, PFZ, METRIC
33	-	-	EA	-
34	53.6558.0009	10	EA	SCREW, 6-32 X 3/8" PPZ SEMS
35	53.6559.0001	9	EA	SCREW, 4-40 X 1/4" PFZ
36	53.6578.0002	10	EA	SCREW, 6-32 X 3/16" SET CUP PNT
37	53.6601.0004	1	EA	SCREW, 4-40 X 1/8" PFZ UNDERCUT
38	53.6604.0002	5	EA	SCREW, 4-20 X 1/4" THREAD FORMING FOR PLASTICS
39	53.6604.0005	4	EA	SCREW, 4-40 X 1/4" PFZ SHEET METAL
40	53.6609.0001	20	EA	SCREW, 6-32 X 3/8" PFZ
41	53.6659.0003	2	EA	SCREW, 2-56 X 3/8" PPZ
42	53.6682.0002	1	EA	SCREW, 4-40 X 1/4" PPZ SEMS
43	53.6685.0500	2	EA	SCREW, 6-32 X 1/2" PPB CAPTIVE
44	53.9704.0004	2	EA	SCREW, 10-32 X 3/8" HI-LO PPZ THD FORMING
45	54.9698.0002	2	EA	BELT, TIMING, MXL, 150 GRV, 0.125" WD, URETH/KEV
46	54.9704.0290	2	EA	BELT, TIMING, MXL, 155 GRV, 0.125" WD, URETH/KEV
47	54.9704.1390	1	EA	BELT, TIMING, MXL, 102 GRV, 0.125" WD, URETH/KEV
48	-	-	EA	-
49	55.2203.0001	2	EA	SCREW, 4-40 X 1/4" PPZ
50	55.9704.0002	4	EA	STANDOFF, 1/4" HEX, 6-32. 1.109" LG, FF, ALUM

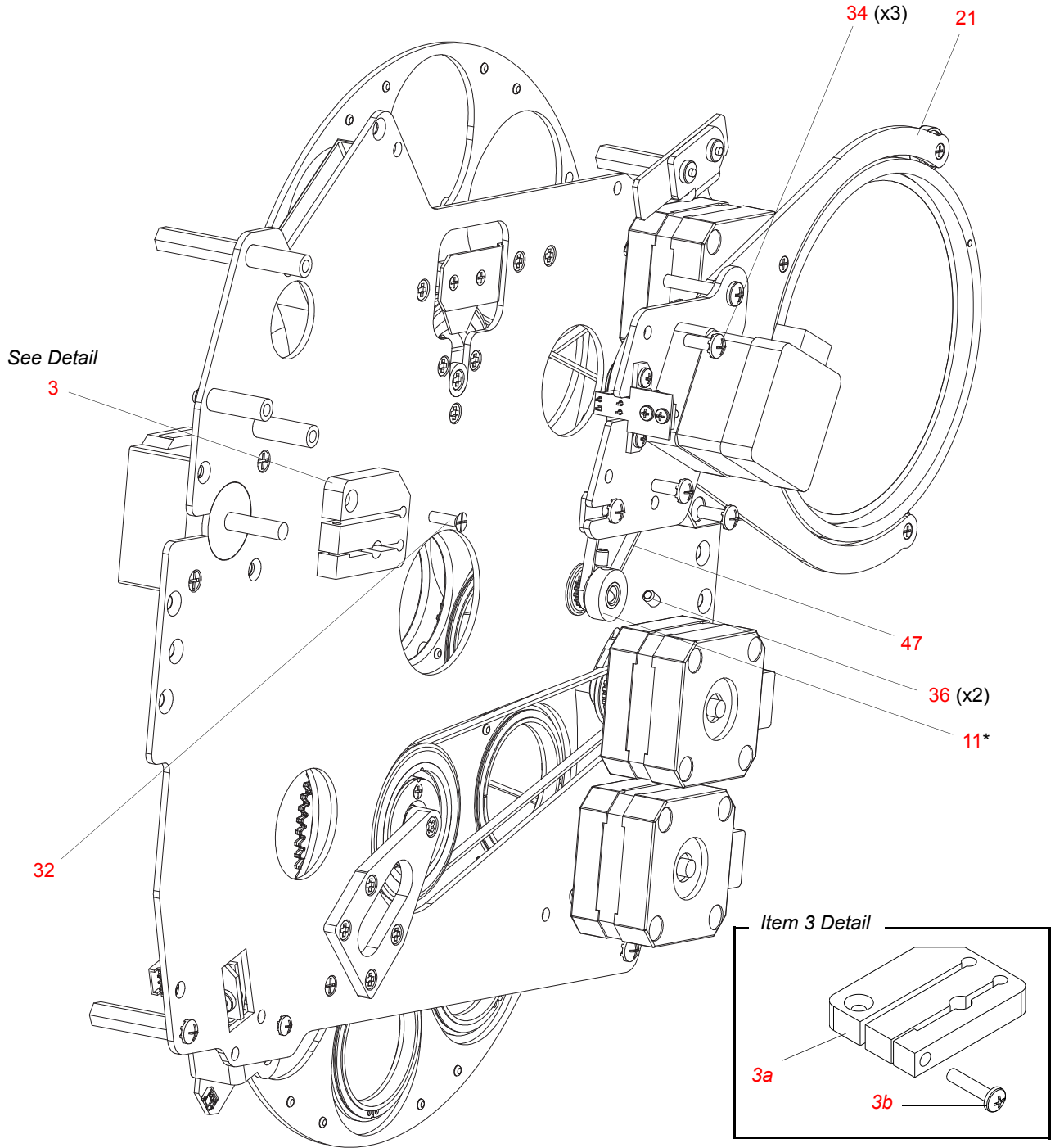
Gobo/Animation Module Assembly (continued)



*APPLY LOCTITE 242 TO THREADS PRIOR TO INSTALLATION.

Figure 3-30: Gobo/Animation Module Assembly (Part 1)

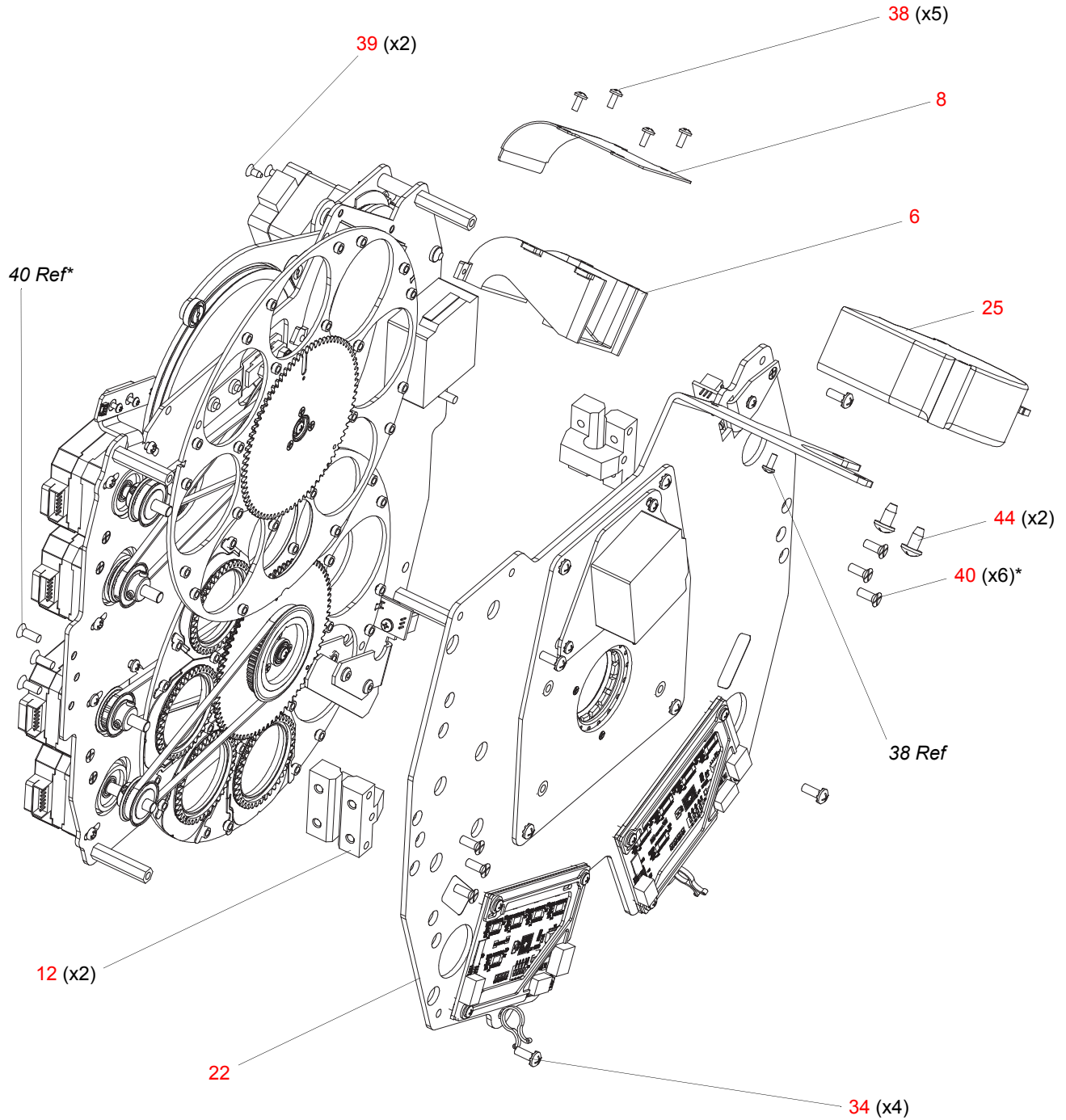
Gobo/Animation Module Assembly (continued)



*APPLY LOCTITE 242 TO THREADS PRIOR TO INSTALLATION.

Figure 3-31: Gobo/Animation Module Assembly (Part 2)

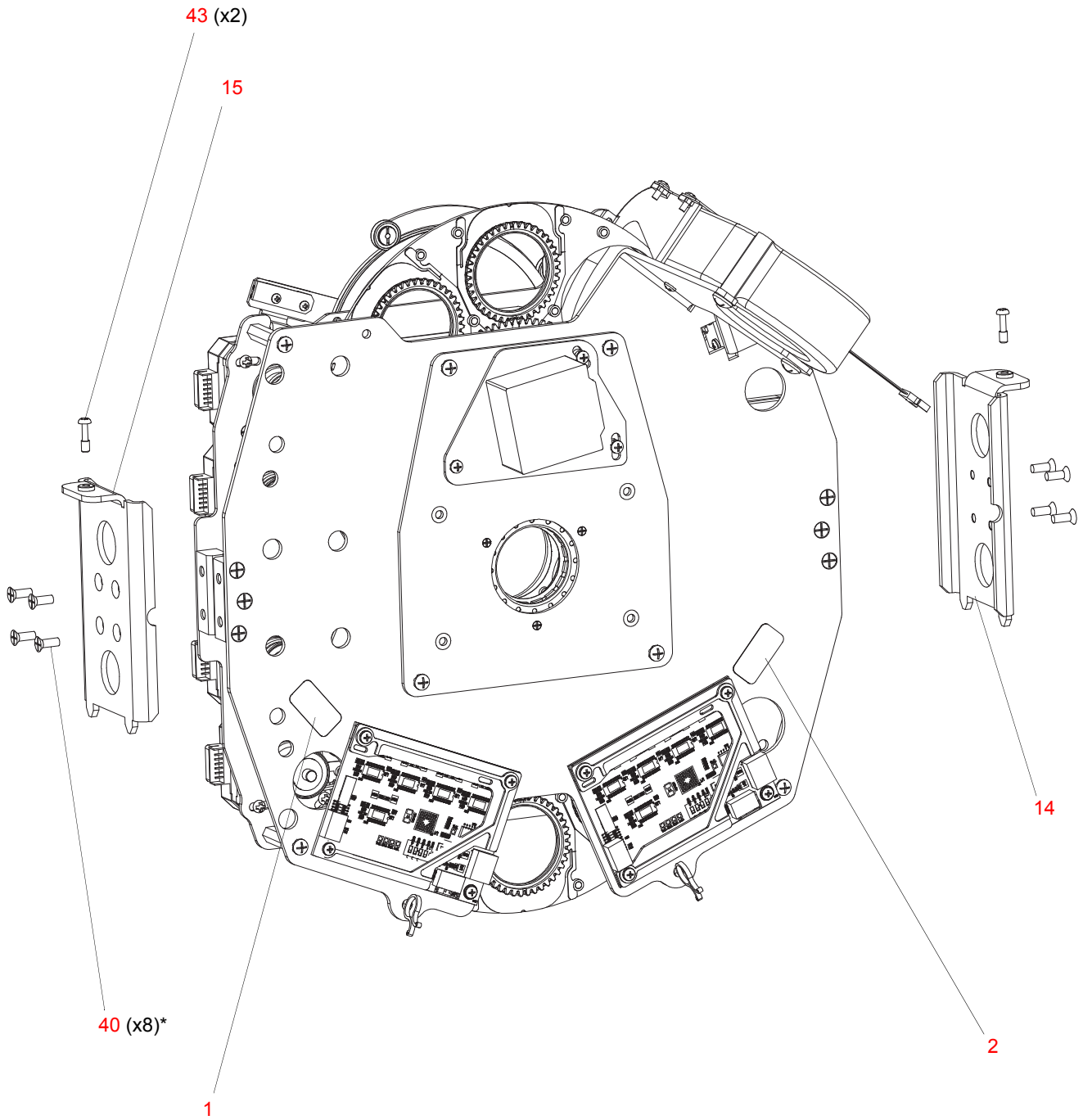
Gobo/Animation Module Assembly (continued)



*APPLY LOCTITE 242 TO THREADS PRIOR TO INSTALLATION.

Figure 3-32: Gobo/Animation Module Assembly (Part 3)

Gobo/Animation Module Assembly (continued)



*APPLY LOCTITE 242 TO THREADS PRIOR TO INSTALLATION.

Figure 3-33: Gobo/Animation Module Assembly (Part 4)

Gobo Wheel 1 Assembly

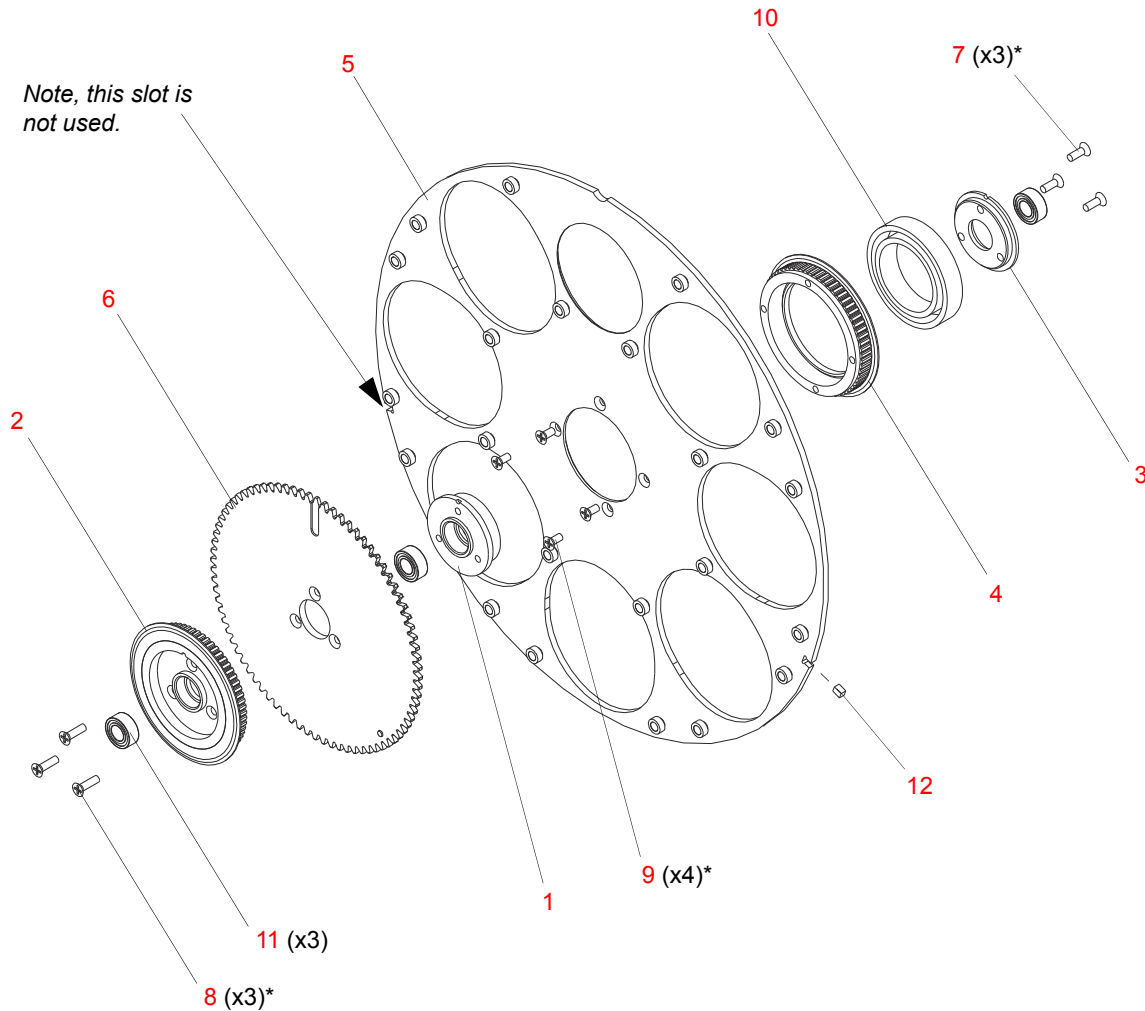
21.9704.0211 Rev. D

Refer to [Figure 3-34](#)

No.	Item	Qty.	UM.	Description
1	10.9704.0219	1	EA	HUB, GOBO WHEEL
2	10.9704.0228	1	EA	PULLEY, DRIVEN, GOBO WHEEL 1 INDEX
3	10.9704.0229	1	EA	CAP, HUB, GOBO WHEEL 1
4	10.9704.0236	1	EA	DRIVEN PULLEY, GOBO ROTATE
5	22.9704.0220	1	EA	PLATE ASSY, ROTATING GOBO WHEEL
6	22.9704.0222	1	EA	SUN GEAR, GOBO ROTATE WITH MAGNET
7	53.6659.0015	3	EA	SCREW, 2-56 X 1/4" PFB
8	53.6659.0023	3	EA	SCREW, 2-56 X 3/16" PFZ
9	53.6659.0027	4	EA	SCREW, 2-56 X 5/16" PFZ
10	54.1259.0014	1	EA	BEARING, TORQUE TUBE, 1.313 OD
11	54.9687.1253	3	EA	BEARING, NPB, MR105ZZK13
12	55.2256.0001	1	EA	MAGNET, 2:17 SMCO 2MM X 2MM X3MM
13	-	AR	EA	LOCTITE #242, REMOVABLE (<i>BY OTHERS</i>)
14	10.9678.0250	1	EA	MAGNET TAPE (NOT SHOWN)

Note: For included gobos, refer to [“Included Items Kit, VL4000 BeamWash”](#) on page 163.

Gobo Wheel 1 Assembly (continued)



Notes:

*APPLY ONE DROP OF LOCTITE (ITEM 13) TO SCREW THREADS DURING INSTALLATION.

CLEAN AREA AROUND MAGNET SLOT IN WHEEL THOROUGHLY WITH SOLVENT. INSTALL MAGNET (ITEM 12) INTO SLOT, SOUTH POLE FACING OUT, USING TAPE (ITEM 14). APPLY TAPE CENTERED ON MAGNET WITH LONG SIDE FOLDED EQUALLY OVER WHEEL EDGE. PRESS TAPE FIRMLY IN PLACE TO PROMOTE ADHESION BY RUBBING WITH A BLUNT TOOL.

WHEN INSTALLING GOBO/GAG CARRIER, TIME ASSEMBLY BY ALIGNING TIMING MARK ON SUN GEAR (ITEM 6) WITH HOLES ON PLANET GEAR. ROTATE SUN GEAR SO WHITE MARK IS VISIBLE, THEN INSTALL CARRIER SO TWO TEETH WITH HOLES MESH WITH WHITE TOOTH. REPEAT FOR ALL CARRIERS.

VERIFY THAT ASSEMBLY SPINS FREELY BY HOLDING SUN GEAR (ITEM 6) AND SPINNING THE PLATE/PLANETS AROUND WITH A FINGER IN THE OPEN HOLE OF THE PLATE (ITEM 5). THERE SHOULD BE NO DRAG IN THE ASSEMBLY.

INSTALL PULLEY (ITEM 2) AND GEAR (ITEM 6) TO ASSY LAST WHILE ALL THREE BEARINGS (ITEM 11) ARE ALIGNED ON AN AXLE SHAFT BEFORE TIGHTENING THREE SCREWS TO ENSURE ALIGNMENT.

Figure 3-34: Gobo Wheel 1 Assembly

Gobo Wheel 2 Assembly

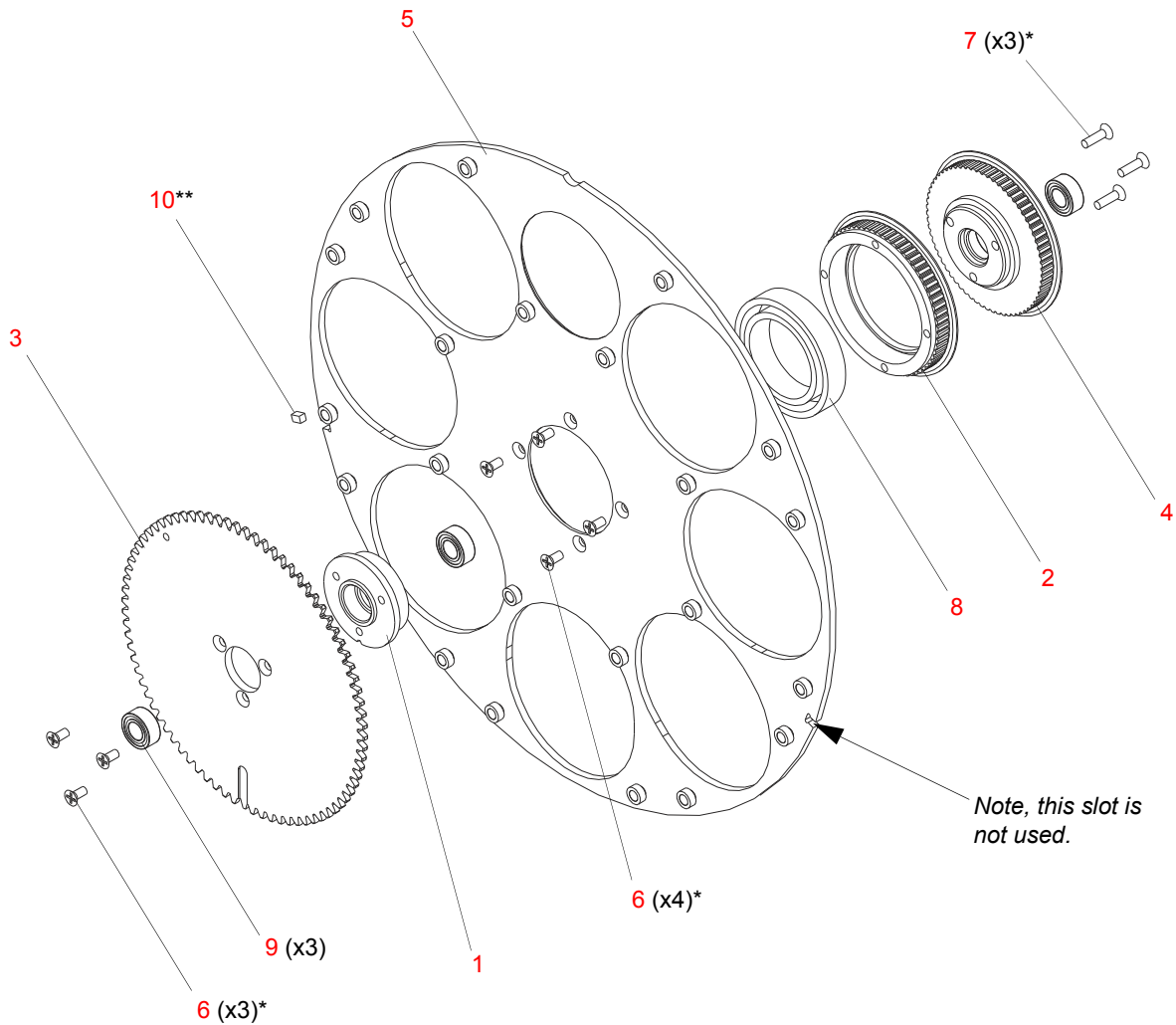
21.9704.0212 Rev. F

Refer to [Figure 3-35](#)

No.	Item	Qty.	UM.	Description
1	10.9704.0219	1	EA	HUB, GOBO WHEEL
2	10.9704.0236	1	EA	DRIVEN PULLEY, GOBO ROTATE
3	10.9704.1216	1	EA	SUN GEAR, GOBO ROTATE
4	22.9704.0207	1	EA	DRIVEN PULLEY WITH MAGNET, GOBO WHEEL 2 INDEX
5	22.9704.0220	1	EA	PLATE ASSY, ROTATING GOBO WHEEL
6	53.6659.0023	7	EA	SCREW, 2-56 X 3/16" PFZ
7	53.6659.0027	3	EA	SCREW, 2-56 X 5/16" PFZ
8	54.1259.0014	1	EA	BEARING, TORQUE TUBE, 1.313 OD
9	54.9687.1253	3	EA	BEARING, NPB, MR105ZZK13
10	55.2256.0001	1	EA	MAGNET, 2:17 SMCO 2MM X 2MM X3MM
11	-	AR	EA	LOCTITE #242, REMOVABLE (<i>NOT SHOWN - BY OTHERS</i>)
12	10.9678.0250	1	EA	MAGNET TAPE (NOT SHOWN)

Note: For included gobos, refer to [“Included Items Kit, VL4000 BeamWash”](#) on page 163.

Gobo Wheel 2 Assembly (continued)



Notes:

*APPLY ONE DROP OF LOCTITE (ITEM 13) TO SCREW THREADS DURING INSTALLATION.

**CLEAN AREA AROUND MAGNET SLOT IN WHEEL THOROUGHLY WITH SOLVENT. INSTALL MAGNET (ITEM 10) INTO SLOT, SOUTH POLE FACING OUT, USING TAPE (ITEM 12). APPLY TAPE CENTERED ON MAGNET WITH LONG SIDE FOLDED EQUALLY OVER WHEEL EDGE. PRESS TAPE FIRMLY IN PLACE TO PROMOTE ADHESION BY RUBBING WITH A BLUNT TOOL.

WHEN INSTALLING GOBO/GAG CARRIER, TIME ASSEMBLY BY ALIGNING TIMING MARK ON SUN GEAR (ITEM 1) WITH HOLES ON PLANET GEAR. ROTATE SUN GEAR SO WHITE MARK IS VISIBLE, THEN INSTALL CARRIER SO TWO TEETH WITH HOLES MESH WITH WHITE TOOTH. REPEAT FOR ALL CARRIERS.

VERIFY THAT ASSEMBLY SPINS FREELY BY HOLDING SUN GEAR (ITEM 1) AND SPINNING THE PLATE/PLANETS AROUND WITH A FINGER IN THE OPEN HOLE OF THE PLATE (ITEM 5). THERE SHOULD BE NO DRAG IN THE ASSEMBLY.

INSTALL PULLEY (ITEM 3) TO ASSY LAST WHILE ALL THREE BEARINGS (ITEM 9) ARE ALIGNED ON AN AXLE SHAFT BEFORE TIGHTENING THREE SCREWS TO ENSURE ALIGNMENT.

Figure 3-35: Gobo Wheel 2 Assembly

Gobo 1 Sensor Index Assembly

21.9704.0230 Rev. B

Refer to [Figure 3-36](#)

No.	Item	Qty.	UM.	Description
1	10.9704.0232	1	EA	GOBO WHEEL 1 SENSOR BRACKET
2	17.9704.0905	1	EA	PCB ASSY, GOBO 1 INDEX SENSOR
3	24.9678.3240	1	EA	BRD ASSY, GOBO POSITION
4	53.6659.0012	2	EA	SCREW, 2-56 X 1/8" PPZ
5	55.2203.0001	2	EA	SCREW, 4-40 X 1/4" PPZ

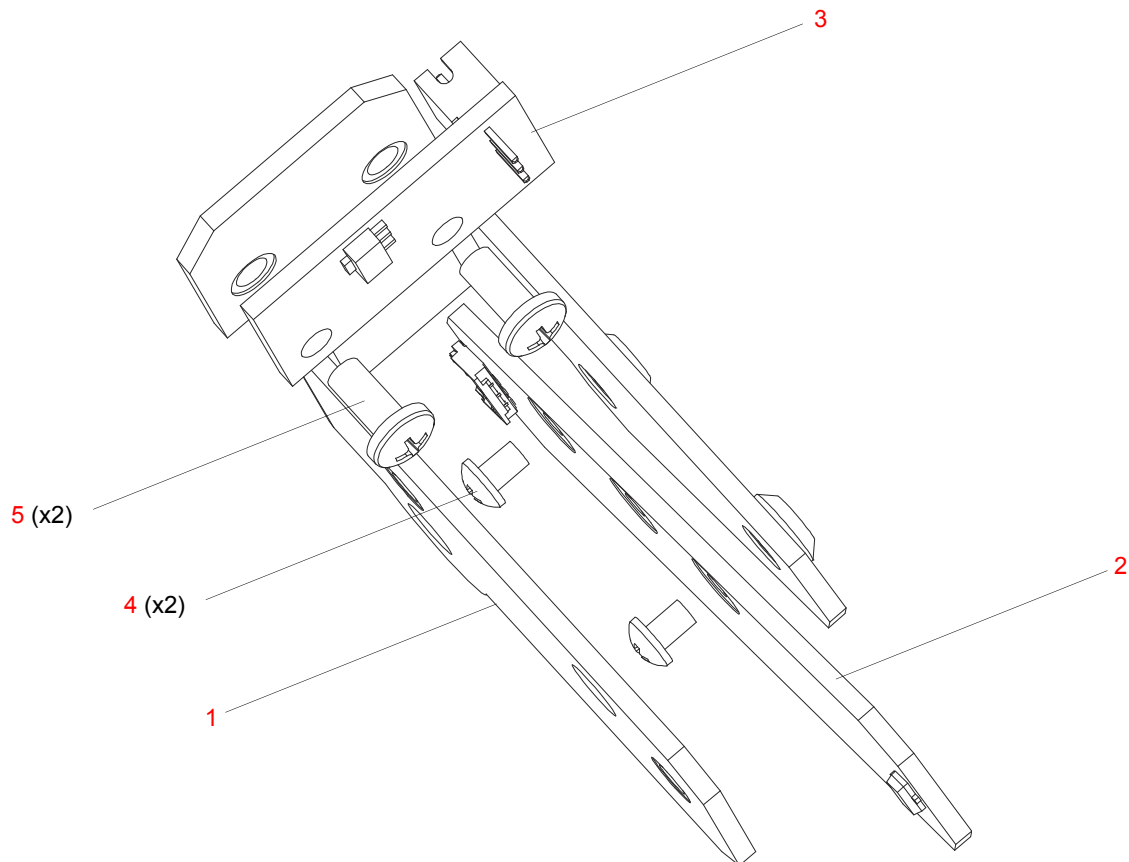


Figure 3-36: Gobo 1 Sensor Index Assembly

Gobo 2 Sensor Index Assembly

21.9704.0260 Rev. B

Refer to [Figure 3-37](#)

No.	Item	Qty.	UM.	Description
1	10.9704.0290	1	EA	CLAMP, CONNECTOR, SENSOR BOARD
2	10.9704.0253	1	EA	MOUNT, SENSOR BOARD, GOBO INDEX
3	53.2009.0006	2	EA	NUT, 2-56 HEX NYLON LOCK SS
4	17.9704.0904	1	EA	PCB ASSY, WHEEL POSITION SENSOR
5	53.6659.0014	2	EA	SCREW, 2-56 X 3/8" PFB

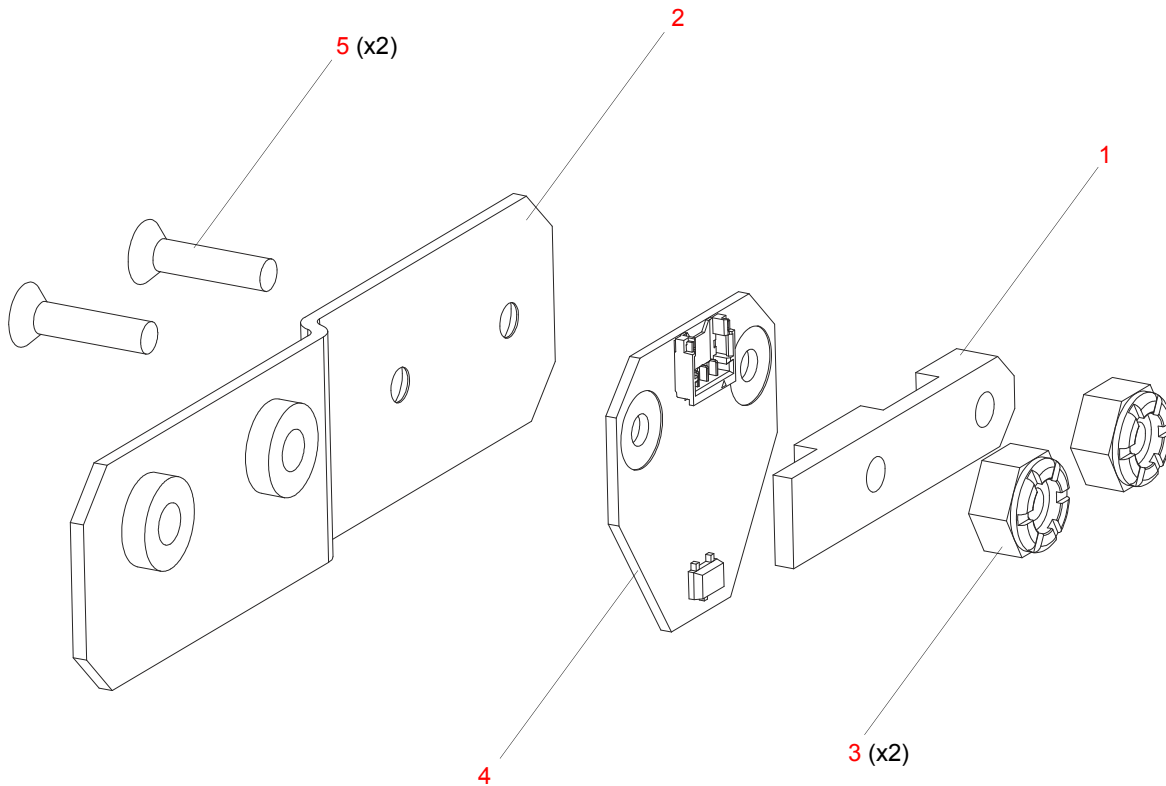


Figure 3-37: Gobo 2 Sensor Index Assembly

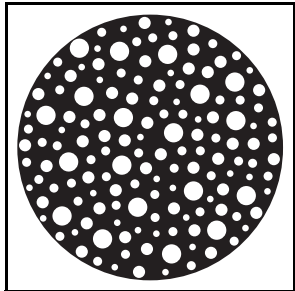
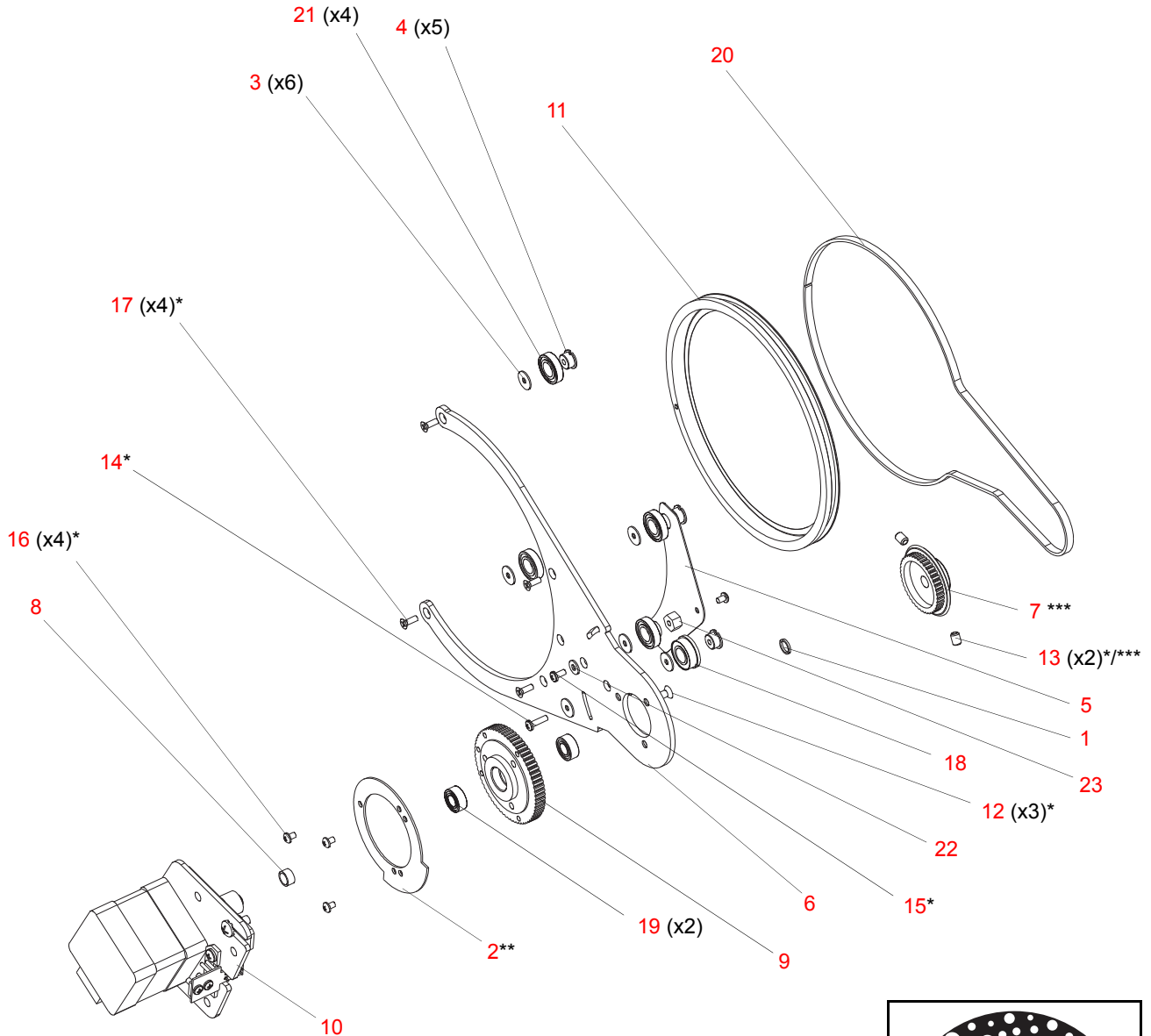
Concurrent Animation Wheel Assembly

21.9704.6353 Rev. E

Refer to [Figure 3-38](#)

No.	Item	Qty.	UM.	Description
1	10.9704.0240	1	EA	SPACER, 0.197" ID, 0.250" OD, 0.032" THK
2	10.9704.0319	1	EA	FLAG, ANIMATION ARM
3	10.9704.0372	6	EA	SPACER, ROLLER, SHUTTER ROTATE
4	10.9704.0373	5	EA	SPACER, ROLLER, SHUTTER ROTATE
5	10.9704.0375	1	EA	SHIELD, BELT, ANIMATION
6	10.9704.1311	1	EA	ARM, ANIMATION WHEEL
7	10.9704.2323	1	EA	DRIVE PULLEY, ANIMATION WHEEL
8	10.9704.6248	1	EA	SPACER, 0.197" ID, 0.250" OD, 0.128" THK
9	10.9704.6317	1	EA	INDEX PULLEY, ARM
10	21.9704.0332	1	EA	MOTOR ASSY, ANIMATION WHEEL 2
11	22.9704.6343	1	EA	ASSY, CONCURRENT ANIMATION
12	53.6559.0001	3	EA	SCREW, 4-40 X 1/4" PFZ
13	53.6578.0002	2	EA	SCREW, 6-32 X 3/16" SET CUP PNT
14	53.6650.0001	1	EA	SCREW, 2-56 X 5/16" PPZ
15	53.6659.0006	1	EA	SCREW, 2-56 X 3/16" PPZ
16	53.6659.0012	4	EA	SCREW, 2-56 X 1/8" PPZ
17	53.6659.0015	4	EA	SCREW, 2-56 X 1/4" PFB
18	54.1259.0021	1	EA	BEARING, FLANGE, 0.250" OD, 0.500" ID, 0.188" W
19	54.9687.1253	2	EA	BEARING, NPB, MR105ZZK13
20	54.9704.0392	1	EA	BELT, TIMING, MXL, 225 GRV, 0.125" WD, SILICONE/KEV
21	54.9704.1575	4	EA	BEARING, SR188, 0.250" ID, 0.500" OP, 0.125" WD
22	55.3301.0003	1	EA	WASHER, FLAT #2 AN ID 0.099 X O
23	55.6669.0156	1	EA	STANDOFF, 1/4" HEX 2-56 5/32" L FF ZINC

Concurrent Animation Wheel Assembly (continued)



*APPLY ONE DROP OF LOCTITE TO SCREW THREADS DURING INSTALLATION.

**NOTE FLAG ORIENTATION.

***PRESS FIRMLY DOWN ON OUTSIDE PULLEY TO REMOVE ALL FREE SPACE IN PARTS STACK BEFORE TIGHTENING SET SCREWS IN OUTSIDE PULLEY. VERIFY THAT THERE IS NO AXIAL PLAY IN PARTS STACK AFTER SET SCREWS ARE TIGHTENED.

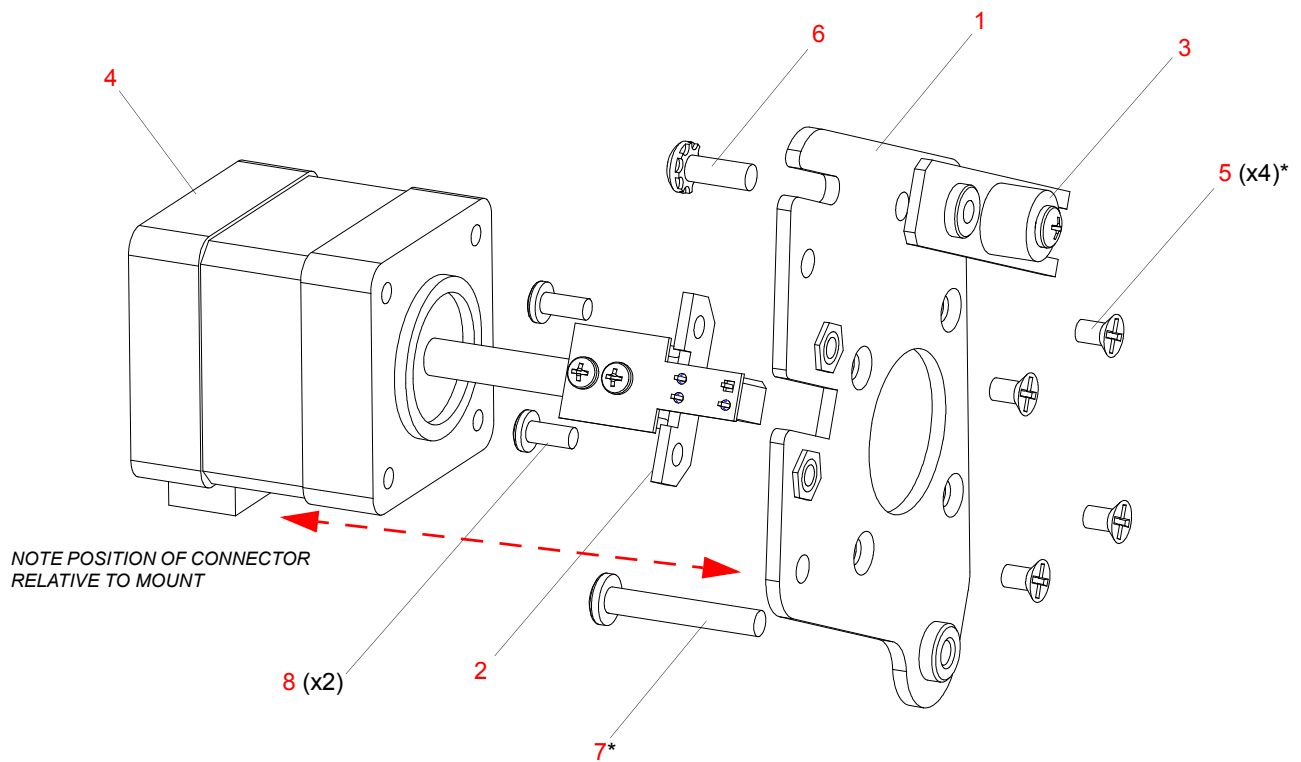
Figure 3-38: Concurrent Animation Wheel Assembly

Animation Wheel 2 Motor Assembly

21.9704.0332 Rev. D

Refer to [Figure 3-39](#)

No.	Item	Qty.	UM.	Description
1	10.9704.1308	1	EA	MOTOR MOUNT, ANIMATION WHEEL 2
2	21.9687.2500	1	EA	ASSY, SENSOR, COLOR BULKHEAD
3	21.9704.0239	1	EA	ASSY, TENSION ADJUST, ANIMATION WHEEL
4	44.9704.1213	1	EA	MOTOR, SIZE 14, SHAFT 24 MM LG
5	53.6513.0002	4	EA	SCREW, M3 X 5 MM PFZ
6	53.6558.0009	1	EA	SCREW, 6-32 X 3/8" LG PPZ SEMS
7	53.6613.0001	1	EA	SCREW, 6-32 X 7/8" PPZ
8	55.2203.0001	2	EA	SCREW, 4-40 X 1/4" PPZ



*APPLY LOCTITE 242 TO THREADS PRIOR TO INSTALLATION.

Figure 3-39: Animation Wheel 2 Motor Assembly

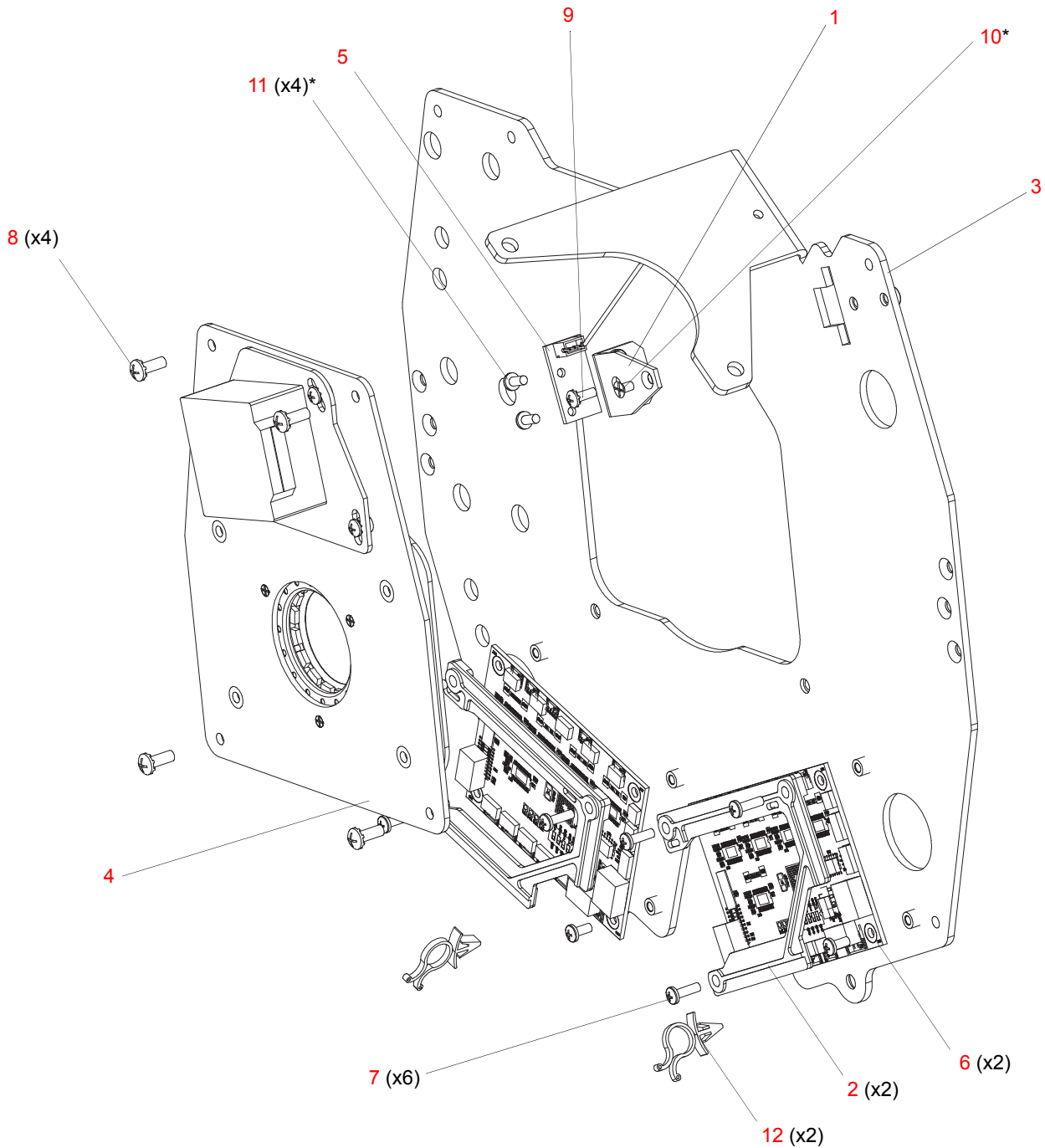
Front Gobo Bulkhead with Iris Assembly

21.9704.6505 Rev. C

Refer to [Figure 3-40](#)

No.	Item	Qty.	UM.	Description
1	10.9704.0218	1	EA	SENSOR BRACKET, GOBO WHEEL 2
2	10.9704.0693	2	EA	CLAMP, CONN, 5 DRIVER BOARD
3	10.9704.6234	1	EA	BULKHEAD, FRONT, GOBO MODULE
4	21.9704.6272	1	EA	ASSY, IRIS MODULE
5	24.9678.3240	1	EA	BD ASSY, GOBO POSITION
6	24.9704.2901	2	EA	PCB ASSY, 5 WAY MOTOR DRIVER
7	53.6520.0001	6	EA	SCREW, 4-40 X 3/8" PPZ
8	53.6558.0009	4	EA	SCREW, 6-32 X 3/8" LG PPZ SEMS
9	53.6596.0002	1	EA	SCREW, 4-40 X 5/16" LG PPZ SEMS
10	53.6601.0003	1	EA	SCREW, 4-40 X 3/16" PFZ UNDERCUT
11	55.2203.0001	4	EA	SCREW, 4-40 X 1/4" PPZ
12	55.6818.0002	2	EA	STANDOFF, 45-DEG NYLOK KURLY-LOK

Front Gobo Bulkhead with Iris Assembly (continued)



*APPLY ONE DROP OF LOCTITE TO SCREW THREADS DURING INSTALLATION.

Figure 3-40: Front Gobo Bulkhead with Iris Assembly

Iris Module Assembly

21.9704.6272 Rev. C

Refer to [Figure 3-41](#)

No.	Item	Qty.	UM.	Description
1	10.9704.0254	1	EA	MOTOR MOUNT, IRIS, SIZE 15
2	10.9704.6273	2	EA	CLAMP, CABLE DRIVE
3	10.9704.6278	1	EA	DRIVE PULLEY, IRIS, CABLE
4	10.9704.6282	1	EA	APERTURE PLATE, GOBO BULKHEAD
5	10.9704.6284	1	EA	BULKHEAD, IRIS MODULE
6	22.9704.0275	1	EA	IRIS ASSY, 34 MM CLEAR APERTURE, CABLE
7	44.9704.0208	1	EA	MOTOR, SIZE 15, 5 X 17 MM SHAFT
8	52.8298.2216	2	EA	FERRULE, UNINSULATED, 20 AWG, 6 MM LG
9	53.6513.0008	4	EA	SCREW, M3 X .5 X 5 MM LG PFB METRIC
10	53.6513.0042	3	EA	SCREW, M2 X .4 X 4 MM LG PFB METRIC
11	53.6578.0002	2	EA	SCREW, 6-32 X 3/16" SET CUP PNT
12	53.6608.0001	4	EA	SCREW, 6-32 X 3/8" PFB
13	53.6661.0732	4	EA	SCREW, 0-80 X 7/32" LG PFSS
14	53.6682.0002	3	EA	SCREW, 4-40 X 1/4" PPZ SEMS
15	54.9704.6293	14.00	IN	CABLE, IRIS DRIVE

Iris Module Assembly (continued)

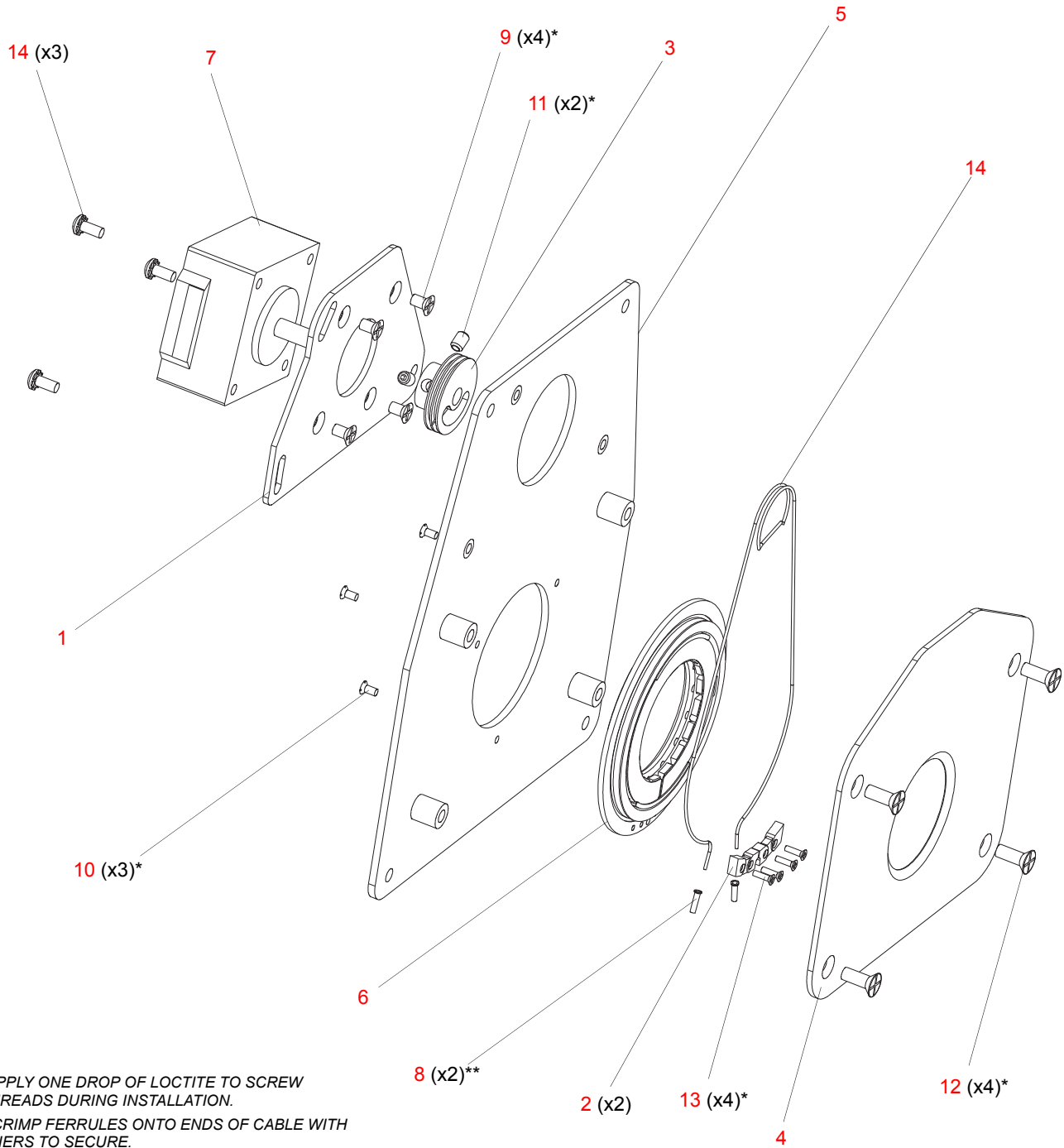


Figure 3-41: Iris Module Assembly

Notes

Color Module Assembly

21.9704.7400 Rev. C

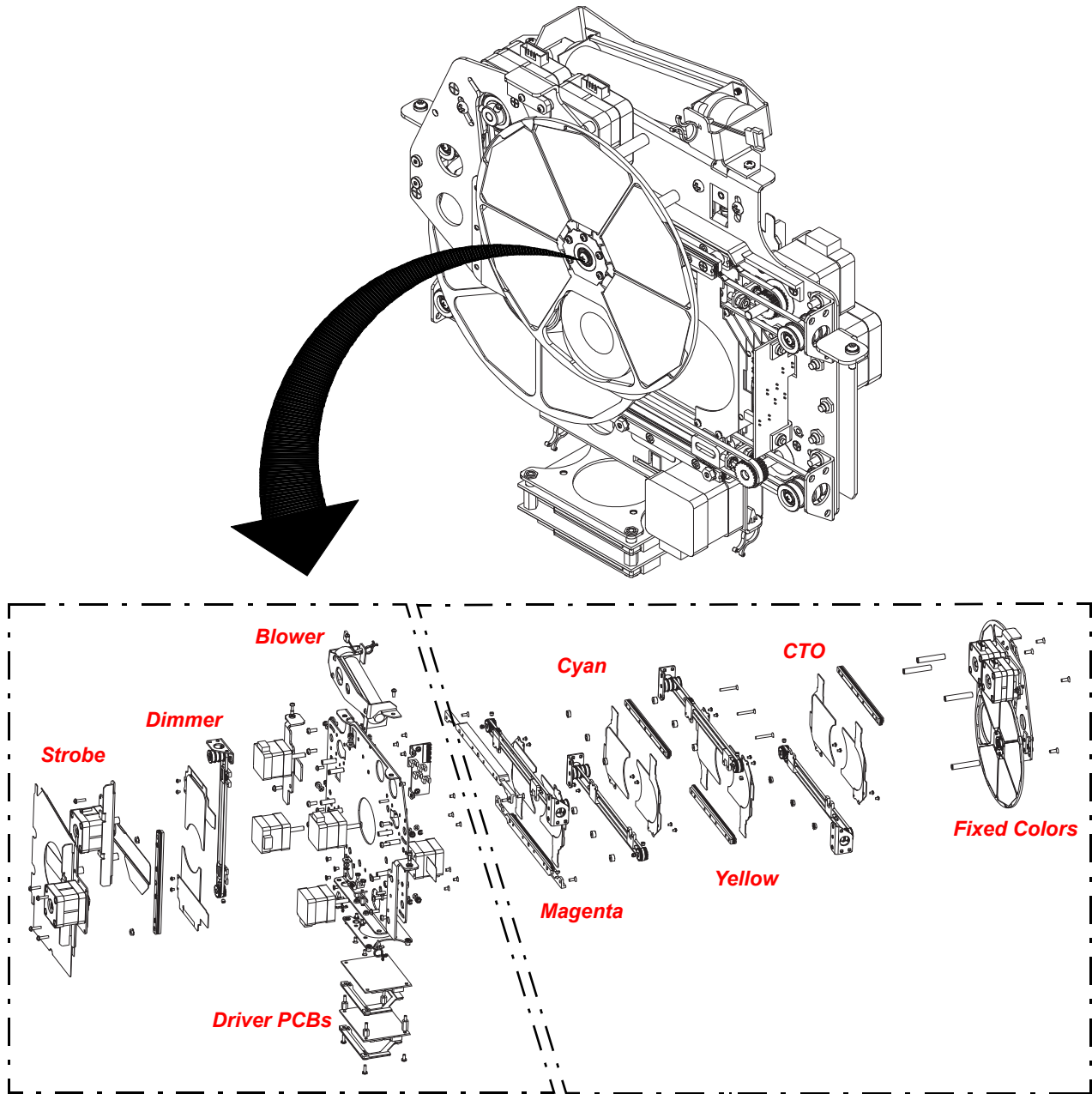
Refer to [Figure 3-42](#), [Figure 3-43](#) and [Figure 3-44](#)

No.	Item	Qty.	UM.	Description
1	10.9704.0406	5	EA	GUIDE ROD, COLOR FLAG
2	10.9704.0407	5	EA	SLIDE, COLOR FLAG
3	10.9704.0408	5	EA	SLIDE, COLOR FLAG, OPPOSITE
4	10.9704.0410	5	EA	PULLEY, DRIVE, COLOR FLAG
5	10.9704.0434	4	EA	STANDOFF, BULKHEAD, FIXED COLOR WHEEL
6	10.9704.0461	1	EA	MOUNT, DRIVER BOARD, COLOR BULKHEAD
7	10.9704.0499	3	EA	STANDOFF, BOARD STACK, COLOR
8	10.9704.0693	2	EA	CLAMP, CONN, 5 DRIVER BOARD
9	10.9704.4417	6	EA	GLIDE SPACER, COLOR FLAG
10	10.9704.4438	1	EA	PLATE, COLOR MIX MODULE
11	10.9704.5415	1	EA	GUIDE SUPPORT, COLOR FLAG, MAIN, STIFFENER
12	10.9704.5418	3	EA	SPACER, 0.172" ID, 0.31" OD, 0.115" LG
13	10.9704.6451	1	EA	BRACKET, LEFT, COLOR BULKHEAD
14	10.9704.6452	1	EA	BRACKET, RIGHT, COLOR BULKHEAD
15	21.9704.0411	1	EA	ASSY, BELT, 210GRV
16	21.9704.0412	4	EA	ASSY, BELT, 240GRV
17	21.9704.0415	1	EA	ASSY, FIXED COLOR WHEEL
18	21.9704.0420	1	EA	ASSY, CROSS-FLOW BLOWER, COLOR COOLING
19	21.9704.0440	1	EA	ASSY, SENSOR BOARD, COLOR FLAGS
20	21.9704.0431	1	EA	ASSY, STROBE, LEFT
21	21.9704.5443	5	EA	ASSY, COLOR BELT IDLER
22	22.9704.4401	5	EA	ASSY, GLIDE, COLOR FLAG
23	22.9704.5401	1	EA	ASSY, GUIDE, COLOR FLAG STIFFENER
24	22.9704.5470	1	EA	ASSY, DIMMER FLAG, FRONT
25	22.9704.5480	1	EA	ASSY, DIMMER FLAG, REAR
26	22.9704.6472	2	EA	ASSY, MAGENTA FLAG
27	22.9704.6474	2	EA	ASSY, CYAN FLAG
28	22.9704.6476	2	EA	ASSY, YELLOW FLAG
29	22.9704.6478	2	EA	ASSY, CTO FLAG
30	24.9698.1231	1	EA	PCB ASSY, SENSOR
31	24.9704.2901	2	EA	PCB ASSY, 5-WAY MOTOR DRIVER

VARI*LITE - VL4000 BEAMWASH LUMINAIRE SERVICE MANUAL

No.	Item	Qty.	UM.	Description
-	25.9704.0400	1	EA	CABLE ASSY, VL4000 COLOR BLKHED CABLE 1 (NOT SHOWN)
-	25.9704.0401	1	EA	CABLE ASSY, VL4000 COLOR BLKHED CABLE 2 (NOT SHOWN)
-	25.9704.0402	1	EA	CABLE ASSY, VL4000 COLOR BLKHED CABLE 3 (NOT SHOWN)
-	25.9704.0403	1	EA	CABLE ASSY, VL4000 COLOR BLKHED CABLE 4 (NOT SHOWN)
-	25.9704.0711	1	EA	CABLE ASSY, VL4000 DATA NETWORK EXTENSION (NOT SHOWN)
-	25.9704.0712	1	EA	CABLE ASSY, VL4000 DATA CLR-A TO CLR-B (NOT SHOWN)
32	44.9704.1213	4	EA	MOTOR, SIZE 14, SHAFT 24 MM LG
33	44.9704.1214	1	EA	MOTOR, SIZE 14, SHAFT 0.50" LG
34	53.2200.0004	5	EA	NUT, KEPS, #4-40
35	53.2202.0004	5	EA	NUT, 4-40 HEX SS NYLON INSERT
36	53.5558.0125	10	EA	SCREW, 8-32 X 0.125" SET SS
37	53.6513.0023	4	EA	SCREW, M3 X .5 X 8 MM LG, PFZ, METRIC
38	53.6513.0002	16	EA	SCREW, M3 X .5 X 5 MM LG, PFZ, METRIC
39	53.6520.0001	3	EA	SCREW, 4-40 X 3/8" PPZ
40	53.6520.0500	8	EA	SCREW, 4-40 X 1/2" PPZ SEMS
41	53.6536.0875	3	EA	SCREW, 4-40 X 1.00" PFZ
42	53.6558.0001	10	EA	SCREW, 6-32 X 3/8" PPZ
43	53.6558.0009	6	EA	SCREW, 6-32 X 3/8" PPZ SEMS
44	53.6559.0001	2	EA	SCREW, 4-40 X 1/4" PFZ
45	53.6596.0002	4	EA	SCREW, 4-40 X 5/16" PPZ SEMS
46	53.6597.0001	4	EA	SCREW, 4-40 X 3/16" PPZ
47	53.6609.0001	4	EA	SCREW, 6-32 X 3/8" PFZ
48	53.6659.0006	10	EA	SCREW, 2-56 X 3/16" PPZ
49	53.6659.0012	10	EA	SCREW, 2-56 X 1/8" PPZ
50	53.6685.0500	2	EA	SCREW, 6-32 X 1/2" PPB, CAPTIVE
51	55.2203.0001	1	EA	SCREW, 4-40 X 1/4" PPZ
52	55.2234.0125	5	EA	E-RING, 0.125" ROD DIAM
53	55.6595.0028	2	EA	STANDOFF, 4-40, 1/4" HEX, 0.281" LG, F/F
54	55.6669.0022	1	EA	STANDOFF, 4-40, 1/4" HEX, 0.500" LG, M-F
55	55.6818.0002	2	EA	CABLE TIE, KURLY-LOC
56	55.7005.0005	10	EA	O-RING, SILICONE, DASH# 005, 7/64" ID, 15/64" OD
57	04.9704.0401	1	EA	DIPSWITCH LABEL, COLOR BOARDS
58	21.9704.0432	1	EA	ASSY, STROBE, RIGHT

Color Module Assembly (continued)

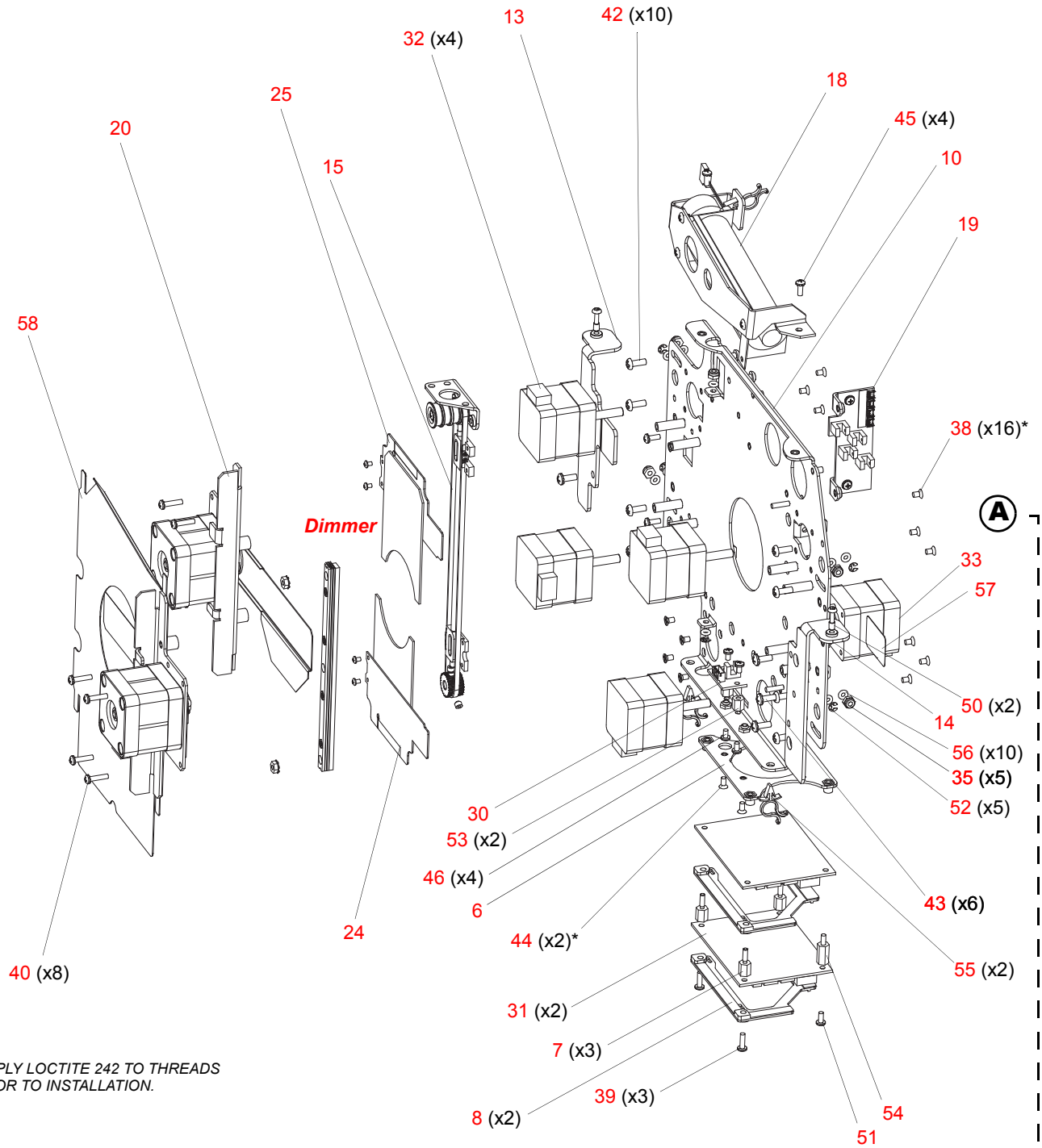


Refer to [Figure 3-43](#) on page 222 for this portion of the assembly.

Refer to [Figure 3-44](#) on page 223 for this portion of the assembly.

Figure 3-42: Color Module Assembly (Part 1)

Color Module Assembly (continued)

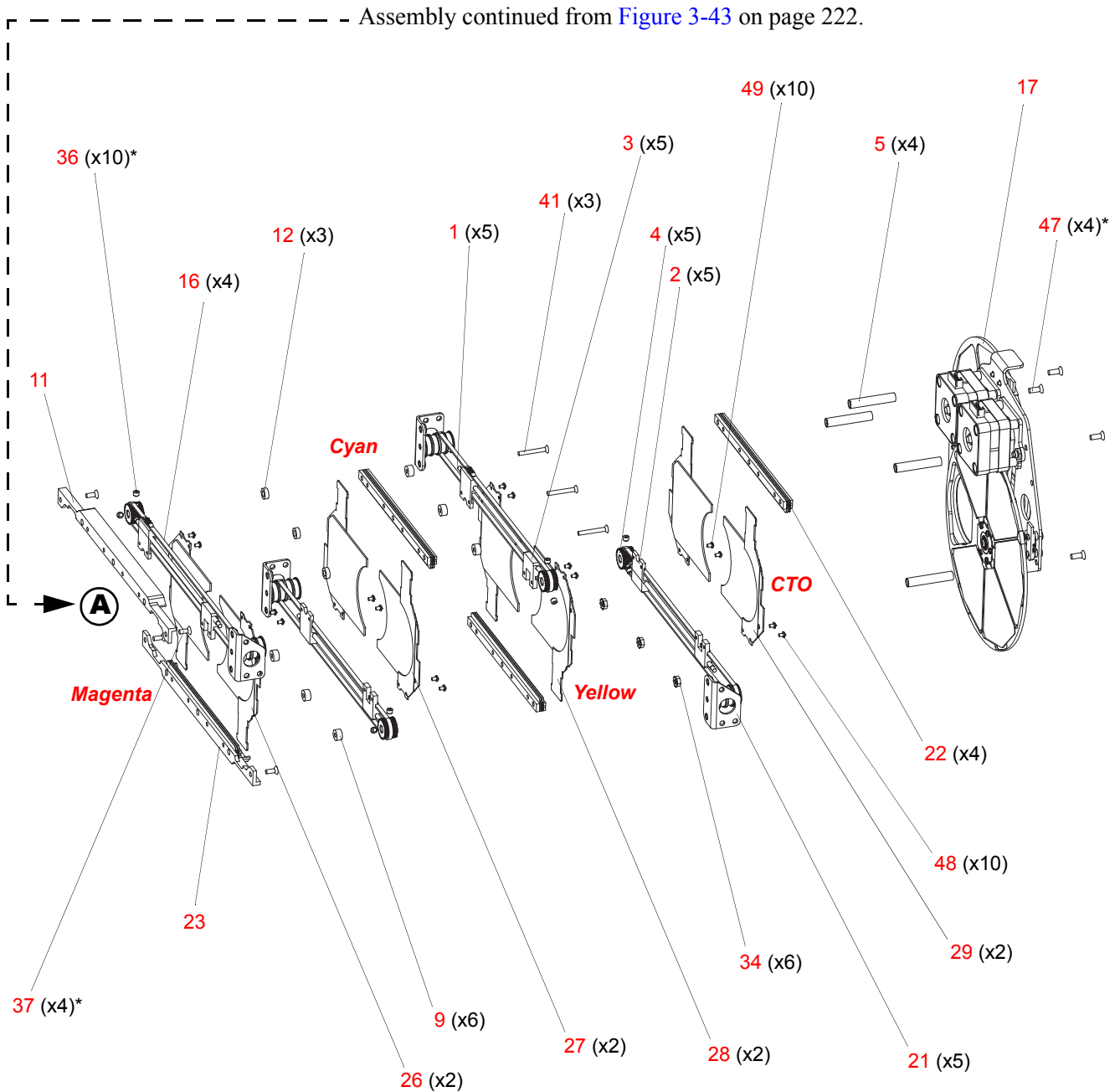


*APPLY LOCTITE 242 TO THREADS
PRIOR TO INSTALLATION.

Refer to [Figure 3-44](#) on page 223 for remainder of assembly. ←

Figure 3-43: Color Module Assembly (Part 2)

Color Module Assembly (continued)



*APPLY LOCTITE 242 TO THREADS PRIOR TO INSTALLATION.

Figure 3-44: Color Module Assembly (Part 3)

210 Groove Belt Assembly

21.9704.0411 Rev. B

Refer to [Figure 3-45](#)

No.	Item	Qty.	UM.	Description
1	10.9704.0442	2	EA	CLAMP, COLOR BELT
2	53.6661.0003	4	EA	SCREW, 0-80 X 3/16" LG PFSS
3	54.9704.0401	1	EA	BELT, TIMING, MXL, 210 GRV, 125 WD, SIL/KEV

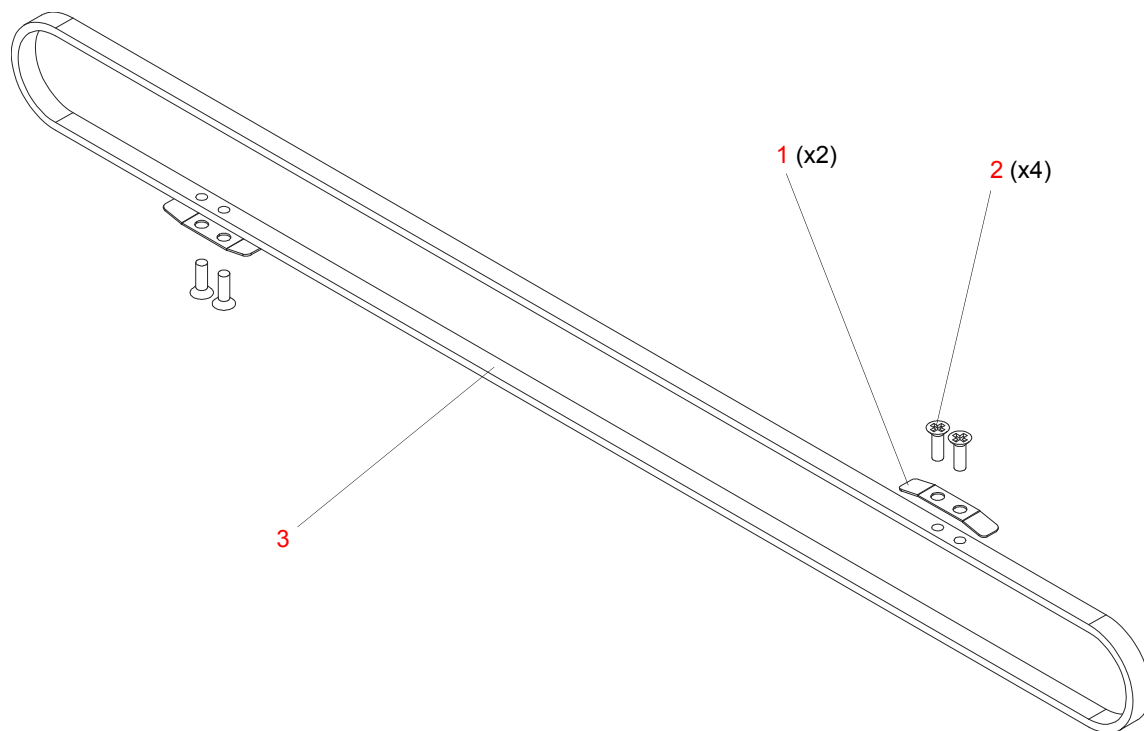


Figure 3-45: 210 Groove Belt Assembly

240 Groove Belt Assembly

21.9704.0412 Rev. B

Refer to [Figure 3-46](#)

No.	Item	Qty.	UM.	Description
1	10.9704.0442	2	EA	CLAMP, COLOR BELT
2	53.6661.0003	4	EA	SCREW, 0-80 X 3/16" LG PFSS
3	54.9704.0402	1	EA	BELT, TIMING, MXL, 240 GRV, 125 WD, SIL/KEV

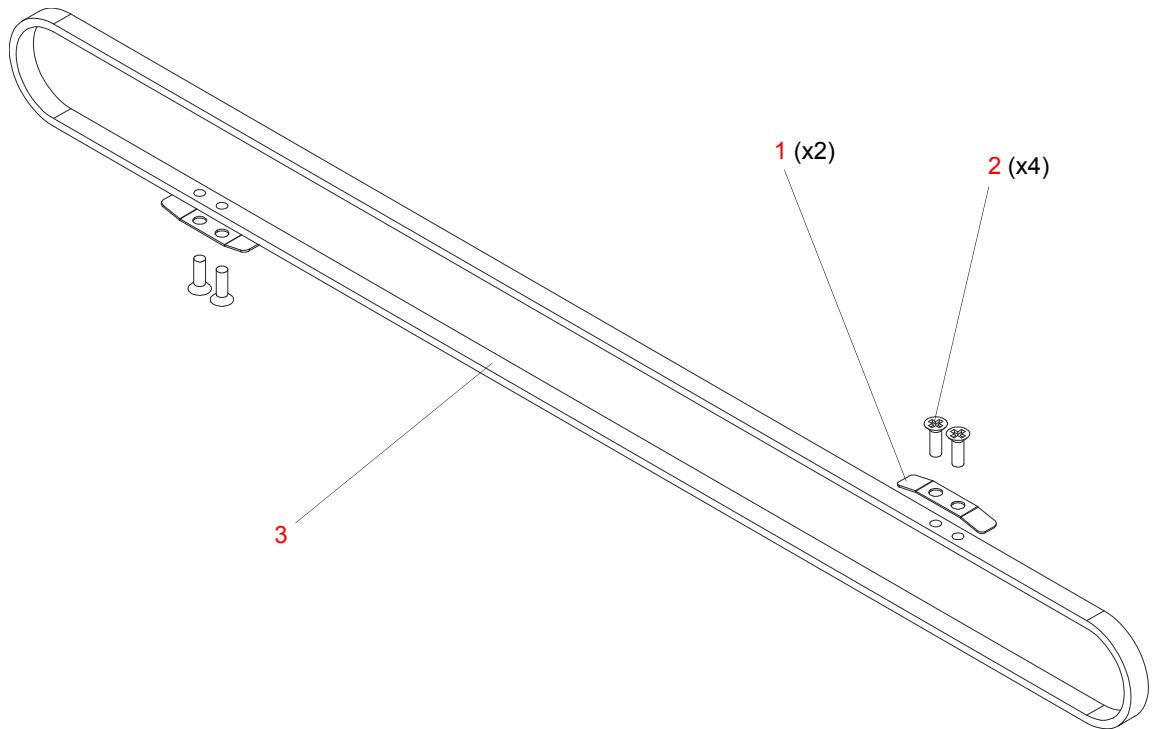


Figure 3-46: 240 Groove Belt Assembly

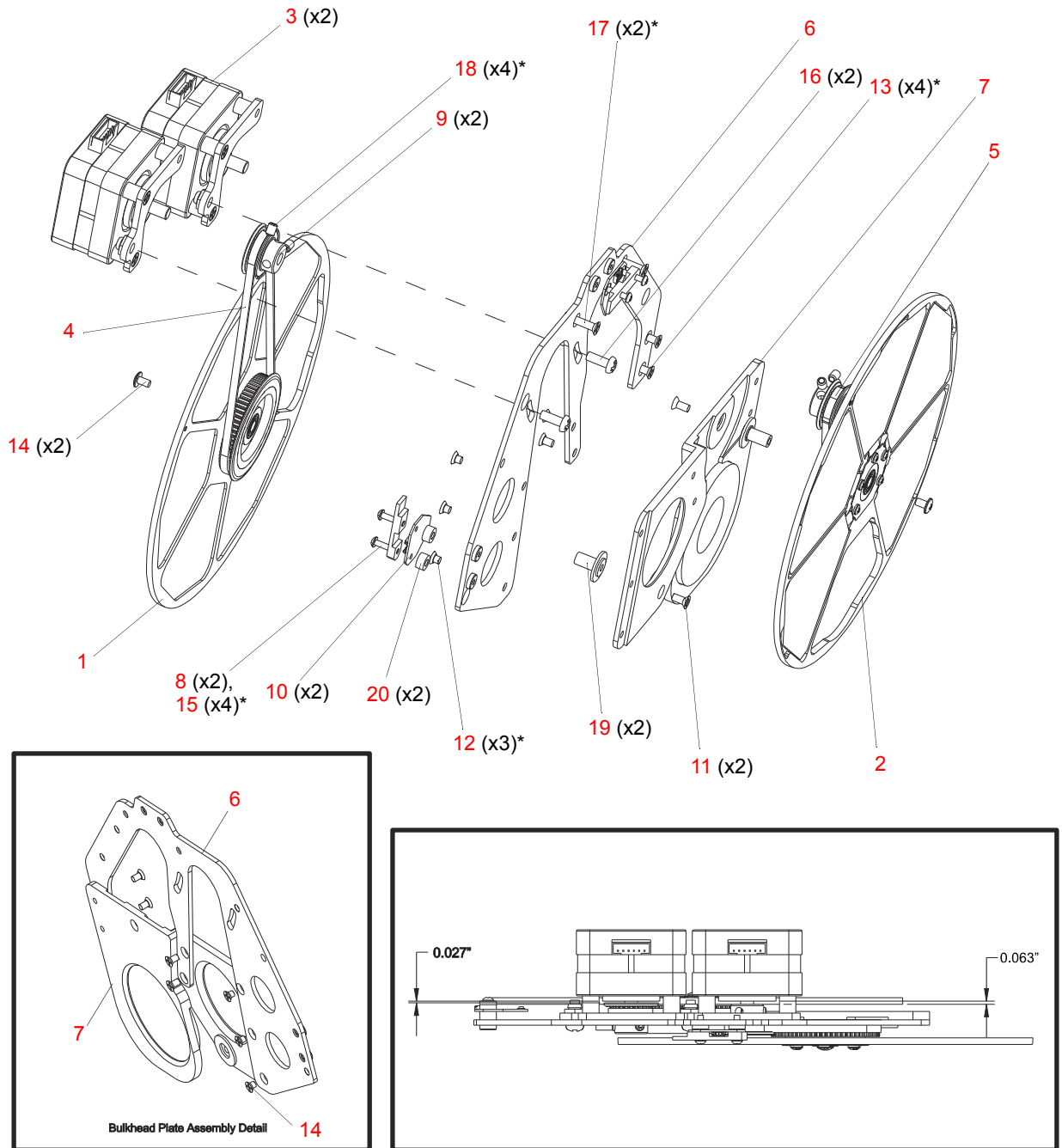
Fixed Color Wheel Assembly

21.9704.0415 Rev. G

Refer to [Figure 3-47](#)

No.	Item	Qty.	UM.	Description
1	21.9704.0430	1	EA	ASSY, FIXED COLOR WHEEL 1
2	21.9704.0435	1	EA	ASSY, FIXED COLOR WHEEL 2
3	21.9704.0419	2	EA	ASSY, MOTOR, FIXED COLOR
4	54.9698.0002	1	EA	BELT, TIMING, MXL, 150 GR 0.125" W URETH/KEV
5	54.9704.0390	1	EA	BELT, TIMING, MXL, 106 GR 0.125" W URETH/KEV
6	10.9704.0427	1	EA	BULKHEAD, FIXED COLOR WHEELS
7	22.9704.1430	1	EA	CER LENS ASSY, FIXED COLOR
8	10.9704.0290	2	EA	CLAMP, CONNECTOR, SENSOR BOARD
9	10.9704.0223	2	EA	DRIVE PULLEY, GOBO WHEEL
10	17.9704.0904	2	EA	PCB ASSY, WHEEL POSITION SENSOR
11	53.6559.0001	2	EA	SCREW, 4-40 X 1/4" PFZ
12	53.6601.0004	3	EA	SCREW, 4-40 X 1/8" PFZ, UNDERCUT
13	53.6601.0003	4	EA	SCREW, 4-40 X 3/16" PFZ, UNDERCUT
14	53.6601.0002	2	EA	SCREW, 4-40 X 3/16" PTZ
15	53.6659.0003	4	EA	SCREW, 2-56 X 3/8" PPZ
16	53.6558.0001	2	EA	SCREW, 6-32 X 3/8" PPZ
17	53.6513.0030	2	EA	SCREW, M3 X .5 X 14 MM LG PFZ METRIC
18	53.5559.0250	4	EA	SCREW, 6-40 X 0.25" CONE POINT
19	10.9704.0424	2	EA	SHAFT, FIXED COLOR WHEEL
20	55.6659.0009	2	EA	SPACER, #4 ID, 0.250" OD, 0.094" LG

Fixed Color Wheel Assembly (continued)



*APPLY LOCTITE 242 TO THREADS PRIOR TO INSTALLATION.

Figure 3-47: Fixed Color Wheel Assembly

Fixed Color Wheel 1 Assembly

21.9704.0430 Rev. D

Refer to [Figure 3-48](#)

No.	Item	Qty.	UM.	Description
1	10.9686.1478	1	EA	MAGNET, PLANET GEAR INDEX
2	10.9704.0425	1	EA	HUB, FIXED COLOR WHEEL
3	10.9704.0426	1	EA	PLATE, COLOR WHEEL
4	10.9704.1431	1	EA	SPRING PLATE, FIXED COLOR WHEEL
5	41.9704.0490	1	EA	FILTER, RED
6	41.9704.0491	1	EA	FILTER, DARK FUCHSIA
7	41.9704.0492	1	EA	FILTER, ORANGE
8	41.9704.0493	1	EA	FILTER, KELLY GREEN
9	41.9704.0494	1	EA	FILTER, CONGO BLUE
10	53.6659.0002	5	EA	SCREW, 2-56 X 1/4" PPZ
11	54.9687.1253	2	EA	BEARING, NPB, MR105ZZK13
12	10.9704.0450	1	EA	MAGNET TAPE, FIXED COLOR WHEEL

Fixed Color Wheel 1 Assembly (continued)

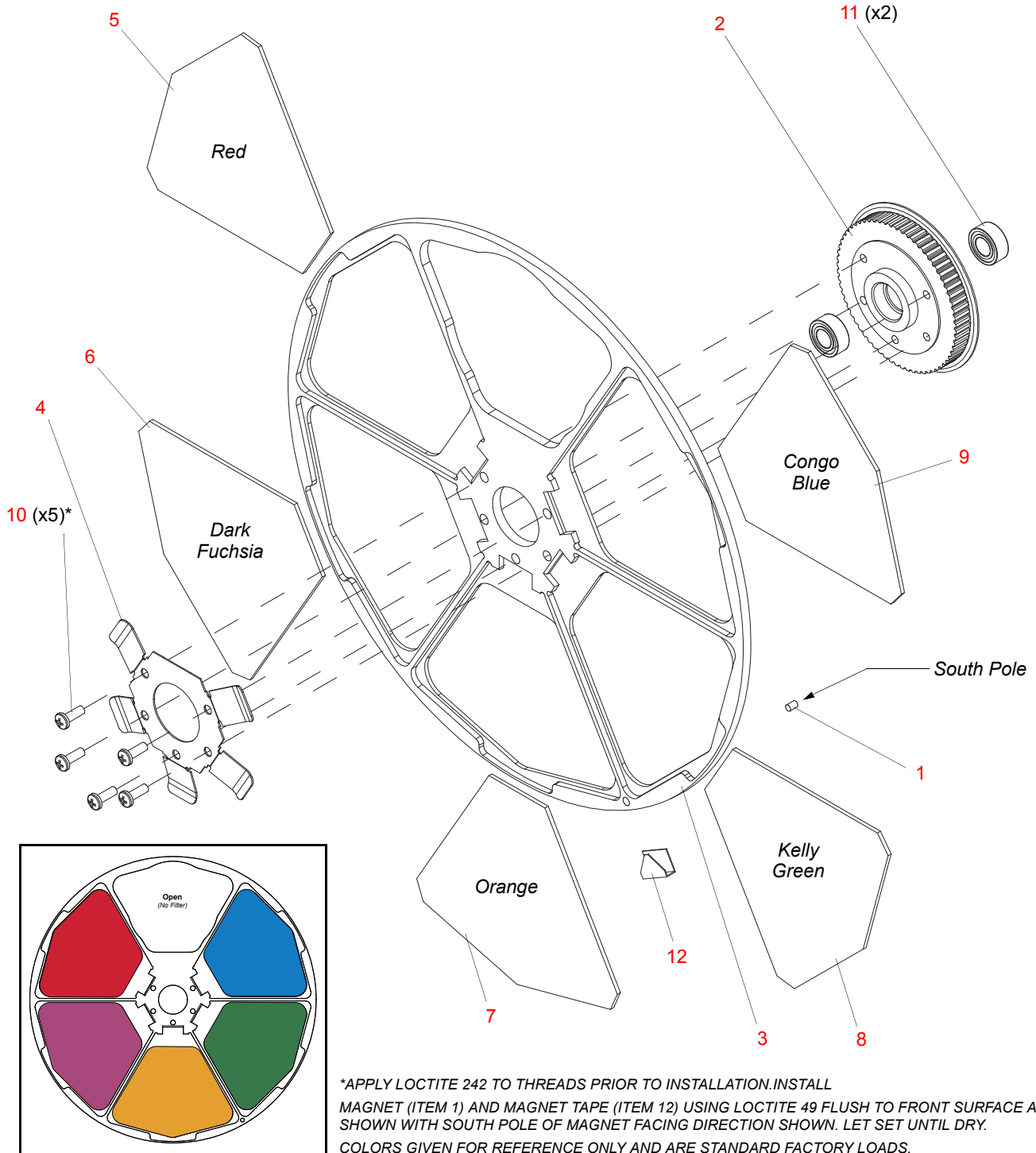


Figure 3-48: Fixed Color Wheel 1 Assembly

Fixed Color Wheel 2 Assembly

21.9704.0435 Rev. E

Refer to [Figure 3-49](#)

No.	Item	Qty.	UM.	Description
1	10.9686.1478	1	EA	MAGNET, PLANET GEAR INDEX
2	10.9704.0425	1	EA	HUB, FIXED COLOR WHEEL
3	10.9704.0426	1	EA	PLATE, COLOR WHEEL
4	10.9704.1431	1	EA	SPRING PLATE, FIXED COLOR WHEEL
5	41.9704.0495	1	EA	FILTER, BLUE
6	41.9704.0496	1	EA	FILTER, GREEN
7	41.9704.0489	1	EA	FILTER, MINUS GREEN
8	41.9704.0498	1	EA	FILTER, LAVENDER
9	41.9704.0499	1	EA	FILTER, AMBER
10	53.6659.0002	5	EA	SCREW, 2-56 X 1/4" PPZ
11	54.9687.1253	2	EA	BEARING, NPB, MR105ZZK13
12	10.9704.0450	1	EA	MAGNET TAPE, FIXED COLOR WHEEL

Fixed Color Wheel 2 Assembly (continued)

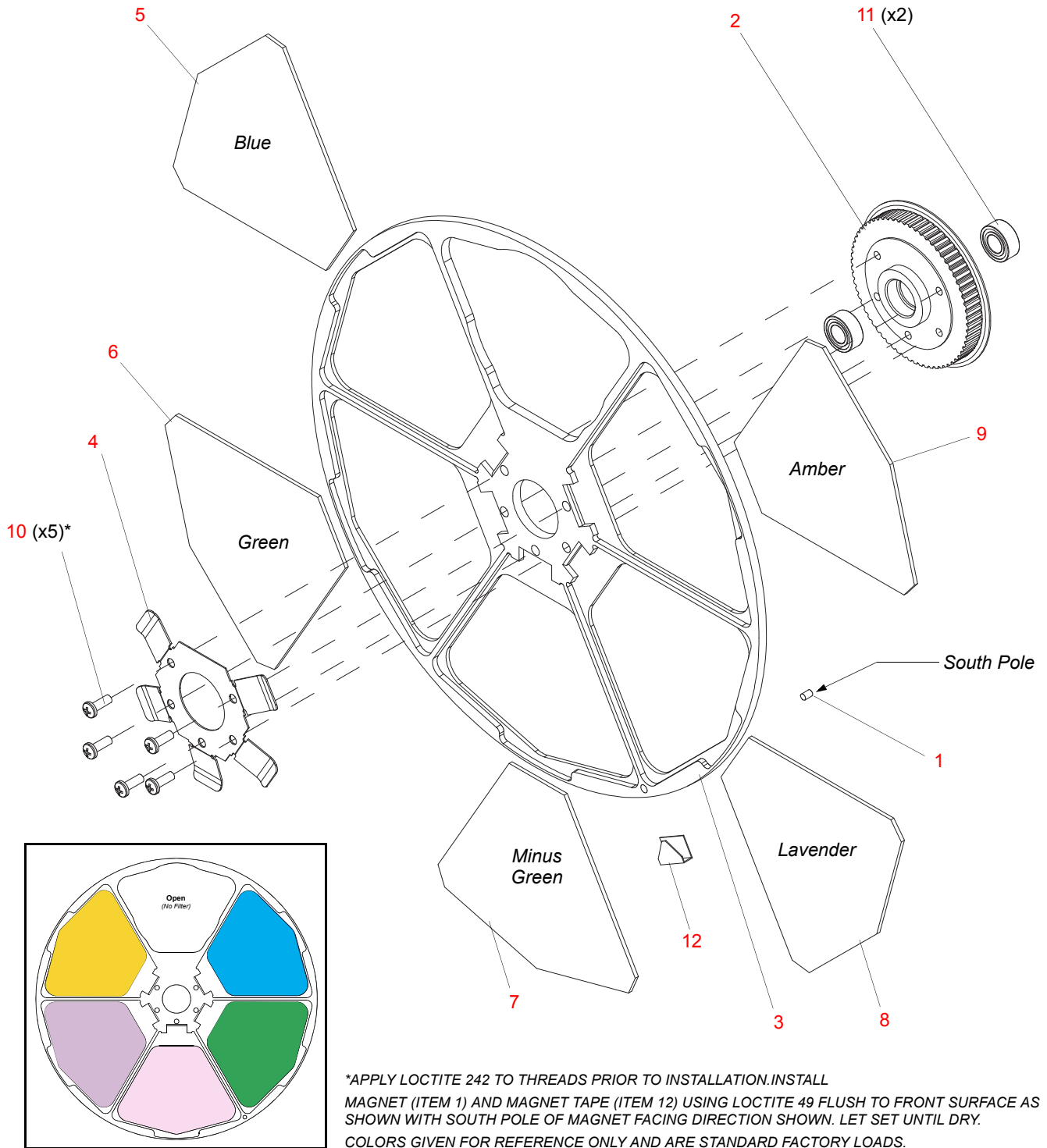


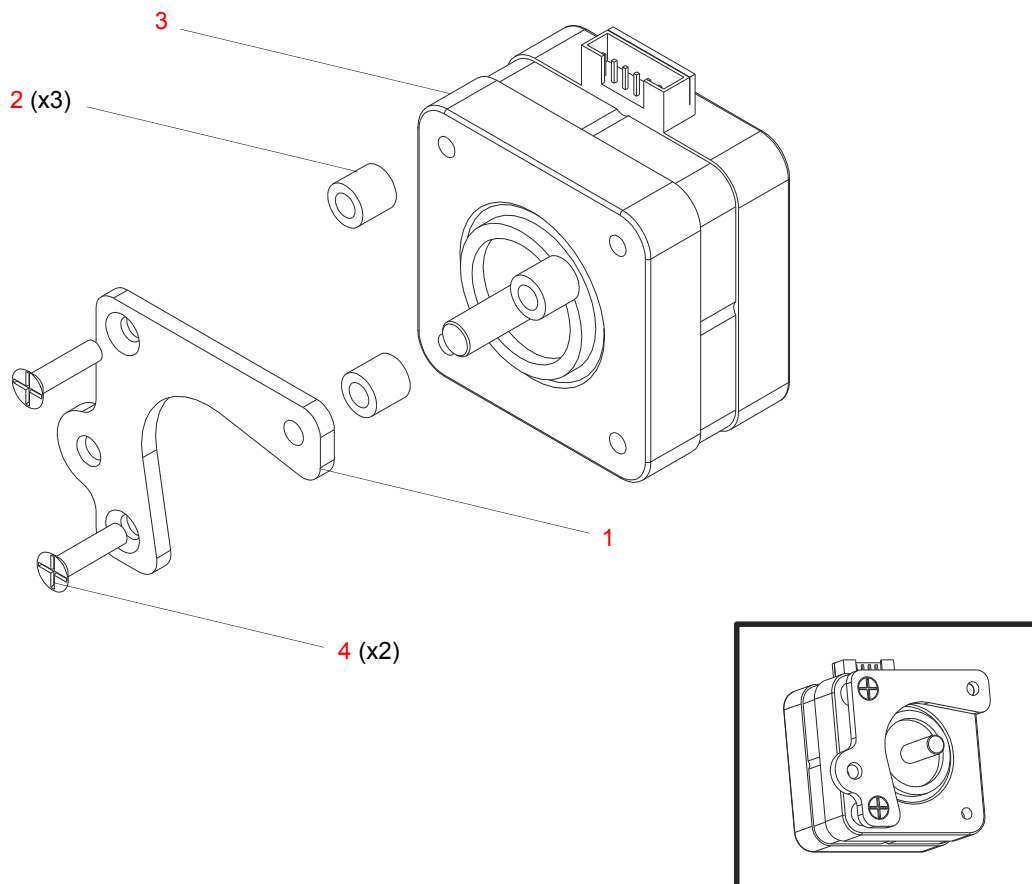
Figure 3-49: Fixed Color Wheel 2 Assembly

Fixed Color Motor Assembly

21.9704.0419 Rev. A

Refer to [Figure 3-50](#)

No.	Item	Qty.	UM.	Description
1	10.9704.0432	1	EA	PLATE, MOTOR ADJUST, FIXED COLOR
2	10.9704.0465	3	EA	SPACER, FIXED COLOR MOTOR
3	44.9704.0418	1	EA	MOTOR, SIZE 17, SHAFT 0.55"
4	53.6513.0029	2	EA	SCREW, M3 X .5 X 12 MM LG PFZ METRIC



*APPLY LOCTITE 242 TO THREADS PRIOR TO INSTALLATION.

Figure 3-50: Fixed Color Motor Assembly

Cross-Flow Blower Assembly

21.9704.0420 Rev. E

Refer to [Figure 3-51](#)

No.	Item	Qty.	UM.	Description
1	10.9704.0455	1	EA	MOUNT, BLOWER, COLOR
2	23.9704.1004	1	EA	FAN ASSY, VL4000 COLOR BULKHEAD BLOWER
3	53.6527.0187	3	EA	SCREW, 6-32 X 3/16" LG PPZ THD FORMING
4	55.6818.0002	1	EA	STANDOFF, 45-DEG, NYLOC KURLY-LOC

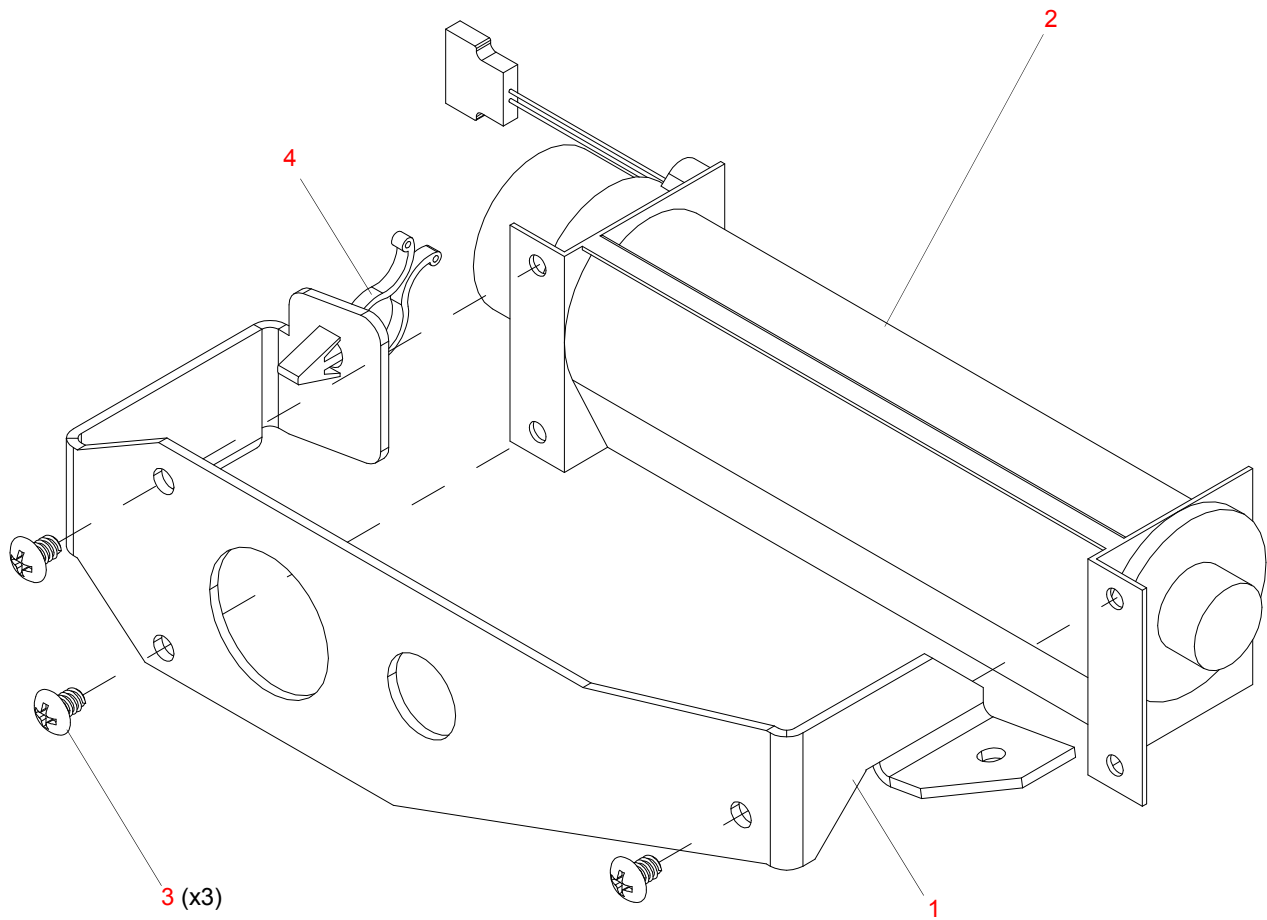


Figure 3-51: Cross-Flow Blower Assembly

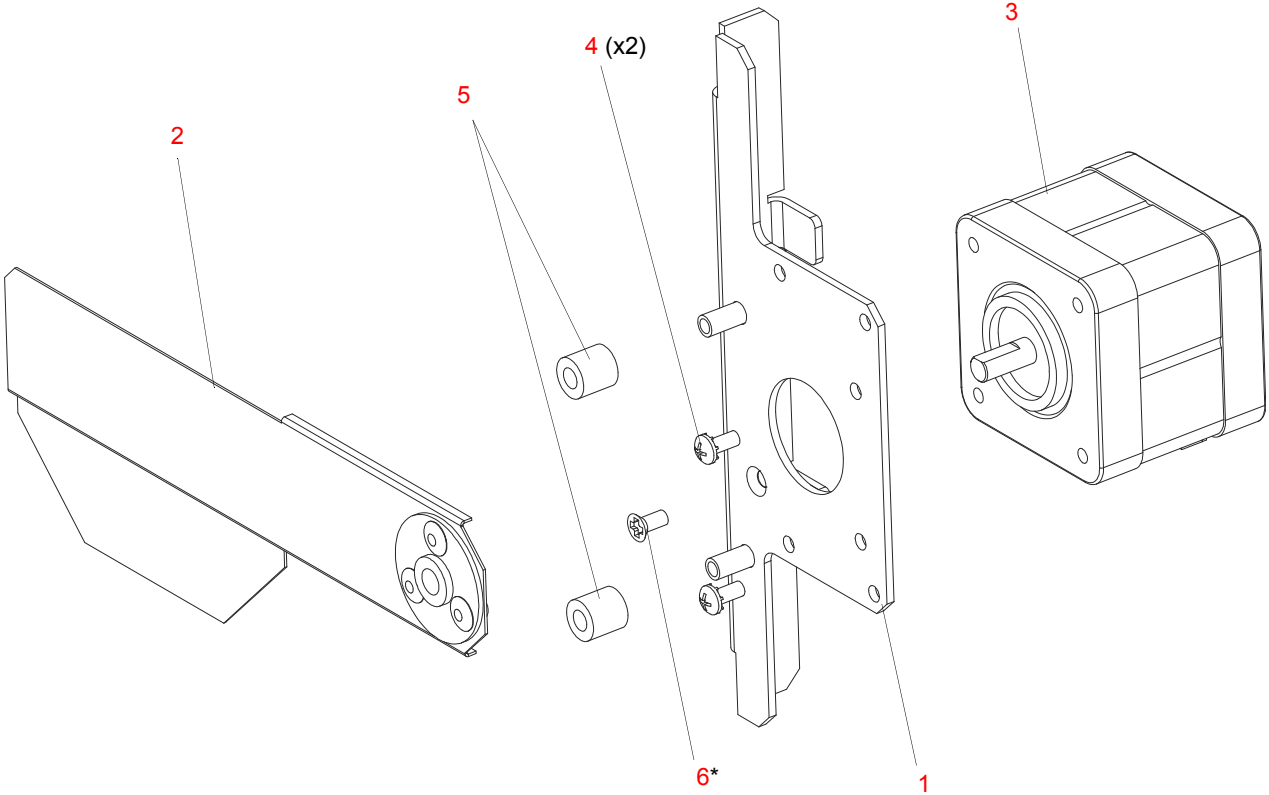
Left Strobe Assembly

21.9704.0431 Rev. G

Refer to [Figure 3-52](#)

No.	Item	Qty.	UM.	Description
1	10.9704.0420	1	EA	MOUNT PLATE, STROBE
2	22.9704.0453	1	EA	ASSY, STROBE BLADE
3	44.9687.1204	1	EA	MOTOR, SIZE 17, SHAFT 0.455"
4	53.6682.0002	2	EA	SCREW, 4-40 X 1/4" PPZ SEMS
5	55.6738.0005	0.625	IN	TUBING, SILICONE RUBBER, 4 MM ID, 8 MM OD, SOFT RED
6	53.6559.0001	1	EA	SCREW, 4-40 X 1/4" PFZ

Left Strobe Assembly (continued)



**APPLY LOCTITE 242 TO THREADS PRIOR TO INSTALLATION.*

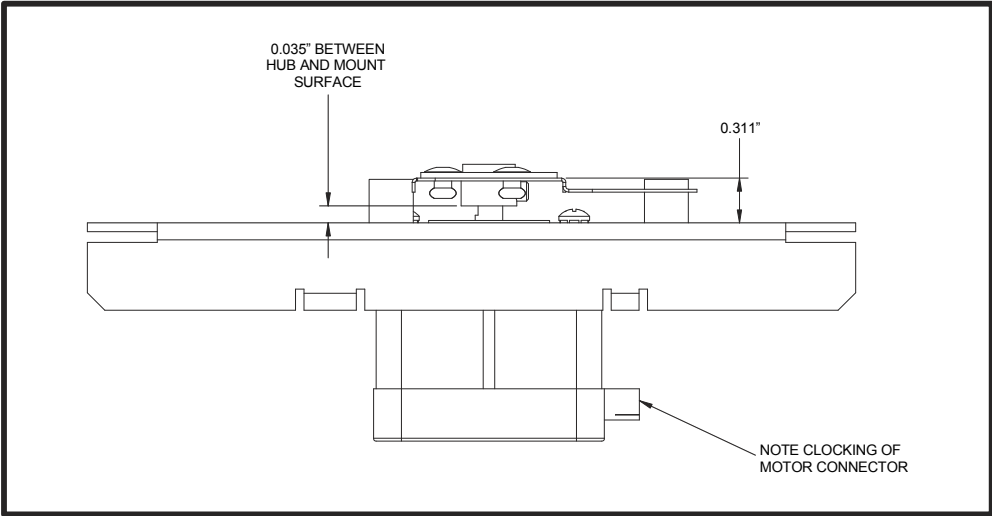


Figure 3-52: Left Strobe Assembly

Right Strobe Assembly

21.9704.0432 Rev. D

Refer to [Figure 3-53](#)

No.	Item	Qty.	UM.	Description
1	10.9704.0420	1	EA	MOUNT PLATE, STROBE
2	22.9704.0454	1	EA	ASSY, STROBE BLADE
3	44.9687.1204	1	EA	MOTOR, SIZE 17, SHAFT 0.455"
4	53.6559.0001	1	EA	SCREW, 4-40 X 1/4" PFZ
5	55.6738.0005	0.625	IN	TUBING, SILICONE RUBBER, 4 MM ID, 8 MM OD, SOFT RED
6	10.9704.1435	1	EA	LIGHT SHIELD, DIMMER BELT, FULL
7	53.6682.0002	2	EA	SCREW, 4-40 X 1/4" PPZ SEMS

Right Strobe Assembly (continued)

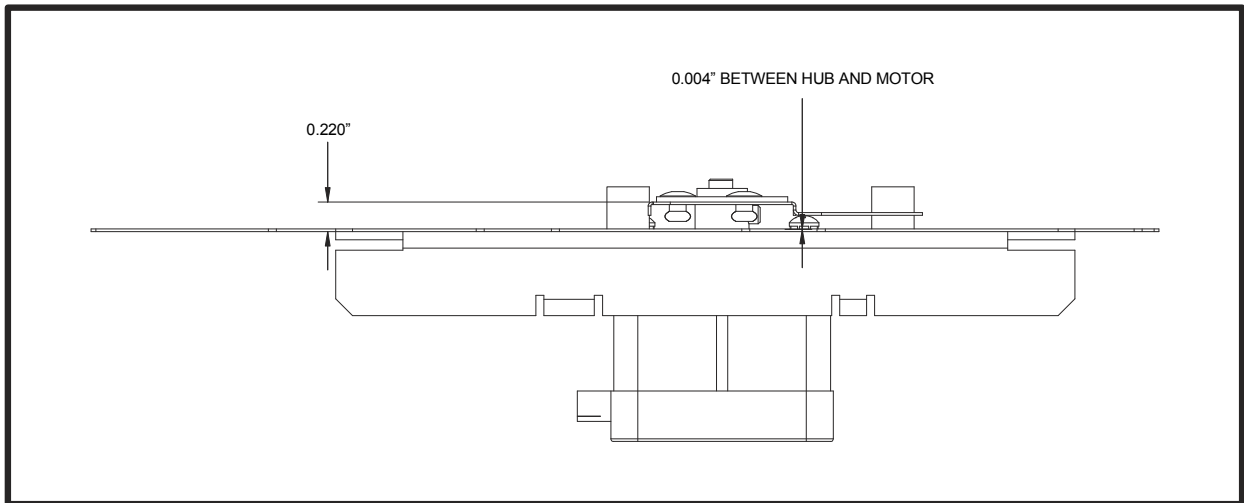
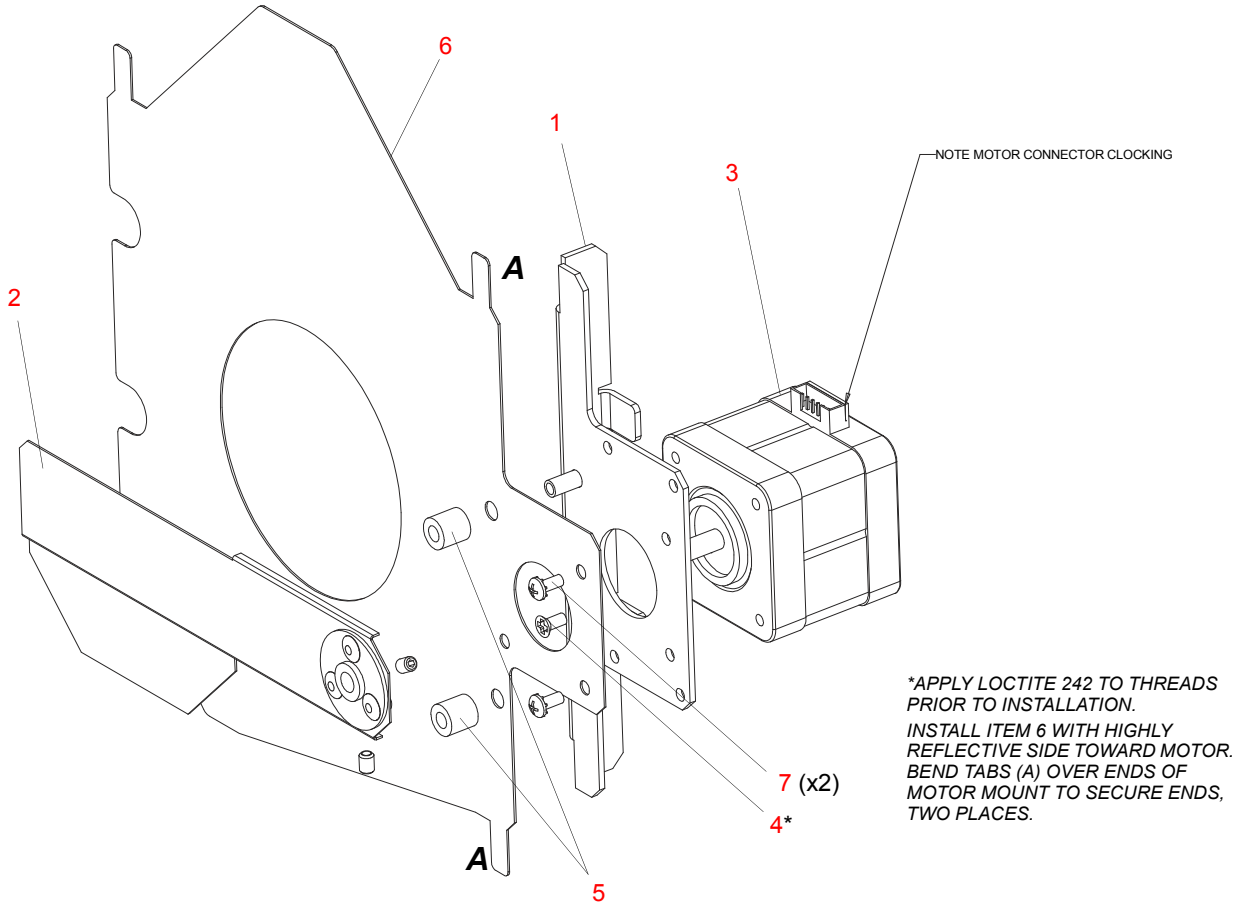


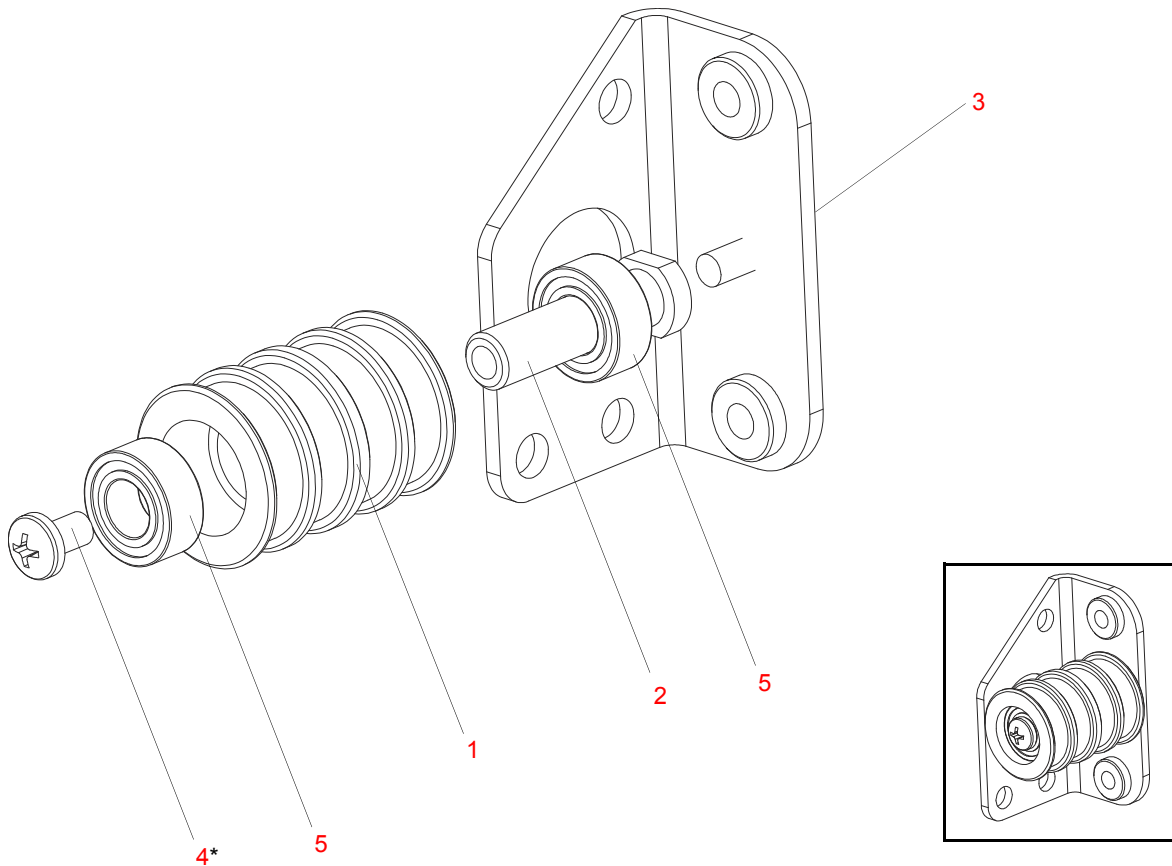
Figure 3-53: Right Strobe Assembly

Control Belt Idler Assembly

21.9704.5443 Rev. B

Refer to [Figure 3-54](#)

No.	Item	Qty.	UM.	Description
1	10.9704.5409	1	EA	IDLER PULLEY, COLOR FLAG
2	10.9704.5423	1	EA	IDLER SHAFT, PULLEY, COLOR BULKHEAD
3	10.9704.5428	1	EA	IDLER BRACKET, COLOR BULKHEAD
4	53.6597.0001	1	EA	SCREW, 4-40 X 3/16" PPZ
5	54.9687.0253	2	EA	BEARING, MR105ZZ



*APPLY LOCTITE 242 TO THREADS PRIOR TO INSTALLATION.

Figure 3-54: Control Belt Idler Assembly

Color Flags Sensor Board Assembly

21.9704.0440 Rev. B

Refer to [Figure 3-55](#)

No.	Item	Qty.	UM.	Description
1	04.9704.0403	1	EA	LABEL, COLOR SENSOR BOARD
2	10.9704.0422	2	EA	MOUNT BRACKET, SENSOR BOARD
3	24.9704.0903	1	EA	PCB, QUAD COLOR OPTICAL SENSOR
4	55.2203.0001	2	EA	SCREW, 4-40 X 1/4" PPZ

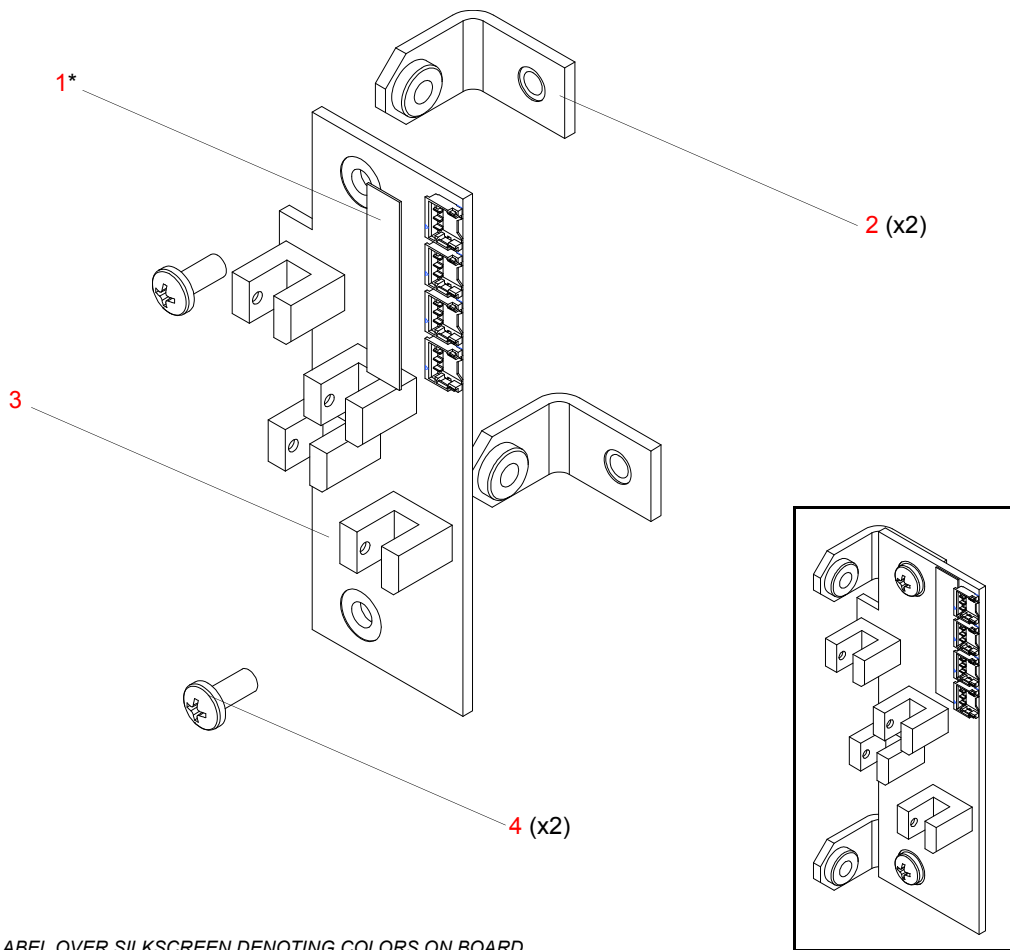


Figure 3-55: Color Flags Sensor Board Assembly

Notes

Yoke Assembly

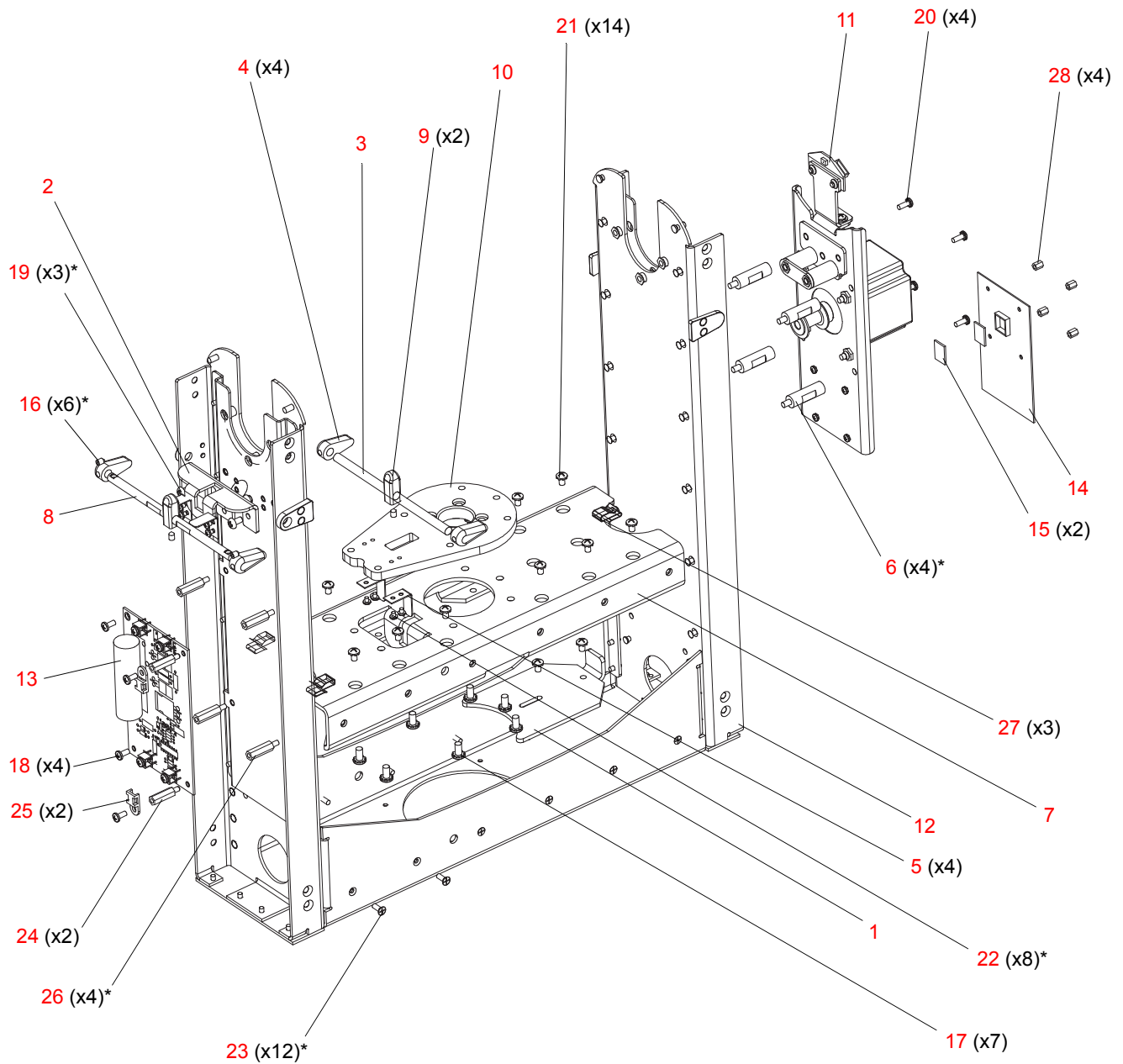
Yoke Assembly

21.9704.6700 Rev. B

Refer to [Figure 3-56](#)

No.	Item	Qty.	UM.	Description
1	10.9704.0736	1	EA	SAFETY PLATE, PAN
2	10.9704.0743	1	EA	BRACE, TILT LOCK
3	10.9704.0751	1	EA	ROD, PAN LOCK
4	10.9704.0753	4	EA	LEVER, PAN/TILT LOCK
5	10.9704.0754	4	EA	SPRING, PAN/TILT LOCK
6	10.9704.0768	4	EA	STANDOFF, TILT MOTOR
7	10.9704.1719	1	EA	BASE REINFORCEMENT, YOKE
8	10.9704.1751	1	EA	ROD, TILT LOCK, LONG
9	10.9704.1752	2	EA	LOCKING PIN, TILT LOCK
10	10.9704.1865	1	EA	ADAPTER, PAN TUBE
11	21.9704.1765	1	EA	ASSY, TILT MOTOR, DOUBLE ROLLERS
12	22.9704.6705	1	EA	ASSY, YOKE FRAME
13	24.9704.1126	1	EA	PCB ASSY, IGNITOR, 1200W
14	24.9704.1908	1	EA	TILT MOTOR DRIVER
15	52-0406	2	EA	#THERM PAD, VO GAP PAD ULT-SOFT 0.45 X 0.625
16	53.5560.0250	6	EA	SCREW, SET 8-32 X 1/4" L
17	53.6517.0002	7	EA	SCREW, 10-32 X 3/8" PPB SEMS
18	53.6525.0001	4	EA	SCREW, 6-32 X 5/16" PPZ
19	53.6546.0002	3	EA	SCREW, 8-32 X 5/16" PPZ
20	53.6558.0009	4	EA	SCREW, 6-32 X 3/8" LG PPZ SEMS
21	53.6575.0008	14	EA	SCREW, 8-32 X 1/4" PPZ SEMS
22	53.6587.0001	8	EA	SCREW, 4-40 X 1/8" PPZ
23	53.6608.0001	12	EA	SCREW, 6-32 X 3/8" PFB
24	55.2132.0012	2	EA	STANDOFF, 1/4" HEX 6-32 X 0.75" L
25	55.2178.0001	2	EA	CABLE ANCHOR MOUNT, #8 SCREW
26	55.2288.0001	4	EA	STANDOFF, MF 6-32 X 13/16" LG 1/4" HEX
27	55.6597.0003	3	EA	CABLE CLIP, SELF RETAINING, 1/8" THK PNL
28	55.6659.0007	4	EA	STANDOFF, 1/4 HEX 6-32 0.250" LG MF ALUM

Yoke Assembly (continued)



*APPLY LOCTITE 242 TO THREADS PRIOR TO INSTALLATION.

Figure 3-56: Yoke Assembly

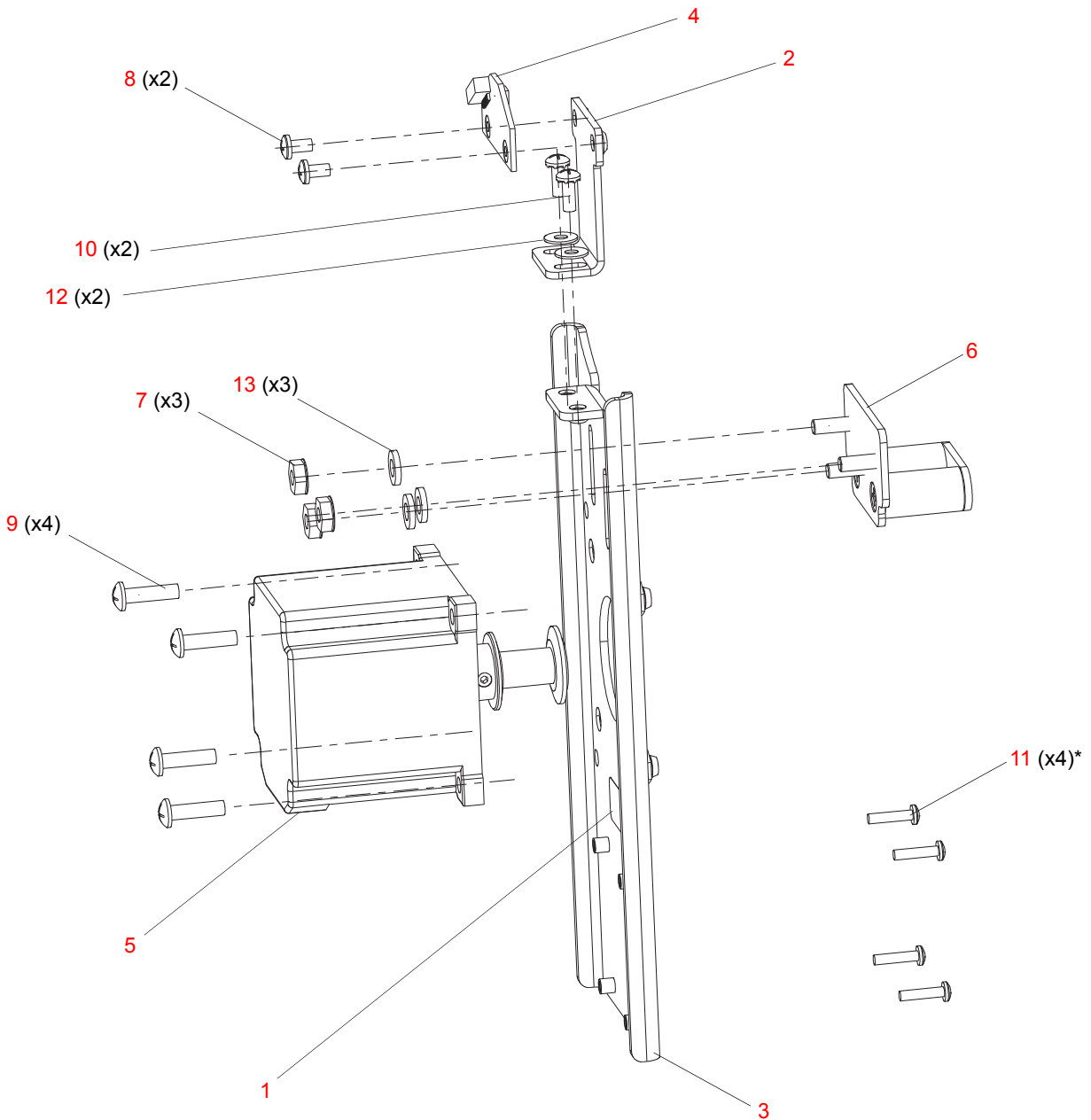
Double Rollers Tilt Motor Assembly

21.9704.1765 Rev. B

Refer to [Figure 3-57](#)

No.	Item	Qty.	UM.	Description
1	04.9704.0701	1	EA	DIPSWITCH LABEL, TILT BOARD
2	10.9704.2705	1	EA	TILT ENCODER BRACKET MOUNT
3	10.9704.2763	1	EA	TILT MOTOR PLATE
4	17.9704.1911	1	EA	SENSOR BOARD, TILT
5	21.9704.0764	1	EA	ASSY, TILT MOTOR WITH PULLEY
6	21.9704.1760	1	EA	TILT BELT TENSION ROLLERS
7	53.2200.0008	3	EA	NUT, 8-32 KEPS SS
8	53.6522.0001	2	EA	SCREW, 6-32 X 1/4" PPZ
9	53.6546.0001	4	EA	SCREW, 8-32 X 5/8" PPB
10	53.6558.0009	2	EA	SCREW, 6-32 X 3/8" LG PPZ SEMS
11	53.6567.0001	4	EA	SCREW, 4-40 X 1/2" PPZ
12	55.3306.0006	2	EA	WASHER, FLAT, 0.375" OD, 0.149" ID, 0.025" THK
13	55.6503.0004	3	EA	WASHER, #8 FLAT ZINC

Double Rollers Tilt Motor Assembly (continued)



*APPLY LOCTITE 242 TO THREADS PRIOR TO INSTALLATION.

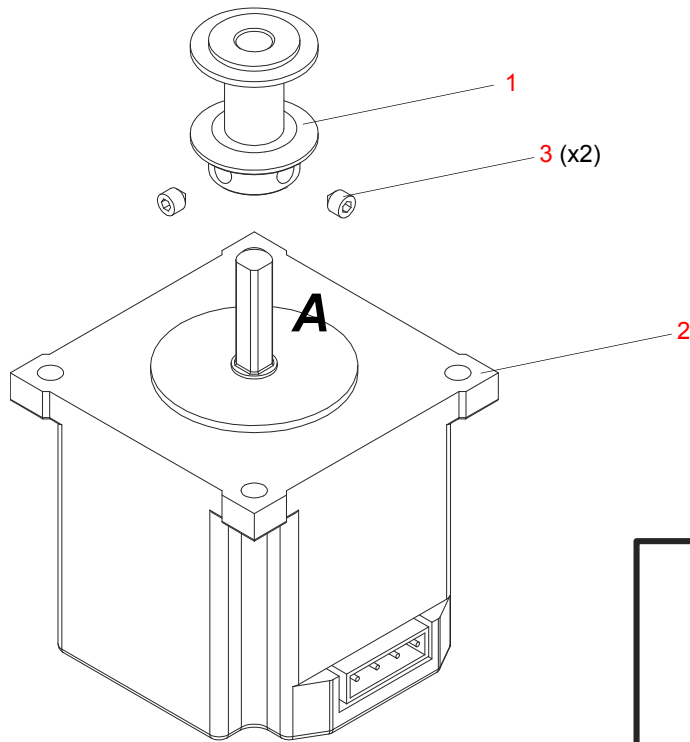
Figure 3-57: Double Rollers Tilt Motor Assembly

Tilt Motor with Pulley Assembly

21.9704.0764 Rev. A

Refer to [Figure 3-58](#)

No.	Item	Qty.	UM.	Description
1	10.9698.1749	1	EA	17T 2 MM TIMING PULLEY, WIDE BELT
2	44.9698.0680	1	EA	MOTOR, 3 PHASE SZ 23 HI-TRQ, MOONS
3	53.5560.0187	2	EA	SCREW, SET 8-32 X 3/16" L



NOTES:

- A. APPLY ONE DROP OF LOCTITE 603 (BY OTHERS) TO SHAFT. INSTALL ITEM 1 ONTO MOTOR SHAFT WITH A TWISTING MOTION TO ENSURE COMPLETE COVERAGE OF SHAFT WITH LOCTITE. MAKE SURE LOCTITE DOES NOT DRIP DOWN INTO MOTOR BEARING
- B. SET PULLEY AT HEIGHT SHOWN IN "PULLEY HEIGHT DETAIL." DIMENSION IS FROM RAISED CIRCLE ON MOTOR TO BOTTOM OF PULLEY.

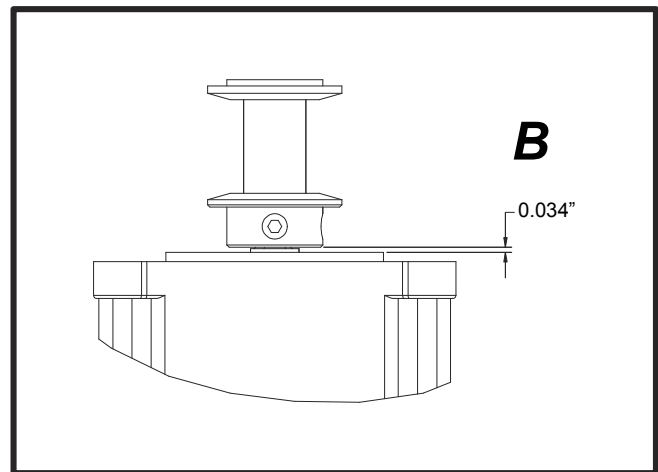


Figure 3-58: Tilt Motor with Pulley Assembly

Tilt Belt Tension Rollers Assembly

21.9704.1760 Rev. A

Refer to [Figure 3-59](#)

No.	Item	Qty.	UM.	Description
1	53.6545.0010	2	EA	8-32 X 1" UNDERCUT FLAT HEAD PHILLIPS
2	10.9704.2702	1	EA	PLATE, BELT TENSION, TILT
3	10.9704.0766	2	EA	ROLLER, TENSION ADJUST, TILT
4	10.9704.2701	1	EA	TILT BELT TENSION ROLLER

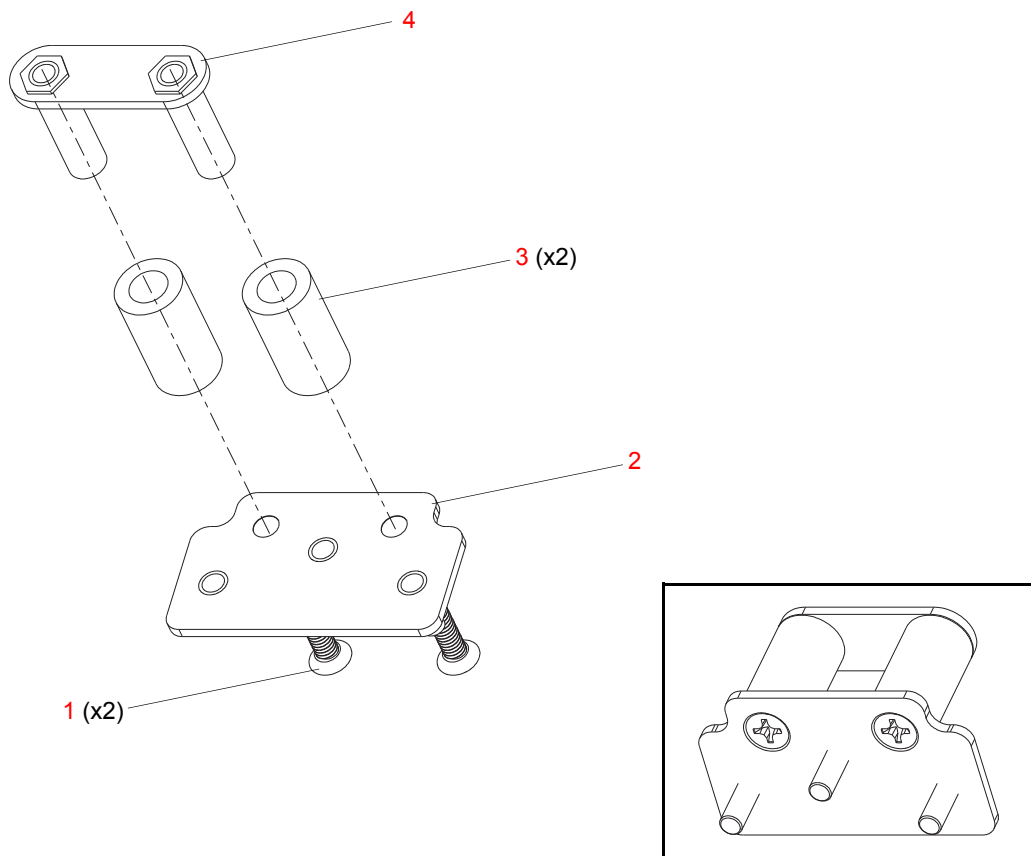


Figure 3-59: Tilt Belt Tension Rollers Assembly

Enclosure Assembly

Upper Enclosure Assembly

21.9704.0800 Rev. Y



Note: For this assembly, there are several breakout drawings for clarity. Each drawing is preceded with a bill of materials (BOMs) for the parts of the section of the assembly shown.

Refer to the following BOMs and their associated drawings:

- [“Upper Enclosure Assembly - Part 1” on page 248.](#)
- [“Upper Enclosure Assembly - Part 2” on page 250.](#)
- [“Upper Enclosure Assembly - Part 3” on page 252.](#)
- [“Upper Enclosure Assembly - Part 4” on page 254.*](#)

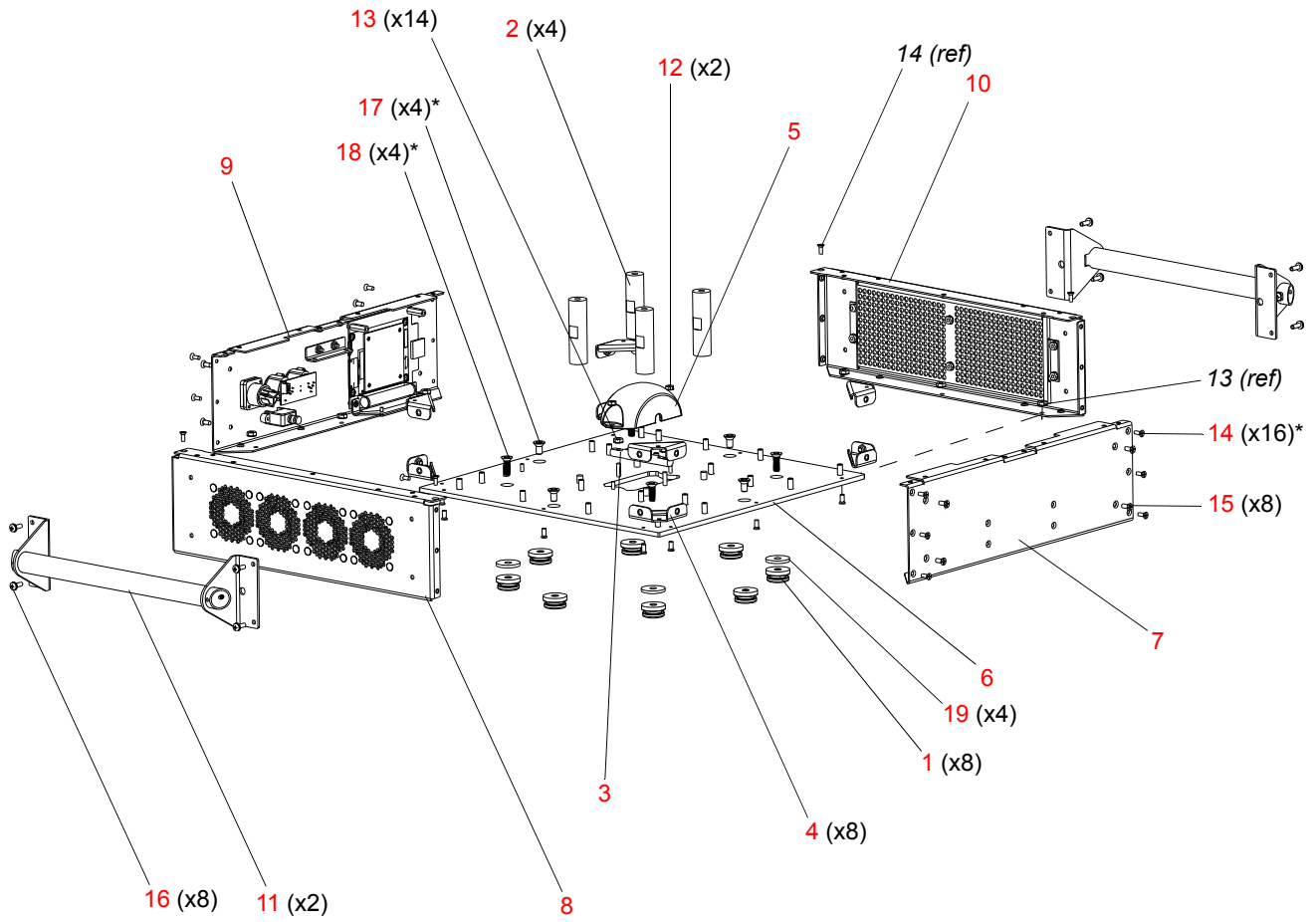
Note: *Cables associated with the Upper Enclosure Assembly are listed in this BOM for reference.

Upper Enclosure Assembly - Part 1

Refer to [Figure 3-60](#)

No.	Item	Qty.	UM.	Description
1	10.9687.0840	8	EA	MOUNTING BUTTON
2	10.9704.0802	4	EA	PAN MODULE, THREADED SPACER
3	10.9704.0829	1	EA	SAFETY HOOK
4	10.9704.0836	8	EA	REINFORCING BRACKET, RIGHT
5	10.9704.0851	1	EA	SAFETY HOOK COVER
6	10.9704.1811	1	EA	MAIN PLATE, UPPER ENCLOSURE
7	10.9704.1816	1	EA	LVS SIDE MOUNT WALL
8	21.9704.0810	1	EA	SIDE MOUNT, FAN ASSY
9	21.9704.0825	1	EA	UPPER ENCL FRONT PANEL ASSY
10	21.9704.2815	1	EA	SIDE MOUNT, FILTER HOLDER
11	22.9704.0830	2	EA	HANDLEBAR ASSY
12	53.2200.0006	2	EA	NUT, 6-32, KEP SS
13	53.2200.0008	14	EA	NUT, 8-32, KEP SS
14	53.5636.0375	16	EA	SCREW, 6-32 X 3/8" PFSS-B
15	53.6545.0008	8	EA	SCREW, 8-32 X 3/8" PFB, UNDERCUT
16	53.6575.0010	8	EA	SCREW, 8-32 X 1/2" PPZ SEMS
17	53.7017.0500	4	EA	SCREW, 1/4-20 X 1/2" PFZ
18	53.9704.0075	4	EA	SCREW, 1/4-20 X 3/4" PFZ
19	55.6636.0012	4	EA	WASHER, 1" OD X 9/32" ID X 0.12" THK, BLACK

Upper Enclosure Assembly - Part 1 (continued)



*APPLY LOCTITE 242 TO THREADS PRIOR TO INSTALLATION.

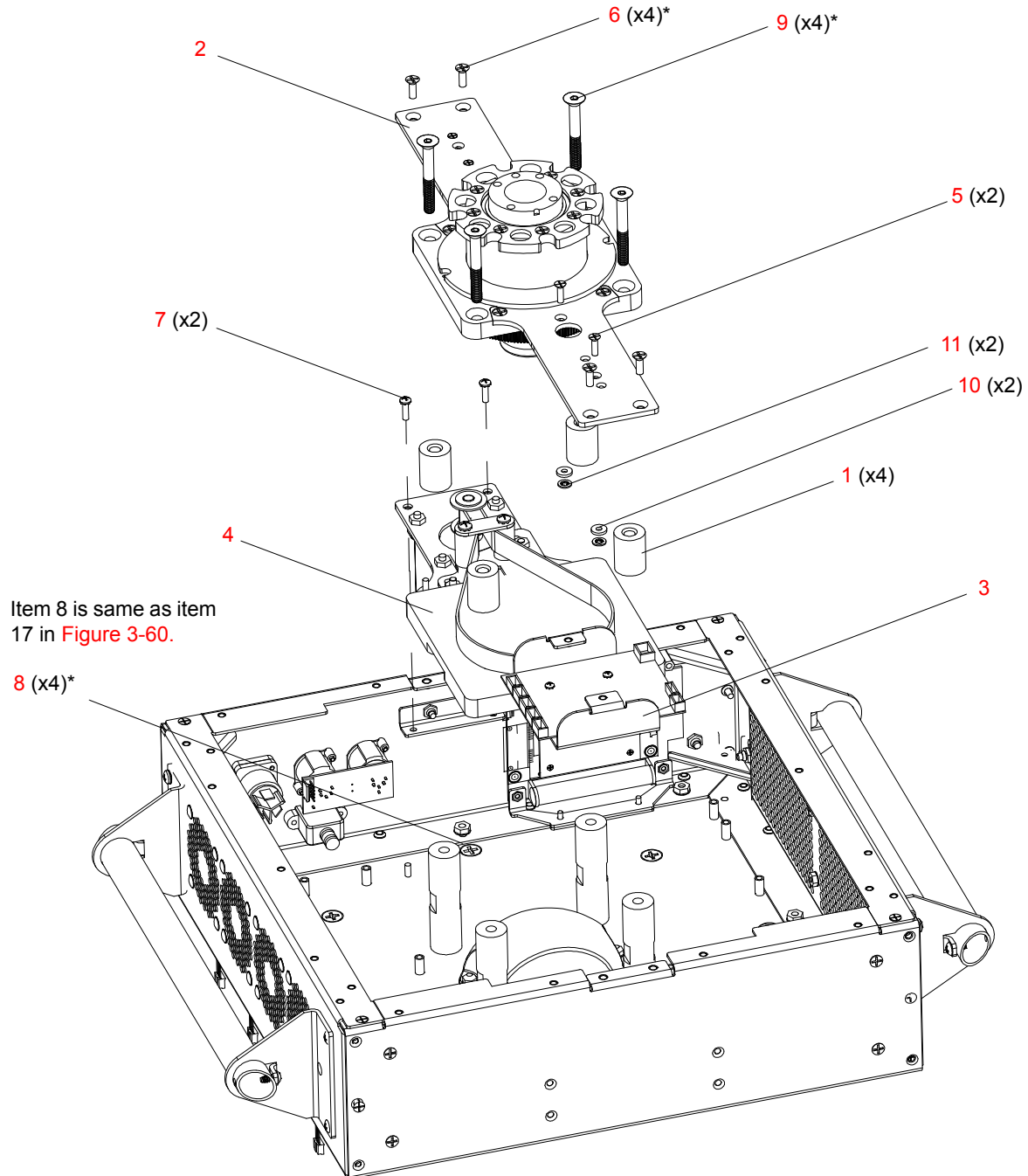
Figure 3-60: Upper Enclosure Assembly Part 1

Upper Enclosure Assembly - Part 2

Refer to [Figure 3-61](#)

No.	Item	Qty.	UM.	Description
1	10.9704.0804	4	EA	UNTHREADED SPACER
2	21.9704.0840	1	EA	PAN BEARING / PULLEY ASSY
3	21.9704.0870	1	EA	PAN / FAN DRIVER BOARD
4	21.9704.1820	1	EA	PAN ASSY MODULE
5	53.5808.0001	2	EA	SCREW, 6-32 X 0.50" LG FLAT PHIL NYLON
6	53.6552.0001	4	EA	SCREW, 8-32 X 1/2" PFZ
7	53.6613.0008	2	EA	SCREW, 6-32 X 1/2" PPZ SEMS
8	53.7017.0500	4	EA	SCREW, 1/4-20 X 1/2" PFZ
9	53.9704.0002	4	EA	SCREW, 1/4-20 X 2" ALLEN, FLATHEAD, BLACK
10	55.6538.0002	2	EA	WASHER, #6 NYLON, NATURAL
11	55.6879.0001	2	EA	WASHER, M4 RETAINING, FLAT, HIQ03R

Upper Enclosure Assembly - Part 2 (continued)



*APPLY LOCTITE 242 TO THREADS PRIOR TO INSTALLATION.

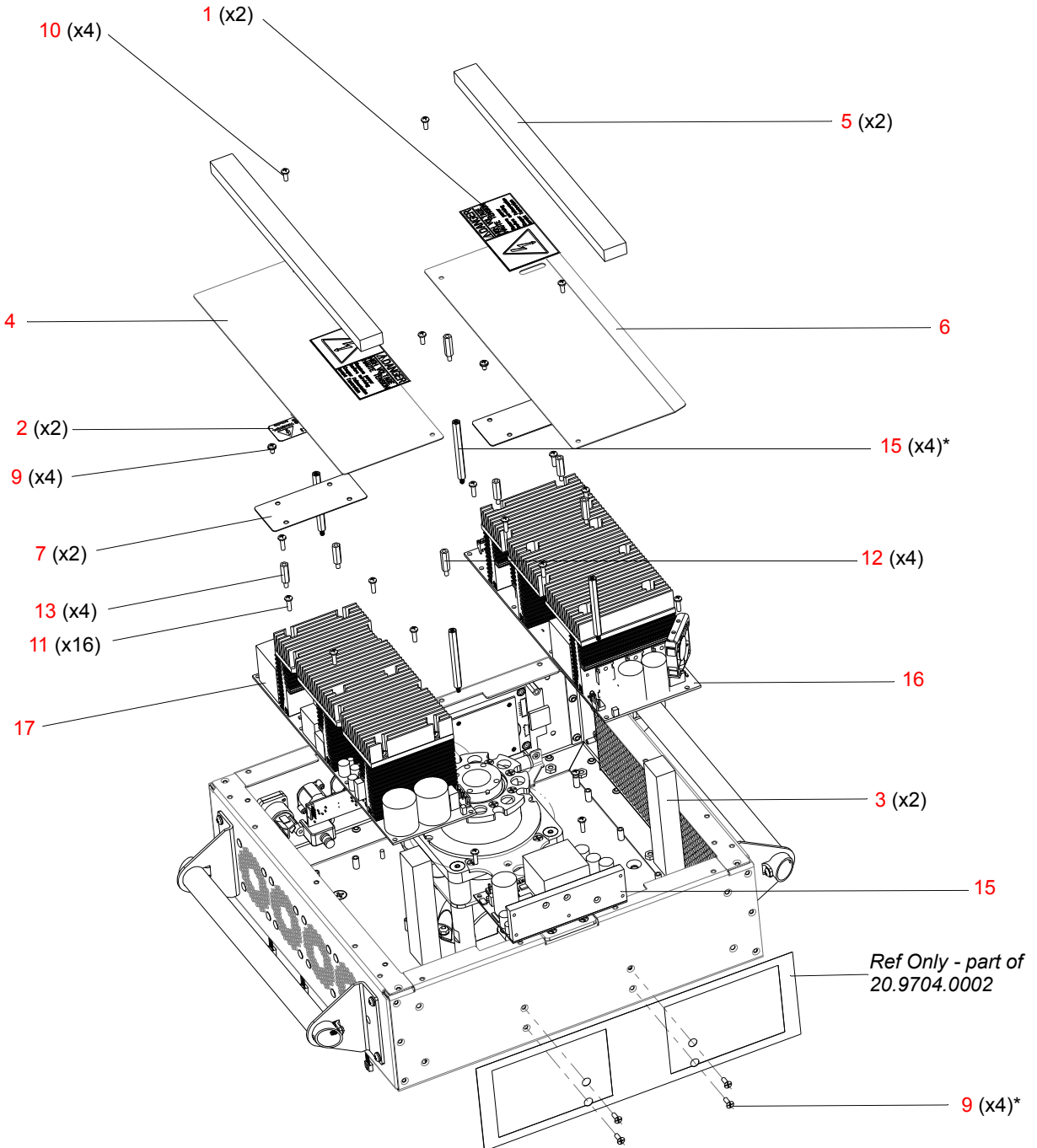
Figure 3-61: Upper Enclosure Assembly Part 2

Upper Enclosure Assembly - Part 3

Refer to [Figure 3-60](#)

No.	Item	Qty.	UM.	Description
1	04.9704.0892	2	EA	LABEL, VL4000 BALLAST
2	04.9704.0893	2	EA	LABEL, BALLAST DANGER WARNING
3	10.9678.0896	2	EA	4.5-INCH AIR SEAL, UPPER ENCLOSURE
4	10.9704.0874	1	EA	INSULATING DUCT, PFC
5	10.9704.1835	2	EA	TOP FOAM AIR SEAL
6	10.9704.1857	1	EA	INSULATING DUCT, DRIVER SIDE
7	10.9704.2874	2	EA	HOLDER, BALLAST WARNING LABEL
8	53.5636.0375	4	EA	SCREW, 6-32 X 3/8" PFSS-B
9	53.6558.0007	4	EA	SCREW, 6-32 X 1/4" LG PPZ SEMS
10	53.6558.0009	4	EA	SCREW, 6-32 X 3/8" LG PPZ SEMS
11	53.6613.0008	16	EA	SCREW, 6-32 X 1/2" PPZ SEMS
12	55.2288.0001	4	EA	STANDOFF, MF 6-32 X 13/16" LG, 1/4 HEX
13	55.6658.0009	4	EA	STANDOFF, 1/4" HEX 6-32 0.75" LG MF
14	55.6658.2500	4	EA	STANDOFF, 6-32 X 2.5" LG, 14 HEX ZINC M-F
15	69.9704.0300	1	EA	36VDC, 300W LVS
16	69.9704.1400	1	EA	1200W/1400W LAMP DRIVER
17	69.9704.2450	1	EA	2035W PFC (1400W LAMP)

Upper Enclosure Assembly - Part 3 (continued)



*APPLY LOCTITE 242 TO THREADS PRIOR TO INSTALLATION.

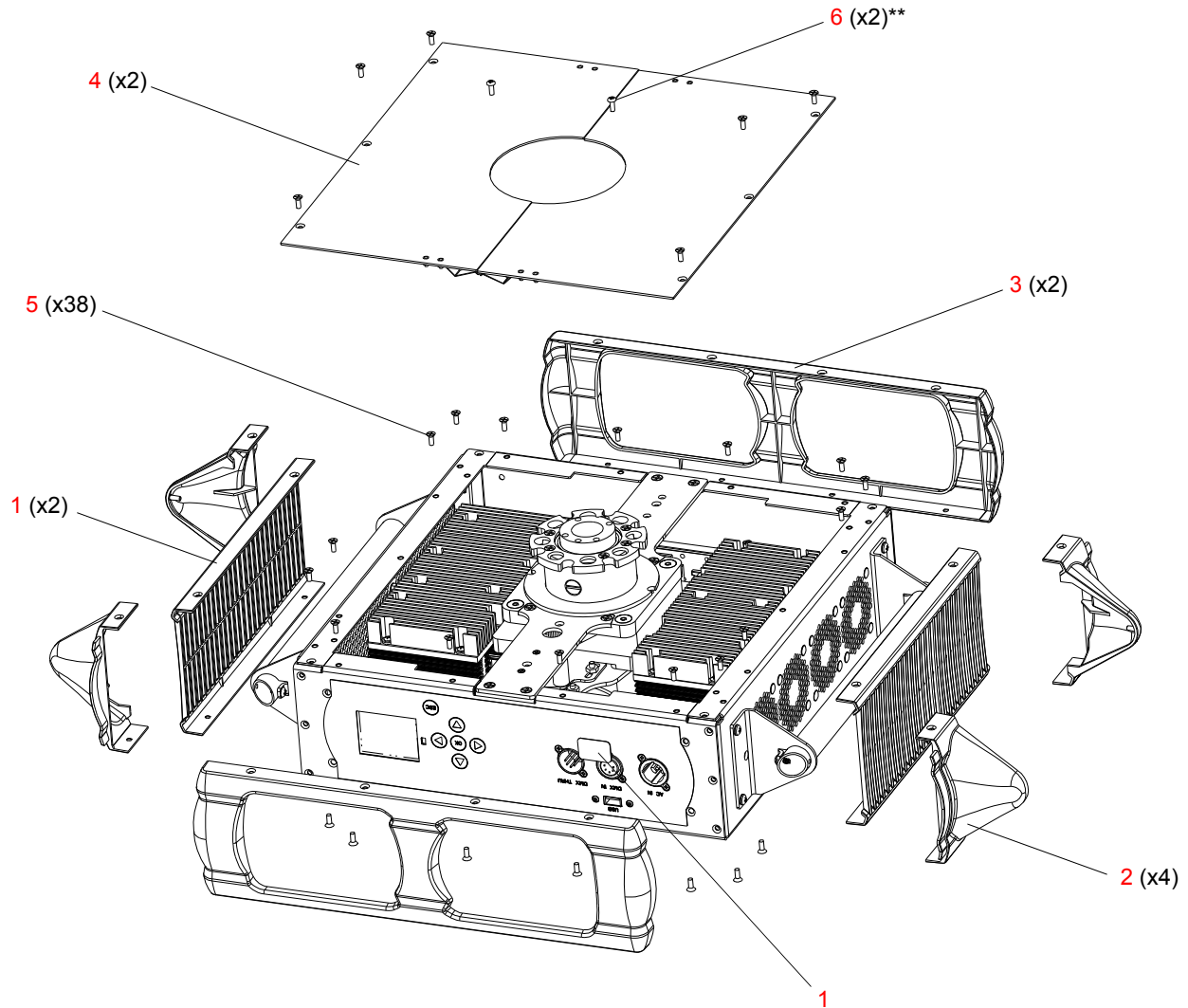
Figure 3-62: Upper Enclosure Assembly Part 3

Upper Enclosure Assembly - Part 4

Refer to [Figure 3-61](#)

No.	Item	Qty.	UM.	Description
1	10.9704.1846	2	EA	UPPER ENCLOSURE, SIDE COVER, HI TEMP
2	10.9704.1847	4	EA	UPPER ENCLOSURE, SIDE ARM COVER, HI TEMP
3	10.9704.1849	2	EA	UPPER ENCLOSURE, FRONT/REAR COVER, HI TEMP
4	21.9704.0850	2	EA	UPPER ENCLOSURE COVER
5	53.5636.0375	38	EA	SCREW, 6-32 X 3/8" PFSS-B
6	53.6543.0001	2	EA	SCREW, 6-32 X 3/8" PPB
-	25.9704.1703	1	EA	CABLE ASSY, VL4000 PAN/TILT (NOT SHOWN)
-	25.9704.2704	1	EA	CABLE ASSY, VL4000 PAN/PWR DISTRO INPTU W/ SHIELD (NOT SHOWN)
-	25.9704.1800	1	EA	CABLE ASSY, VL4000 PFC POWER INPUT (NOT SHOWN)
-	25.9704.1801	1	EA	CABLE ASSY, VL4000 ENCLOSURE PFC OUTPUT W/ SHIELD (NOT SHOWN)
-	25.9704.0802	1	EA	CABLE ASSY, VL4000 DMX (NOT SHOWN)
-	25.9704.0803	1	EA	CABLE ASSY, VL4000 BALLAST CONTROL (NOT SHOWN)
-	25.9704.0804	1	EA	CABLE ASSY, VL4000 USB INTERFACE (NOT SHOWN)
-	25.9704.1805	1	EA	CABLE ASSY, VL4000 THERMAL CNTRL (NOT SHOWN)
-	25.9704.0716	1	EA	CABLE ASSY, VL4000 CHASSIS TO YOKE GRND (NOT SHOWN)

Upper Enclosure Assembly - Part 4 (continued)



**APPLY LOCTITE 272 PRIOR TO INSTALLING. SCREW IN UNTIL SCREW HEAD TOUCHES COVER. DO NOT OVER TIGHTEN.

Figure 3-63: Upper Enclosure Assembly Part 4

Side Mount Fan Assembly

21.9704.0810 Rev. E

Refer to [Figure 3-64](#)

No.	Item	Qty.	UM.	Description
1	10.9704.1817	1	EA	UPPER ENCLOSURE SIDE WALL FAN MOUNT
2	22.9704.1850	4	EA	FAN ASSY WITH RUBBER MOUNTS (NOTE: EACH ASSEMBLY IS 4 RUBBER FAN MOUNTS, 1 FAN, AND 4 NYLON WASHERS)

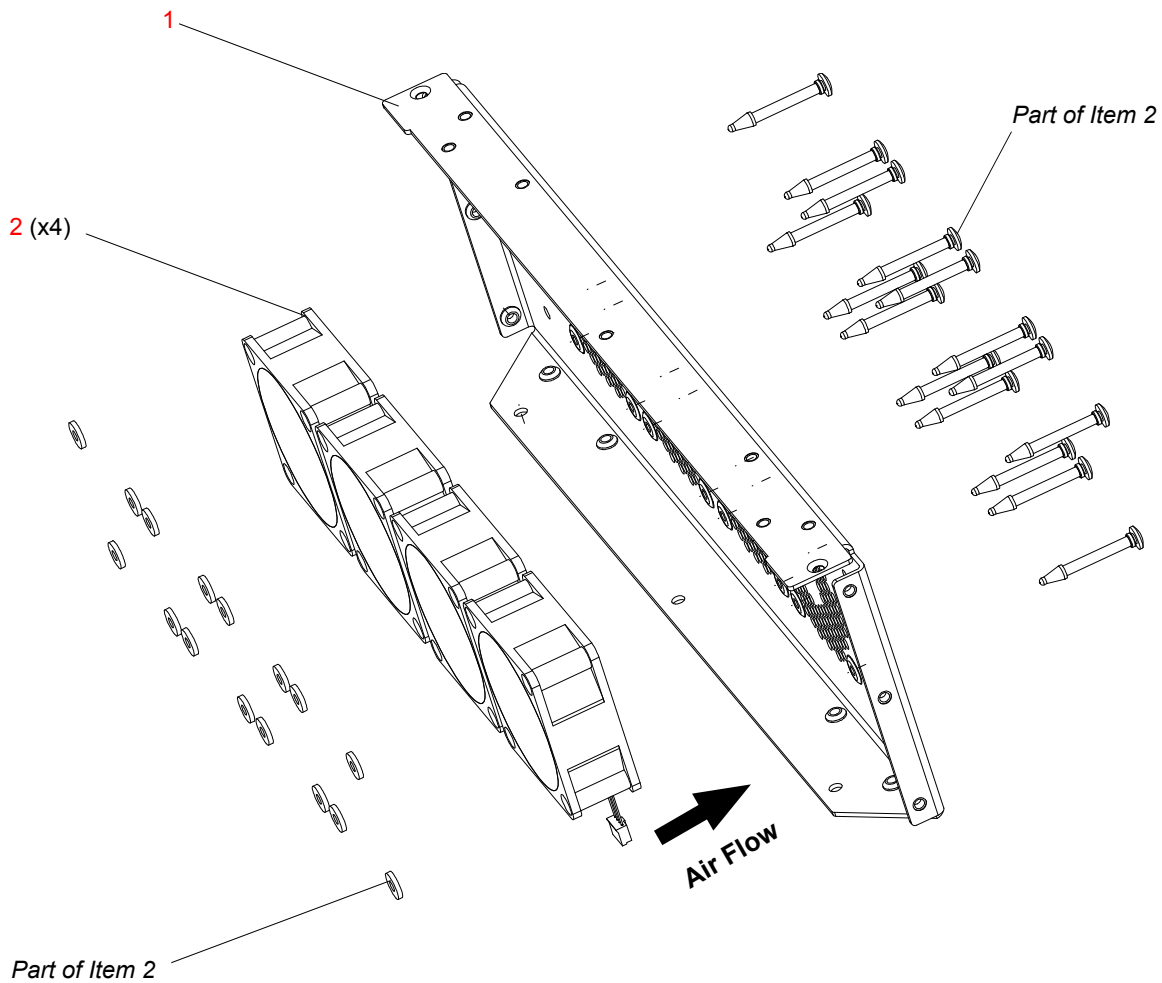


Figure 3-64: Side Mount Fan Assembly

Front Panel Assembly

21.9704.0825 Rev. G

Refer to [Figure 3-61](#)

No.	Item	Qty.	UM.	Description
1	10.9679.0850	1	EA	BACKING PLATE, NEUTRIK
2	11.9704.0846	1	EA	DISPLAY OVERLAY
3	10.9704.1815	1	EA	FRONT PANEL
4	21.9704.0880	1	EA	ASSY, MCB/DISPLAY
5	10.9704.0886	1	EA	MCB BRACKET MOUNT
6	10.9704.1826	1	EA	PAN ASSY, SUPPORT BRACKET
7	24.9664.4895	1	EA	PCB ASSY, DMX INPUT
8	25.9704.0830	1	EA	POWERCON, NEUTRIK AC INPUT CONNECTOR NAC3MPX
9	53.6598.0001	6	EA	SCREW, 4-40 X 3/8" PFB
10	53.6558.0007	1	EA	SCREW, 6-32 X 1/4" PPZ SEMS
11	53.5636.0375	2	EA	SCREW, 6-32 X 3/8" PFSS-B
12	55.2288.0001	2	EA	STANDOFF, MF 6-32 X 13/16" LG, 1/4 HEX
13	46-9704.0853	1	EA	USB PORT, PANEL MOUNT

Front Panel Assembly (continued)

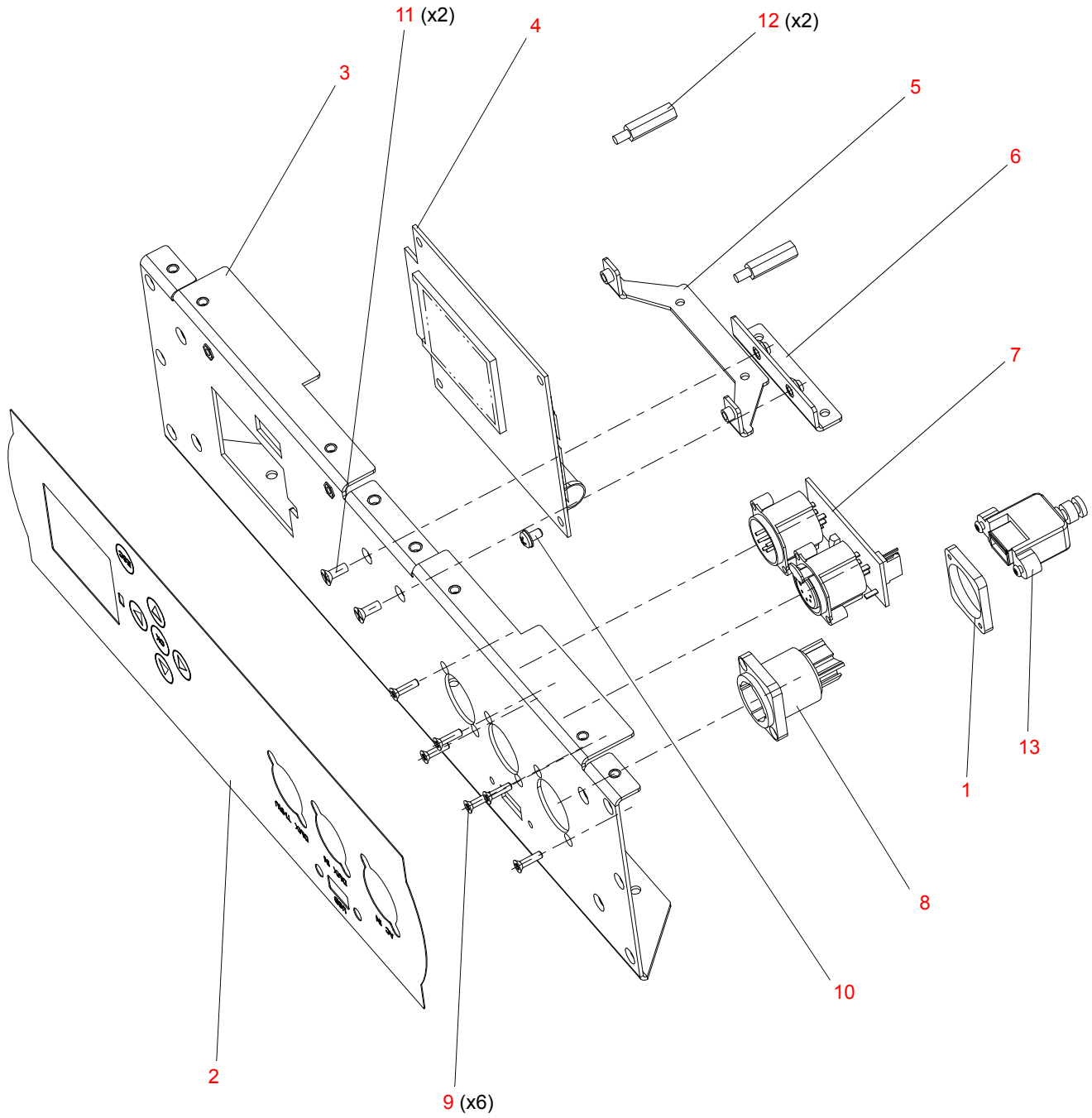


Figure 3-65: Front Panel Assembly

Side Mount Filter Holder Assembly

21.9704.2815 Rev. C

Refer to [Figure 3-66](#)

No.	Item	Qty.	UM.	Description
1	10.9704.1842	2	EA	AIR FILTER
2	10.9704.2819	1	EA	SIDE FILTER GRILL
3	10.9704.3818	1	EA	UPPER ENCLOSURE FILTER SIDE
4	53.2200.0006	6	EA	NUT, 6-32 KEP SS

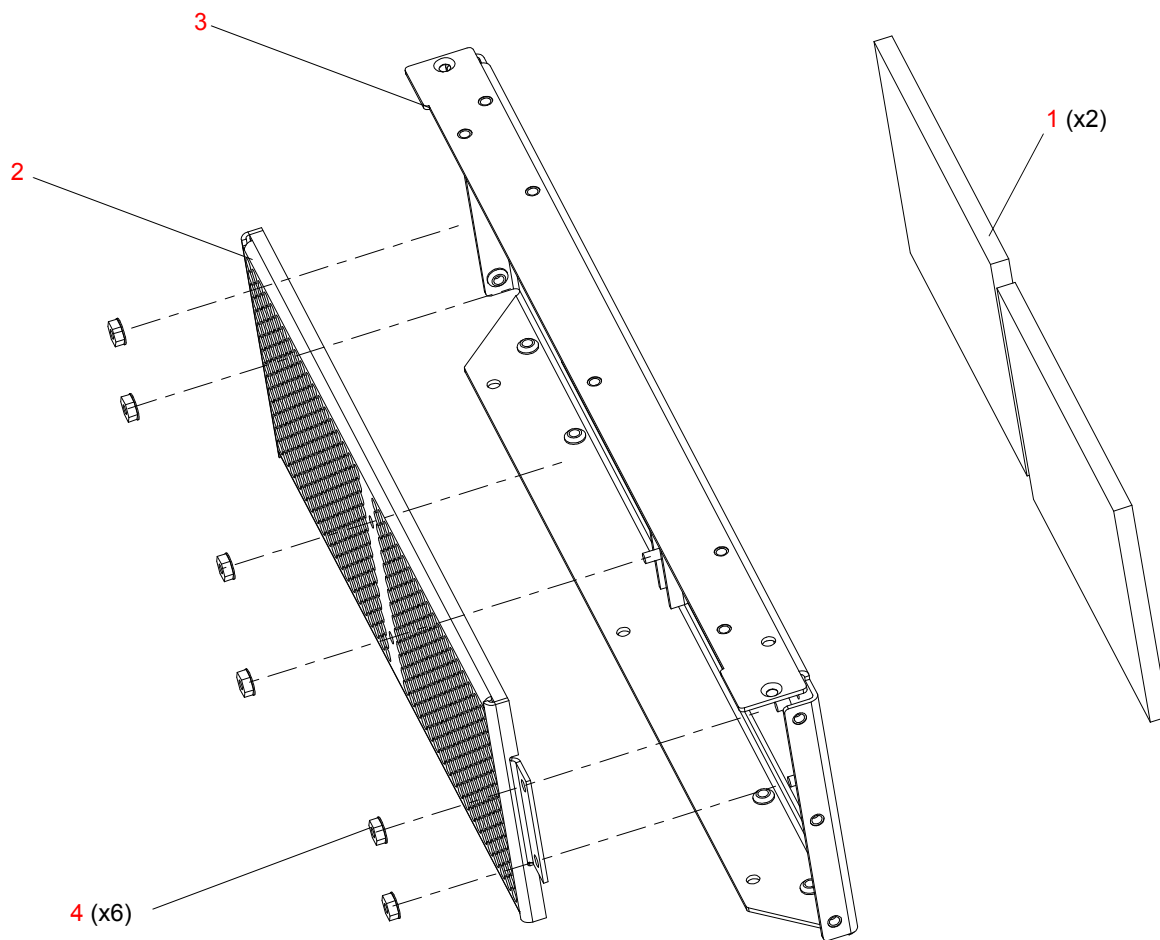


Figure 3-66: Side Mount Filter Holder Assembly

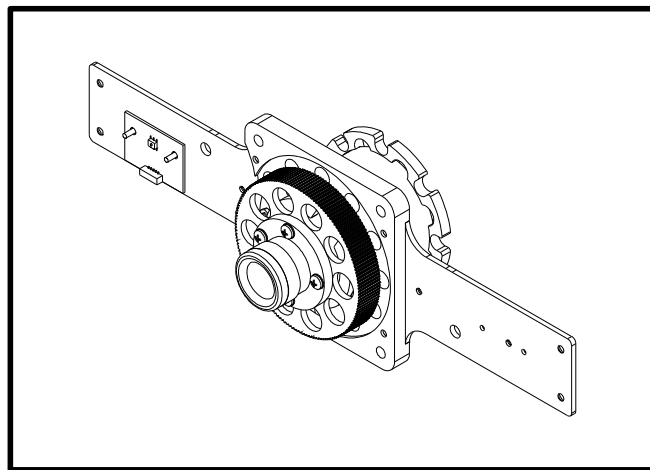
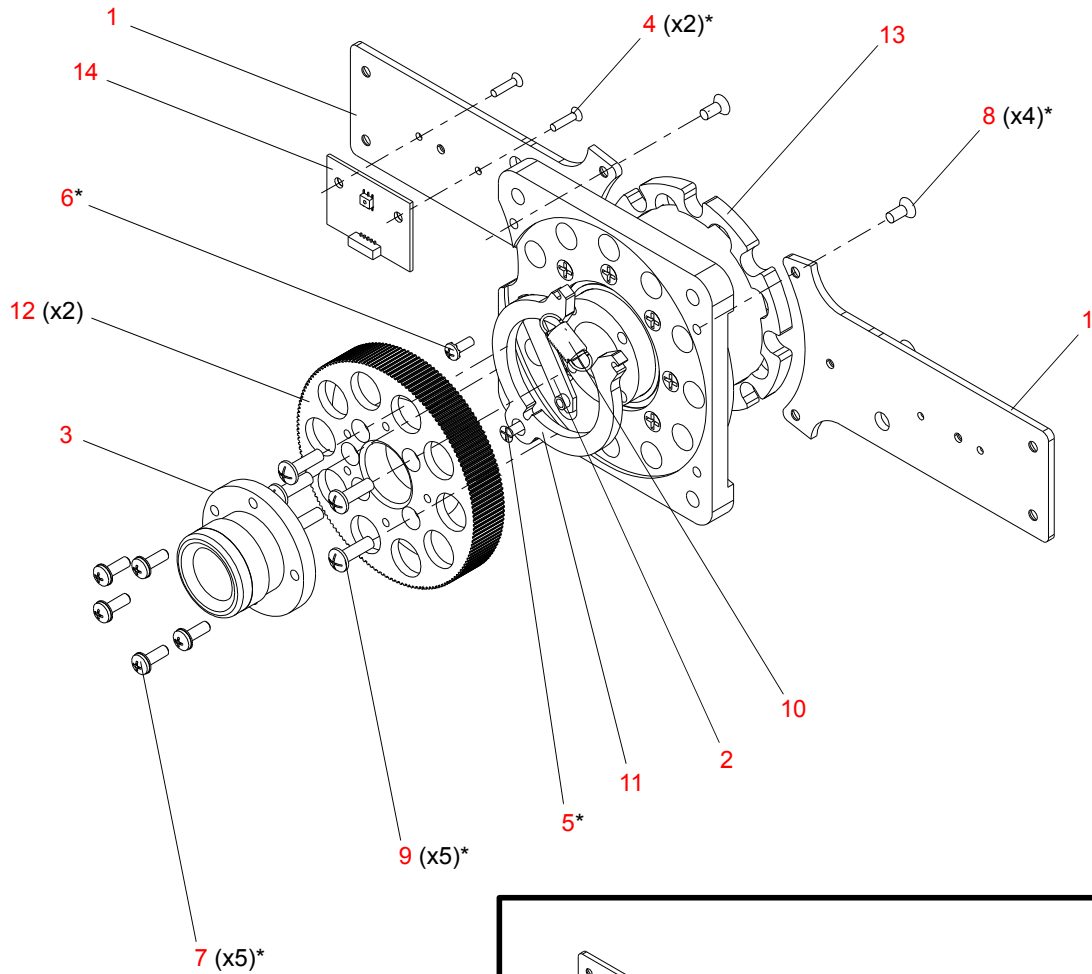
Pan Bearing / Pulley Assembly

21.9704.0840 Rev. F

Refer to [Figure 3-60](#)

No.	Item	Qty.	UM.	Description
1	10.9704.0863	2	EA	BRACKET SUPPORT
2	10.9704.4891	1	EA	BRACKET, STABILIZER, PAN
3	10.9704.1809	1	EA	EXTENSION, PAN TUBE
4	53.6536.0001	2	EA	SCREW, 4-40 X 1/2" PFZ
5	53.6609.0001	1	EA	SCREW, 6-32 X 3/8" PFZ
6	53.6558.0009	1	EA	SCREW, 6-32 X 3/8" LG PPZ SEMS
7	53.6575.0010	5	EA	SCREW, 8-32 X 1/2" PPZ SEMS
8	53.6545.0007	4	EA	SCREW, 8-32 X 3/8" PFB
9	53.6627.0001	5	EA	SCREW, 10-32 X 5/8" PPB
10	55.6568.0075	1	EA	SPRING, EXTSN, 1/2" FL, X 1/8" OD
11	10.9704.4890	1	EA	STABILIZER, PAN, 1.950" SHAFT
12	10.9704.1808	2	EA	TIMING PULLEY, 150 TOOTH
13	22.9704.4850	1	EA	VL4000 PAN TUBE ASSY
14	17.9704.0910	1	EA	VL4000 PAN TUBE ENCODER

Pan Bearing / Pulley Assembly (continued)



*APPLY LOCTITE 242 TO THE THREADS OF ALL SCREWS PRIOR TO INSTALLATION.

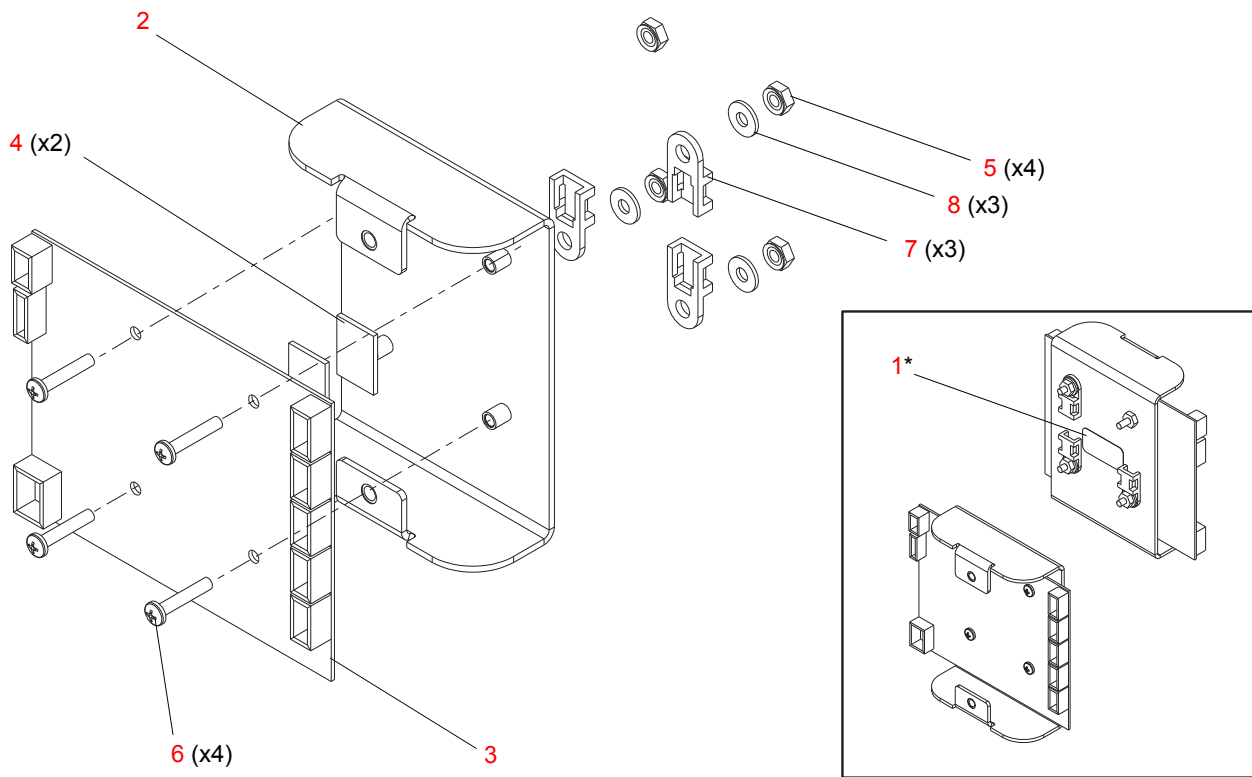
Figure 3-67: Pan Bearing / Pulley Assembly

Pan / Fan Driver Board Assembly

21.9704.0870 Rev. G

Refer to [Figure 3-64](#)

No.	Item	Qty.	UM.	Description
1	04.9704.0801	1	EA	DIPSWITCH LABEL, PAN BOARD
2	10.9704.2837	1	EA	SENSOR BOARD MOUNT PLATE
3	24.9704.1907	1	EA	PAN DRIVER BOARD
4	52-0406	2	EA	THERM PAD, VO GAP PAD ULT-SOFT, 0.45" X 0.625"
5	53.2003.0001	4	EA	NUT, 4-40 KEP ZINC PLATED
6	53.6519.0001	4	EA	SCREW, 4-40 X 5/8" PPZ
7	55.2178.0001	3	EA	CABLE ANCHOR MOUNT, #8 SCREW
8	55.6621.0001	3	EA	WASHER, #4 FLAT ZINC



*Apply label in location shown.

Figure 3-68: Pan / Fan Driver Board Assembly

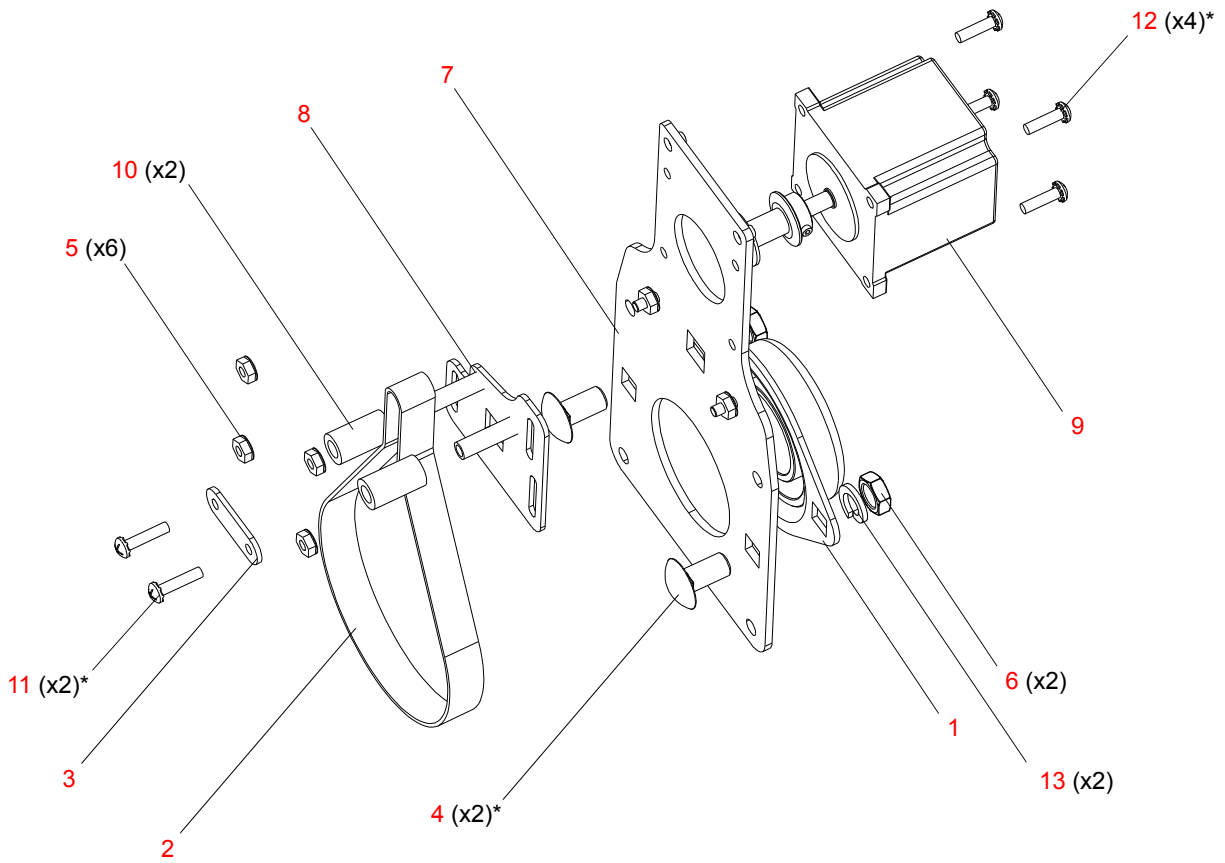
Pan Module Assembly

21.9704.1820 Rev. G

Refer to [Figure 3-69](#)

No.	Item	Qty.	UM.	Description
1	54.1255.0001	1	EA	BEARING ASSY, BLACK FLUSH MOUNT
2	54.9698.0224	1	EA	BELT, TIMING, S2M 210GRV 15 MM WIDE URTH/KVLR
3	10.9704.1867	1	EA	BRIDGE, BELT TENSION ROLLERS
4	53.6505.0022	2	EA	CARRIAGE BOLT, 3/8"-16 X 3/4"
5	53.2200.0008	6	EA	NUT, 8-32 KEPS SS
6	53.2019.0004	2	EA	NUT, 3/8-16 X 0.500" LG X HD GRADE 5 BLK
7	10.9704.3821	1	EA	PAN MOTOR, PLATE
8	10.9704.1866	1	EA	PLATE, BELT TENSION, PAN
9	22.9704.3820	1	EA	PULLEY / MOTOR ASSY
10	10.9704.0766	2	EA	ROLLER, TENSION ADJUST, TILT
11	53.6682.0026	2	EA	SCREW, 8-32 X 3/4" LG PPZ SEMS
12	53.6682.0025	4	EA	SCREW, 8-32 X 5/8" PPZ SEMS
13	53.6539.0001	2	EA	WASHER, 3/8" SPLIT LOCK

Pan Module Assembly (continued)



*APPLY BLUE LOCTITE TO THE THREADS OF ALL SCREWS PRIOR TO INSTALLATION.

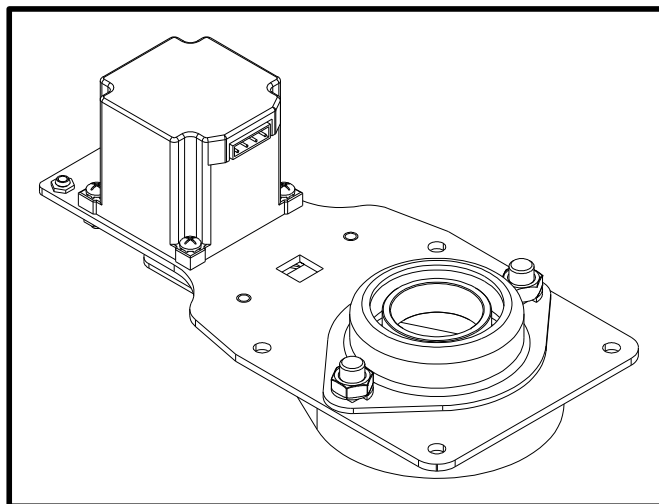


Figure 3-69: Pan Module Assembly

Upper Enclosure Cover Assembly

21.9704.0850 Rev. A

Refer to [Figure 3-70](#)

No.	Item	Qty.	UM.	Description
1	10.9704.0858	2	EA	COVER LATCH SPRING
2	53.2200.0004	4	EA	NUT, KEPS, 4-40
3	10.9704.0839	1	EA	UPPER ENCLOSURE COVER

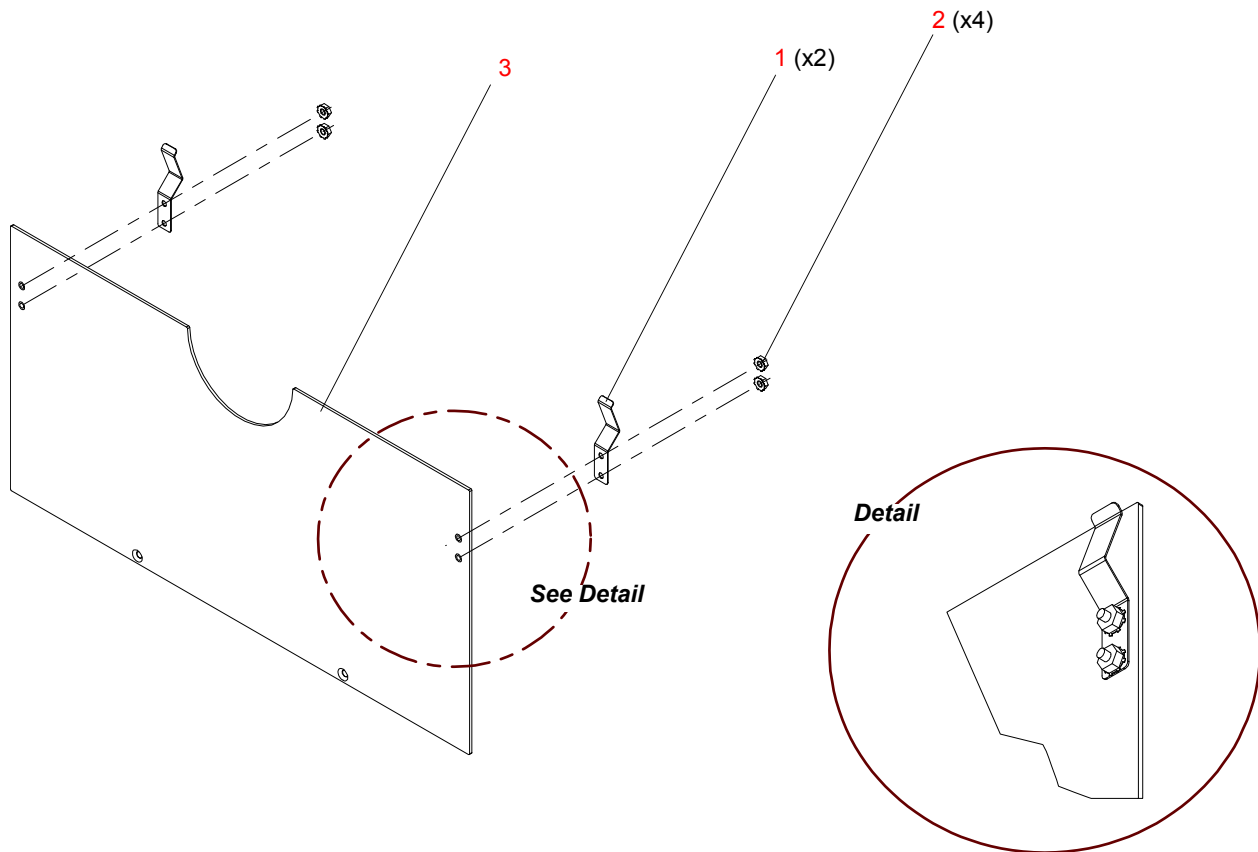


Figure 3-70: Upper Enclosure Cover Assembly

Notes

Cable Assemblies

LVS Chassis Ground Cable Assembly

25.9687.0025 Rev. A

Refer to [Figure 3-71](#)

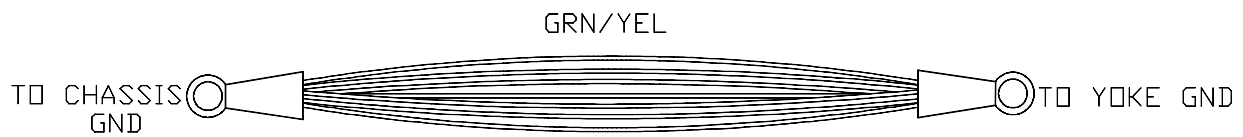


Figure 3-71: VL4000 Pan / Tilt Cable Assembly



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

VL4000 Pan / Tilt Cable Assembly

25.9704.1703 Rev. D

Refer to [Figure 3-72](#)

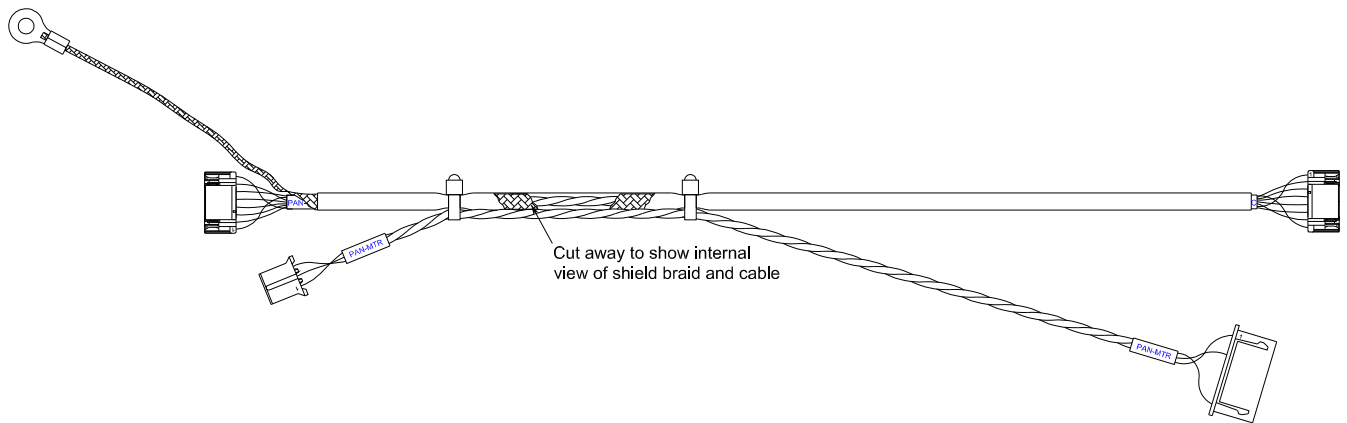


Figure 3-72: VL4000 Pan / Tilt Cable Assembly



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

VL4000 Color Power Distribution Cable Assembly

25.9704.0708 Rev. D

Refer to [Figure 3-73](#)

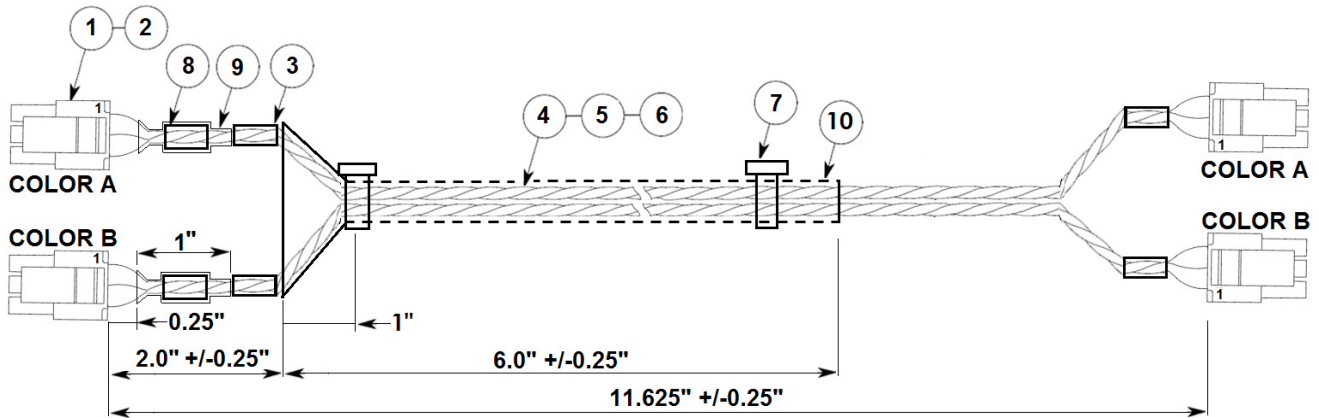


Figure 3-73: VL4000 Color Power Distribution Cable Assembly



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

VL4000 Lamp Base & Tip Fan Extension Cable Assembly

25.9704.1602 Rev. B

Refer to [Figure 3-74](#)

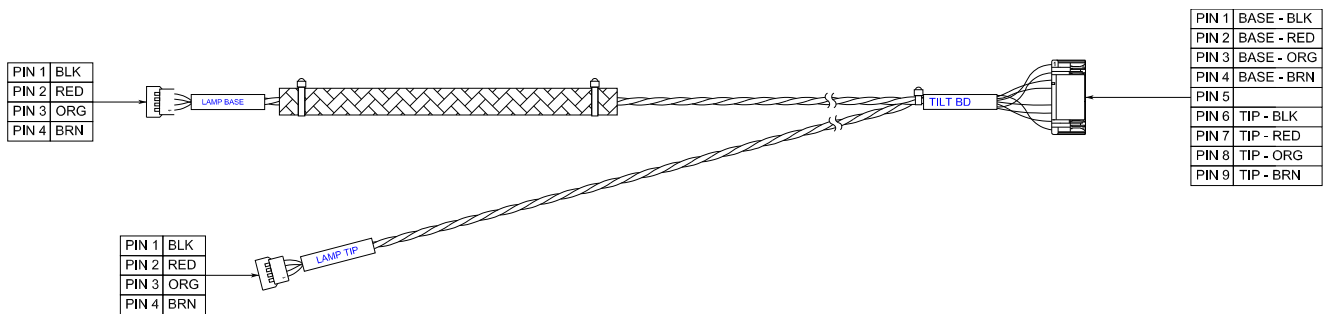


Figure 3-74: VL4000 Lamp Base & Tip Fan Extension Cable Assembly



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

VL4000 Data Network Extension Cable Assembly

25.9704.0711 Rev. B

Refer to [Figure 3-75](#)

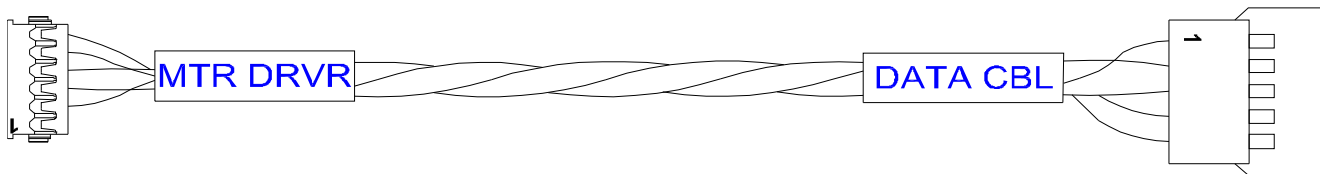


Figure 3-75: VL4000 Data Network Extension Cable Assembly



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

VL4000 Color Bulkhead 1 Cable Assembly

25.9704.0400 Rev. A

Refer to [Figure 3-76](#)

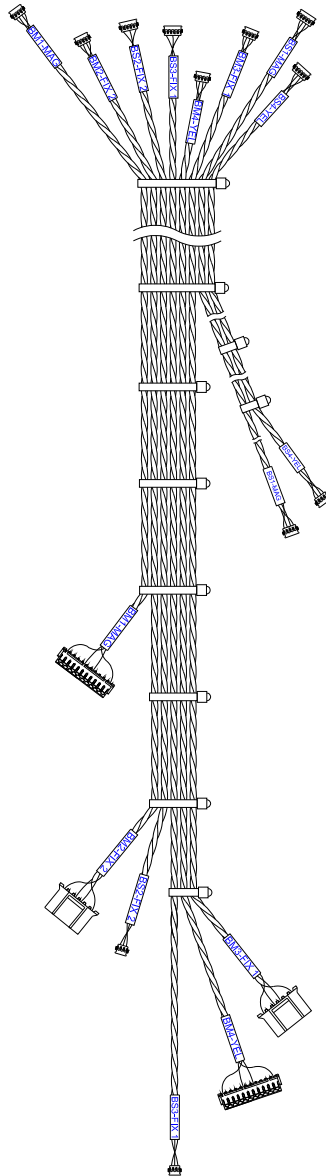


Figure 3-76: VL4000 Color Bulkhead 1 Cable Assembly



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

VL4000 Color Bulkhead 2 Cable Assembly

25.9704.0401 Rev. A

Refer to [Figure 3-77](#)

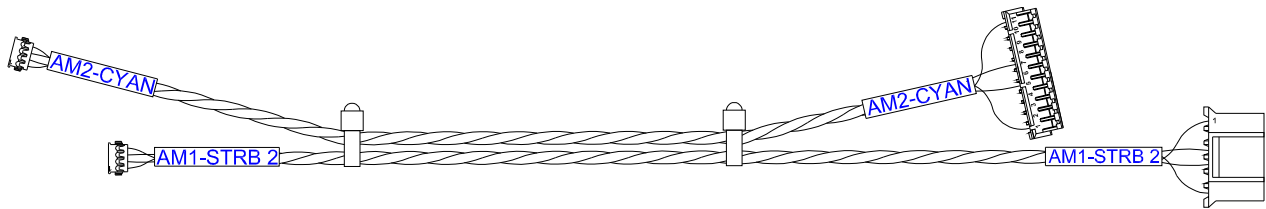


Figure 3-77: VL4000 Color Bulkhead 2 Cable Assembly



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

VL4000 Color Bulkhead 3 Cable Assembly

25.9704.0402 Rev. A

Refer to [Figure 3-78](#)



Figure 3-78: VL4000 Color Bulkhead 3 Cable Assembly



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

VL4000 Color Bulkhead 4 Cable Assembly

25.9704.0403 Rev. A

Refer to [Figure 3-79](#)

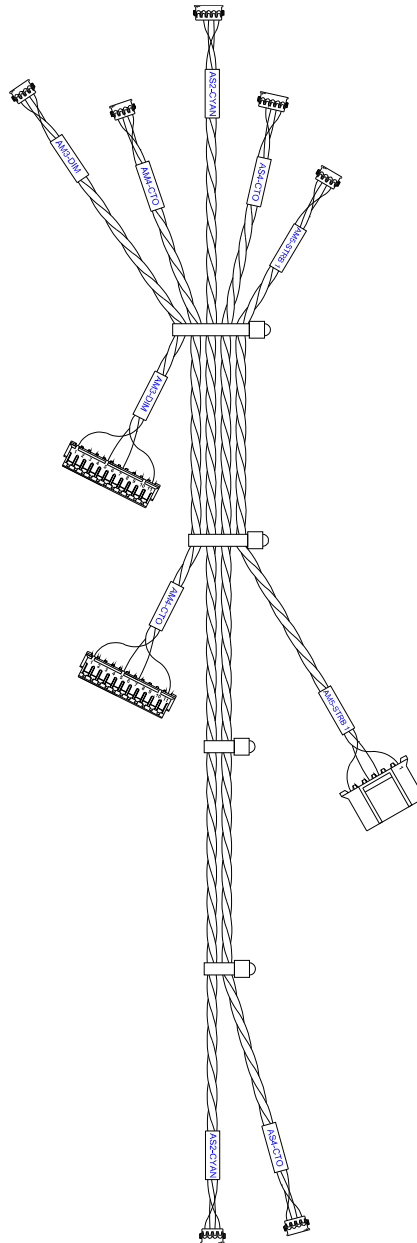


Figure 3-79: VL4000 Color Bulkhead 4 Cable Assembly



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

VL4000 Color A to Color B Cable Assembly

25.9704.0712 Rev. A

Refer to [Figure 3-80](#)

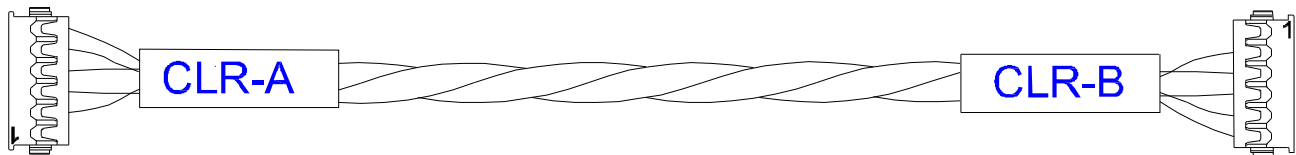
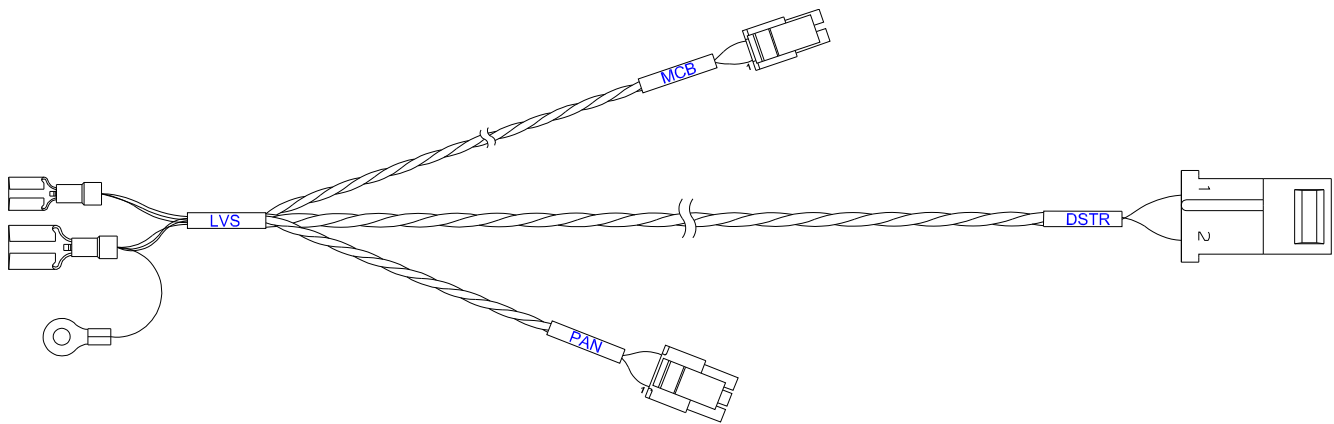


Figure 3-80: VL4000 Color A to Color B Cable Assembly



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

VL4000 Pan / Power Distribution Input Cable Assembly**25.9704.2704 Rev. A**Refer to [Figure 3-81](#)**Figure 3-81: VL4000 Pan / Power Distribution Input Cable Assembly**

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

VL4000 Enclosure PFC Input Cable Assembly

25.9704.1800 Rev. A

Refer to [Figure 3-82](#)

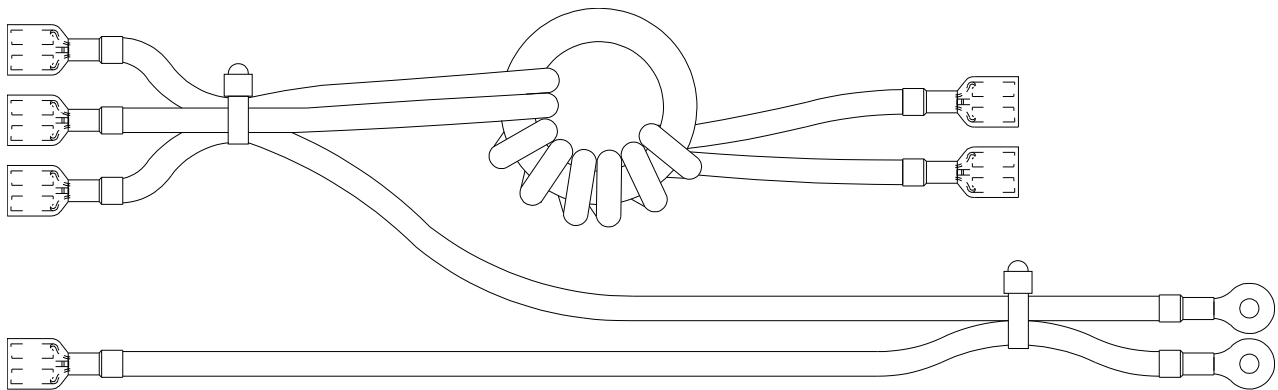


Figure 3-82: VL4000 Enclosure PFC Input Cable Assembly



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

VL4000 Enclosure PFC Output Cable Assembly

25.9704.1801 Rev. A

Refer to [Figure 3-83](#)

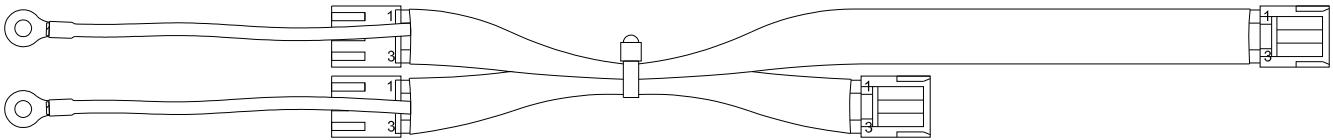


Figure 3-83: VL4000 Enclosure PFC Output Cable Assembly



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

VL4000 DMX Cable Assembly

25.9704.0802 Rev. A

Refer to [Figure 3-84](#)

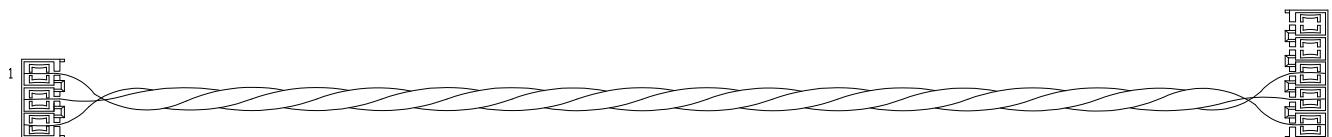


Figure 3-84: VL4000 DMX Cable Assembly



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

VL4000 Ballast Control Cable Assembly

25.9704.0803 Rev. A

Refer to [Figure 3-85](#)

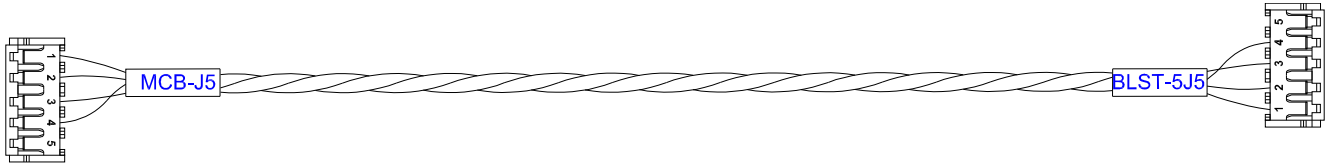


Figure 3-85: VL4000 Ballast Control Cable Assembly



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

VL4000 USB Interface Cable Assembly

25.9704.0804 Rev. A

Refer to [Figure 3-86](#)

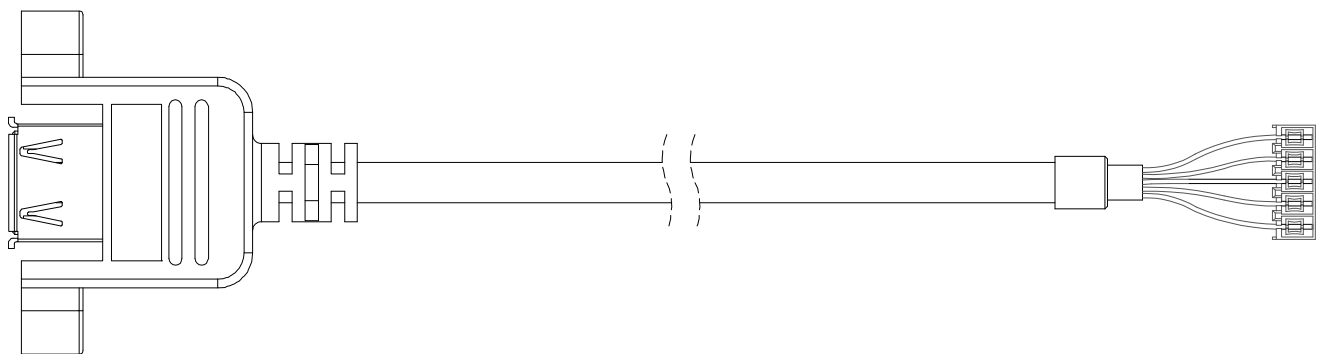


Figure 3-86: VL4000 USB Interface Cable Assembly



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

VL4000 Thermal Control Cable Assembly

25.9704.1805 Rev. A

Refer to [Figure 3-87](#)



Figure 3-87: VL4000 Thermal Control Cable Assembly



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

VL4000 Chassis to Yoke Cable Assembly

25.9704.0716 Rev. B

Refer to [Figure 3-88](#)



Figure 3-88: VL4000 Chassis to Yoke Cable Assembly

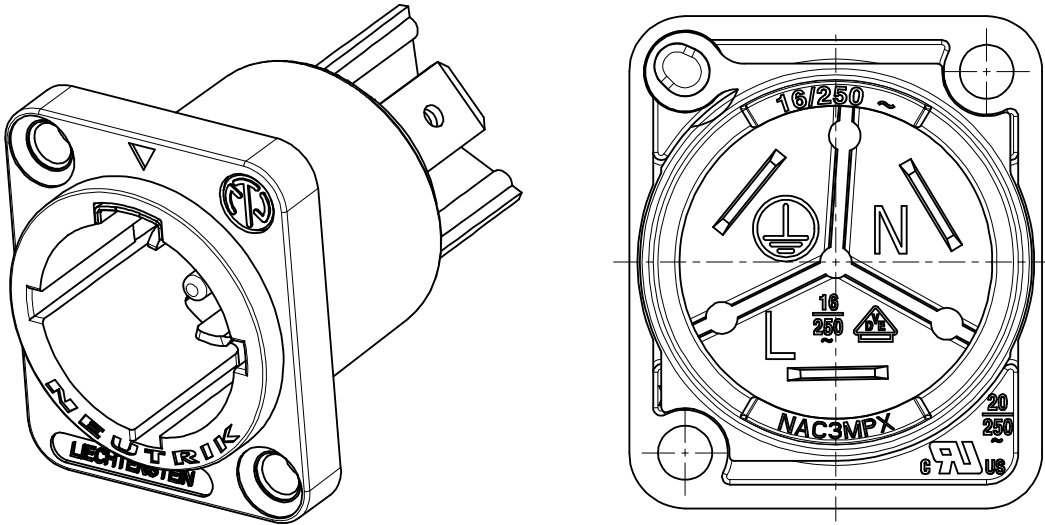


Note: Cables are only available as complete assemblies. The information contained in this section is for reference only.

VL4000 AC Input Connector Assembly

25.9704.0830 Rev. A

Refer to [Figure 3-89](#)



NEUTRIK AG
powerCON NAC3MPX

Figure 3-89: VL4000 AC Input Connector Assembly



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

VL4000 Tilt with Shield Cable Assembly

25.9704.2717 Rev. B

Refer to [Figure 3-90](#)

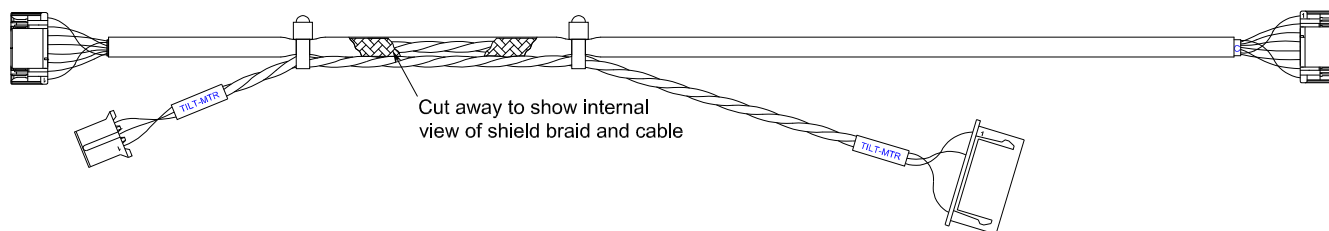


Figure 3-90: VL4000 Tilt with Shield Cable Assembly



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

VL4000 BeamWash Power Dist Cable Assembly

25.9704.6705 Rev. D

Refer to [Figure 3-91](#)

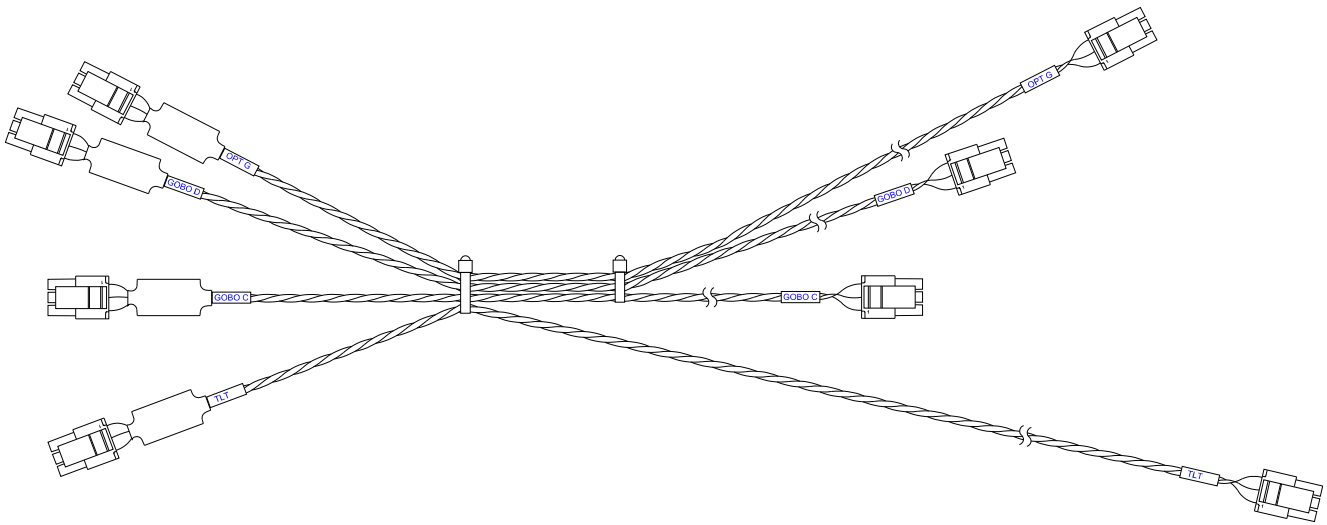


Figure 3-91: VL4000 BeamWash Power Dist Cable Assembly



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

VL4000 Main from MCB Data Cable Assembly

25.9704.6713 Rev. B

Refer to [Figure 3-92](#)

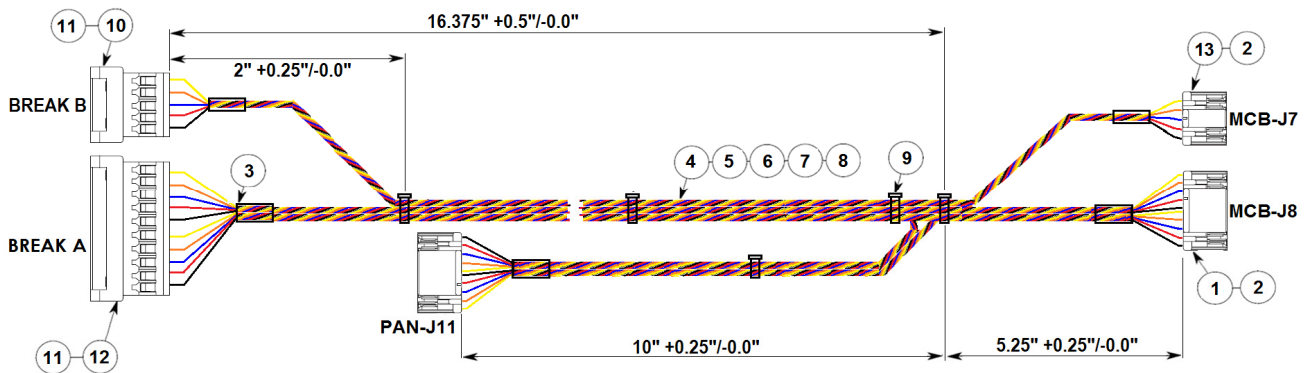


Figure 3-92: VL4000 Main from MCB Data Cable Assembly



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

VL4000 Main to Bulkheads Data Cable Assembly

25.9704.6714 Rev. B

Refer to [Figure 3-93](#)

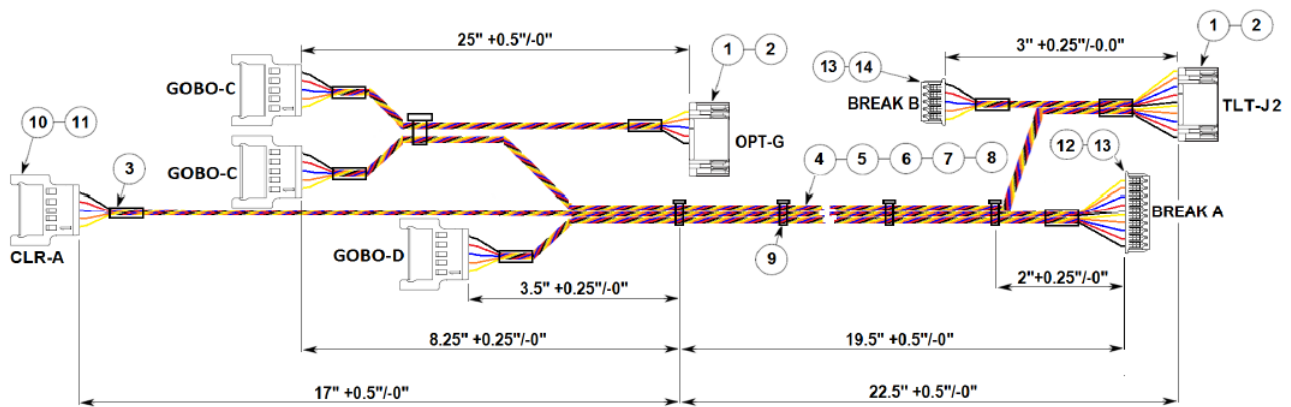


Figure 3-93: VL4000 Main to Bulkheads Data Cable Assembly



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

VL4000 BeamWash Inlet Fan Extension Cable Assembly

25.9704.6601 Rev. B

Refer to [Figure 3-94](#)

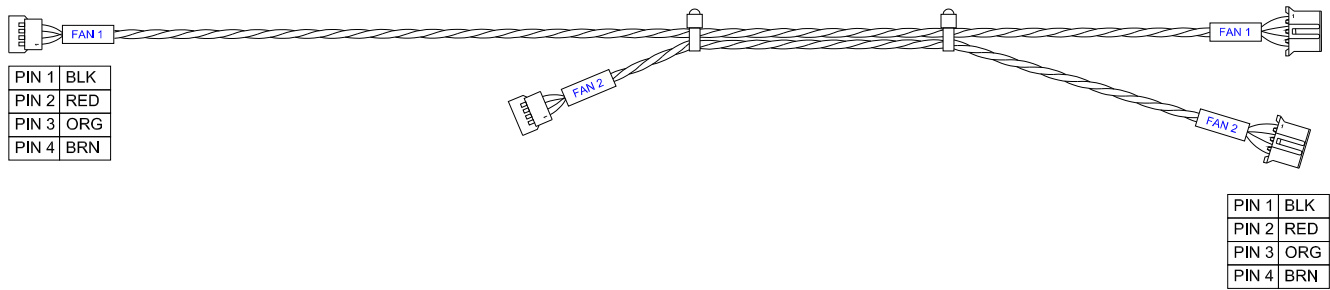


Figure 3-94: VL4000 BeamWash Inlet Fan Extension Cable Assembly



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

VL4000 Ballast to Ignitor Cable Assembly

25.9704.1702 Rev. A

Refer to [Figure 3-95](#)

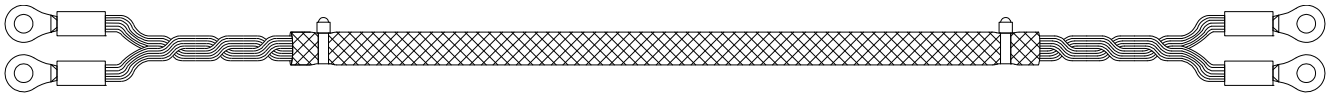


Figure 3-95: VL4000 Ballast to Ignitor Cable Assembly



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

VL4000 BeamWash Gobo Bulkhead 1 Cable Assembly

25.9704.6200 Rev. C

Refer to [Figure 3-96](#)

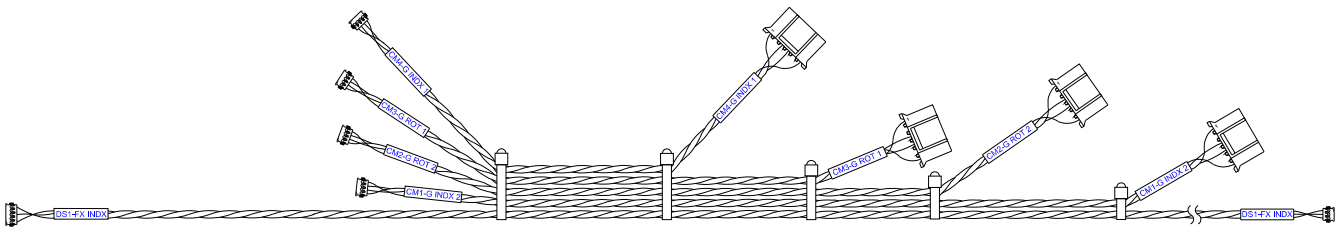


Figure 3-96: VL4000 BeamWash Gobo Bulkhead 1 Cable Assembly



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

VL4000 BeamWash Gobo Bulkhead 2 Cable Assembly

25.9704.6201 Rev. C

Refer to [Figure 3-97](#)

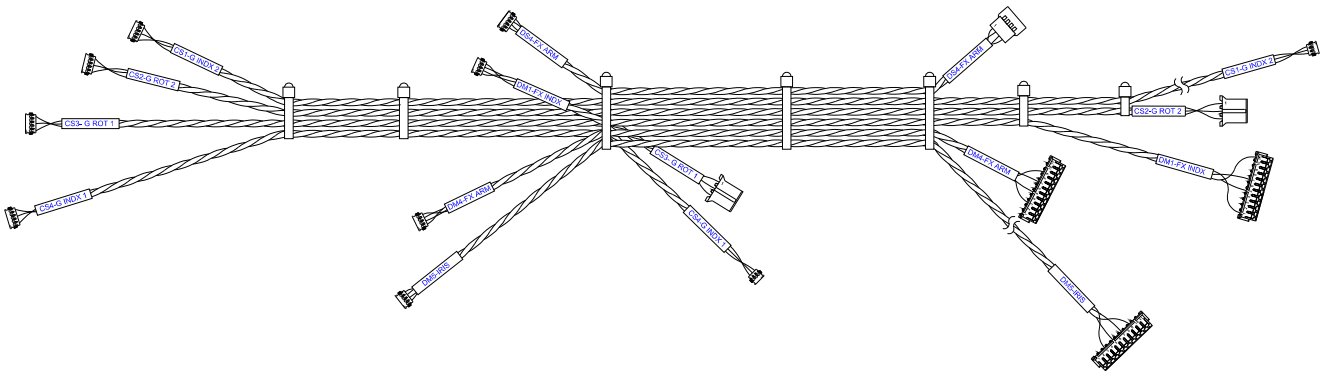


Figure 3-97: VL4000 BeamWash Gobo Bulkhead 2 Cable Assembly



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

VL4000 BeamWash Lamp Socket Cable Assembly

25.9704.7701 Rev. A

Refer to [Figure 3-99](#)

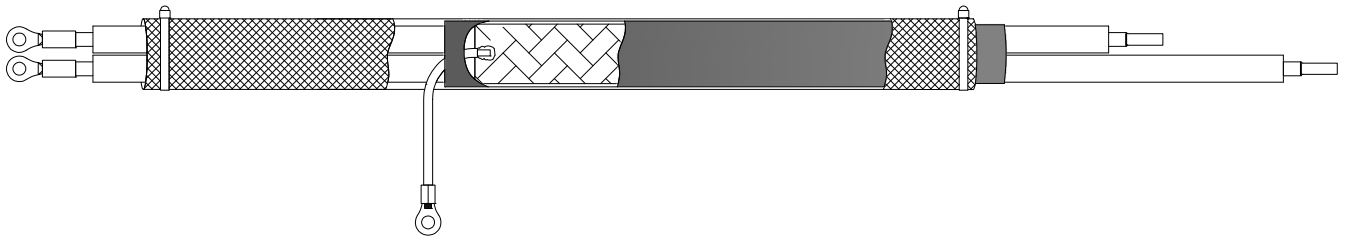


Figure 3-99: VL4000 BeamWash Lamp Socket Cable Assembly



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 Notices & Bulletins

VL4000 BeamWash Luminaire

The following tables identify the current technical notices and bulletins associated with the VL4000 BeamWash Luminaire. 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.

Note: Check the Vari-Lite web site periodically for updates to the technical notices and bulletins listed herein and any technical notices or bulletins released after the publishing date of this manual.

Technical Notices

Technical Notice	Description
TN-229*	Powering Luminaires From Dimmer Circuits - NOT RECOMMENDED
TN-230*	Dousing Lamps Before Shutting Off Power
TN-232*	Use of Third Party Parts or Accessories
TN-248*	Specified and Approved Lamps for use in VARI*LITE Luminaires
TN-321*	Luminaires Without Power Switches (Using Neutrik Power Connectors)
TN-338*	Gobo Sizing Information for Various VARI*LITE Luminaires

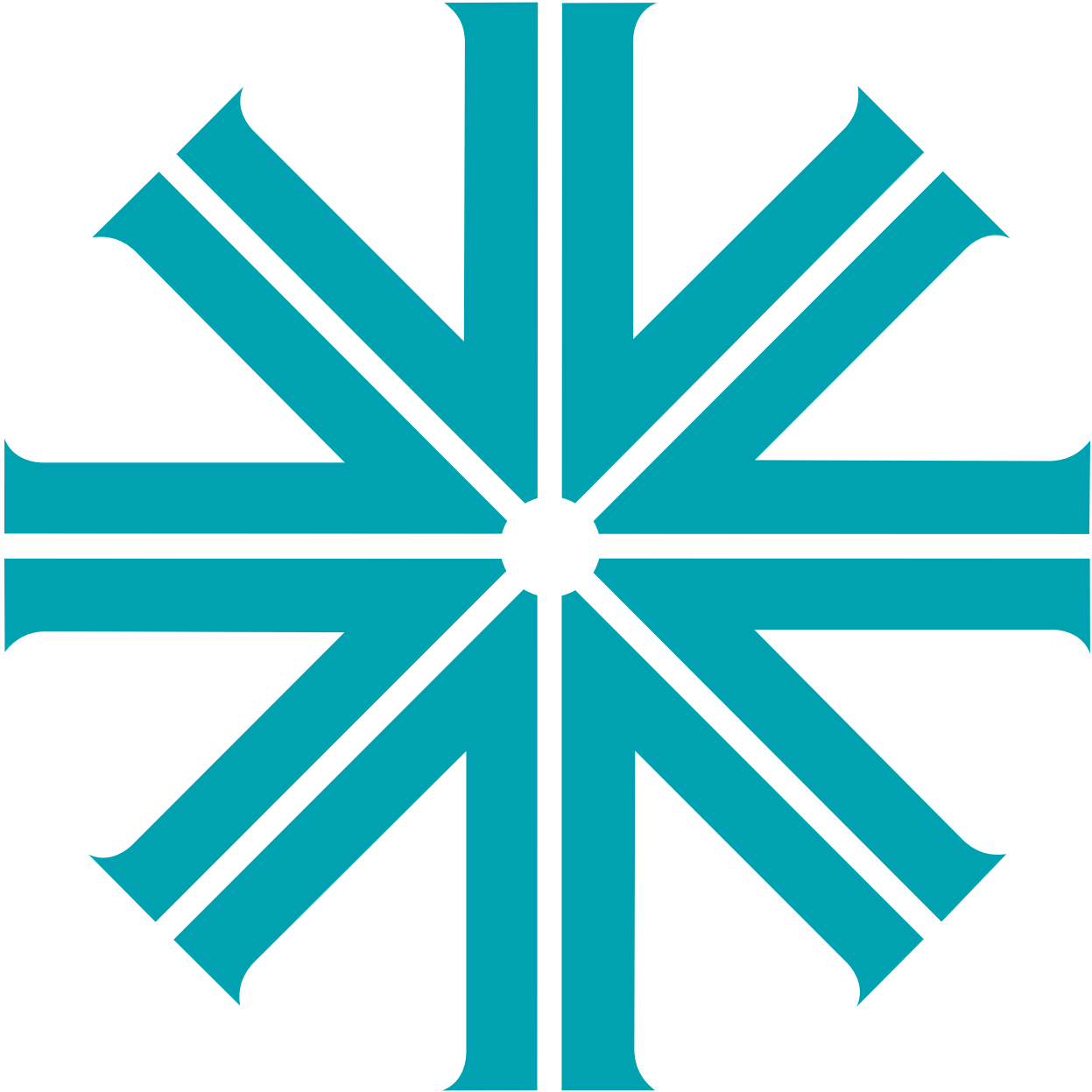
Technical Bulletins

Technical Bulletin	Description

*These documents as well as software and their associated technical bulletins are available in the PUBLIC product downloads section on the Vari-Lite web site.

Note: Vari-Lite reserves the right to remove software, technical bulletins, or technical notices at anytime without prior notice.

Notes



VARI*LITE

Express yourself.

Philips Entertainment Lighting
10911 Petal Street
Dallas, Texas 75238 USA
1.877.VARI-LITE * Fax 1.214.647.8038
www.philips.com/entertainmentlighting

Date: **20 June 2017** / Manual Part Number: **02.9704.6010 A**

©2017 Philips Entertainment Lighting, a Philips Group Company. All rights reserved.
Produced in the U.S.A.