

VLX3 LED Wash Luminaire

02.9703.0010





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How To Obtain Warranty Service

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

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

Once you obtain the RMA, pack the unit in a secure shipping container or in its original packing box. Fill out the RMA form (obtained from the Vari-Lite web site www.vari-lite.com or through customer service) 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:

Vari-Lite 10911 Petal Street Dallas, Texas 75238 USA Attention: Warranty Service / RMA Number

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

Compliance Notice

FCC

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



Declaration of Conformity

We declare, under our sole responsibility, that this product complies with the relevant clauses of the following standards and harmonized documents:

Safety

EN 60598-1:2000 Luminaire Safety Standard, General Requirements EN 60598-2 17:1989/A2: 1991 Specification for Luminaires for Stage and Studio Lighting

EMC

EN 61000-6-4: 2001 Radiated and Conducted Emissions

We certify that the product conforms to the protection requirements of Low Voltage Directive 2006/95/EC and Council Directive 89/336/EEC (EMC)

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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 light sources. The VLX3 LED Wash Luminaire uses a special type of LED light source. Installing another type of light source will be hazardous and void the luminaire warranty.
- 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.

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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. Wear eye protection when relamping.
- 4. Appropriate safety equipment (gloves, eye protection) should be used when handling damaged lamps.
- 5. 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.
- 6. 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.

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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 Beleuchtungen sind für Gebrauch mit spezifischen Lichtquellen bestimmt worden. Die VLX3 LED Wash Luminaire Beleuchtung benutzt eine spezielle Art LED-Lichtquelle. Eine andere Art Lichtquelle anzubringen ist gefährlich und hebt die Beleuchtunggarantie auf.
- 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 Ultraviolettschirme 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. Tragen Sie beim Austausch der Lampen einen Augenschutz.
- 4. Die geeignete Sicherheitsausrüstung (Handschuhe, Augenschutz) sollte beim Umgang mit beschädigten Lampen verwendet werden.
- 5. 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.
- 6. Wenn die Lampe beschädigt oder durch Hitzeeinwirkung deformiert ist, muß diese ausgetauscht werden.

WARNUNG:

HF-INTERFERENZ

 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.

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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. Des appareils d'éclairage de VARI*LITE ont été conçus pour l'usage avec des sources lumineuses spécifiques. L'appareil d'éclairage de VLX3 LED Wash Luminaire emploie un type spécial de source lumineuse de LED. L'installation d'un autre type de source lumineuse sera dangereuse et videra la garantie d'appareil d'éclairage.
- 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.

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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 lorqu'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.

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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. Los alumbrados de VARI*LITE se han diseñado para el uso con fuentes de luz específicas. El alumbrado de VLX3 LED Wash Luminaire utiliza un tipo especial de fuente de luz del LED. La instalación de otro tipo de fuente de luz será peligrosa y anulará la garantía del alumbrado.
- 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.

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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. Use un equipo de seguridad apropiado (guantes, protección para los ojos, etc.) cuando trabaje con lámparas dañadas.
- 4. 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.
- 5. 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.

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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に設計されています。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。

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警告:

過度の UV 放射にさらされないためのヒント

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

警告:

人身事故を防ぐためのヒント

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

警告:

RF 干涉

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

アーク灯の特性

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

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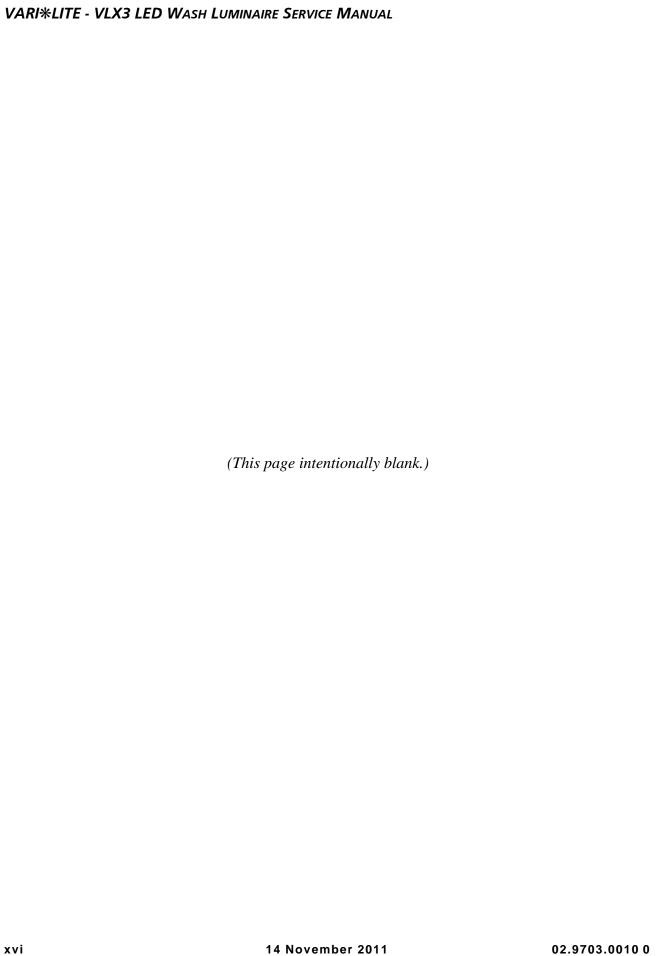
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Introduction

About This Manual

This manual provides descriptions, repair procedures, and illustrated parts breakdowns for all configurations of the VLX3 LED Wash Luminaire. The manual is intended for use by Vari-Lite personnel and Authorized VARI*LITE Service Centers and technicians.



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
VLX3 Wash Luminaire	20.9703.0001	Three x 120W RGBW LEDs
VLX3 Wash Luminaire, White	20.9703.0001.02	Three x 120W RGBW LEDs



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 VLX3 Series Luminaire User's Manual. This manual is available in electronic (PDF) format on the Vari-Lite web site at www.vari-lite.com in the Support (Product Downloads) section.

• VLX3 Series Luminaire User's Manual (02.9703.0001)

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

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www.usitt.org

Customer Service

Our Goal

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

How to Reach Us

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

O1

Contact an Authorized Service Center.

OI

Contact the Vari-Lite Customer Service Department, 7am - 6pm CST Monday through Friday, at the following:

phone: 1-877-VARI-LITE (1-877-827-4548) e-mail: entertainment.service@philips.com

Additional Resources

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

Technical Bulletins and Notices

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

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).

A list of current technical bulletins and notices associated with VLX Series Luminaires is found in "VLX3 Wash Technical Bulletins and Notices" on page 109.

CHAPTER 1.

Description

This chapter contains descriptions of luminaire features and components.

- Features
- Components
- Principles of Operation



Features

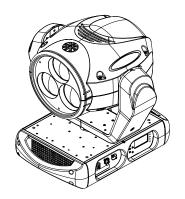
Standard Features

All VLX3 series luminaires have the following standard features:

- Three, 120 Watt custom RGBW Chipsets (each chipset contains high density red, green, blue, and white LED emitters).
- Optical zoom system with continuously variable field angle from approximately 15° to 55°.
- Smooth, high resolution intensity and dimming control of red, green, blue, and white LEDs.
- Color temperature (white) variable between 3000 and 9000K.
- LED manufacturer rated life in excess of 10,000 hours (at full RGBW).
- Output exceeds 6,000 lumens (white light).
- High speed strobe operation with multiple strobe effects.
- Smooth, time-controlled continuous motion by way of a pair of three-phase stepper motor systems. Pan range is 540°/ Tilt range is 240° both with a 0.3° resolution.
- Control by DMX512 protocol.
- Variable forced-air cooling.
- Operational Temperature of -20° to 122°F (-29° to 50°C).
- Power Requirements: Standard AC power distribution from 100-240VAC, 50/60Hz. The unit requires up to 7A depending on the AC supply voltage.
- 23 channels DMX channels (in Map 1 mode).
- May be mounted and operated in any orientation.
- Hangs on 21.50 inch (54.6 cm) centers.
- Weight is 44 lbs. / 20 kg (luminaire only).

Technical Specifications

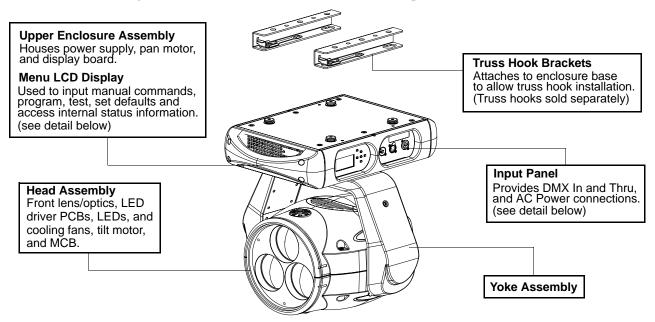
For detailed technical specifications, refer to VLX3 LED Wash Luminaire User's Manual (02.9701.0001) or the Vari-Lite web site at www.vari-lite.com.

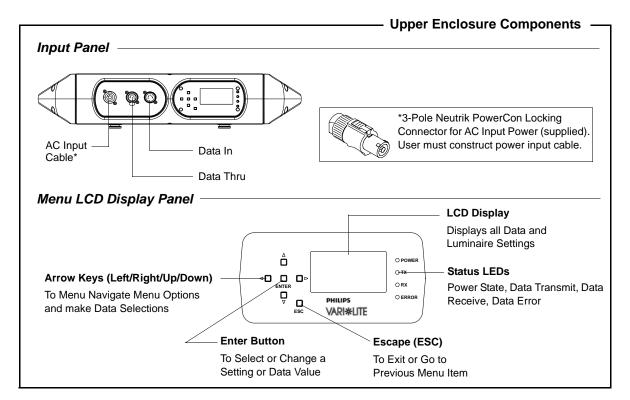


Components

VLX3 Wash External Components

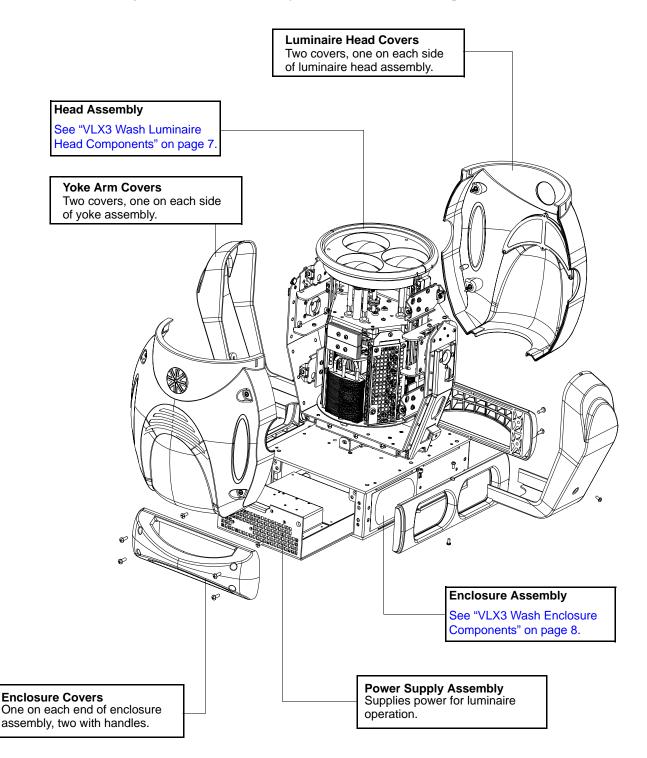
The following illustration shows the external luminaire components and controls.





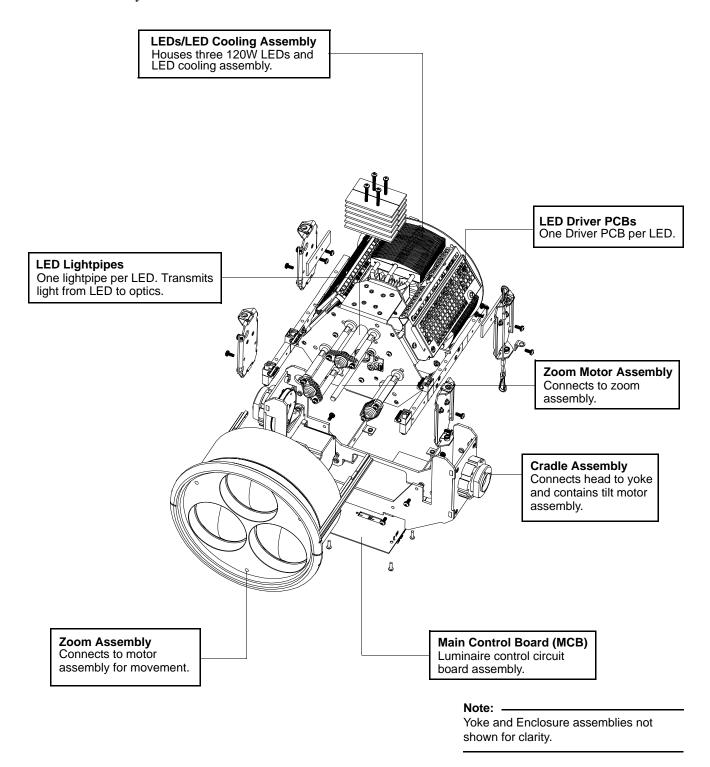
VLX3 Wash Luminaire Components

The following illustration shows the major sub-assemblies and components of the luminaire.



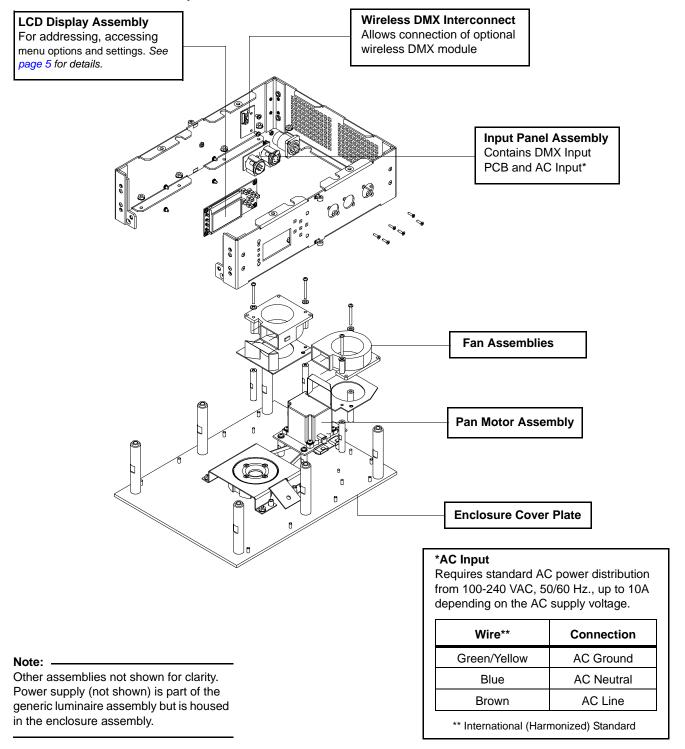
VLX3 Wash Luminaire Head Components

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



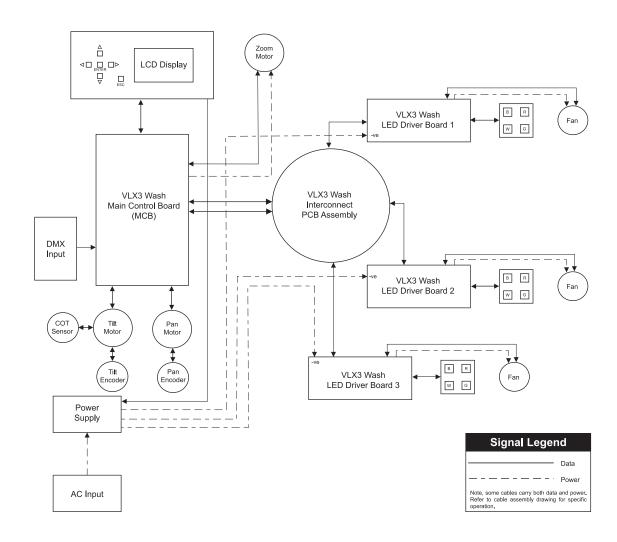
VLX3 Wash Enclosure Components

The following illustration shows the major sub-assemblies which are located in the luminaire enclosure assembly.



Principles of Operation

VLX3 Wash Luminaire Functional Block Diagram



Notes

CHAPTER 2.

Maintenance

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

- Testing
- Troubleshooting
- Special Care and Handling
- Maintenance Procedures



WARNING: All maintenance procedures are to be performed with power completely removed from the luminaire. Never remove covers while unit 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.



Testing

Luminaire Self-Tests

The luminaire is capable of running self tests by using the TEST menu functions. For detailed instructions regarding the luminaire's self-test function, refer to the VLX3 LED Wash Luminaire User's Manual (02.9703.0001).

Calibration Sequence

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

Phase 1

- Tilt
- LEDs Off
- LED Upload

Phase 2

Zoom

Phase 3

Pan

Sensor Testing

Most mechanisms within the VLX3 luminaire are equipped with either optical or magnetic sensors. The VLX3 master control board (MCB) has labeled test points for reading DC voltages at each sensor. Testing is best performed with a digital voltmeter for sensor readings or an Oscilloscope for pan/tilt encoder readings. The values can be used to determine whether a circuit is opening correctly or needs further troubleshooting.

Guidelines:

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

Notes regarding specific mechanisms:

• Tilt sensor reads high when the tab is in the sensor. The mechanism calibrates to the edge and its tab covers 50% of travel. Pan and tilt encoders are best read with a scope to read the encoder ticks.

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), one at a time until the end of the list is reached. To review the error messages again, it will be necessary to access them using the Status function. (Refer to "Troubleshooting Guide" on page 14 for a list of possible causes and remedies associated with the error messages.)

To access error messages:

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

Table 2-1: Error Messages

Display	Message
OK	No errors found
No Sensor on Tilt	Tilt sensor not found
Encoder Error on Tilt	Tilt encoder not found
No Sensor on Zoom	Zoom sensor not found
Encoder Error on Pan	Pan encoder not found
No LED Com Board Number X	No communication between LED driver board (X = driver board number 1, 2 or 3) and MCB
No LED Upload Board Number X	No software upload to LED driver board (X = driver board number 1, 2 or 3)
LED Error Board Number X	Problem exists between LED and LED driver board (X = driver board number 1, 2 or 3)



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 Center.

Troubleshooting Guide

If a problem is suspected, try recalibrating the luminaire to prompt an error message. Refer to "Error Messages" on page 13 for more information. The chart below provides possible causes and remedies for each message.

Table 2-2: Troubleshooting Guide

Message	Symptom	Description	Possible Cause and Remedy
n/a	No power	Luminaire does not power up	Circuit not energized - verify circuit breaker is turned on. Not plugged in - ensure A/C cable is connected to power source. Power cable wired incorrectly - verify power cable and connector are wired correctly.
n/a	DMX Data Input	Self tests will not run or software download does not work.	Detecting DMX data disconnect DMX input cable.
n/a	DMX Failure	No response to DMX data.	MCB connector disconnected check MCB DATA IN connection. DMX data cable not wired correctly or has a broken conductor check DMX data cable for proper wiring.
n/a	DMX Termination	Erratic control of luminaire.	No DMX termination or termination not correct check for DMX terminator.
n/a	Single LED not operating	One LED (out of the seven) is not producing light or responding to control.	LED Driver PCB not Powered - Check Power to the driver board for that LED. The driver board has 2 green LEDs on it. Each LED signifies a different power supply. The outer green LED (closest to the edge of the board) signifies that the driver board is getting power from the 12V supplies in the base (through the blue wire). The inner green LED signifies that it is getting +5V power from the round motherboard (through the header/pin connector) LED Driver PCB not Properly Connected - Check communication to the driver board for that LED. The Driver PCB has 2 red LEDs on it. If the LEDs are: State 1: Always on, but alternating brightness - board is communicating properly State 2: Alternating on and off very quickly - board is downloading software from Main Control Board. This state should be replaced by State 1 after programming. - Check Motherboard for short to ground

Table 2-2: Troubleshooting Guide (Continued)

Message	Symptom	Description	Possible Cause and Remedy
n/a	LED (light) is getting dimmer.	Fixture appears not to be operating at full brightness.	Luminaire has detected an over temperature condition - The luminaire will reduce power to all 3 LEDs if it senses that one LED is operating over the specified temperature. LED temperature is read and recorded through a thermistor imbedded in each LED chip. The two yellow wires carry the information (on temperature) to the LED's respective driver PCB. - Check the thermistor temperatures of each LED through the fixture's LCD display. If one LED is much hotter than the others - Check to see that the LED's fan is running / connected to the Driver PCB (Note, LED Driver PCB number 5 does not have a fan) OR, - If thermistor is not reading, replace Driver PCB OR, - If still no reading, replace the LED.
n/a	Colors (light output) not matching from luminaire to luminaire	Color output not matching other VLX3 wash fixtures operating at same control settings.	Calibration turned On or Off - Check fixture calibration setting. Make sure calibration is set to same setting (On or Off) as other fixtures. - Check dimming curve setting. Make sure dimming curve selection (Linear or Curve) is same for all fixtures.

Special Care and Handling



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 Center.

Introduction

Being a solid-state fixture, and unlike most automated arc or tungsten fixtures, the VLX3 LED Wash Luminaire requires very little routine maintenance by the user. This section covers all the parts or assemblies that can be removed, cleaned, and checked by the user. Any additional maintenance or service should only be completed by an Authorized VARI*LITE Service Center.

Special Cleaning and Care Instructions

The VLX3 LED Wash Luminaire requires special care when it comes to cleaning front lens assembly.



Note: Additional care needs to be taken with the plastic components because they are much easier to scratch or damage than glass.

The following is a list of cleaning materials required to care for your VLX3 LED Wash Luminaire:

- Lint free lens tissue
- Lint free cotton swabs (for hard-to-reach spot cleaning)
- Lint or powder free gloves
- Reagent grade isopropyl alcohol
- A mild soap solution.

Reagent grade isopropyl alcohol is good to use on the VLX3 LED Wash Luminaire plastic optics with anti-reflection coatings.

If the lens is still dirty after using isopropyl alcohol, for instance if fingerprints or oil is just redistributed and not cleaned off the optic, then a mild soap and water solution can be used to gently wash the lens. Repeat the cleaning with isopropyl alcohol to eliminate streaks and soap residue.



WARNING: Under no circumstances should ammonia-based cleaners, acetone, or other harsh solvents be used on or near the VLX3 LED Wash Luminaire. These types of cleaners or solvents can permanently damage the optics or housings of the fixture.

If you have any questions regarding the use or care of your VLX3 LED Wash Luminaire, please contact Vari-Lite technical support at 1.877-VARI-LITE or +1.214.647.7880.

General Care and Equipment Handling

Below are some basic tips and information on handling VARI*LITE luminaires and their associated components.

Locations/Use



VARI*LITE luminaires are designed for dry locations only. Exposure to rain or moisture (including, but not limited to, fog machines, misters, etc.) may damage luminaires.

Solid State Electronics



Electrostatic Discharge (ESD)

Electrostatic discharge (ESD) presents a significant danger to solid state electronic components (semiconductor devices and PC board assemblies). Static electricity can build on a variety of common objects (including people) simply by handling or moving. ESD rarely results in immediate failure of a component, but shows up later as an intermittent problem or severely reduces the life of the component. All VARI*LITE products use solid state electronics and appropriate precautions to protect them should be observed when servicing.

Printed Circuit Boards (PCBs)

All PC boards should be shipped in electrostatic shielding bags. When handling PC boards or components, devices such as conductive mats and conductive wrist straps should be used whenever possible. If these precautionary devices are not available, handling of PC boards and components should be avoided.



CAUTION: Black foam (used to package solid state electronics) should never be used for packing batteries or put in contact with PC boards which contain batteries.

Required Tools for VLX3 Wash Luminaire Service

To properly maintain and service VLX3 LED Wash Luminaires, Vari-Lite recommends that the following tools (in addition to the tools recommended during Vari-Lite's technical training classes) be available to technicians:

- 90-degree Phillips head screwdriver (#2)
- Precision torque wrench capable of 80-in oz.
- Long 3/32" hex driver

Maintenance Procedures

Moving Zoom Assembly Replacement

Tools:

• #2 Phillips screwdriver



WARNING: Ensure that power is completely removed (disconnected) from luminaire before attempting any work.

To remove moving zoom assembly:

- Step 1. Remove power from luminaire and allow unit to completely cool.
- Step 2. As illustrated in Figure 2-1, remove both head covers by loosening each quarter-turn Dzus fastener four per cover.



Note: Each cover is secured by a safety tether. Locate clip attached to cover and unclip tether.

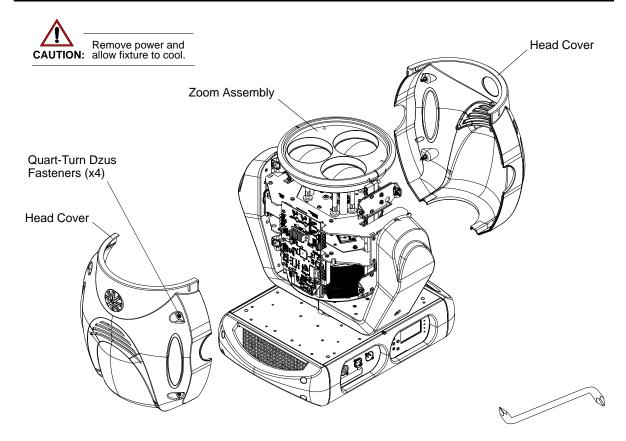
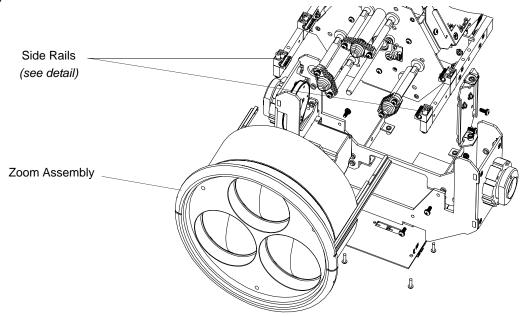
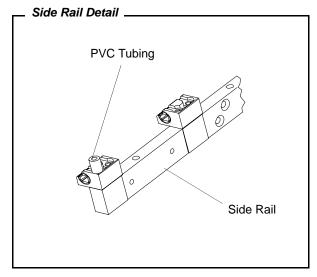


Figure 2-1: VLX3 Wash Luminaire - Removing Head Covers

Step 3. As indicated in Figure 2-2, at each side rail, loosen (BUT, do not remove) the two M4 x 40mm screws with PVC tubing until PVC tubing can be removed and no threads stick out of rail.





Note: ______
Some components not shown for clarity.

Figure 2-2: VLX3 Wash Zoom Assembly Removal

- Step 4. Carefully slide Zoom Assembly off actuator motor.
- Step 5. Reassemble in reverse order.
- Step 6. Power luminaire and test.

Main Control Board (MCB) Replacement

Tools:

• #2 Phillips screwdriver



WARNING: Ensure that power is completely removed (disconnected) from luminaire before attempting any work.

To remove MCB assembly:

- Step 1. Remove power from luminaire and allow unit to completely cool.
- Step 2. As illustrated in Figure 2-3, remove MCB side head cover (side with closest to the two lenses) by loosening the four quarter-turn Dzus fasteners.



Note: Each cover is secured by a safety tether. Locate clip attached to cover and unclip tether

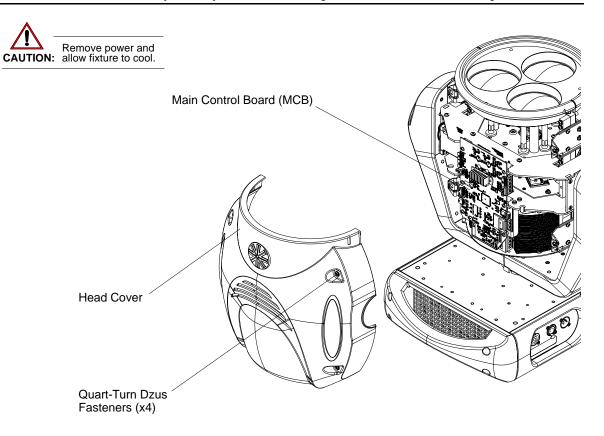


Figure 2-3: VLX3 Wash MCB Removal

Step 3. At MCB, disconnect wiring (note all wire routing):

MCB Connector	Cable Assembly
J5	36 VDC
J6	Wireless DMX
J7	DMX Comm
J8	LED Driver Comm
J9	Pan Motor*
J10	Display
J12	Zoom Motor and Sensor
J13	Pan Encoder
J14	Tilt Motor, Sensor and Encoder

Table 2-3: VLX3 Wash MCB Connections



CAUTION: *It is possible to reconnect Pan Motor connector (J9) in the wrong orientation. Pay attention to the small key indicator on connector and always make sure blue wire is towards front of fixture.

Step 4. At MCB assembly, remove assembly by removing six 6-32 x 1/2" PPZ SEMS screws



IMPORTANT! Color Calibration must be re-installed using dropCal and Vari-Lite Programming Dongle. See "VLX3 Wash dropCal (Reinstall Factory LED Calibration)" on page 50 for more information and procedure.

Step 5. Install replacement MCB by performing steps in reverse order.

Step 6. Power luminaire and test.

Low Voltage Supply (LVS)/LED Power Supply Replacement

Tools:

• #2 Phillips screwdriver



WARNING: Ensure that power is completely removed (disconnected) from luminaire before attempting any work.

To remove LVS / LED power supply assembly:

Step 1. Remove power from luminaire and allow unit to completely cool.

Step 2. At upper enclosure, remove display side handle by removing four 10-32 x 5/8" PPB screws. as shown in Figure 2-4.

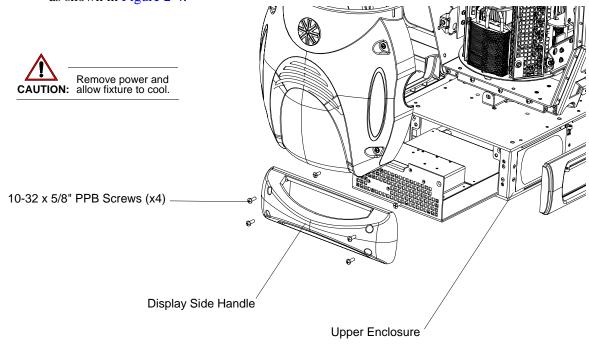


Figure 2-4: VLX3 Wash Luminaire Upper Enclosure

- Step 3. Remove the inlet exhaust screen.
- Step 4. Remove two 10-32 x 9/16" PFB screws securing power supply.
- Step 5. Slide power supply out of enclosure. Note, the power supply is connected to wiring. Do not pull all the way out until wiring is disconnected.

Step 6. Disconnect wiring:

Wiring	Wire Description
AC Line Input	Black, White
Earth Ground	Green / Yellow
36 VDC Output	Orange, Black
Enclosure Fan	Red, Black (does not matter which wire goes where)
12 VDC Output to LED Drivers	Blue - individual Negative 12 VDC
	Green - Shared Positive 12 VDC

Step 7. Install by performing steps in reverse order.



CAUTION: When sliding power supply into upper enclosure, be sure not to pinch or damage any wiring.

Tilt Motor Assembly Replacement

Tools:

#2 Phillips screwdriver



WARNING: Ensure that power is completely removed (disconnected) from luminaire before attempting any work.

To remove tilt motor assembly:

- Step 1. Remove power from luminaire and allow unit to completely cool.
- Step 2. As illustrated in Figure 2-5, remove MCB side head cover (side with closest to the two lenses) by loosening the four quarter-turn Dzus fasteners.



Note: Each cover is secured by a safety tether. Locate clip attached to cover and unclip tether.

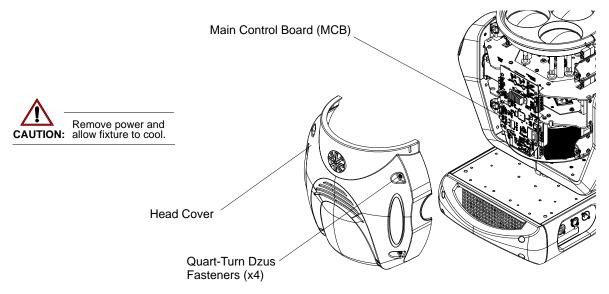


Figure 2-5: VLX3 Wash Luminaire Head Cover Removal

- Step 3. At MCB, disconnect wiring at connections J7, J13, and J14 (see Table 2-3 on page 21 for more information).
- Step 4. Disconnect motor power from tilt motor.
- Step 5. Disconnect encoder wiring from encoder.
- Step 6. At head cradle sides, remove four 8-32 x 3/8" PPB SEMS screws. Refer to Figure 3-3 on 68 for complete drawing.
- Step 7. Carefully lift motor out of fixture, removing belt from pulley.
- Step 8. Reinstall following steps in reverse order. Note, when installing replacement, before tightening screws, pull belt tension tight.
- Step 9. Power luminaire and test.

Tilt Encoder Assembly Replacement

Tools:

• #2 Phillips screwdriver



WARNING: Ensure that power is completely removed (disconnected) from luminaire before attempting any work.

To remove tilt encoder assembly:

- Step 1. Remove power from luminaire and allow unit to completely cool.
- Step 2. Remove tilt motor assembly by following procedure in "Tilt Motor Assembly Replacement" on page 24.
- Step 3. As shown in Figure 2-6, remove two 4-40 x 5/16" PPZ SEMS screws and remove encoder.

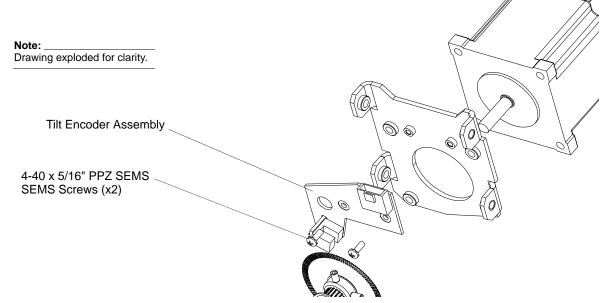


Figure 2-6: Tilt Motor Encoder Assembly

- Step 4. Reassemble by following steps in reverse order.
- Step 5. Power luminaire and test.

Tilt Sensor Assembly Replacement

Tools:

• #2 Phillips screwdriver



WARNING: Ensure that power is completely removed (disconnected) from luminaire before attempting any work.

To remove tilt sensor assembly:

- Step 1. Remove power from luminaire and allow unit to completely cool.
- Step 2. As illustrated in Figure 2-7, remove both head covers by loosening each quarter-turn Dzus fastener four per cover.



Note: Each cover is secured by a safety tether. Locate clip attached to cover and unclip tether.

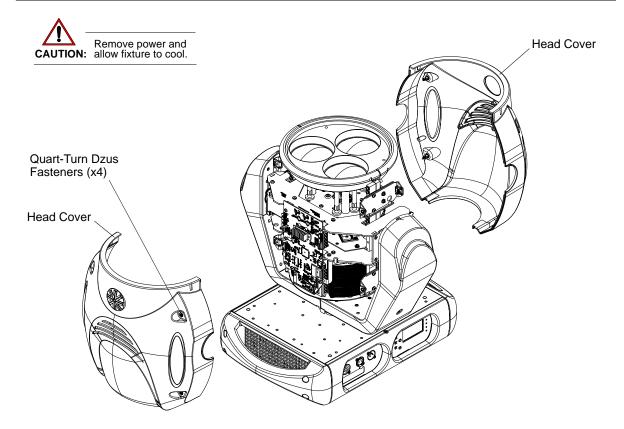
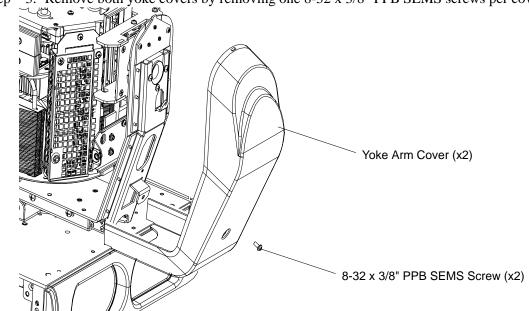


Figure 2-7: VLX3 Wash Luminaire - Removing Head Covers



Step 3. Remove both yoke covers by removing one 8-32 x 3/8" PPB SEMS screws per cover.

Figure 2-8: VLX3 Wash Yoke Arm Cover Removal

Step 4. As shown in Figure 2-9, remove tilt lock by removing two 6-32 x 3/16" PPB screws.

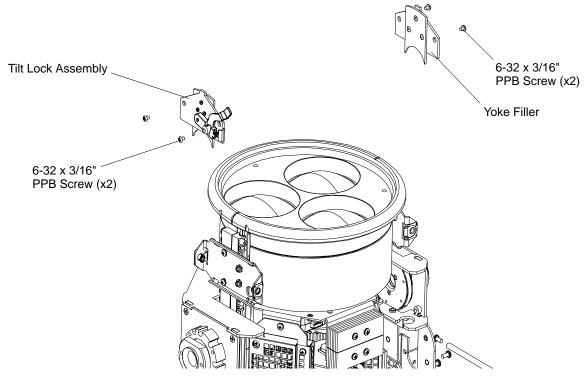
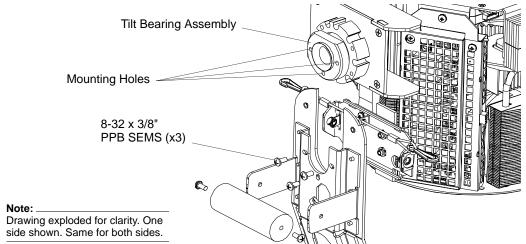


Figure 2-9: VLX3 Wash Yoke Assembly

Step 5. Remove yoke filler by removing two 6-32 x 3/16" PPB screws as illustrated in Figure 2-9.

Step 6. Remove six (note, three per side) 8-32 x 3/8" PPB SEMS screws tilt sensor into yoke on each side.



- Step 7. Tilt head beyond stop (in both directions) so sensor mounting bracket screws are accessible in yoke slot.
- Step 8. As shown in Figure 2-10, at Right Tilt Tube Assembly, remove two 6-32 x 1/2" PFZ screws, 1 at a time by tilting head side to side.

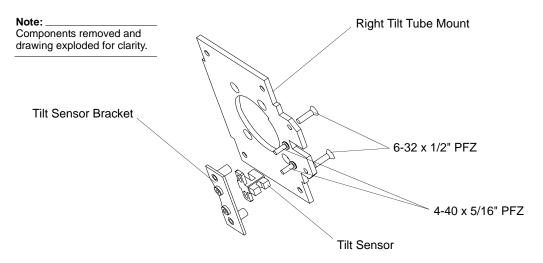


Figure 2-10: Tilt Sensor Removal

- Step 9. Remove tilt sensor bracket
- Step 10. Remove two 4-40 x 5/16" PPZ screws and remove sensor

Note: Before reassembly, make sure to align bearing mounting holes with yoke assembly to install six $8-32 \times 3/8$ " PPB SEMS screws removed in Step 6.

- Step 11. Reassemble by following steps in reverse order.
- Step 12. Power luminaire and test.

LED Driver Assembly Replacement

Tools:

• #2 Phillips screwdriver



WARNING: Ensure that power is completely removed (disconnected) from luminaire before attempting any work.

To remove LED driver assemblies:

- Step 1. Remove power from luminaire and allow unit to completely cool.
- Step 2. As illustrated in Figure 2-11, remove both head covers by loosening each quarter-turn Dzus fastener four per cover.



Note: Each cover is secured by a safety tether. Locate clip attached to cover and unclip tether.

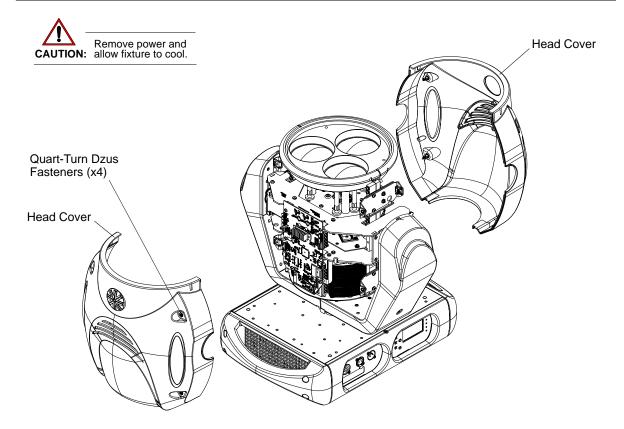


Figure 2-11: VLX3 Wash Luminaire - Removing Head Covers

Step 3. Determine which procedure to follow - LED Driver 1, LED Driver, 2 or LED Driver 3 (or all).

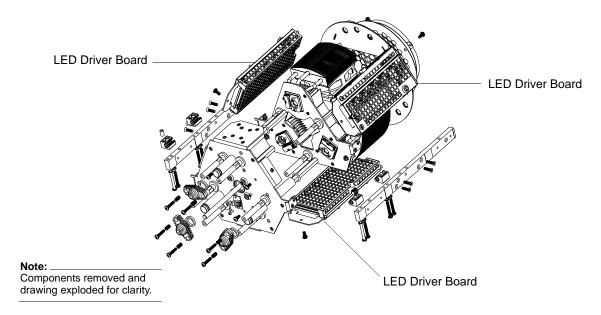


Figure 2-12: VLX3 Wash LED Driver Boards

Step 4. To remove LED Driver Board #1:

- a. Remove MCB (see "Main Control Board (MCB) Replacement" on page 20).
- b. At Driver Board, disconnect -12vdc (Blue wire). Hold standoff in place, DO NOT remove standoff from Driver Board.
- c. Remove one M4 x 10MM PPZ SEMS screw mounting driver board to +12vdc buss. Note the green +12vdc wires attached.
- d. Cut any cable ties holding wiring too LED driver board cage.
- e. Carefully slide LED Driver Board from Mother Board.
- f. Disconnect FAN from LED Driver Board.
- g. Disconnect wiring from LED.

Step 5. To remove LED Driver Board #2:

- a. At Driver Board, disconnect -12vdc (Blue wire). Hold standoff in place, DO NOT remove standoff from Driver Board.
- b. Remove one x M4 x 10MM PPZ SEMS screw mounting driver board to +12vdc buss.
- c. Cut any cable ties holding wiring to LED driver board cage.
- d. Carefully slide LED Driver Board from Mother Board.
- e. Disconnect FAN from LED Driver Board.
- f. Disconnect wiring from LED

Step 6. To remove LED Driver Board #3:

a. At Driver Board, disconnect -12vdc (Blue wire). Hold standoff in place, DO NOT remove standoff from Driver Board.

- b. Remove one M4 x 10MM PPZ SEMS screw mounting driver board to +12vdc buss. Note the green ground wires attached.
- c. Cut any cable ties holding wiring too LED driver board cage.
- d. Carefully slide LED Driver Board from Mother Board.
- e. Disconnect FAN from LED Driver Board.
- f. Disconnect wiring from LED.
- Step 7. Reassemble by following steps in reverse order.
- Step 8. Power luminaire and test.

Motherboard Assembly Replacement

Tools:

• #2 Phillips screwdriver



WARNING: Ensure that power is completely removed (disconnected) from luminaire before attempting any work.

To remove motherboard assembly:

- Step 1. Remove power from luminaire and allow unit to completely cool.
- Step 2. As illustrated in Figure 2-13, remove both head covers by loosening each quarter-turn Dzus fastener four per cover.



Note: Each cover is secured by a safety tether. Locate clip attached to cover and unclip tether.

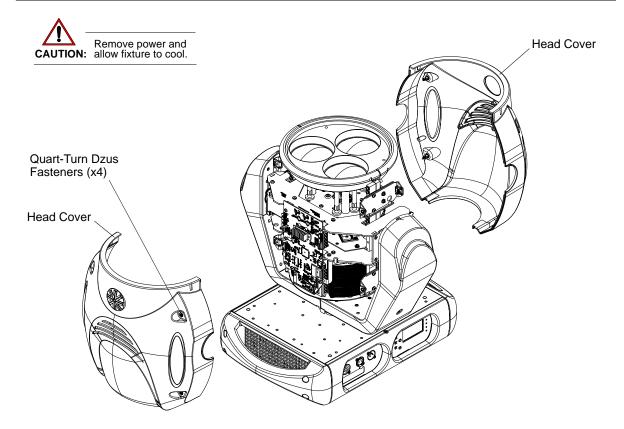


Figure 2-13: VLX3 Wash Luminaire - Removing Head Covers

Step 3. At rear, remove three M4 x 10MM PPZ SEMS screws and remove both rear air baffle and exhaust grill. Note, rear air baffle is split (as shown in detail in Figure 2-14).

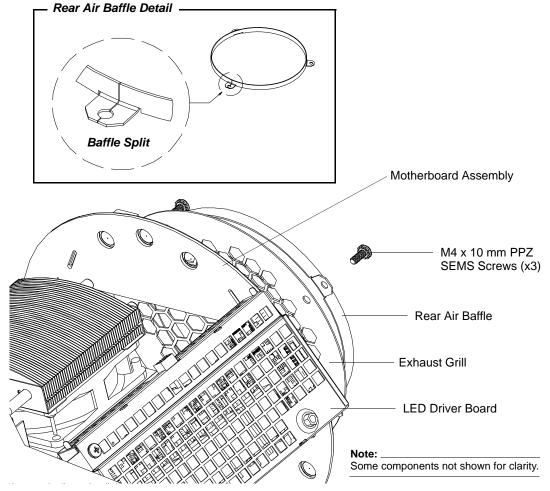


Figure 2-14: Motherboard Removal

- Step 4. Disconnect wiring harness from motherboard.
- Step 5. Carefully slide motherboard from LED driver board assemblies and cooling system.
- Step 6. Reassemble by following steps in reverse order.
- Step 7. Power luminaire and test.

Light Pipe Replacement

Tools:

• #2 Phillips screwdriver



WARNING: Ensure that power is completely removed (disconnected) from luminaire before attempting any work.

To remove light pipe assembly:

- Step 1. Remove power from luminaire and allow unit to completely cool.
- Step 2. As illustrated in Figure 2-15, remove both head covers by loosening each quarter-turn Dzus fastener four per cover.



Note: Each cover is secured by a safety tether. Locate clip attached to cover and unclip tether.

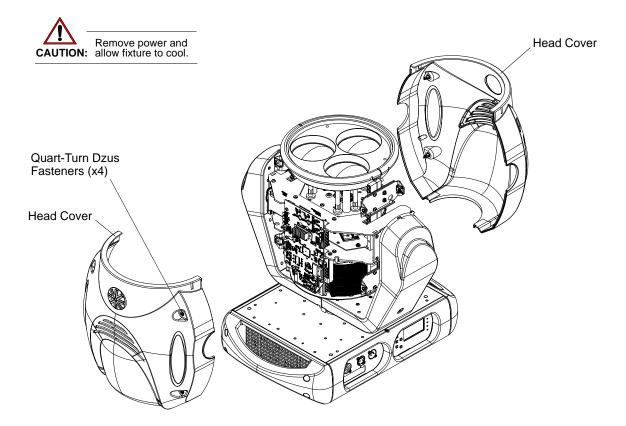


Figure 2-15: VLX3 Wash Luminaire - Removing Head Covers

- Step 3. Remove moving zoom assembly (refer to "Moving Zoom Assembly Replacement" on page 18).
- Step 4. Remove two M4 x 20MM SHC plastic screws and springs mounting Stationary Zoom Lens Assembly and remove.



WARNING: Note that light pipe must be handled with extreme care and not be damaged. All fingerprints, grease, smudges, etc. must be removed. Any damage to light pipe and it should be replaced with new.

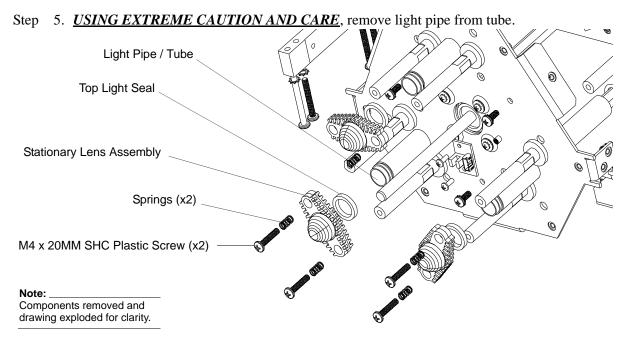


Figure 2-16: Light Pipe Removal

- Step 6. When replacing, ensure that light pipe is fully seated into Z-Axis Stop at LED
- Step 7. When installing Stationary Zoom Lens Assy, ensure that hex light pipe is seated correctly into support.
- Step 8. Do not completely tighten Plastic screws removed in Step 4; stationary lens assembly should be able to move.
- Step 9. Continue reassembly by performing steps in reverse order.

120W RGBW LED Assembly Replacement



IMPORTANT! When replacing an LED, you must contact Vari-Lite Support and give the serial number of the fixture and which LED position (1, 2 or 3) you are replacing so a matching LED, performance wise, can be sent. That LED must ONLY be installed in the correct position of that light to ensure correct performance of color calibration.

Tools:

- #2 Phillips screwdriver
- 3/32" hex driver



WARNING: Ensure that power is completely removed (disconnected) from luminaire before attempting any work.

To remove 120W RGBW LED assembly:

- Step 1. Remove power from luminaire and allow unit to completely cool.
- Step 2. As illustrated in Figure 2-17, remove both head covers by loosening each quarter-turn Dzus fastener four per cover.



Note: Each cover is secured by a safety tether. Locate clip attached to cover and unclip tether.

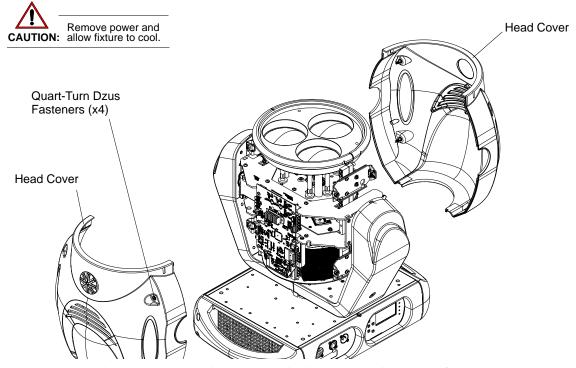


Figure 2-17: VLX3 Wash Luminaire - Removing Head Covers

- Step 3. Remove moving zoom assembly (refer to "Moving Zoom Assembly Replacement" on page 18).
- Step 4. Remove LED Driver Board of LED to be removed and replaced. See "LED Driver Assembly Replacement" on page 29.



WARNING: Note that light pipe must be handled with extreme care and not be damaged. All fingerprints, grease, smudges, etc. must be removed. Any damage to light pipe and it should be replaced with new.

- Step 5. Remove Light Pipe for LED. See "Light Pipe Replacement" on page 34.
- Step 6. Remove Light Pipe tube, by rolling off o-ring holding light pipe to bottom of support.
- Step 7. As shown in Figure 2-18, using 3/32" hex driver, remove two 4-40 x 0.438" LG SH CAP screws from LED die.

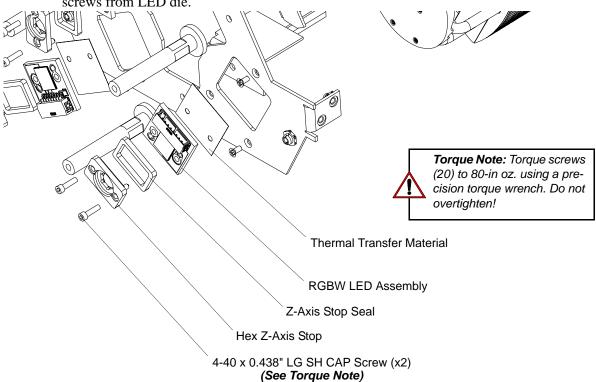


Figure 2-18: 120W RGBW LED Removal

Step 8. Remove Z-Axis stop and seal.



CAUTION: Under the LED is a thermal transfer material. If material is torn or damaged in any manner, it must be replaced with new material.

- Step 9. Reassemble by following steps in reverse order.
- Step 10. Power luminaire and test.

LED Cooling Assembly Replacement

Tools:

- #2 Phillips screwdriver
- 3/32" hex driver



WARNING: Ensure that power is completely removed (disconnected) from luminaire before attempting any work.

To remove head fan assembly:

- Step 1. Remove power from luminaire and allow unit to completely cool.
- Step 2. As illustrated in Figure 2-19, remove both head covers by loosening each quarter-turn Dzus fastener four per cover.



Note: Each cover is secured by a safety tether. Locate clip attached to cover and unclip tether.

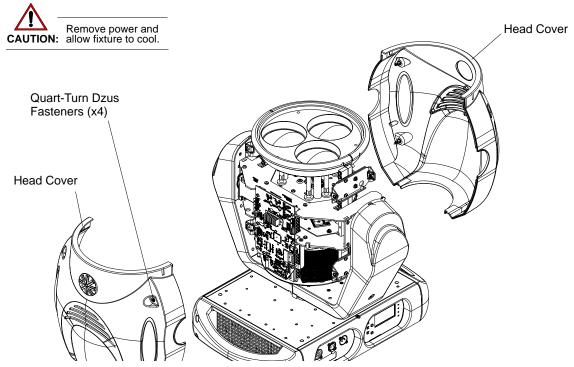


Figure 2-19: VLX3 Wash Luminaire - Removing Head Covers

Step 3. Remove moving zoom assembly (refer to "Moving Zoom Assembly Replacement" on page 18).



WARNING: Note that light pipe must be handled with extreme care and not be damaged. All fingerprints, grease, smudges, etc. must be removed. Any damage to light pipe and it should be replaced with new.

- Step 4. Remove Light Pipe for LED of cooling assembly to be replaced. See "Light Pipe Replacement" on page 34.
- Step 5. Remove Light Pipe tube, by rolling off o-ring holding light pipe to bottom of support.
- Step 6. Remove 120W LED of cooling system to be removed and replaced. See "120W RGBW LED Assembly Replacement" on page 36.
- Step 7. Remove mother board assembly. See "Motherboard Assembly Replacement" on page 32.
- Step 8. Remove LED Driver Board of cooling system to be removed and replaced. See "LED Driver Assembly Replacement" on page 29.
- Step 9. Remove Fan Exhaust Chamber by removing six 10-32 x 1/2" PFZ screws two from each fan and then three M4 x 8MM screws mounting Exhaust Chamber inside.

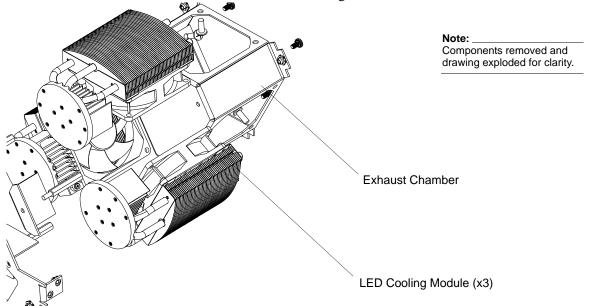


Figure 2-20: LED Cooling Module Assembly

Step 10. Remove LED Cooling Module by removing three 4-40 x 1/4" PFZ screws.



CAUTION: For reassembly, under the LED is a thermal transfer material. If material is torn or damaged in any manner, it must be replaced with new material. ALSO, be sure to follow the torque specifications as shown in Figure 2-18 on 37.

- Step 11. Reassemble by following steps in reverse order.
- Step 12. Power luminaire and test.

Zoom Motor Assembly Replacement

Tools:

• #2 Phillips screwdriver



WARNING: Ensure that power is completely removed (disconnected) from luminaire before attempting any work.

To remove zoom motor assembly:

- Step 1. Remove power from luminaire and allow unit to completely cool.
- Step 2. As illustrated in Figure 2-21, remove both head covers by loosening each quarter-turn Dzus fastener four per cover.



Note: Each cover is secured by a safety tether. Locate clip attached to cover and unclip tether.

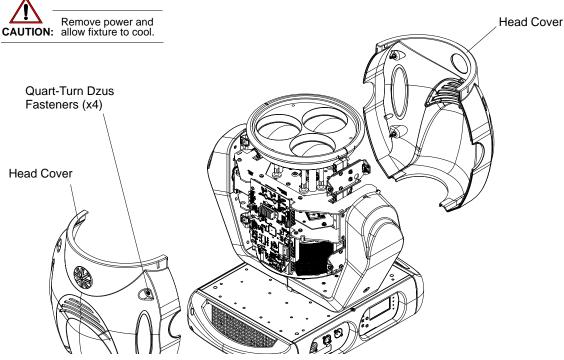


Figure 2-21: VLX3 Wash Luminaire - Removing Head Covers

- Step 3. Remove moving zoom assembly (refer to "Moving Zoom Assembly Replacement" on page 18).
- Step 4. Remove mother board assembly. See "Motherboard Assembly Replacement" on page 32.
- Step 5. Remove either LED Driver Board #2 or #3. See "LED Driver Assembly Replacement" on page 29.

- Step 6. Remove Fan Exhaust Chamber by removing six 10-32 x 1/2" PFZ screws, two from each fan and then three M4 x 8MM screws mounting Exhaust Chamber inside.
- Step 7. Remove cooler standoff and air dam.
- Step 8. Remove M4 x 10MM PPZ SEMS screw and intermediate support pillar.
- Step 9. At zoom motor, remove four 4-40 x 7/16" PPZ SEMS screws. Note the spacers inside the grommets are loose.

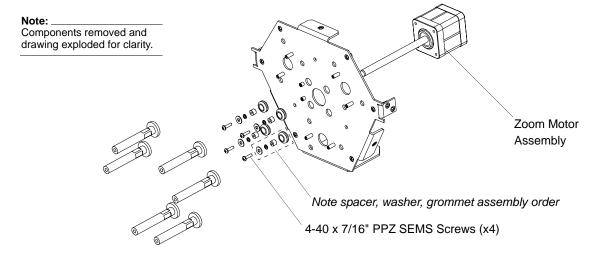


Figure 2-22: Zoom Motor Assembly



Note: The nut for motor assembly that is included with motor is attached to Moving Zoom Assembly. Refer to "Zoom Intermediate Plate Assembly" on page 79 for more information.

- Step 10. Carefully angle motor out and through opening.
- Step 11. Reassemble by following steps in reverse order.
- Step 12. Power luminaire and test.

DMX PCB Assembly Replacement

Tools:

• #2 Phillips screwdriver



WARNING: Ensure that power is completely removed (disconnected) from luminaire before attempting any work.

To remove DMX PCB assembly:

- Step 1. Remove power from luminaire and allow unit to completely cool.
- Step 2. Remove power supply following procedure described in "Low Voltage Supply (LVS)/LED Power Supply Replacement" chapter on page 22.



CAUTION: In next step, do not set luminaire where the lenses come in contact with the work surface.

- Step 3. Carefully, rotate luminaire to access bottom of enclosure.
- Step 4. Remove six $1/4-20 \times 1/2$ " PFZ screws and remove bottom plate.
- Step 5. At DMX PCB, disconnect wiring.
- Step 6. As illustrated in Figure 2-23, at front panel, remove four 4-40 x 3/8" PFB screws and remove DMX PCB.

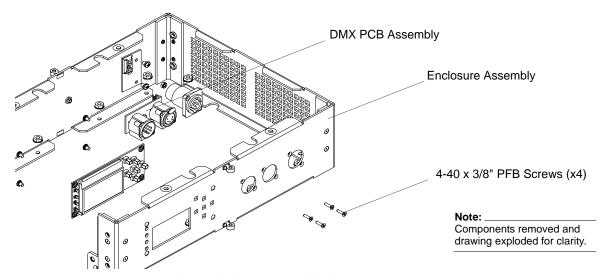


Figure 2-23: DMX PCB Assembly Removal

- Step 7. Reassemble following steps in reverse order.
- Step 8. Power luminaire and test.

PowerCon (AC Input) Assembly Replacement

Tools:

• #2 Phillips screwdriver



WARNING: Ensure that power is completely removed (disconnected) from luminaire before attempting any work.

To remove PowerCon (AC input) assembly:

- Step 1. Remove power from luminaire and allow unit to completely cool.
- Step 2. Remove power supply following procedure described in "Low Voltage Supply (LVS)/LED Power Supply Replacement" chapter on page 22.



CAUTION: In next step, do not set luminaire where the lenses come in contact with the work surface.

- Step 3. Carefully, rotate luminaire to access bottom of enclosure.
- Step 4. Remove six $1/4-20 \times 1/2$ " PFZ screws and remove bottom plate.
- Step 5. At PowerCon assembly, disconnect wiring.
- Step 6. As illustrated in Figure 2-24, at front panel, remove two 4-40 x 3/8" PFB screws and remove PowerCon assembly.

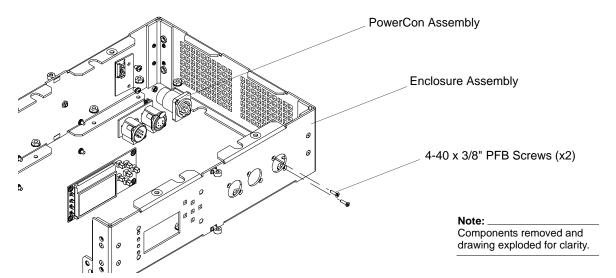


Figure 2-24: PowerCon Assembly Removal

- Step 7. Reassemble following steps in reverse order.
- Step 8. Power luminaire and test.

Display PCB Assembly Replacement

Tools:

• #2 Phillips screwdriver



WARNING: Ensure that power is completely removed (disconnected) from luminaire before attempting any work.

To remove display PCB assembly:

- Step 1. Remove power from luminaire and allow unit to completely cool.
- Step 2. Remove power supply following procedure described in "Low Voltage Supply (LVS)/LED Power Supply Replacement" chapter on page 22.



CAUTION: In next step, do not set luminaire where the lenses come in contact with the work surface.

- Step 3. Carefully, rotate luminaire to access bottom of enclosure.
- Step 4. Remove six $1/4-20 \times 1/2$ " PFZ screws and remove bottom plate.
- Step 5. At Display PCB assembly, disconnect wiring.
- Step 6. As illustrated in Figure 2-25, at front panel, remove four 6-32 x 3/16" PPZ screws and remove Display PCB.

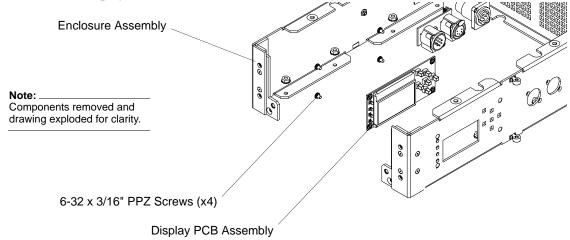


Figure 2-25: Display PCB Assembly Removal

- Step 7. Reassemble following steps in reverse order.
- Step 8. Power luminaire and test.

02.9703.00100

Wireless DMX Interconnect PCB Replacement

Tools:

• #2 Phillips screwdriver



WARNING: Ensure that power is completely removed (disconnected) from luminaire before attempting any work.

To remove wireless DMX interconnect PCB assembly:

- Step 1. Remove power from luminaire and allow unit to completely cool.
- Step 2. Remove power supply following procedure described in "Low Voltage Supply (LVS)/LED Power Supply Replacement" chapter on page 22.



CAUTION: In next step, do not set luminaire where the lenses come in contact with the work surface.

- Step 3. Carefully, rotate luminaire to access bottom of enclosure.
- Step 4. Remove six 1/4-20 x 1/2" PFZ screws and remove Bottom Plate
- Step 5. At wireless DMX interconnect PCB, disconnect wiring.
- Step 6. As illustrated in Figure 2-26, at wireless DMX interconnect PCB, remove two 6-32 x 3/16" PPZ screws and remove wireless DMX interconnect PCB.

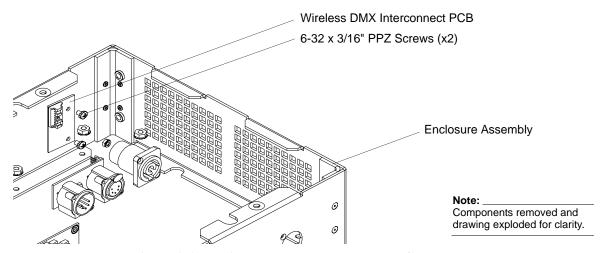


Figure 2-26: Wireless DMX Interconnect PCB Removal

- Step 7. Reassemble following steps in reverse order.
- Step 8. Power luminaire and test.

Enclosure Fans Replacement

Tools:

• #2 Phillips screwdriver



WARNING: Ensure that power is completely removed (disconnected) from luminaire before attempting any work.

To remove enclosure fans:

- Step 1. Remove power from luminaire and allow unit to completely cool.
- Step 2. Remove power supply following procedure described in "Low Voltage Supply (LVS)/LED Power Supply Replacement" chapter on page 22.



CAUTION: In next step, do not set luminaire where the lenses come in contact with the work surface.

- Step 3. Carefully, rotate luminaire to access bottom of enclosure.
- Step 4. Remove six 1/4-20 x 1/2" PFZ screws and remove bottom plate.
- Step 5. Remove both fan assemblies by removing two 6-32 x 1/4" PPZ SEMS screws for each fan assembly.
- Step 6. Remove fan from mounting assembly by removing two 6-32 x 1-3/8" PPZ screws.

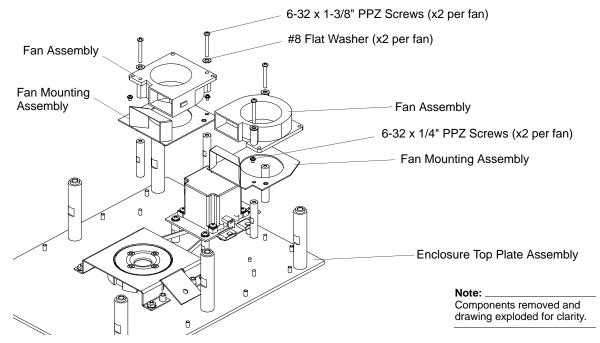


Figure 2-27: Enclosure Fans Removal

- Step 7. Reassemble following steps in reverse order.
- Step 8. Power luminaire and test.

Pan Motor Assembly Replacement

Tools:

• #2 Phillips screwdriver



WARNING: Ensure that power is completely removed (disconnected) from luminaire before attempting any work.

To remove pan motor assembly:

- Step 1. Remove power from luminaire and allow unit to completely cool.
- Step 2. Remove power supply following procedure described in "Low Voltage Supply (LVS)/LED Power Supply Replacement" chapter on page 22.



CAUTION: In next step, do not set luminaire where the lenses come in contact with the work surface.

- Step 3. Carefully, rotate luminaire to access bottom of enclosure.
- Step 4. Remove six $1/4-20 \times 1/2$ " PFZ screws and remove bottom plate.
- Step 5. Remove both fan assemblies by removing two 6-32 x 1/4" PPZ SEMS screws for each fan assembly.
- Step 6. Disconnect wiring from pan motor and pan encoder.
- Step 7. As shown in Figure 2-28, remove four 8-32 x 1/4" PPB SEMS screws and flat washers

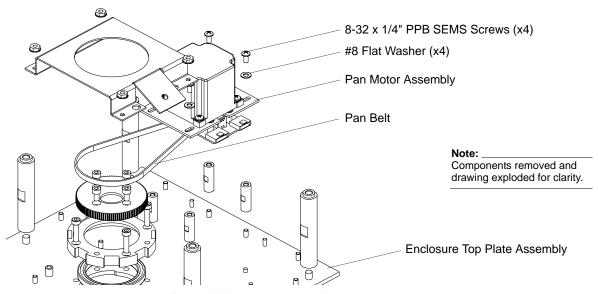


Figure 2-28: Pan Motor Assembly Removal

- Step 8. Reassemble following steps in reverse order.
- Step 9. Power luminaire and test.

Pan Belt Replacement

Tools:

• #2 Phillips screwdriver



WARNING: Ensure that power is completely removed (disconnected) from luminaire before attempting any work.

To remove pan motor assembly:

- Step 1. Remove power from luminaire and allow unit to completely cool.
- Step 2. Remove power supply following procedure described in "Low Voltage Supply (LVS)/LED Power Supply Replacement" chapter on page 22.



CAUTION: In next step, do not set luminaire where the lenses come in contact with the work surface.

- Step 3. Carefully, rotate luminaire to access bottom of enclosure.
- Step 4. Remove six $1/4-20 \times 1/2$ " PFZ screws and remove bottom plate.
- Step 5. Remove pan motor following procedure described in "Pan Motor Assembly Replacement" chapter on page 47.
- Step 6. As shown in Figure 2-29, at wire tray, remove four 8-32 x 1/4" PPZ SEMS screws and remove tray.

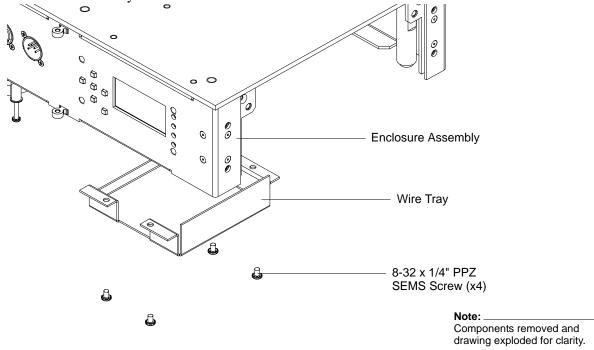


Figure 2-29: Wire Tray Removal

Step 7. Disconnect all wiring from inside enclosure.

Step 8. As shown in Figure 2-30, at pan pulley cover, remove four 8-32 KEPS nuts and remove cover.

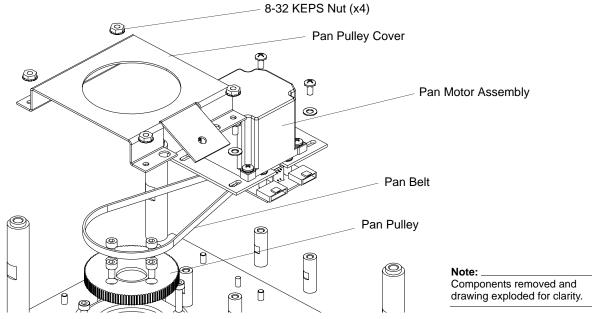


Figure 2-30: Pan Belt Removal

- Step 9. Slide belt off pulley.
- Step 10. Reassemble following steps in reverse order.
- Step 11. Power luminaire and test.

VLX3 Wash dropCal (Reinstall Factory LED Calibration)

Tools:

- Personal Computer (PC) Running Windows with an available USB port (user supplied).
- The dropCal software (allows installation of luminaire's LED factory calibration). **Note, this** software is only available from Vari-Lite technical support.
- Calibration .txt file (dropCal), which is specific to the serial number of the fixture. **Note, this file is only available from Vari-Lite technical support.**
- Vari-Lite USB Programming Cable (Vari-Lite Part Number 28.8500.0054).



WARNING: The dropCal file is a unique calibration file and is specific to the fixture's serial number. Using a dropCal file from another fixture will load a different calibration scheme and will cause the fixture to be out of calibration.

To reinstall the calibration file in a VLX3 Wash Luminaire:

- Step 1. Power luminaire and allow calibration routine to run.
- Step 2. Access luminaire LED calibration menu by pressing and holding all four arrow buttons (on luminaire Menu) simultaneously until LED CAL Mode is shown on LCD display. Refer to Figure 2-31.

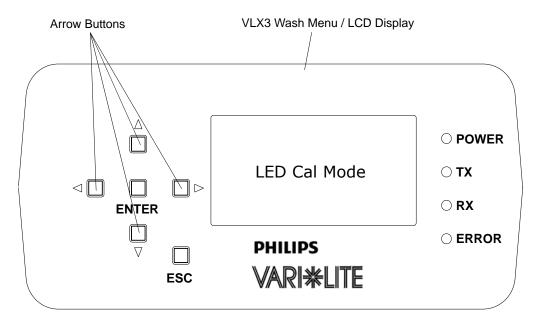


Figure 2-31: VLX3 Wash Menu / LCD Display

- Step 3. Press [ENTER] on menu.
- Step 4. Display now reads Cal? Yes.
- Step 5. Press [ENTER] on menu.

- Step 6. Display now reads Set LED Cal.
- Step 7. Press [ENTER] on menu.
- Step 8. Display now reads Wait for Cal.

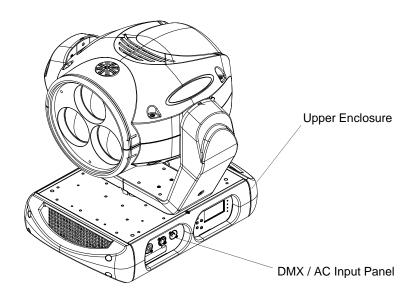


Figure 2-32: VLX3 Wash DMX / AC Input Panel

Step 9. At PC, attach USB Programming Cable to available USB port and at luminaire, using other end of US Programming USB Cable, connect to DMX IN at DMX / AC Input Panel as indicated in Figure 2-32.



Note: It is best to use the PC normally used to upload VARI*LITE luminaire software since it will already have the necessary drivers installed for the USB Programming Cable.

Step 10. Launch dropCal.exe application on PC.

- Continued on next page -

Step 11. Drag .txt file for specific luminaire into dropCal application window as shown in Figure 2-33 (example, for VLX 67 [67 being the last digits of the serial number], drag file 67.txt into application window).

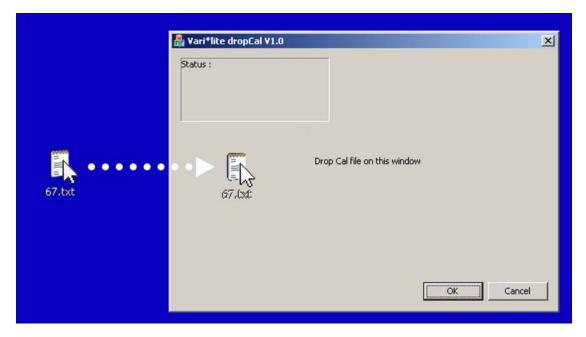


Figure 2-33: dropCal Application Window

- Step 12. dropCal will process file and window will read, Completed!
- Step 13. LCD display on luminaire will read Cal Complete.
- Step 14. Press [ENTER] on menu.
- Step 15. The luminaire will run its calibration routine and unit shall be ready for use.

CHAPTER 3.

Illustrated Parts Breakdown

This chapter contains illustrated parts breakdowns for all VLX3 LED Wash Luminaire assemblies.

- Drawing Tree
- Top Assembly
- Head Assembly
- Enclosure Assembly
- Cable Assemblies



Drawing Tree

VLX3 Wash Luminaire

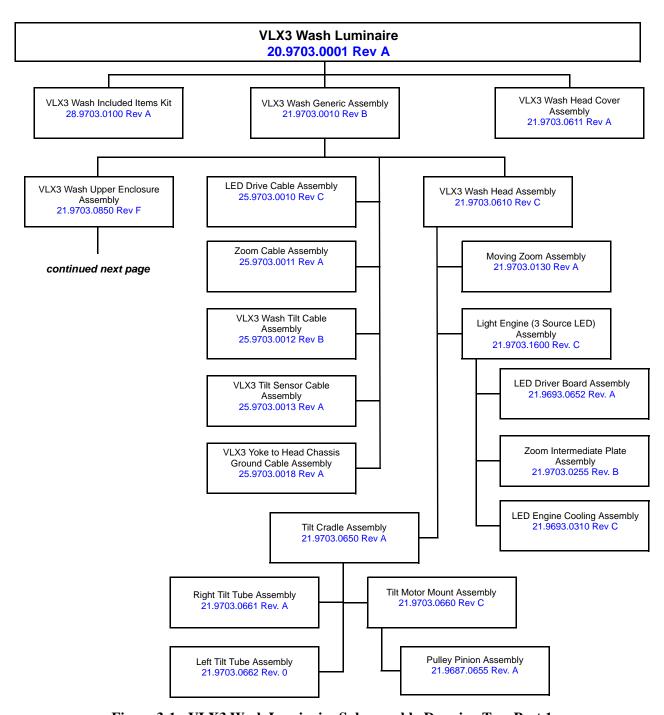


Figure 3-1: VLX3 Wash Luminaire Subassembly Drawing Tree Part 1

VLX3 Wash Luminaire (continued)

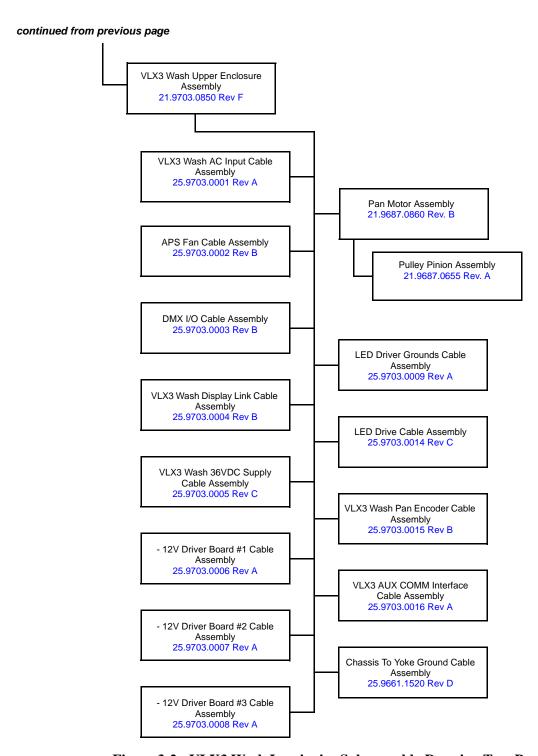


Figure 3-2: VLX3 Wash Luminaire Subassembly Drawing Tree Part 2

Top Assembly

VLX3 Wash Included Items Kit

28.9703.0100 Rev A

Refer to Figure 3-3.

No.	Item	Qty.	UM.	Description
1	02.8001.0001	1	EA	PRODUCT SUPPORT SHEET, VARI-LITE CUSTOMER SERVICE
2	02.8001.0002	1	EA	VARI-LITE QUALITY ASSURANCE SHEET
3	02.8052.0001	1	EA	CARD, LIMITED WARRANTY
4	02.8700.0001	1	EA	CARD, PRODUCT REGISTRATION
5	02.9703.0002	1	EA	UNPACK/QUICK START SHEET, VLX WASH
-	04.4037.0001	5	EA	LABEL, 2.5 X .5 BARCODE (not shown)
-	04.9678.1001	2	EA	LABEL, GREEN ROHS COMPLIANT (not shown)
-	04.9703.0003	2	EA	LABEL, SHIPPING BOX, VLX3 WASH (not shown)
-	06.9687.0001	1	EA	SHIPPING FOAM (not shown)
-	07.5044.0001	1	EA	BAG, DESICCANT, SHIPPING BOX (not shown)
-	07.9703.0001	1	EA	CARDBOARD SHIPPING BOX, VLX WASH (not shown)
6	08.9703.0001	1	EA	CD-ROM, VLX3 WASH PRODUCT DOCUMENTATION, USER
7	22.9687.0805	2	EA	FAB ASSY, BRACKET TRUSS HOOK
8	52.6541.0001	1	EA	CONN., BLUE CABLE POWER INLET POWERCON

VLX3 Wash Included Items Kit (continued)

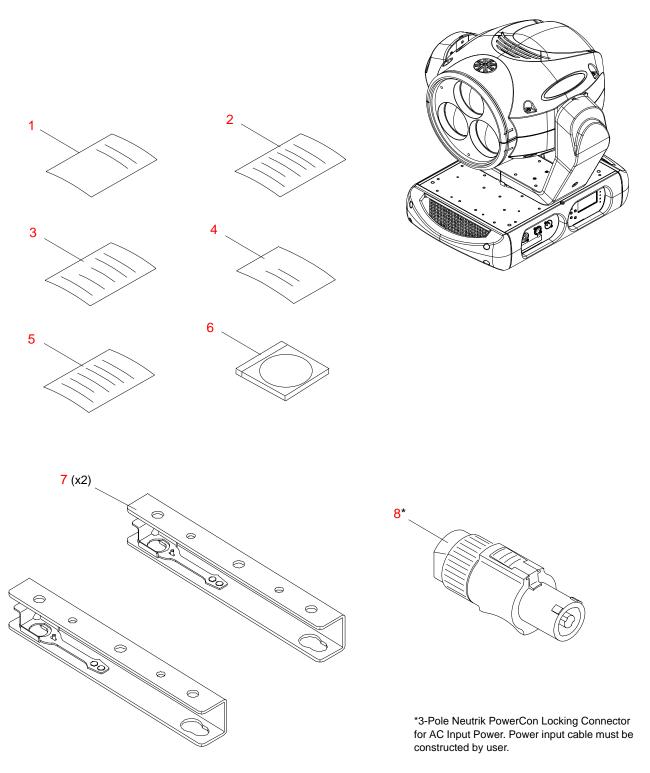


Figure 3-3: VLX3 Wash Included Items Kit

VLX3 Wash Luminaire

20.9703.0001 Rev A

Refer to Figure 3-4

No.	Item	Qty.	UM.	Description
1	10.9687.0720	2	EA	YOKE COVER
2	10.9687.0850	2	EA	BASE COVER, DISPLAY SIDE
3	10.9687.0852	2	EA	BASE COVER, HANDLE SIDE
4	21.9703.0010	1	EA	GENERIC ASSY, VLX3 WASH
5	21.9703.0611	1	EA	ASSEMBLY, HEAD COVER, VLX3 WASH
-	28.9703.0100	1	EA	INCLUDED ITEMS KIT, VLX3 WASH (NOT SHOWN)
6	55.6553.0008	2	EA	SCREW, 10-32 X 9/16" PFB
7	53.6575.0009	6	EA	SCREW, 8-32 X 3/8" LG PPB SEMS
8	53.6627.0001	8	EA	SCREW, 10-32 X 5/8" PPB
9	69.9703.0570	1	EA	POWER SUPPLY, 450W 12VDC, 120W 36VDC

VLX3 Wash Luminaire (continued)

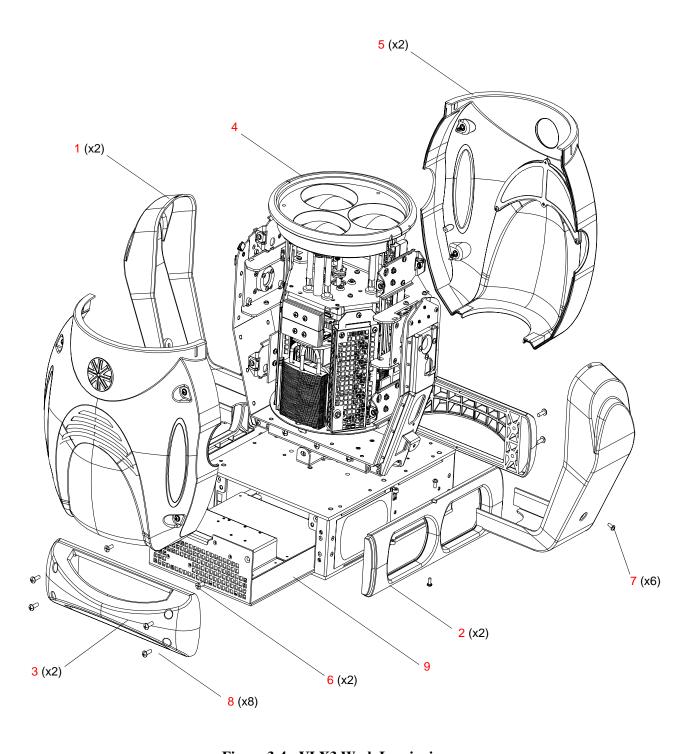


Figure 3-4: VLX3 Wash Luminaire

VLX3 Wash Generic Assembly

21.9703.0010 Rev B

Refer to Figure 3-5

No.	Item	Qty.	UM.	Description
1	10.9703.0710	1	EA	SUPPORT, YOKE TABS
2	10.9703.0711	1	EA	COUNTERWEIGHT, YOKE
3	21.9687.0751	1	EA	ASSY, TILT LOCK
4	21.9703.0610	1	EA	HEAD ASSY, VLX3 WASH
5	21.9703.0850	1	EA	ASSY, UPPER ENCLOSURE, VLX3 WASH
6	22.9687.0701	1	EA	ASSY, YOKE
7	22.9687.0702	1	EA	ASSY, FILLER, YOKE
-	25.9703.0010	1	EA	CABLE ASSY, LED DRIVE (NOT SHOWN)
-	25.9703.0011	1	EA	CABLE ASSY, ZOOM (NOT SHOWN)
-	25.9703.0012	1	EA	CABLE ASSY, TILT VLX3 WASH (NOT SHOWN)
-	25.9703.0013	1	EA	CABLE ASSY, TILT SENSOR, VLX3 WASH (NOT SHOWN)
-	25.9703.0018	1	EA	CABLE ASSY, CHASSIS GROUND, YOKE TO HEAD (NOT SHOWN)
8	53.6543.0003	4	EA	SCREW, 6-32 X 3/16" PPB
9	53.6575.0009	10	EA	SCREW, 8-32 X 3/8" LG PPB SEMS
10	53.6608.0001	4	EA	SCREW, 6-32 X 3/8" PFB
11	53.6682.0037	6	EA	SCREW, 10-32 X 1/2" PPZ SEMS

VLX3 Wash Generic Assembly (continued)

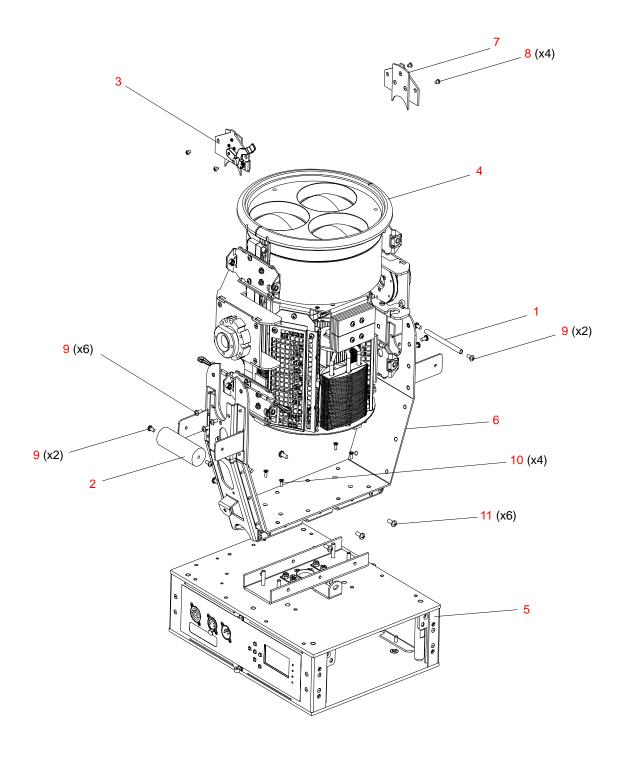


Figure 3-5: VLX3 Wash Generic Assembly

VLX3 Wash Head Cover Assembly

21.9703.0611 Rev A

Refer to Figure 3-6

No.	Item	Qty.	UM.	Description
1	10.9703.0612	1	EA	HEAD COVER, VLX3 WASH
2	10.9703.0613	1	EA	FOAM RETAINER, VLX3 WASH HEAD COVER
3	10.9703.0614	1	EA	FILTER, HEAD COVER, VLX3 WASH
4	10.9678.0674	2	EA	BRACKET, COVER TETHER
5	53.5655.0250	6	EA	SCREW, #6 X 1/4" PPZ PLASTIC
6	55.2233.2003	4	EA	DZUS RAPIER 1/4-TURN STUD RETAINER, 5 MM
7	55.2233.2005	4	EA	DZUS RAPIER 1/4-TURN STUD, 5 MM, 12 MM LG

5 (x2) 4 (x2) 7 (x4) 8

Figure 3-6: VLX3 Wash Head Cover Assembly

Head Assembly

VLX3 Wash Head Assembly

21.9703.0610 Rev C

Refer to Figure 3-1

No.	Item	Qty.	UM.	Description
1	10.9678.0658	12	EA	PLATE, COUNTERWEIGHT
2	10.9678.0672	1	EA	TETHER, COVER, NYLON COATED
3	10.9678.0674	1	EA	BRACKET, COVER TETHER
4	21.9703.0130	1	EA	ASSY, ZOOM, MOVING
5	21.9703.1600	1	EA	LIGHT ENGINE ASSY, 3 SOURCE LED, VLX3 WASH
6	21.9703.0650	1	EA	ASSY, TILT CRADLE
7	21.9703.0663	4	EA	ASSY, COVER MOUNT BRACKET
(7a)	10.9703.0653	1	EA	BRACKET, COVER MOUNT
(7b)	55.2233.2001	2	EA	DZUS RAPIER MINI CLIP ON RET 5 MM
8	24.9703.0700	1	EA	BRD ASSY, VLX3 WASH MAIN CONTROL
9	53.6576.0030	18	EA	SCREW, M4 X 10 MM PPZ SEMS
10	53.6576.0032	4	EA	SCREW, M4 X 30 MM PPZ
11	53.6613.0001	6	EA	SCREW, 6-32 X 1/2" LG PPZ
12	55.2011.0003	2	EA	SNAP, SPRING 3/16" EYE DIA

VLX3 Wash Head Assembly (continued)

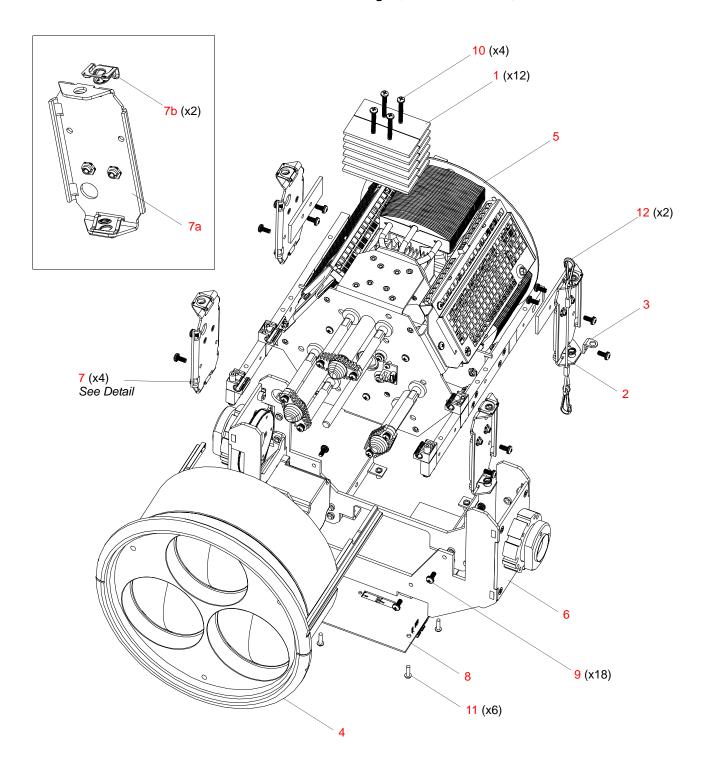


Figure 3-1: VLX3 Wash Head Assembly

02.9703.00100

Moving Zoom Assembly

21.9703.0130 Rev A

Refer to Figure 3-2.

No.	Item	Qty.	UM.	Description
1	10.9703.0140	1	EA	LENS RING, FRONT
2	10.9703.0141	1	EA	LENS RING, REAR
3	10.9693.0150	1	EA	CLAMP, NUT, LINEAR MOTOR
4	10.9693.0242	2	EA	BACKING PLATE, ZOOM NUT
5	10.9693.0740	1	EA	LINEAR RAIL, LEFT
6	10.9693.0741	1	EA	LINEAR RAIL, RIGHT
7	42.9692.0201	3	EA	LENS, ASPHERIC, ARCYLIC, TEXTURED 94 MM DIA
8	NUT FOR MOTOR ASSEMBLY 44.9695.0208	REF	N/A	NUT ONLY, MOTOR, LINEAR ACT, SIZE 17 105 MM (SHOWN FOR REFERENCE / POSITIONING ONLY. PART OF THE MOTOR ASSEMBLY - SEE 21.9703.0255 FOR ADDITIONAL INFORMATION)
9	53.6576.0030	9	EA	SCREW, M4 X 10 MM LG PPZ SEMS
10	53.6576.0037	4	EA	SCREW, M4 X 8 MM LG PFB
11	53.6576.0044	3	EA	SCREW, M3 X 12 MM PPZ SEMS

Moving Zoom Assembly (continued)

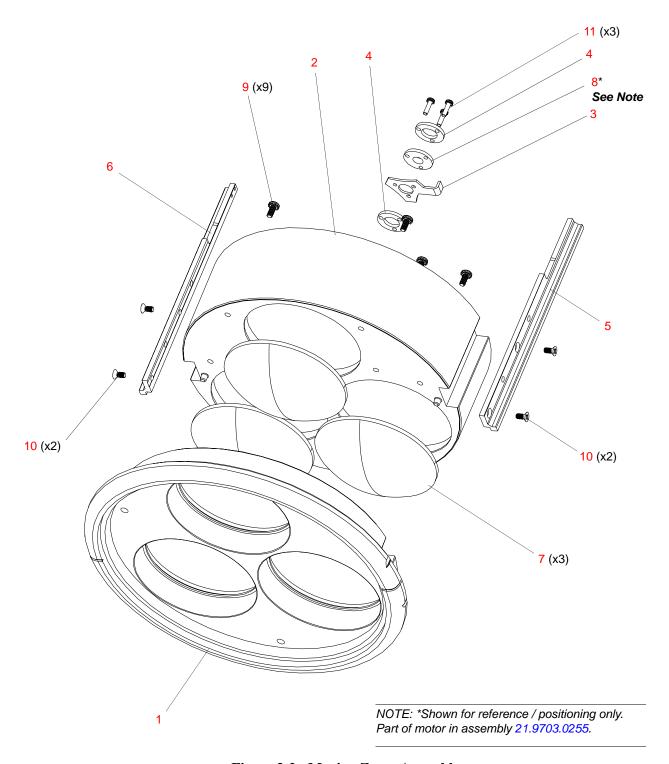


Figure 3-2: Moving Zoom Assembly

02.9703.00100

Tilt Cradle Assembly

21.9703.0650 Rev A

Refer to Figure 3-3.

No.	Item	Qty.	UM.	Description
1	10.9703.0651	1	EA	BULKHEAD, TILT CRADLE, FRONT
2	10.9703.0654	1	EA	BULKHEAD, TILT CRADLE, REAR
3	10.9703.0671	1	EA	MCB MOUNT, RIGHT
4	10.9703.0672	1	EA	MCB MOUNT, LEFT
5	21.9703.0660	1	EA	TILT MOTOR MOUNT ASSY
6	21.9703.0661	1	EA	TILT TUBE ASSY, RIGHT
7	21.9703.0662	1	EA	TILT TUBE ASSY, LEFT
8	53.6545.0003	8	EA	SCREW, 8-32 X 3/8" LG PFZ
9	53.6575.0009	8	EA	SCREW, 8-32 X 3/8" LG PPB SEMS
10	54.9703.0664	1	EA	BELT, TIMING, 129 TOOTH, GT2, 6 MM WIDE

Tilt Cradle Assembly (continued)

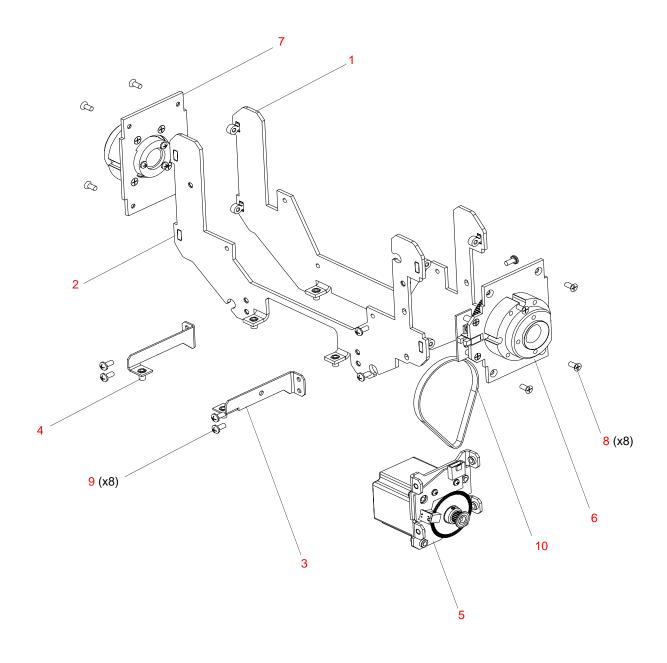


Figure 3-3: Tilt Cradle Assembly

Right Tilt Tube Assembly

21.9703.0661 Rev. A

Refer to Figure 3-4.

No.	Item	Qty.	UM.	Description
1	10.9687.0652	1	EA	BRACKET, SENSOR, TILT HOMING
2	10.9687.0658	1	EA	PLATE, HOMING, TILT
3	10.9687.0659	1	EA	RETAINER, TILT BEARING
4	10.9687.0660	1	EA	TILT STOP
5	10.9687.0662	1	EA	TILT TUBE
6	10.9703.0657	1	EA	TILT TUBE MOUNT, RIGHT
7	25.9703.0013	1	EA	SENSOR SWITCH, SLOTTED OPTICAL
8	53.6527.0001	3	EA	SCREW, 8-32 X 1/2" LG SHC
9	53.6545.0003	4	EA	SCREW, 8-32 X 3/8" PFZ
10	53.6596.0001	2	EA	SCREW, 4-40 X 5/16" PPZ
11	53.6609.0500	2	EA	SCREW, 6-32 X 1/2" LG PFZ
12	54.9687.0250	1	EA	BEARING, BALL, 47MM OD, 35MM ID, 7MM WD
13	54.9687.0251	1	EA	PULLEY, TILT, 108T-GT2P

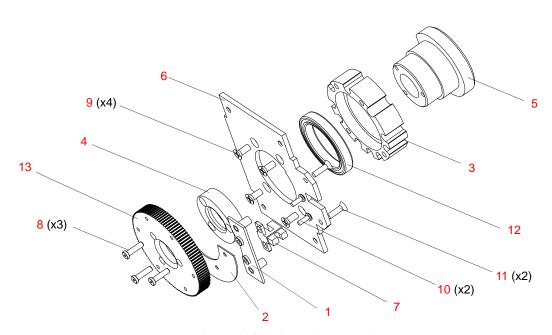


Figure 3-4: Right Tilt Tube Assembly

Left Tilt Tube Assembly

21.9703.0662 Rev. 0

Refer to Figure 3-5.

No.	Item	Qty.	UM.	Description
1	10.9687.0659	1	EA	RETAINER, TILT BEARING
2	10.9687.0660	1	EA	TILT STOP
3	10.9687.0662	1	EA	TILT TUBE
4	10.9703.0656	1	EA	TILT TUBE MOUNT, LEFT
5	53.6545.0003	4	EA	SCREW, 8-32 X 3/8" PFZ
6	53.6558.0009	3	EA	SCREW, 6-32 X 3/8" LG PPZ SEMS
7	54.9687.0250	1	EA	BEARING, BALL, 47MM OD, 35MM ID, 7MM WD

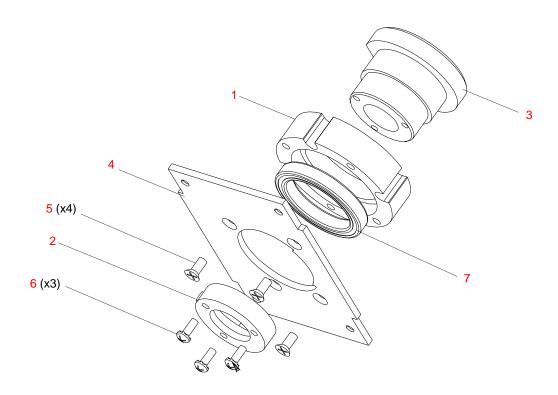


Figure 3-5: Left Tilt Tube Assembly

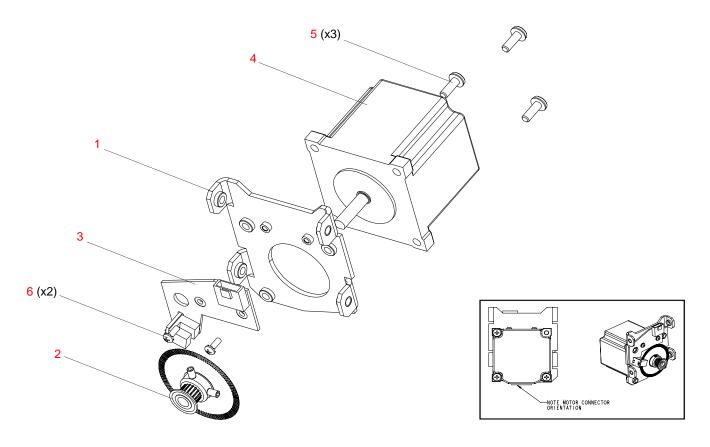
Tilt Motor Mount Assembly

21.9703.0660 Rev C

Refer to Figure 3-6.

No.	Item	Qty.	UM.	Description
1	10.9703.0655	1	EA	MOTOR MOUNT, TILT
2	21.9687.0655	1	EA	PULLEY, PINION (INCLUDES ENCODER WHEEL AND SET SCREWS)
3	24.9703.0690	1	EA	BRD ASSY, PAN/TILT ENCODER
4	44.9678.0680	1	EA	MOTOR, 3 PHASE, SIZE 23 HIGH TORQUE
5	53.6575.0010	3	EA	SCREW, 8-32 X 1/2" LG PPZ SEMS
6	53.6596.0002	2	EA	SCREW, 4-40 X 5/16" LG PPZ SEMS

Tilt Motor Mount Assembly (continued)



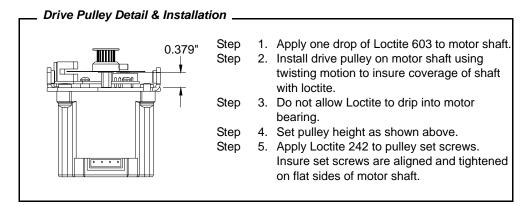


Figure 3-6: Tilt Motor Mount Assembly

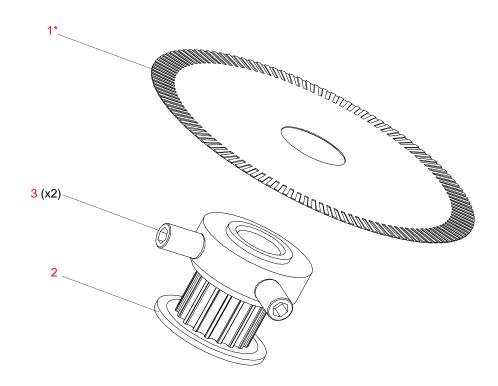
Note: Vari-Lite recommends that this assembly be replaced as a complete assembly. Although you can replace only the motor, the pulley (Item 2) is bonded to the motor shaft during assembly and cannot be removed intact. If you order a replacement motor (Item 4), also order the pulley (Item 2). Contact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

Pulley Pinion Assembly

21.9687.0655 Rev. A

Refer to Figure 3-7.

No.	Item	Qty.	UM.	Description
1	10.9663.8820	1	EA	CODE WHEEL, 120 COUNT
2	10.9687.1655	1	EA	TIMING PULLEY, 18 GROVE, GT2, 6 MM BELT
3	53.5559.0250	2	EA	SCREW, SET 6-40 X 0.25" CONE POINT



NOTE: *On item 1, remove backing over adhesive and stick to item 2.

Figure 3-7: Pulley Pinion Assembly

Light Engine (3 Source LED) Assembly

21.9703.1600 Rev. C

Refer to Figure 3-8.

No.	Item	Qty.	UM.	Description
1	10.9690.0332	3	EA	TUBE, SHIELD, LIGHT PIPE
2	10.9690.0341	3	EA	SEAL, LIGHT PIPE, TOP
3	10.9693.0345	2	EA	SIDE RAIL
4	10.9703.0631	1	EA	GRILL, AIR EXHAUST, VLX3 WASH
5	10.9703.0670	1	EA	REAR AIR BAFFLE
6	21.9693.0310	1	EA	COOLING ASSEMBLY, LED ENGINE
7	21.9693.0652	3	EA	LED DRIVER BOARD ASSEMBLY
8	21.9703.0255	1	EA	INTERMEDIATE PLATE ASSY, ZOOM
9	22.9692.0220	3	EA	LENS ASSEMBLY, ZOOM, STATIONARY
10	24.9663.1231	1	EA	BRD ASSY, INDEX SENSOR
11	17.9703.0680	1	EA	BRD ASSY, VLX3 WASH INTERCONNECT
12	42.9690.0128	3	EA	LIGHT PIPE, HEX, GLASS
13	53.6513.0024	4	EA	SCREW, M3 X 8MM LG PPZ METRIC
14	53.6576.0030	9	EA	SCREW, M4 X 0.7 X 10 MM LG PPZ SEMS
15	53.6576.0031	8	EA	SCREW, M4 X 0.7 X 16 MM LG PFZ
16	53.6576.0032	6	EA	SCREW, M4 X 0.7 X 30 MM LG PPZ
17	53.6576.0033	2	EA	SCREW, M4 X 0.7 X 40 MM LG PPZ
18	53.6576.0042	6	EA	SCREW, M4 X 0.7 X 20 MM LG SHC BLK PLASTIC
19	55.1000.0009	6	EA	SPRING, COMPRESSION
20	55.6520.0016	8	EA	WASHER, LOCK M4 EXT TOOTH ZINC PL
21	55.6738.0004	1	IN	TUBING, PVC, 1/8" ID X 1/4" OD 50 DURO TRANS (USED 2 PLACES)
22	55.6776.0011	2	EA	GUIDE ASSY, LINEAR, 6 MM SQR, IGUS DRYLIN
23	55.6776.0012	2	EA	GUIDE ASSY, LINEAR, 6 MM SQR ZPL, IGUS DRYLIN
24	55.7005.0014	3	EA	O-RING, 9/16" ID, 3/4" OD, 3/32" THK, BUNA-N

Light Engine (3 Source LED) Assembly (continued)

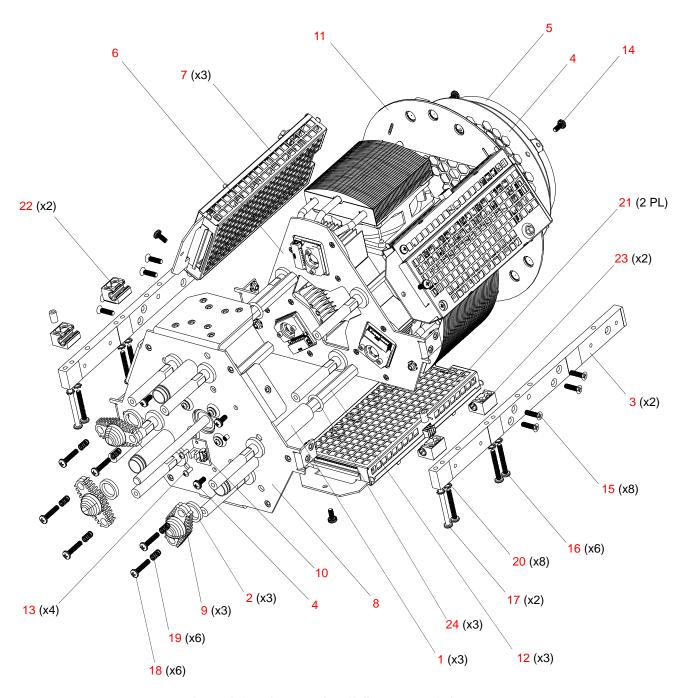


Figure 3-8: Light Engine (3 Source LED) Assembly

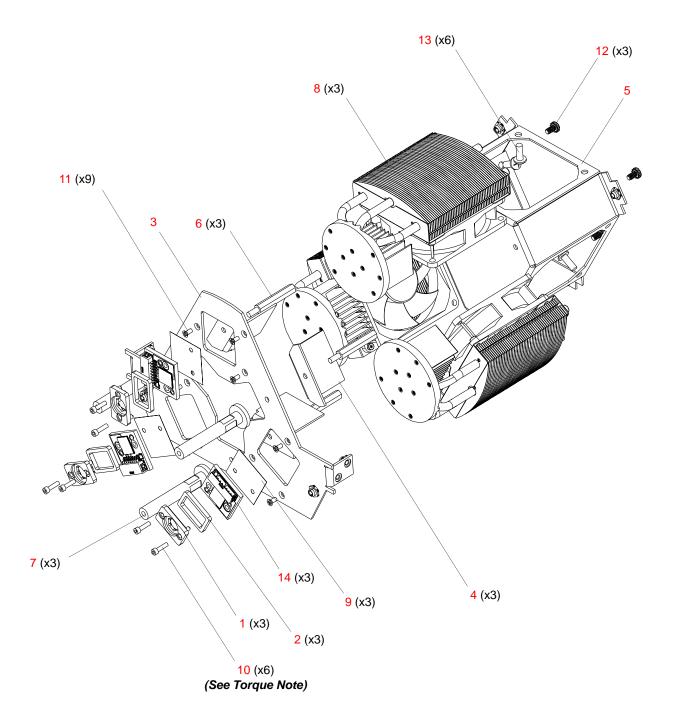
LED Engine Cooling Assembly

21.9693.0310 Rev C

Refer to Figure 3-9.

No.	Item	Qty.	UM.	Description
1	10.9690.0333	3	EA	Z-AXIS STOP, HEX
2	10.9690.1331	3	EA	SEAL, Z-AXIS STOP, ULTRA SOFT
3	10.9693.0340	1	EA	MOUNTING PLATE, COOLER
4	10.9693.0341	3	EA	AIR DAM
5	10.9693.0342	1	EA	FAN EXHAUST CHAMBER
6	10.9693.0343	3	EA	STANDOFF, COOLER
7	10.9693.0387	3	EA	SUPPORT PILLAR, INTERMEDIATE PLATE, MACHINED
8	22.9692.0305	3	EA	COOLER MODULE, LED, COMMON
9	51.5039.0005	3	EA	THERMAL INTERFACE, LED, DIE CUT
10	53.5804.0438	6	EA	SCREW, 4-40 X 0.438" LG SH CAP ZINC
11	53.6559.0001	9	EA	SCREW, 4-40 X 1/4" LG PFZ
12	53.6576.0034	3	EA	SCREW, M4 X 8 MM LG PPZ SEMS
13	53.6626.0001	6	EA	SCREW, 10-32 X 1/2" LG PFZ
14	88.8200.0013	3	EA	LED, RGBW 32 MM X 32 MM

LED Engine Cooling Assembly (continued)



Torque Note: Torque screws (20) to 80-in oz. using a precision torque wrench. Do not overtighten!

Figure 3-9: LED Engine Cooling Assembly

LED Driver Board Assembly

21.9693.0652 Rev. A

Refer to Figure 3-10.

No.	Item	Qty.	UM.	Description
1	10.9692.0237	1	EA	EMI SHIELD, BODY
2	10.9692.0238	1	EA	EMI SHIELD, LID
3	10.9693.0650	1	EA	MOUNTING BRACKET, LED DRIVER
4	24.9690.0570	1	EA	BOARD ASSY, LED DRIVER
5	53.6576.0034	2	EA	SCREW, M4 X 8 MM LG PPZ SEMS
6	55.1000.0010	2	EA	STANDOFF, 6 MM HEX, 4 MM MF, 12 MM LG
7	55.3303.0008	1	EA	WASHER, # LOCK INT TOOTH SS
8	55.6706.0001	1	EA	GROMMET, 9/32" ID, 9/16" OD, 1/4" THK

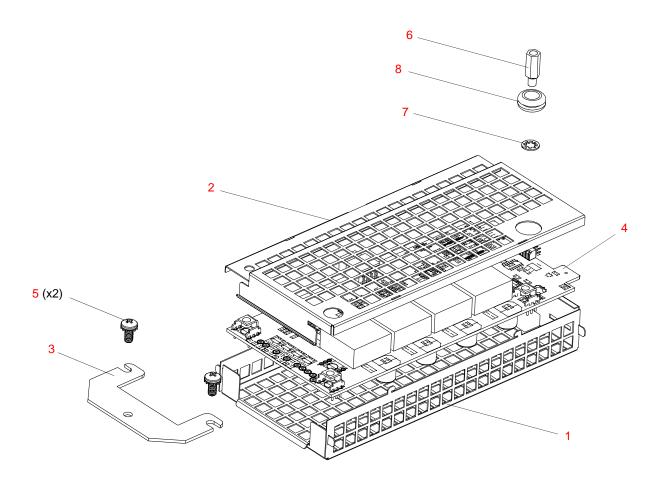


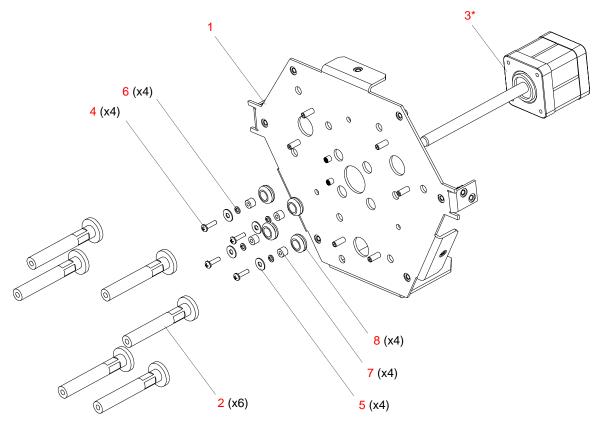
Figure 3-10: LED Driver Board Assembly

Zoom Intermediate Plate Assembly

21.9703.0255 Rev. B

Refer to Figure 3-11.

No.	Item	Qty.	UM.	Description
1	10.9693.0250	1	EA	PLATE, INTERMEDIATE LENS MOUNT
2	10.9693.0387	6	EA	SUPPORT PILLAR, INTERMEDIATE PLATE, MACHINED
3	44.9703.0208	1	EA	MOTOR, LINEAR ACT, SIZE 17, 105 MM SHAFT
4	53.6520.0438	4	EA	SCREW, 4-40 X 7/16" LG PPZ SEMS
5	55.3306.0006	4	EA	WASHER, FLAT, 0.375" OD, 0.149" ID, 0.025" THK
6	55.6627.0001	4	EA	WASHER, SPLIT LOCK, #4 ZINC
7	55.6659.0018	4	EA	SPACER, 1/4" RND #4 THRU 1/4" LG
8	55.6706.0001	4	EA	GROMMET, 9/32" ID, 9/16" OD, 1/4" THK



NOTE: *Nut for motor assembly is shown in assembly 21.9693.0130.

Figure 3-11: Zoom Intermediate Plate Assembly

Notes

Enclosure Assembly

VLX3 Wash Upper Enclosure Assembly

21.9703.0850 Rev F

Refer to Figure 3-12, Figure 3-13 and Figure 3-14

No.	Item	Qty.	UM.	Description
1	04.9687.0100	1	EA	OVERLAY, INPUT PANEL VL400/700
2	04.9687.0150	1	EA	PRODUCT COMPLIANCE LABEL
3	10.9687.0814	1	EA	ADAPTOR, YOKE
4	10.9687.0819	1	EA	PLATE, BOTTOM, UPPER ENCLOSURE
5	10.9687.0820	1	EA	PLATE, TOP UPPER ENCLOSURE
6	10.9687.0823	6	EA	STANDOFF, UPPER ENCLOSURE
7	10.9687.0824	4	EA	STANDOFF, PAN MOTOR
8	10.9687.0825	2	EA	CAP,. BEARING, PAN
9	10.9687.0827	1	EA	PULLEY, PAN, 108T-GT2P
10	10.9687.0828	1	EA	COVER, PAN PULLEY
11	10.9687.0829	1	EA	WIRE, TRAY
12	10.9687.0836	4	EA	STANDOFF, BLOWER ASSY.
13	10.9687.0840	4	EA	MOUNTING BUTTON
14	10.9687.0841	1	EA	PAN LATCH
15	10.9687.0860	4	EA	TEFLON SPACER, PAN LOCK
16	10.9687.0861	2	EA	LATCH SPRING, PAN LOCK
17	21.9687.0860	1	EA	ASSY, PAN MOTOR
18	22.9687.0807	1	EA	ASSY, PAN TUBE
19	22.9687.0810	1	EA	ASSY, PANEL, DISPLAY CONNECTOR
20	22.9687.0811	1	EA	ASSY, BLOWER DEFLECTOR, RIGHT
21	22.9687.0812	1	EA	ASSY, BLOWER DEFLECTOR, LEFT
22	24.9664.4895	1	EA	PCB ASSY, DMX INPUT
23	24.9690.0580	1	EA	BRD ASSY, VLX DISPLAY
-	25.9661.1520	1	EA	CABLE ASSY, ENCLOSURE TO YOKE CHASSIS GROUND (NOT SHOWN)
24	25.9703.0001	1	EA	CABLE ASSY, AC INPUT
	25.9703.0002	1	EA	CABLE ASSY, APS FAN (NOT SHOWN)
-	25.9703.0003	1	EA	CABLE ASSY, DMX I/O COMM (NOT SHOWN)
-	25.9703.0004	1	EA	CABLE ASSY, VLX3 DISPLAY LINK (NOT SHOWN)

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No.	Item	Qty.	UM.	Description
-	25.9703.0005	1	EA	CABLE ASSY, VLX3 36V SUPPLY (NOT SHOWN)
-	25.9703.0006	1	EA	CABLE ASSY, -12V DRIVER BOARD #1 (NOT SHOWN)
-	25.9703.0007	1	EA	CABLE ASSY, -12V DRIVER BOARD #2 (NOT SHOWN)
-	25.9703.0008	1	EA	CABLE ASSY, -12V DRIVER BOARD #3 (NOT SHOWN)
-	25.9703.0009	1	EA	CABLE ASSY, LED DRIVER GROUNDS (NOT SHOWN)
1	25.9703.0014	1	EA	CABLE ASSY, VLX3 PAN MOTOR (NOT SHOWN)
-	25.9703.0015	1	EA	CABLE ASSY, VLX3 PAN ENCODER (NOT SHOWN)
ı	25.9703.0016	1	EA	CABLE ASSY, AUX COMM INTERFACE (NOT SHOWN)
25	40.9687.0005	2	EA	BLOWER, FAL5F24LH
26	53.2003.0001	2	EA	NUT, 4-40 KEPS ZINC PLATED
27	53.2004.0002	14	EA	NUT, 8-32 KEPS ZINC PLATED
28	53.2202.0008	4	EA	NUT, 8-32 HEX SS NYLON INSERT
29	53.6515.0375	4	EA	SCREW, 10-32 X 3/8" SCZ-B
30	53.6515.0875	8	EA	SCREW, 10-32 X 7/8" SKT CAP
31	53.6525.0188	6	EA	SCREW, 6-32 X 3/16" LG PPZ
32	53.6575.0008	4	EA	SCREW, 8-32 X 1/4" PPZ SEMS
33	53.6575.0009	4	EA	SCREW, 8-32 X 1/4" PPB SEMS
34	53.6598.0001	6	EA	SCREW, 4-40 X 3/8" PFB
35	53.6617.0005	4	EA	SCREW, 6-32 X 1-3/8" LG PPZ SEMS
36	53.6624.0001	6	EA	SCREW, 10-32 X 1/2" PFB
37	53.7017.0500	10	EA	SCREW, 1/4-20 X 1/2" PFZ
38	54.9687.0802	0	EA	BALL, 0.177" DIA STEEL
39	54.9687.0803	1	EA	BEARING, 6810-2RS
40	55.3301.0008	8	EA	WASHER, FLAT #8, SS
41	90-2400	8	EA	BRD ASSY, VL WIRELESS INTERCONNECT
42	53.6558.0007	4	EA	SCREW, 6-32 X 1/4" PPZ SEMS

VLX3 Wash Upper Enclosure Assembly (continued)

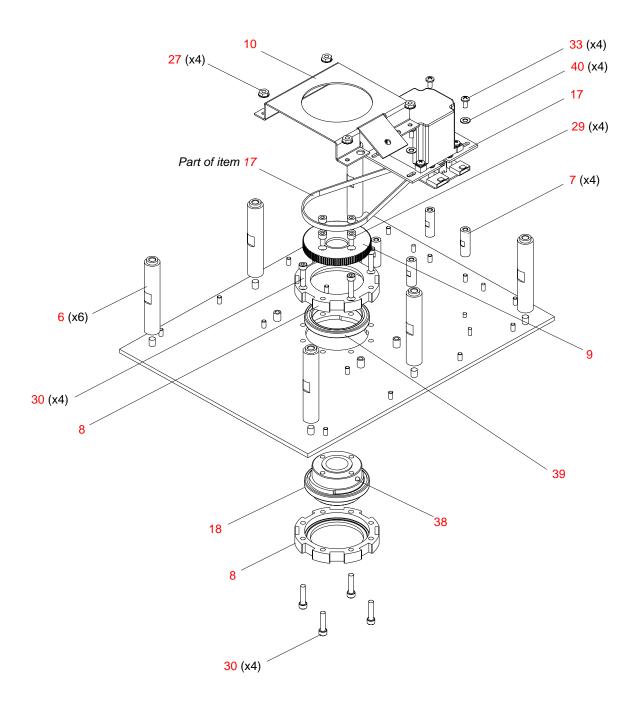


Figure 3-12: VLX3 Wash Upper Enclosure Assembly Part 1

VLX3 Wash Upper Enclosure Assembly (continued)

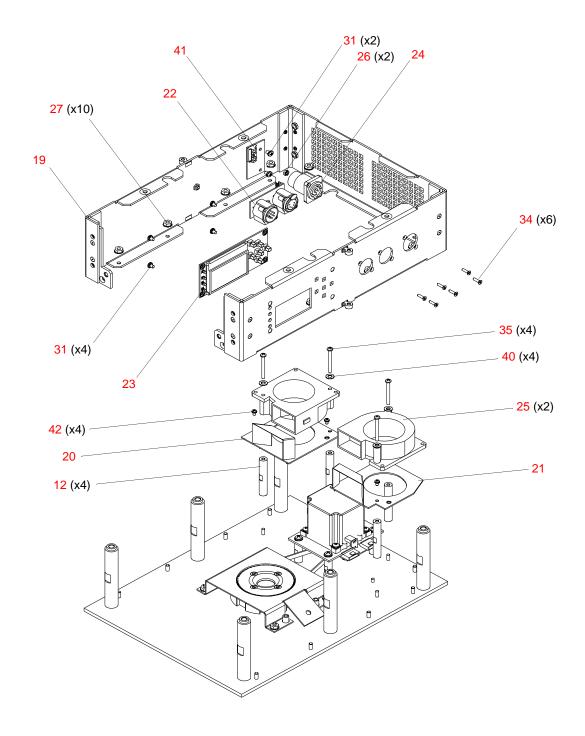
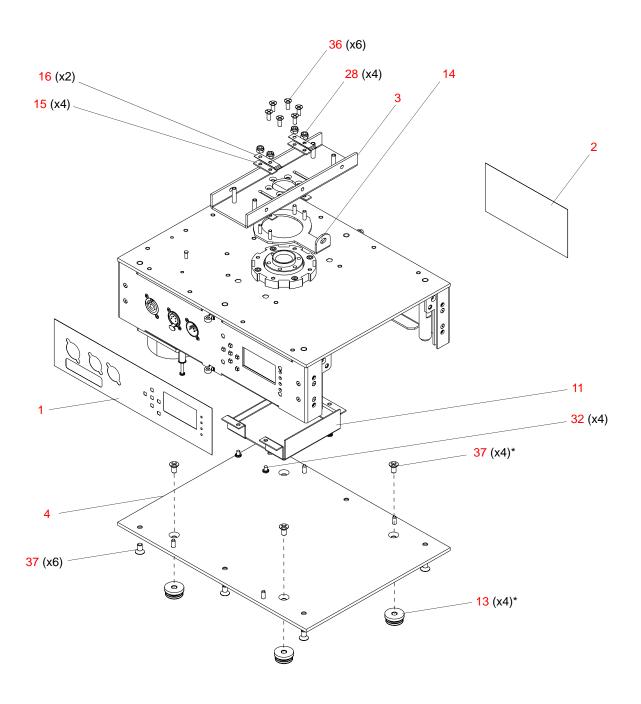


Figure 3-13: VLX3 Wash Upper Enclosure Assembly Part 2

VLX3 Wash Upper Enclosure Assembly (continued)



*Note: When installing these items, use thread locker Loctite 271 or equivalent.

Figure 3-14: VLX3 Wash Upper Enclosure Assembly Part 3

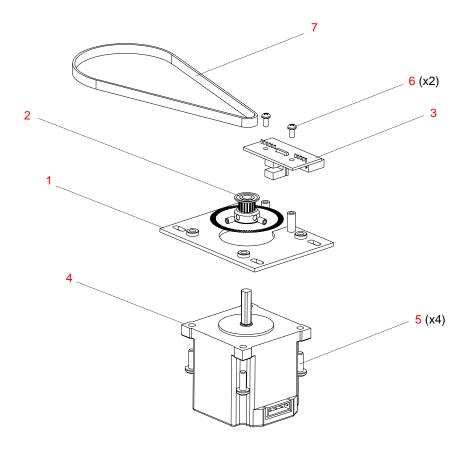
Pan Motor Assembly

21.9687.0860 Rev. B

Refer to Figure 3-15

No.	Item	Qty.	UM.	Description
1	10.9687.0822	1	EA	PLATE, PAN MOTOR MOUNT
2	21.9687.0655	1	EA	PULLEY, PINION (INCLUDES ENCODER WHEEL AND SET SCREWS)
3	24.9661.5000	1	EA	BRD ASSY, PAN/TILT ENCODER
4	44.9687.1680	1	EA	MOTOR, 3-PHASE SZ 23 HI-TRQ, MOONS
5	53.6575.0010	4	EA	SCREW, 8-32 X 1/2" PPZ SEMS
6	53.6682.0002	2	EA	SCREW, 4-40 X 1/4" PPZ SEMS
7	54.9687.0805	1	EA	BELT, PAN, 185 TOOTH, GT-2 MM, 6 MM WIDE

Pan Motor Assembly (continued)



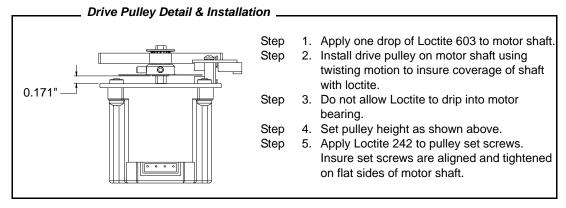


Figure 3-15: Pan Motor Assembly

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

Notes

Cable Assemblies

Chassis To Yoke Ground Cable Assembly

25.9661.1520 Rev D

Refer to Figure 3-16.



Figure 3-16: Chassis To Yoke Ground Cable Assembly

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

VLX3 Wash AC Input Cable Assembly

25.9703.0001 Rev A

Refer to Figure 3-17

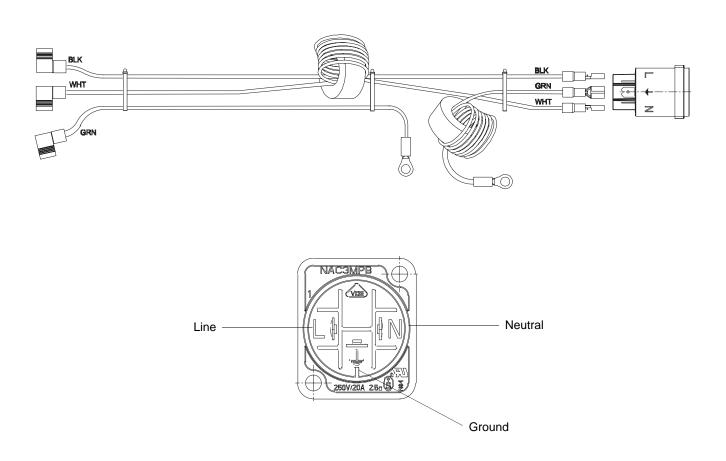


Figure 3-17: VLX3 Wash AC Input Cable Assembly

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

APS Fan Cable Assembly

25.9703.0002 Rev B

Refer to Figure 3-18

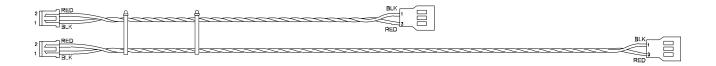


Figure 3-18: VLX3 Wash APS Fan Cable Assembly

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

DMX I/O Cable Assembly

25.9703.0003 Rev B

Refer to Figure 3-19



Figure 3-19: DMX I/O Cable Assembly

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

VLX3 Wash Display Link Cable Assembly

25.9703.0004 Rev B

Refer to Figure 3-20

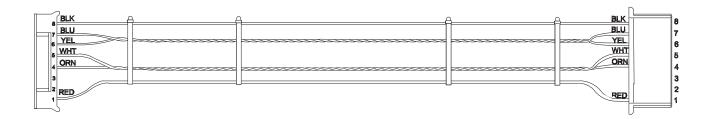


Figure 3-20: VLX3 Wash Display Link Cable Assembly

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

VLX3 Wash 36VDC Supply Cable Assembly

25.9703.0005 Rev C

Refer to Figure 3-21

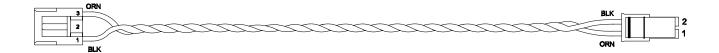


Figure 3-21: VLX3 Wash 36VDC Supply Cable Assembly

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

- 12V Driver Board #1 Cable Assembly

25.9703.0006 Rev A

Refer to Figure 3-22



Figure 3-22: - 12V Driver Board #1 Cable Assembly

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

- 12V Driver Board #2 Cable Assembly

25.9703.0007 Rev A

Refer to Figure 3-23



Figure 3-23: - 12V Driver Board #2 Cable Assembly

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

- 12V Driver Board #3 Cable Assembly

25.9703.0008 Rev A

Refer to Figure 3-24



Figure 3-24: - 12V Driver Board #3 Cable Assembly

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

LED Driver Grounds Cable Assembly

25.9703.0009 Rev A

Refer to Figure 3-25

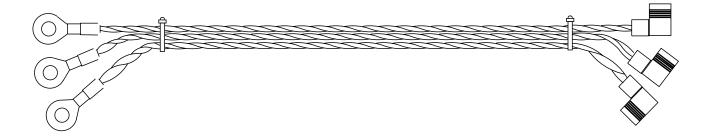


Figure 3-25: LED Driver Grounds Cable Assembly

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

LED Drive Cable Assembly

25.9703.0010 Rev C

Refer to Figure 3-26

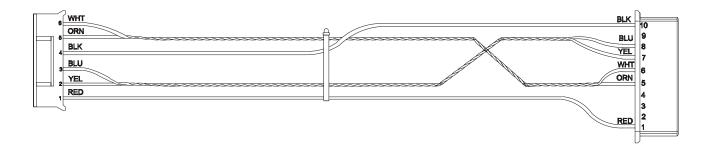


Figure 3-26: LED Drive Cable Assembly

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

Zoom Cable Assembly

25.9703.0011 Rev A

Refer to Figure 3-27

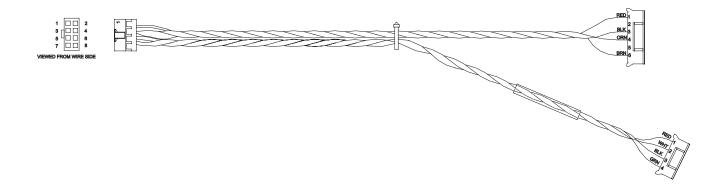


Figure 3-27: Zoom Cable Assembly

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

VLX3 Wash Tilt Cable Assembly

25.9703.0012 Rev B

Refer to Figure 3-28

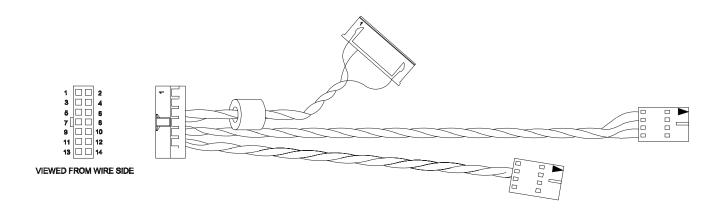


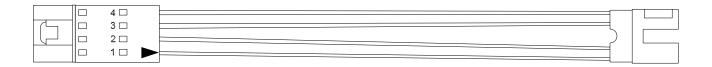
Figure 3-28: VLX3 Wash Tilt Cable Assembly

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

VLX3 Tilt Sensor Cable Assembly

25.9703.0013 Rev A

Refer to Figure 3-29



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

Figure 3-29: VLX3 Tilt Sensor Cable Assembly

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

VLX3 Wash Tilt Cable Assembly

25.9703.0014 Rev C

Refer to Figure 3-30



Figure 3-30: VLX3 Wash Pan Motor Cable Assembly

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

VLX3 Wash Pan Encoder Cable Assembly

25.9703.0015 Rev B

Refer to Figure 3-31



Figure 3-31: VLX3 Wash Pan Encoder Cable Assembly

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

VLX3 AUX COMM Interface Cable Assembly

25.9703.0016 Rev A

Refer to Figure 3-32

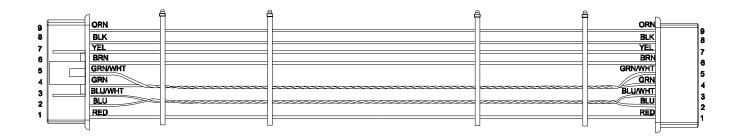


Figure 3-32: VLX3 AUX COMM Interface Cable Assembly

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

VLX3 LED Driver Grounds Cable Assembly

25.9703.0017 Rev A

Refer to Figure 3-33

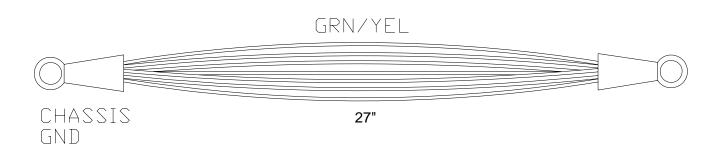


Figure 3-33: VLX3 LED Driver Grounds Cable Assembly

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

VLX3 Yoke to Head Chassis Ground Cable Assembly

25.9703.0018 Rev A

Refer to Figure 3-34

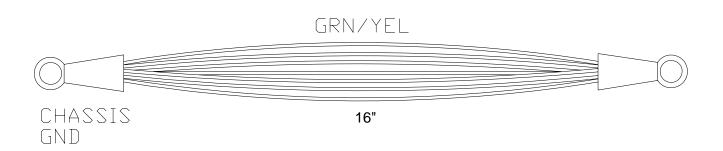


Figure 3-34: VLX3 Yoke to Head Chassis Ground Cable Assembly

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

Notes



APPENDIX A.

Technical Bulletins and Notices

VLX3 Wash Technical Bulletins and Notices

The following table identifies the current technical bulletins and notices associated with the VLX3 Wash Luminaires. These improvements have been incorporated into this manual (where applicable) and are available on the Vari-Lite web site at www.vari-lite.com. Please note that not all bulletins or notices are applicable to all versions of the fixtures included in this manual. Refer to each bulletin and notice for specific information and application.

Technical Bulletins

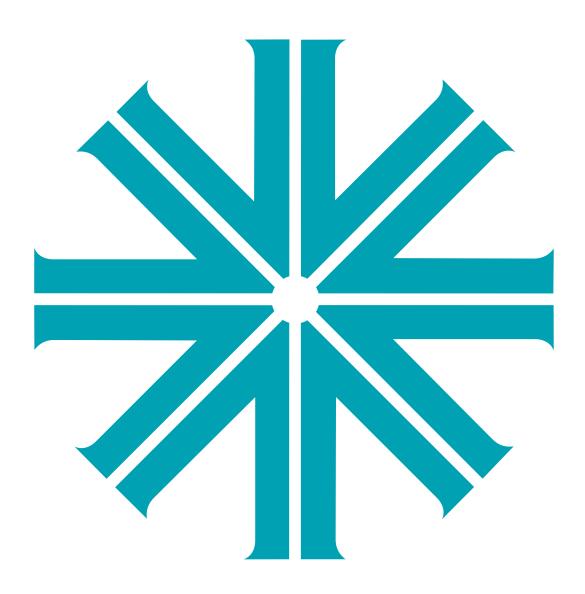
Technical Bulletin	Description	Model(s)
LSW-057	VLX3 Wash Luminaire Initial Software Release (06/06/11)	VLX3 Wash
LSW-058	VLX3 Wash Luminaire Software Release (07/13/11)	VLX3 Wash

Technical Notices

Technical Notice	Description	Model(s)
None		

For the latest technical bulletins and notices, please visit the Support section on the Vari-Lite web site at www.vari-lite.com.

Notes





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