SOFTWARE VERSION 1.0

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BEST BOY® WASH LUMINAIRE

FIELD SERVICE MANUAL

Best Boy® Wash Luminaire Field Service Manual

Version as of: April 3, 2015

PRG part number: 02.9815.0005 A

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FOREWORD

Compliance Notice

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: 1) This device may not cause harmful interference, and 2) This device must accept any interference received, including interference that may cause undesired operation.

Conforms to:

UL STD 1573

Certified to:

CAN/CSA STD E598-1
CAN/CSA STD E598-2-17

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) PRG luminaires have been designed for use only with specific lamps. Note lamp type before replacing. Installing another type of lamp may be hazardous.
2) PRG luminaires may be mounted on any type of surface as long as mounting instructions are followed. See instructions detailed in this manual.
3) Replace fuses with same type and rating only.
4) Minimum distance from head to any flammable object is 2m.

WARNING: INSTRUCTIONS FOR CONTINUED PROTECTION AGAINST ELECTRICAL SHOCK

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

WARNING: INSTRUCTIONS FOR CONTINUED PROTECTION AGAINST EXPOSURE TO EXCESSIVE ULTRAVIOLET RADIATION

1) PRG luminaires may use an HID type lamp which produces UV radiation. DO NOT look directly at lamp.
2) It is hazardous to operate luminaires without complete lamp enclosure in place or when lens is damaged. Lenses or UV shields shall be changed if they have become visibly damaged to such an extent that their effectiveness is impaired.

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. Service and maintenance should be performed only by qualified personnel as determined by the high pressure lighting fixture manufacturer.
2) Arc lamps generate intense heat. Disconnect power and allow lamp to cool for 5 minutes before relamping.
3) Arc lamps emit ultraviolet radiation which can cause serious skin burn and eye inflammation. Additionally, arc lamps operate under high pressure at very high temperatures. Should the lamp break, there can exist a danger of personal injury and/or fire from broken lamp particles being discharged.
4) The lamp shall be changed if it has become damaged or thermally deformed.
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) Serious injury may result from the generation of ozone by this lamp system. A proper means of venting must be provided.

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: RISQUE D' EXPLOSION.

1) Le service et le maintenance ne devront être assurés que par des personnes qualifiées comme precisé par le frabricant des lampes à haute pression.
2) Des vêtement de protection et les procédures précisées dans le manuel du frabricant doit être fournies.

AVERTISSEMENT: RÉGLAGE DES LAMPES

1) Chaleur intense. Débrancher le matériel et laisser refroidir pendant 5 minutes avant de rallumer.
2) Risque l'incendie. N'utilise que des Philips MSR Gold™ FastFit Lamp.

AVERTISSEMENT: DIRECTIVES POUR SE PROTÉGER CONTRE UNE EXPOSITION EXCESSIVE AUX RAYONS UV

1) Risque d'explosion en cas de radiation ultraviolet imprantes.
2) Ne pas intervener en l'absence de confinement de la lampe en place ou quand la lentille est abîmée.

AVERTISSEMENT: DIRECTIVES POUR SE PROTÉGER CONTRE LES ACCIDENTS POUVANT ENTRAÎNER DES BLESSURES

1) Chaleur intense. Eviter tout contact avec des personnes ou des tissues. Attention, de graves blessures peuvent résulter de production d'ozone par cette lampe. Un système de ventilation adapté doit être fournies
2) La température de surface = 300.c
   La temperature de l'ambiance = 50.c
3) Ne convient pas pour un usage résidential.
4) Utilisable seulement dans les locaux secs.

Revision History

This manual has been revised as follows:

Version	Release Date	Notes
BASIC	August 11, 2014	Initial release.
A	April 3, 2015	Updated to software version 1.07

TABLE OF CONTENTS

INTRODUCTION

About This Manual

This manual provides testing, troubleshooting, maintenance procedures, and illustrated parts breakdowns for the following equipment:

+ Best Boy® Wash Luminaire

This manual is intended for use in field servicing and is not a comprehensive shop-level manual.

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

Additional Documentation

For installation and operation instructions, refer to the following PRG manual:

+ Best Boy® Wash Luminaire User Manual (02.9815.0001)

Technical updates regarding this equipment are issued by the PRG Dallas office. These updates are in the form of Technical Bulletins, which contain procedures for equipment upgrades, retrofits, and repairs not found in the existing manual(s).

For more information about DMX512 and sACN protocols, refer to the following documents available from the American National Standards Institute (ANSI) at www.ansi.org:

+ ANSI E1.11 - 2008 (R2013)
  Entertainment Technology - USITT DMX512-A, Asynchronous Serial Digital Data Transmission Standard for Controlling Lighting Equipment and Accessories
+ ANSI E1.31 - 2009
  Entertainment Technology – Lightweight streaming protocol for transport of DMX512 using ACN
+ ANSI E1.20 - 2010
  Entertainment Technology-RDM-Remote Device Management over USITT DMX512 Networks

The above documents are also available for free in electronic format at tsp.plasa.org

For more information about Art-Net, refer to the following document available from Artistic Licence Engineering at www.artisticlicence.com:

+ Specification for the Art-Net Ethernet Protocol

Training Videos

Best Boy Training Videos are available on the PRG website. For a list of videos, refer to the following webpage:

+ http://www.prg.com/best-boy-training-videos/

Customer Service

For technical assistance, contact the PRG International Service Center or contact your nearest PRG office. Contact information for all PRG office locations can be found on our website at: www.prg.com

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Dallas, Texas 75247 USA
Phone: 214.630.1963
Fax: 214.630.5867
Service Fax: 214.638.2125
Service Email: orders@prg.com

For Best Boy support, please contact: Bestboysupport@prg.com

For additional resources and documentation, please visit our website at: www.prg.com

1.

DESCRIPTION

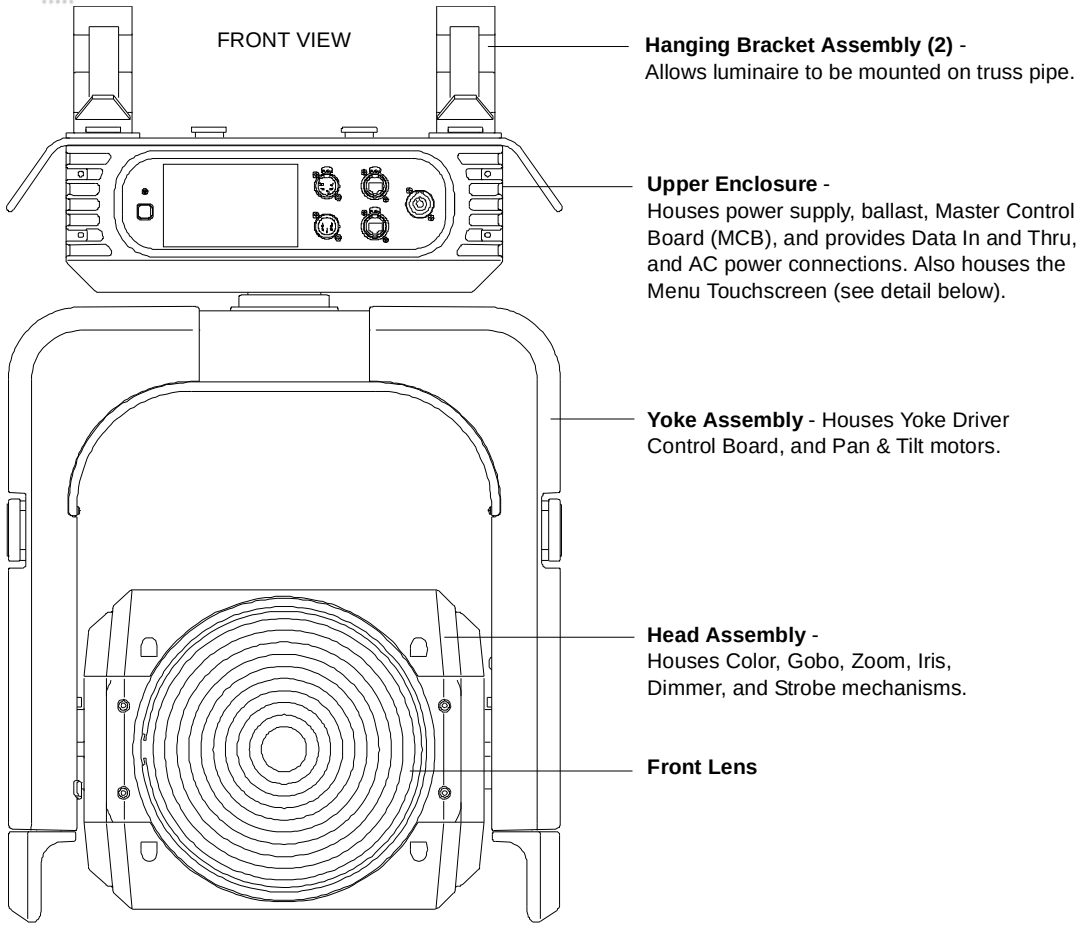
This chapter contains an overview of luminaire components.

+ COMPONENTS

COMPONENTS

Exterior Components

The following illustration shows the external luminaire components and controls.



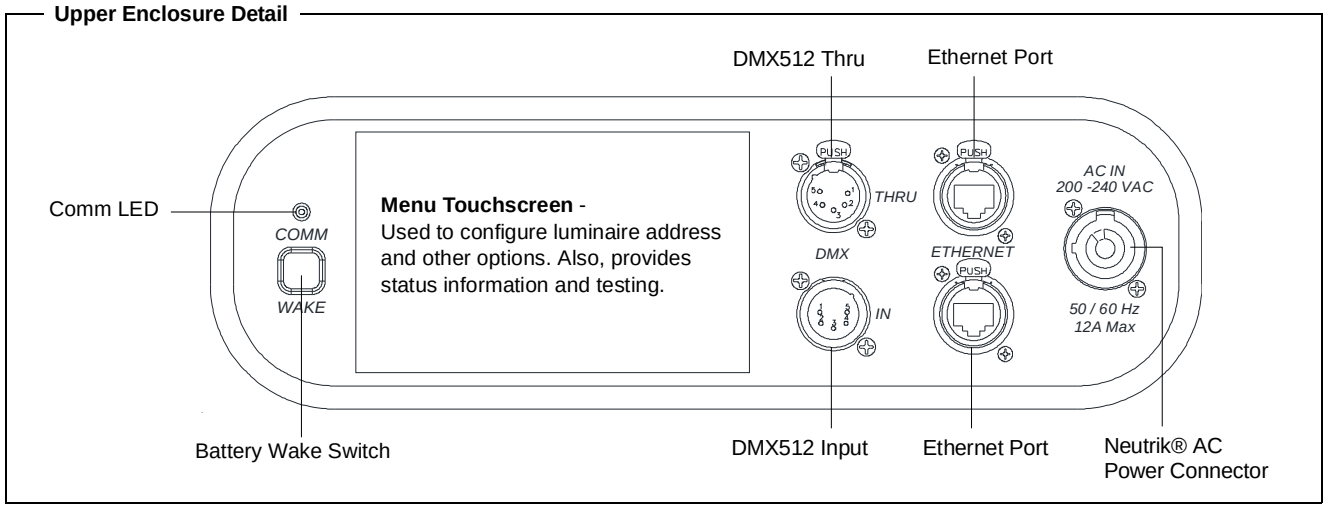


Figure 1-1: Best Boy Wash Luminaire External Components and Controls

A Locking Lever, located between the yoke and head, can be used to keep the head from rotating. Be sure to disengage the lock during operation.

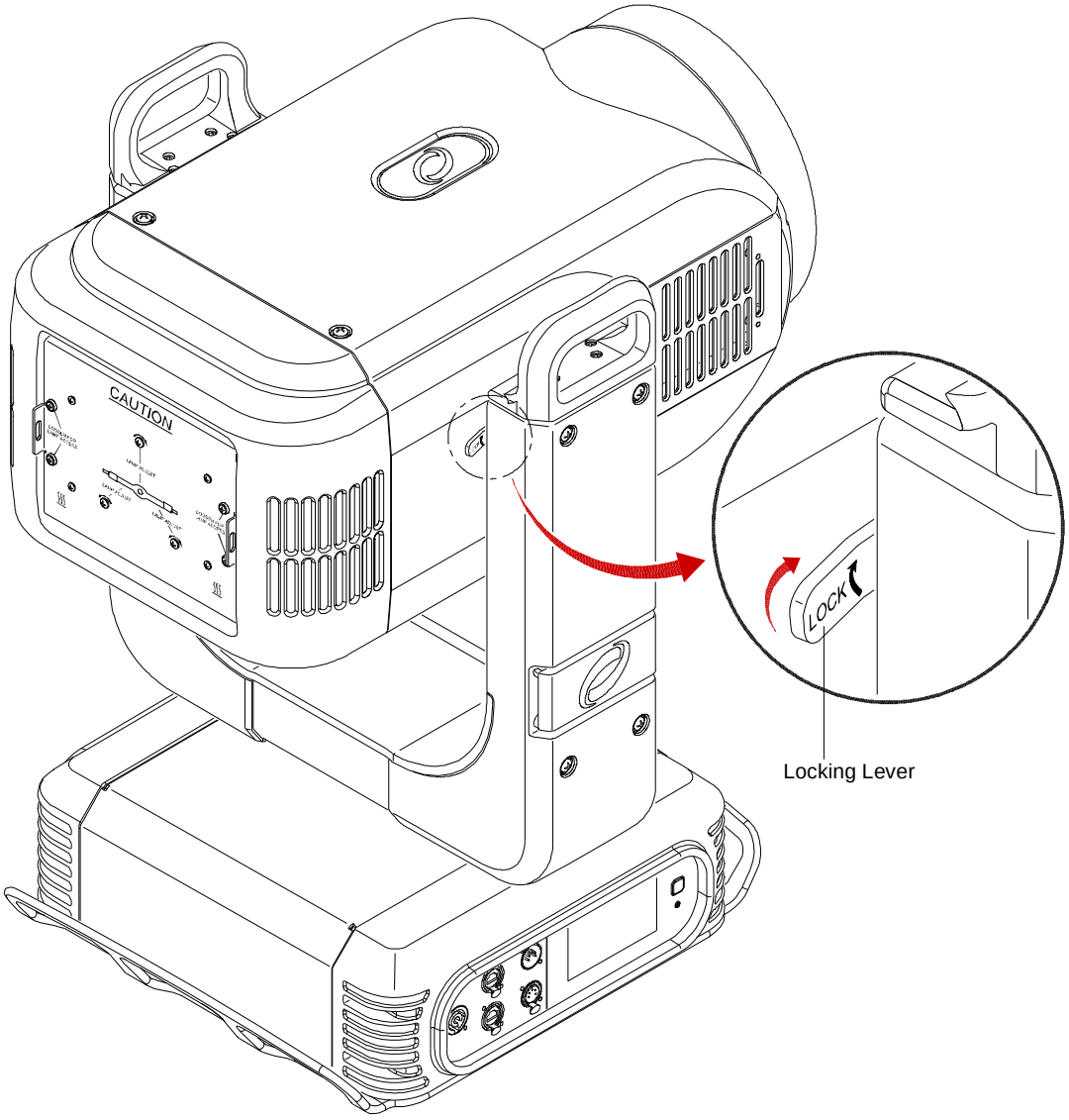


Figure 1-2: Tilt Locking Lever

Head and Enclosure Components

The following illustration shows the major sub-assemblies located in the Head and Upper Enclosure.

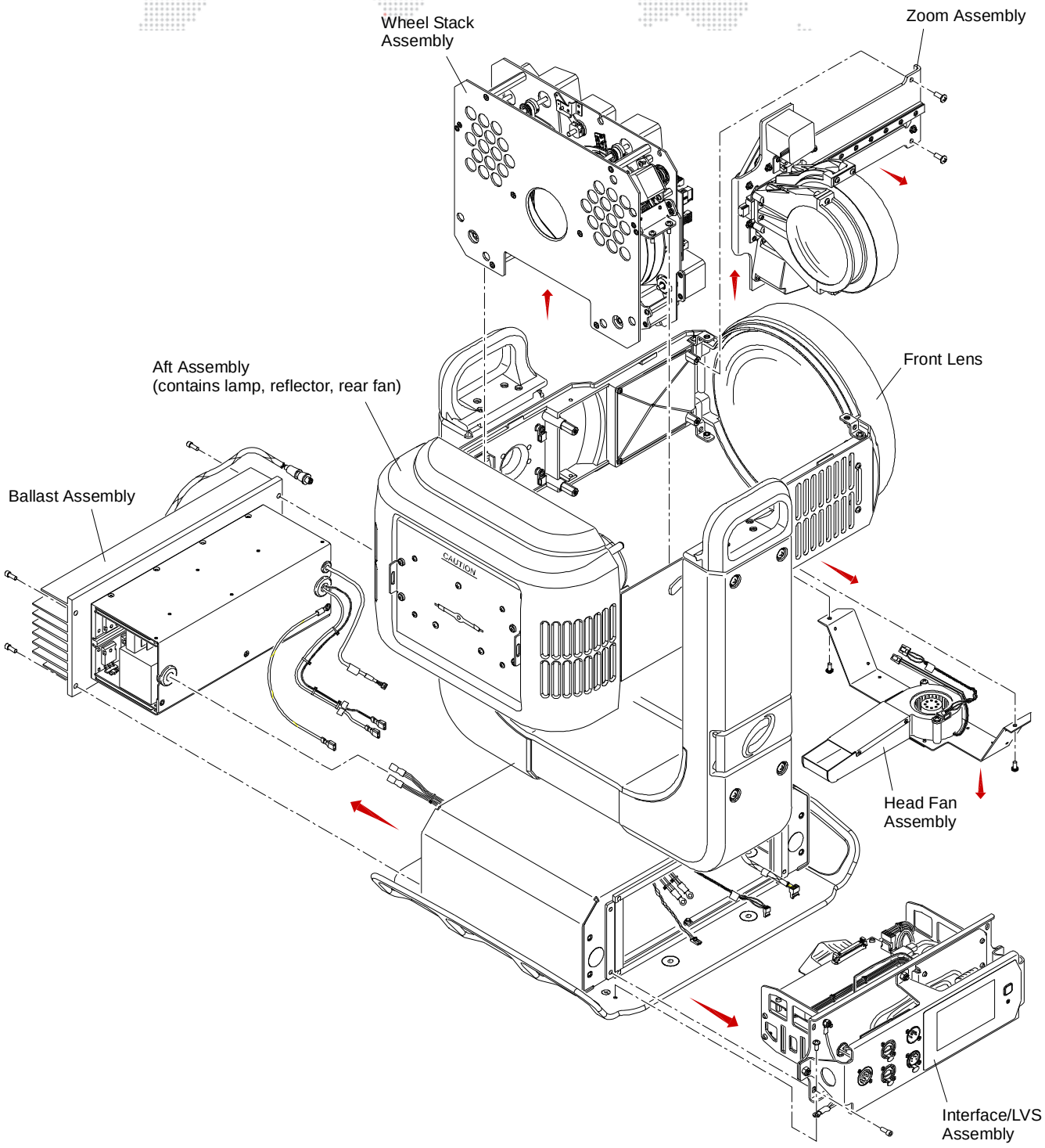


Figure 1-3: Head and Enclosure Components

Yoke Components

Tilt-Side Yoke

The following illustration shows the major sub-assemblies located in the Tilt-Side Yoke Leg.

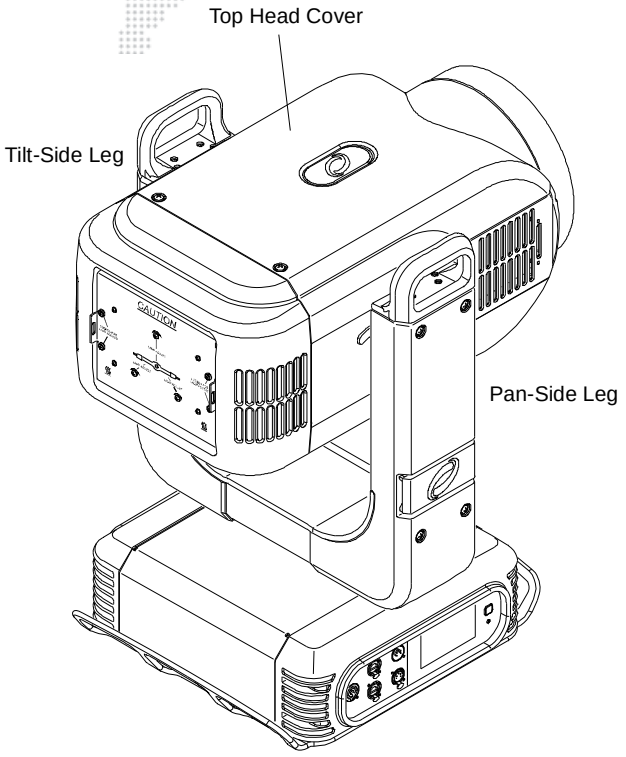


Figure 1-4: Yoke Leg Identification

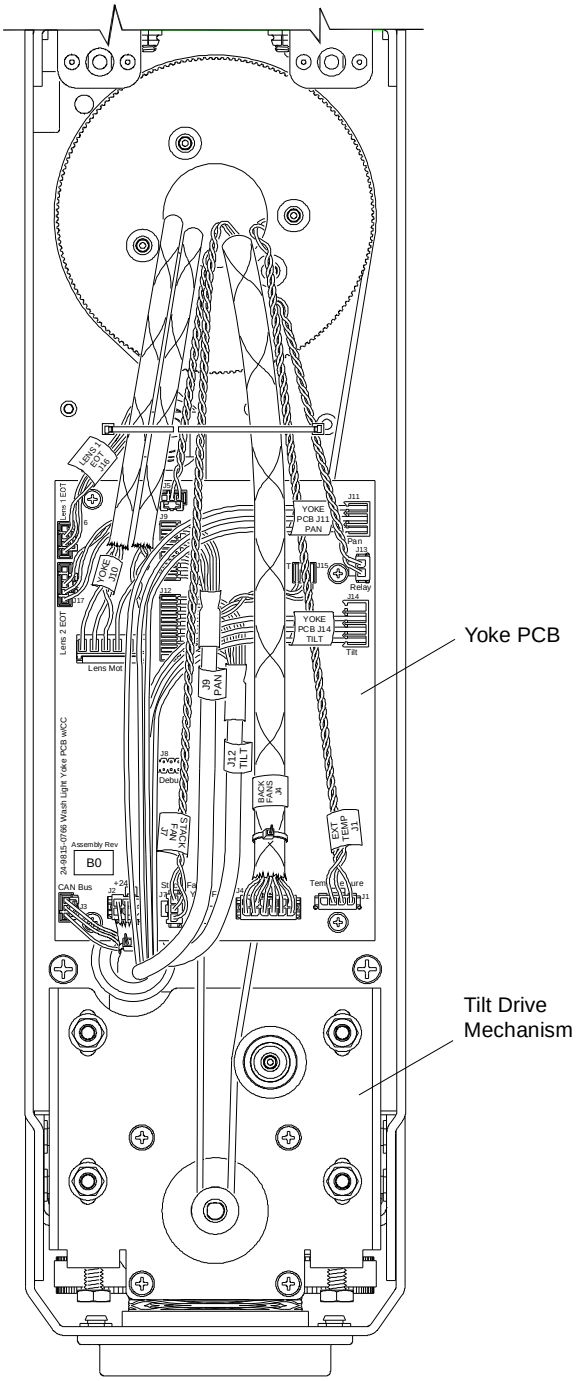


Figure 1-5: Tilt-Side Yoke Leg

Pan-Side Yoke Leg

The following illustration shows the major sub-assemblies located in the Pan-Side Yoke Leg.

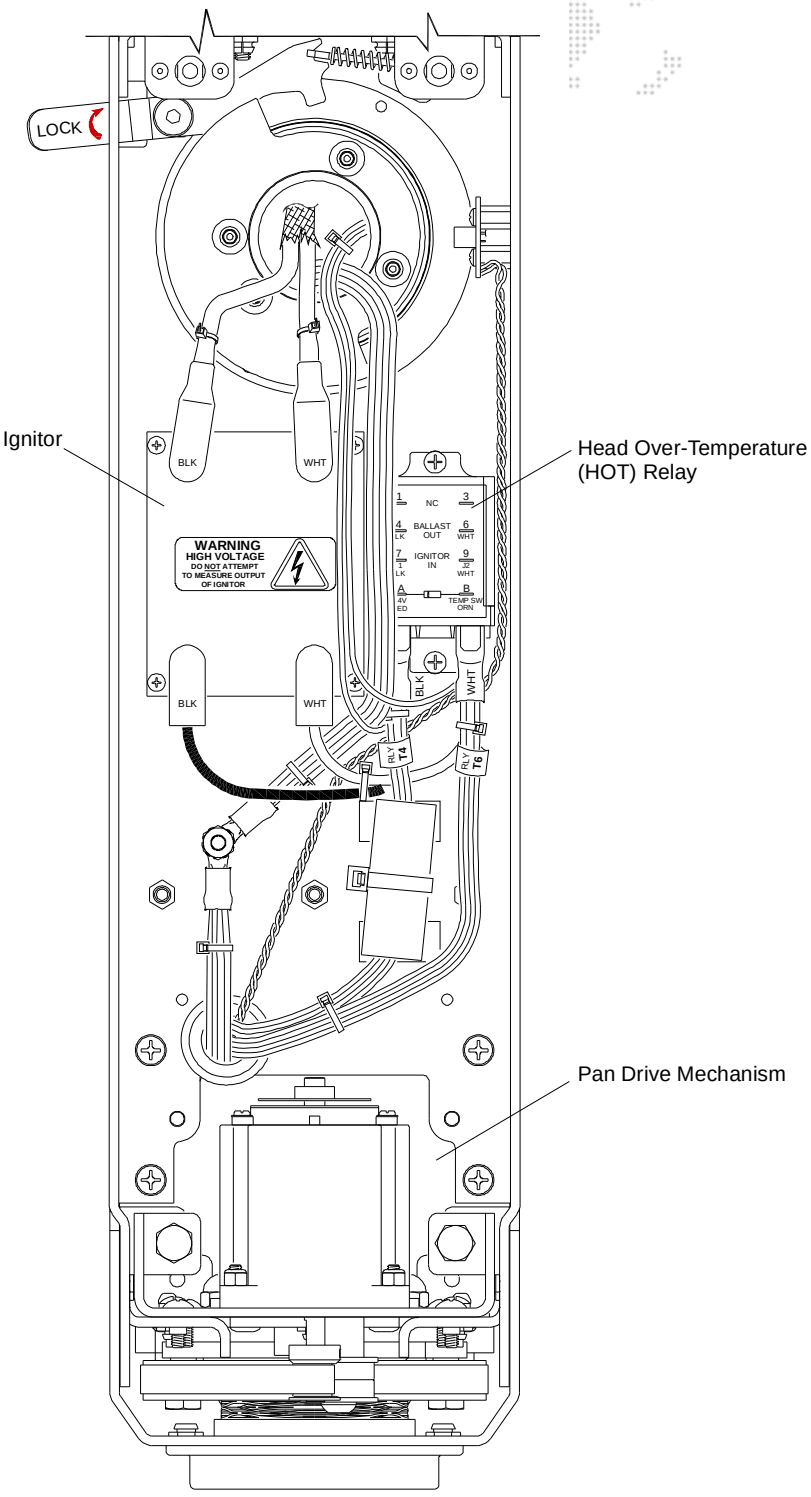


Figure 1-6: Pan-Side Yoke Leg

Fixed Color Wheel Configuration

The following drawing shows the standard Fixed Color Wheel configuration.

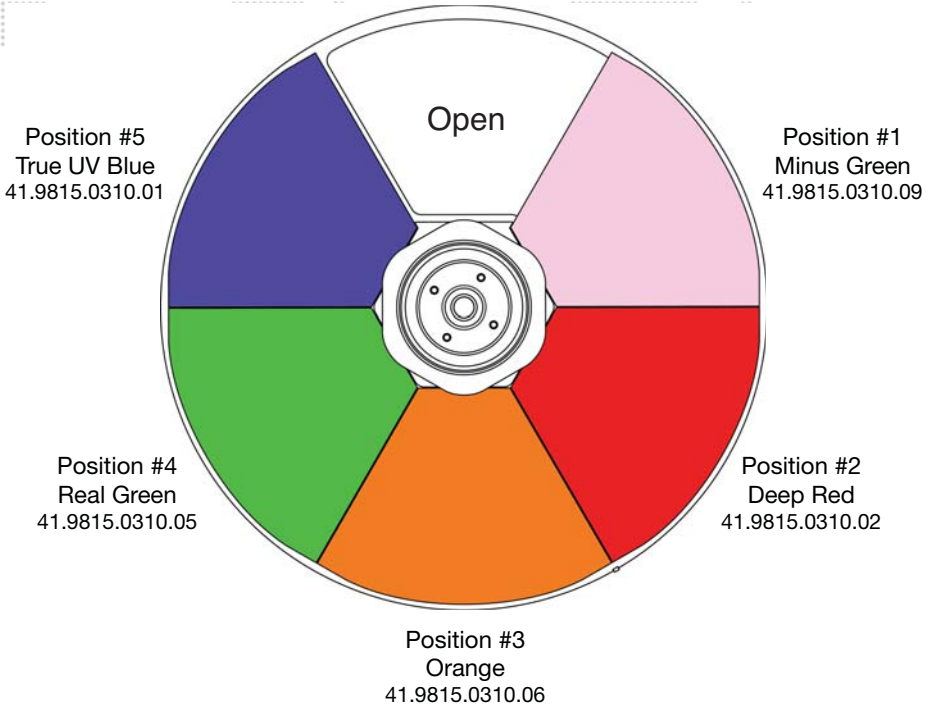


Figure 1-7: Fixed Color Wheel Standard Configuration

Gobo Wheel Configuration

The following drawing shows the standard Gobo Wheel configuration.

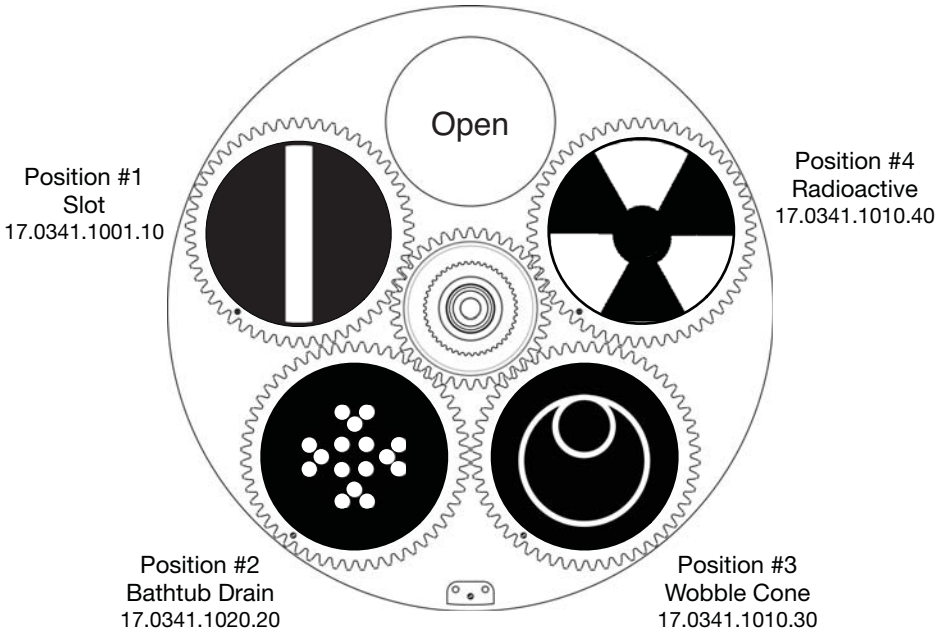


Figure 1-8: Gobo Wheel Standard Configuration

Notes

2.

TESTING & TROUBLESHOOTING

This chapter provides testing and troubleshooting procedures for the luminaire.

+ TESTING

+ TROUBLESHOOTING

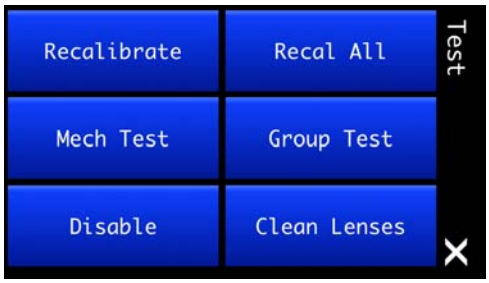
TESTING

About This Section

The following section provides instructions for using the test and recalibration features of the Best Boy Wash Luminaire menu system. For complete menu operating instructions, refer to the Best Boy Wash Luminaire User Manual.

Test Screen

The Test menu provides options for using the luminaire's self-test features.



- **Recalibrate** - press to bring up Recalibration Screen. (During recalibration, intensity goes out until all mechanism calibrations are complete and back in position, then fades in.)
- **Recal All** - press to bring up Recalibrate All Yes/No options.
- **Mech Test** - press to bring up Mechanical Tests Screen. (See "Mechanical Tests" on page 14 for more explanation.)
- **Group Test** - press to bring up Group Tests screen, which allows multiple luminaires to be run through a configurable test sequence when chained together via DMX512 or Ethernet. (See "Group Tests" on page 15 for more explanation.)
- **Disable** - press to bring up Disable Screen, which allows specific mechanisms to be disabled during testing.
- **Clean Lenses** - press to bring up Cleaning Lenses screen. This feature will position lenses so that all surfaces may be cleaned with a cloth. (Note that pressing the buttons does not actually clean the lenses.)

Test Sub-Menu Screens

Recalibrate Screens - Specifies a specific mechanism for recalibration.

Disable Screen - Specifies mechanisms to be excluded from tests.

Group Tests Screen - Allows multiple luminaires to be tested when daisy-chained together.

Mechanical Tests Screen - Specifies mechanisms to be tested.

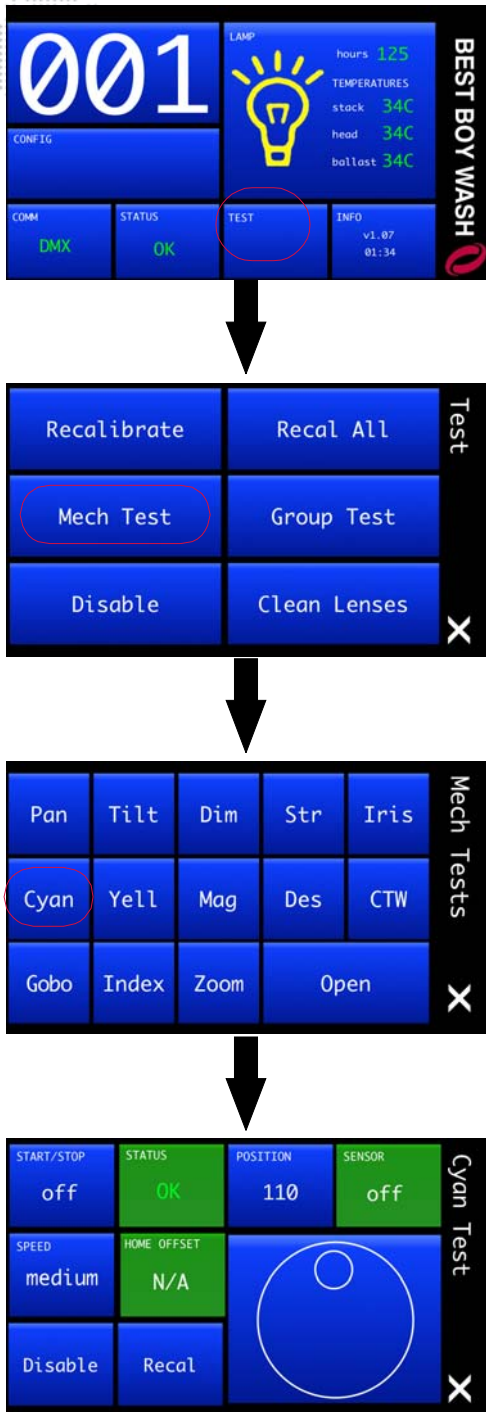
Mechanical Tests

The Mechanical Tests menu provides a method for exercising all luminaire mechanisms individually. Each mechanism has a similar Test screen. Cyan is shown in the example to the right.

The following test functions are available:

- **Test Chase** - The mechanism will move back and forth between two positions. The START/STOP button starts and stops the motion, and the SPEED button sets the rate of the motion. For mechanisms with sensors, one of the positions will be on the sensor and the other position will be off.
- **Manual Control** - The virtual knob on the right side of the screen moves the mechanism through its range of travel, manually.
- **Manual Position Entry** - Press POSITION to enter a value for the mechanism's position.
- **Feedback** -The current status of the mechanisms encoder (POSITION) and sensor (SENSOR) are shown (if available for that mechanism). STATUS indicates whether the mechanism is in an error state or normal operating state.
- **Utility Functions** - Press **Recalibrate** to recalibrate the mechanism or **Disable** to turn off the motor control to allow the mechanism to move freely.
- **Configuration Information** - HOME OFFSET indicates whether the home position* has been adjusted to fine tune sensor positions (applies to gobo wheel only; refer to Control Channel settings in "DMX Channel Mapping" on page 37).

* Due to small variations in sensor and sensor board positions, the open position on a gobo wheel might not be precisely aligned with the optical axis, creating a slight blockage on one side of the open beam. Adjust the wheel position via DMX to get the proper alignment and send the HOME OFFSET command to store the current position as the new "home" position. This position is stored in persistent memory and will be used going forward as the home position.



Group Tests

The Group Test menu allows multiple Best Boy Wash Luminaires to be run through a configurable test sequence when chained together via DMX512 or Ethernet. (Refer to "Connecting Power and Data" on page 20 for more information about daisy-chaining.)

To perform a group test:

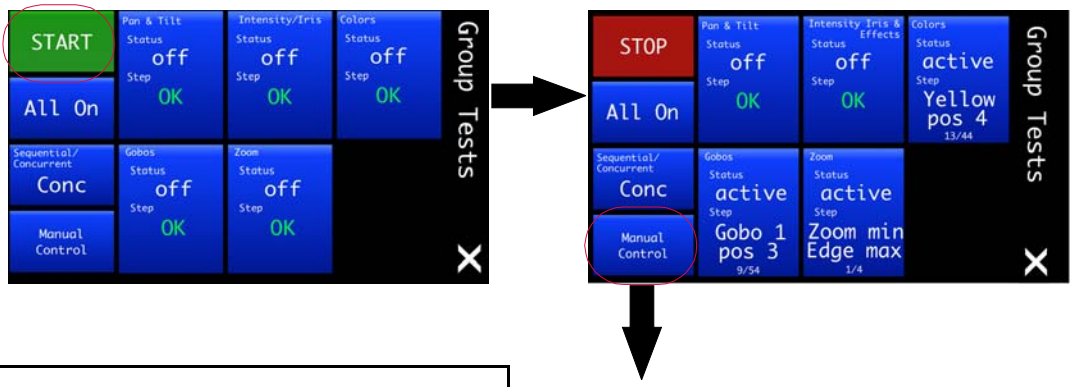
Step 1. At Group Test screen, select options to run: Pan/Tilt, Intensity, Colors, Gobos, and or Zoom.

Step 2. Select test option: Concurrently (all selected tests are run at once) or Sequentially (tests are run one at a time as each one finishes).

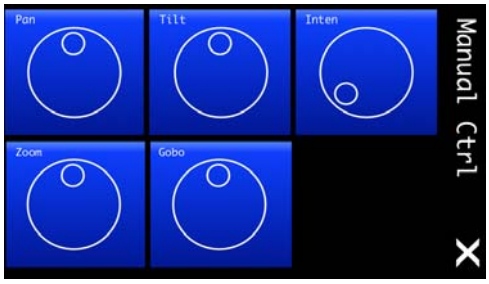
Step 3. Press START to begin testing. All luminaires connected to the main fixture (now referred to as the "Master") will become "Slaves" and follow the test routine set on the Master in an endless loop.

Step 4. To stop the test sequence, press STOP on the Master.

While in group test, a Master can manually change certain values by using the Manual Control screen. From here, parameters that are not active in the test sequence can be adjusted. For example, if a test were running on gobos and colors, it is possible to adjust the pan and tilt to point the Master and all Slaves to a position where it will be easier see the output of the fixtures.



Slave fixtures will display "SLAVE" in the Group Tests screen as shown.



TROUBLESHOOTING

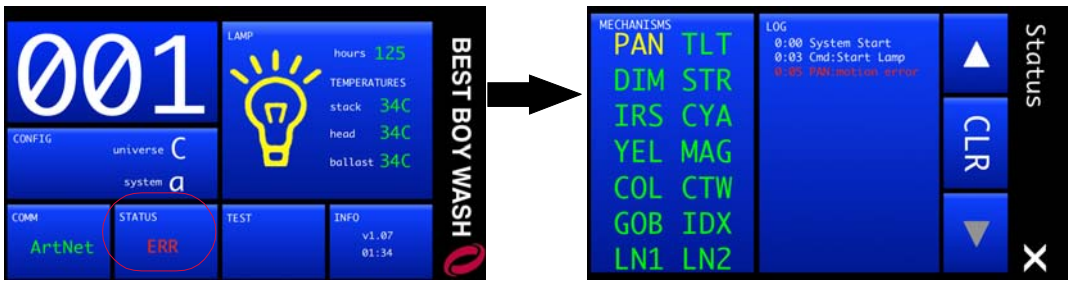
Errors

Status Indications

The STATUS panel at the Home screen will report overall luminaire conditions as follows:

- CALIBRATION (yellow)
- OK (green)
- ERROR (red)
- LOCKED (white)

Pressing the STATUS panel will bring up a detailed Status screen as shown below:



The Status screen will indicate which specific mechanisms, if any, have errors. It also provides a log of system activity. The Status screen operates as follows:

- **Mechanisms** - displays mechanism status. Mechanism names will be shown in yellow during calibration, green if okay, and red if an error exists. If an error exists, press the Mechanisms panel to bring up the Recalibration screen. Try recalibrating the mechanism(s) that is reporting the error.
- **Log** - displays system status log. Use touchscreen arrows to scroll up or down. Press the log panel itself to scroll all the way back to the most recent log entries. Press CLR to bring up Clear Log Yes/No options.

Comm LED

In the case of a mechanism error, the Comm LED on the input panel will flash either red or green (depending on the comm state).

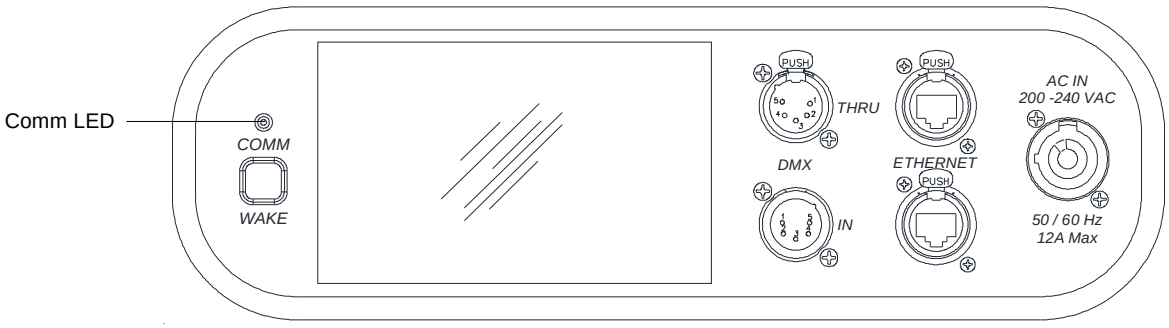


Figure 2-1: Comm LED

Mechanism Errors

Errors will be shown after the mechanism code, for example: PAN:Comm Error.

Error Code	Explanation	Solution
Cal Error	Error resetting position values in motion processor at beginning of calibration	Check CAN cables/connections, motor control board
Cal Timeout	An action during calibration took longer than expected	Check CAN cables/connections, motor control board
Comm Error	Error communicating with motion processor	Check CAN cables/connections, motor control board
Get Position Error	Error when retrieving current position from motion processor	Check CAN cables/connections, motor control board
Init Error	Error during initialization of motion processor	Check CAN cables/connections, motor control board
Motion Error	Mechanism's actual position is too far from its commanded position	Check mechanism motion
No Sensor	During calibration, no sensor was found in the range of travel	Check for mechanism motion, sensor operation
No Stop	Mechanism which calibrates to a physical stop did not find that stop	Check mechanism
Sensor Stuck	During calibration, could not find either edge of the sensor or the sensor did not turn off as expected	Check for mechanism motion, sensor operation
Spin Error	Error while sending spin command to motion processor	Check CAN cables/connections, motor control board
Stop Spin Error	Error while sending stop spin command to motion processor	Check CAN cables/connections, motor control board

Other Errors

Error Code	Explanation	Solution
Ballast Errors: Parity, Overrun, Bad Header, Msg Too Long	Various ballast errors	Check ballast comm cable/connections
Ballast Heat Sink Over Temp	Ballast too hot	Check fans
Ballast Lamp EOL H/L Voltage Limit	Lamp life limit exceeded	Check lamp
Ballast Line Voltage Low	Wrong voltage to strike	Check power connection
Ballast Short Detected	Short circuit on ballast output	Check wiring
Ballast Timeout: Lamp Strike	Lamp failed to strike	Check igniter, lamp
CAN Comm Error	Stopped receiving CAN messages from motion processor	Check CAN cables/connections, motor control board
Crossload Timeout	Crossload execution took too long due to error	Remove any incoming DMX, retry
Current Foldback Error	Short in the drive circuitry or an electrical problem with motor	Check motor, motor cabling
Data Not Crossload Format	Data in memory is not proper format for crossload	Load software via computer
DMX Busy: Cancel Crossload	Cannot execute crossload with traffic on DMX line	Remove incoming DMX control for cross load
DMX: UART transmit error	Transmit buffer busy when trying to send	Remove any incoming DMX, retry
Drive Fault	Fault detected in a drive mechanism	Check mechanism
Fan Error	Fan not running properly	Check fan, fan cabling
Gobo Out of Zero Range	When zeroing gobo wheels, the wheel is too far away from zero to set the position	Move wheel closer to home position before zero command
Lamp EOL Voltage Limit	Lamp at end of life	Check and replace lamp
Lamp Off	Fan Error: Cannot strike lamp while any fan is in error state	Check fan, fan cabling
Lamp Off: Over Temperature	Head temperature too high	Check fans
Lamp Over Threshold	Lamp hours above recommended maximum	Change lamp
No Current Cal Values	Channel had trouble retrieving calibration values for motor channel	Check CAN cables/connections, motor control board
PMD Motion Error	Mechanism's actual position is too far from its commanded position	Check mechanism motion
Temp Over Threshold	Temperature too high	Check fans/filters

Basic Troubleshooting

The following table provides a list of common start-up problems and possible solutions. Refer to the Best Boy Wash Luminaire User Manual for more information about installation and operation.

Symptom	Solution(s)
No power to luminaire.	Ensure power cable is properly connected to Neutrik input connector.
	Ensure power is switched on at source (mains, disconnect box, etc.)
No console control.	Ensure DMX512 or Ethernet data cable is properly connected.
	Ensure DMX512 address setting is correct.
DMX512 control not working correctly throughout daisy-chain.	Ensure data cables are correctly configured.
	Ensure termination connector is installed at last luminaire in data link.
Lamp does not strike at power-up.	Configure lamp to start at power-up.
Comm LED is red indicating that no valid DMX or Ethernet signal is detected.	Ensure DMX512 or Ethernet data cable is properly connected. Check console.
No Ethernet control.	Ensure that luminaire is not also receiving a DMX signal. If both valid DMX and Ethernet control are being received, DMX control will take precedence.
Beam obstructed by gobo in open position.	Set new gobo zero position.
Luminaire won't take software update.	Remove active control (DMX512 or Art-Net).
Comm LED flashing red or green.	Indicates an internal error on the fixture. Check Status screen to isolate.

Notes

3.

MAINTENANCE

This chapter provides maintenance procedures for the luminaire.

+ EQUIPMENT HANDLING
+ ROUTINE MAINTENANCE
+ REMOVE AND REPLACE PROCEDURES

EQUIPMENT HANDLING

Proper Lamp Servicing and Operation

Servicing

+ When handling a lamp, hold it by the metal ends while wearing cotton gloves or finger cots. Do not touch the glass envelope (bulb). If you touch the glass with bare fingers, wipe off any fingerprints with alcohol.

Heat

+ When lamps are lit, the interior of the luminaires becomes very hot. To aid in the airflow circulation within the luminaires, after dousing the lamps, wait 5 minutes before removing power to the luminaires. This will provide enough time for the equipment fan to cool off the unit.

Lamp Life

+ When operating arc lamps, allow luminaires to operate for at least 3 minutes. It takes about 3 minutes for the fill components (mercury and halogen-metal compounds) in the lamp tubes to vaporize completely. If the lamps are switched off earlier than 3 minutes, the fill components are partially vaporized. The inadequately vaporized fill components and the electrode material (tungsten) are deposited in the areas of the lamp tubes that have remained cool. As a result, the lamp tubes blacken prematurely and reduce the service lives of the lamps.
+ If system will be unattended for more than 3-4 hours, luminaire lamps should be doused.
+ The lamp indicator (available on the menu Home screen) displays total lamp hours. Lamp hours are shown in green if under threshold, yellow at 650 hours, and red at 750 hours. *It is mandatory that the lamp be changed before 750 hours.*

CAUTION: It is mandatory that the lamp be changed before 750 hours.

Wheel Stack Road Case Instructions

Parts:

20.9815.1229 CASE, WHEEL STACK

A special road case is provided for shipping the Wheel Stack Assembly. The case is necessary to protect the fragile components of the Wheel Stack Assembly during storage, transport and shipping.

The illustrations in **Figure 3-1** show how the Wheel Stack Assembly should be packed and unpacked inside the case.

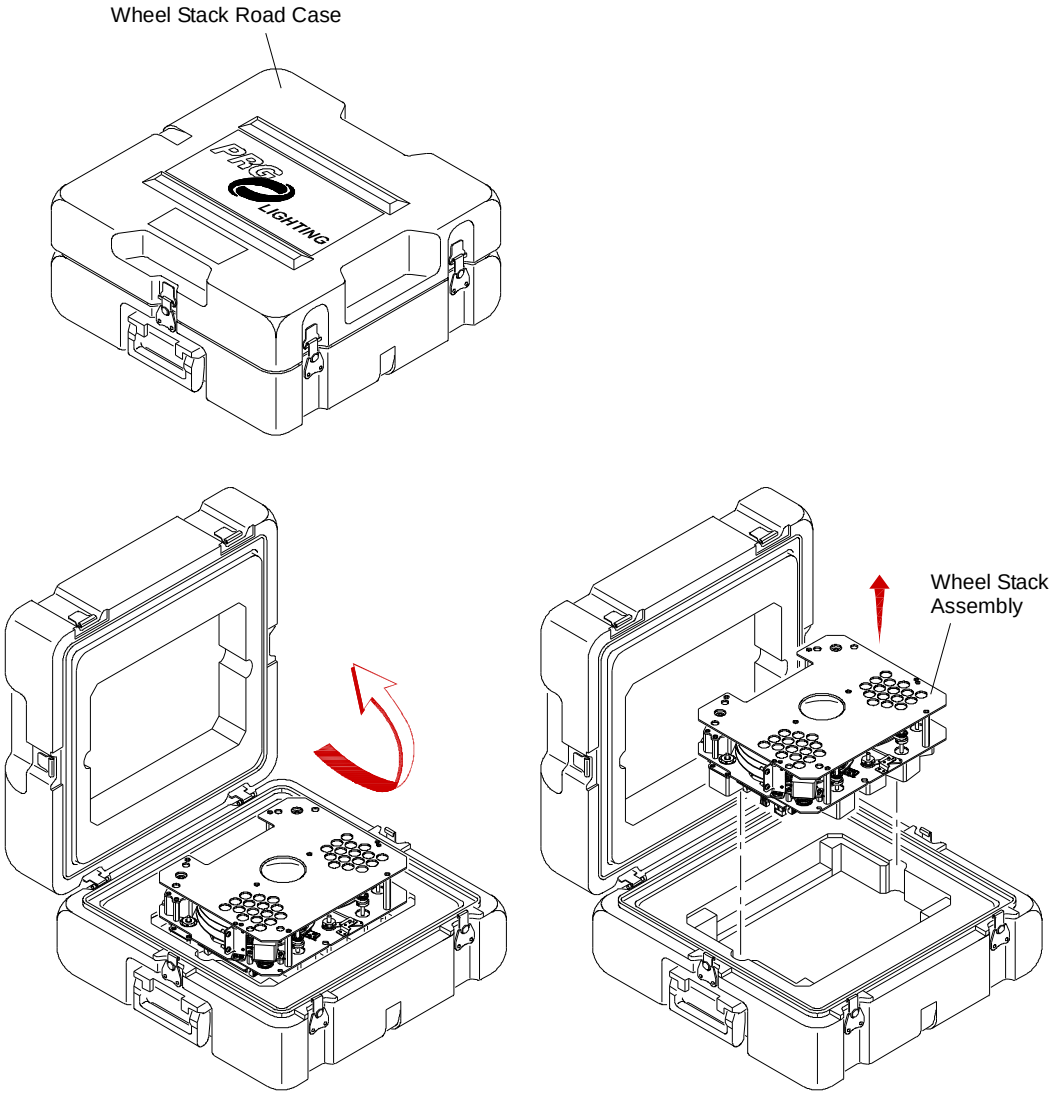


Figure 3-1: Wheel Stack Road Case

Removing Head Covers

To access some interior head components, one or both Head Covers may need to be removed.

Tools:
#2 Phillips screwdriver

WARNING: Remove power from luminaire before performing any maintenance procedures.

To remove Head Covers:

Step 1. At cover, loosen four captive screws (**Figure 3-2**). (Cover will still be secured by a safety lanyard.)

Step 2. Unclip lanyard to completely remove cover.

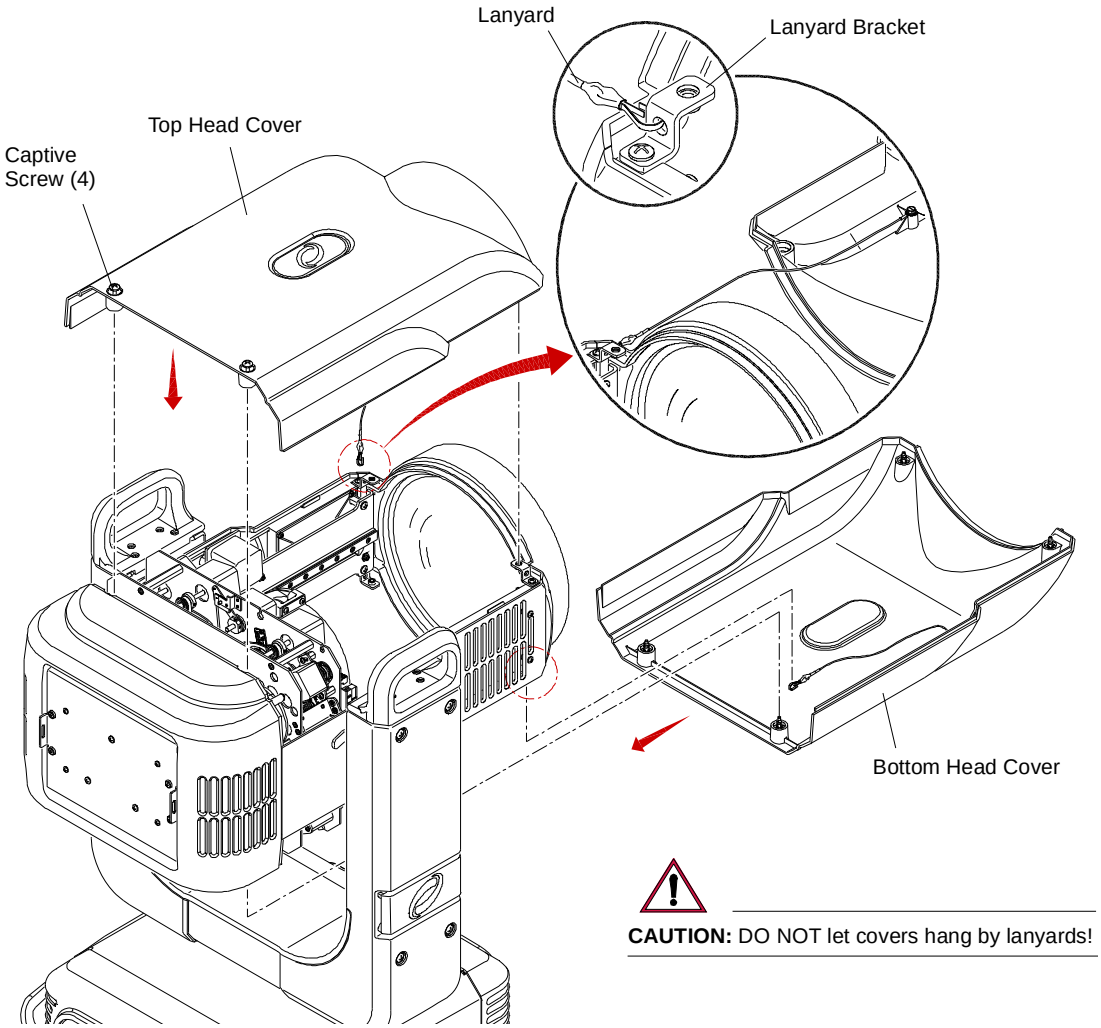


Figure 3-2: Removing Head Covers

Step 3. Replace covers as follows:

a. Attach lanyard clip.

b. Fit cover in place.

c. Tighten four captive screws.

Removing Yoke Leg Covers

To access some interior components, one or both Yoke Leg Covers and Pan Shield may need to be removed.

Tools & Supplies:
#2 Philips screwdriver

WARNING: Remove power from luminaire before performing any maintenance procedures.

To remove yoke leg covers and shield:

Step 1. At yoke leg cover, loosen four captive screws (**Figure 3-3**).

Step 2. Remove cover by pulling away from yoke leg.

Step 3. Remove Pan Shield by removing six 6-32 x 3/8" PPSS screws.

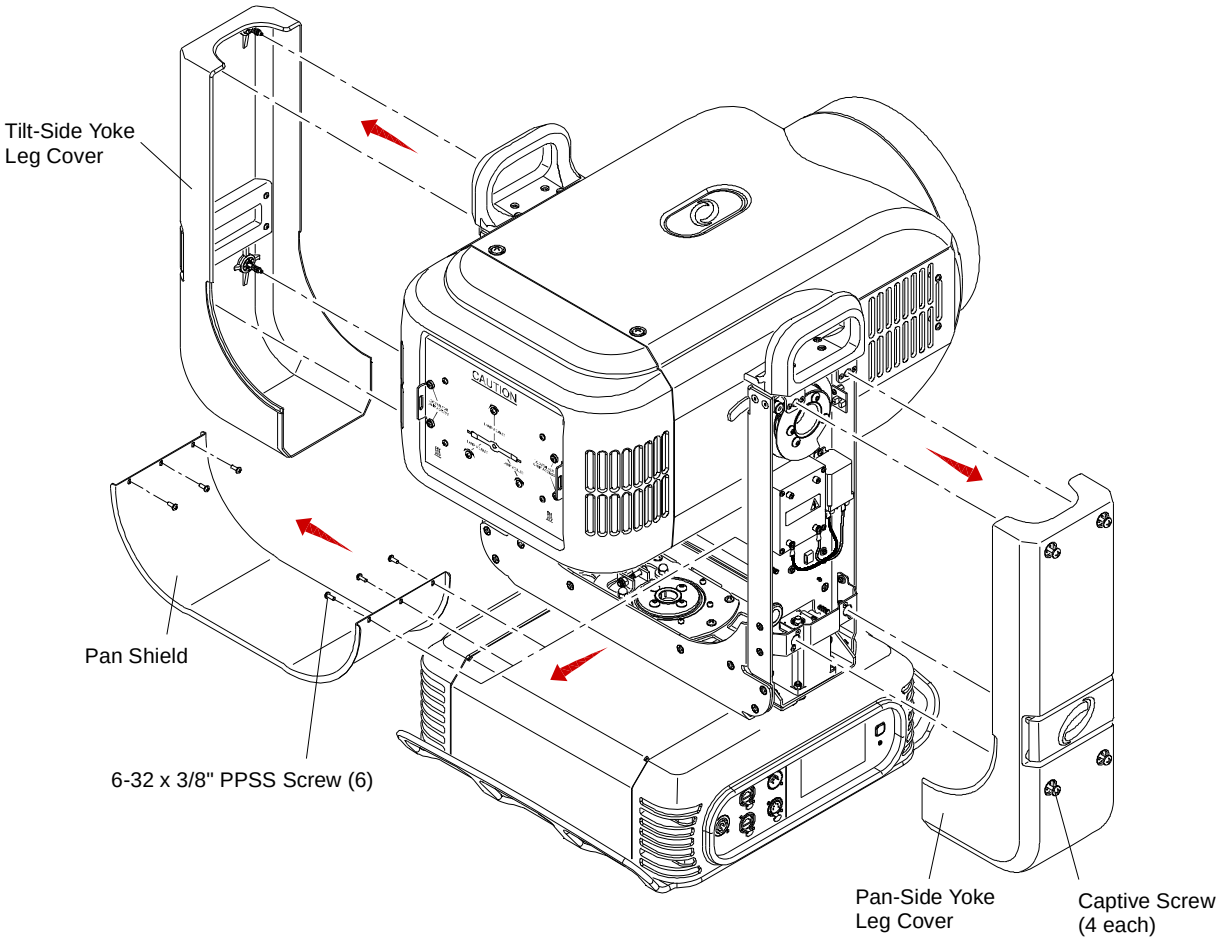


Figure 3-3: Removing Yoke Leg Covers and Pan Shield

Removing Aft Cover

To access some interior components, the Aft Cover may need to be removed.

Tools:
#2 Phillips screwdriver

WARNING: Remove power from luminaire before performing any maintenance procedures.

To remove Aft Cover:

Step 1. Remove top head cover and Wheel Stack. (Refer to "Replacing Wheel Stack" on page 44.)

Step 2. Open lamp access door and remove lamp. (Refer to "Replacing Lamp" on page 34.)

Step 3. Remove four 6-32 x 5/16" PPSS screws which secure XYZ Assembly in place (**Figure 3-4**).

Step 4. Disconnect Ignitor Output to Lamp Socket Cable from two locations by loosening screws. (Refer to detail in **Figure 3-4** below.)

Step 5. Completely remove XYZ Assembly and set aside.

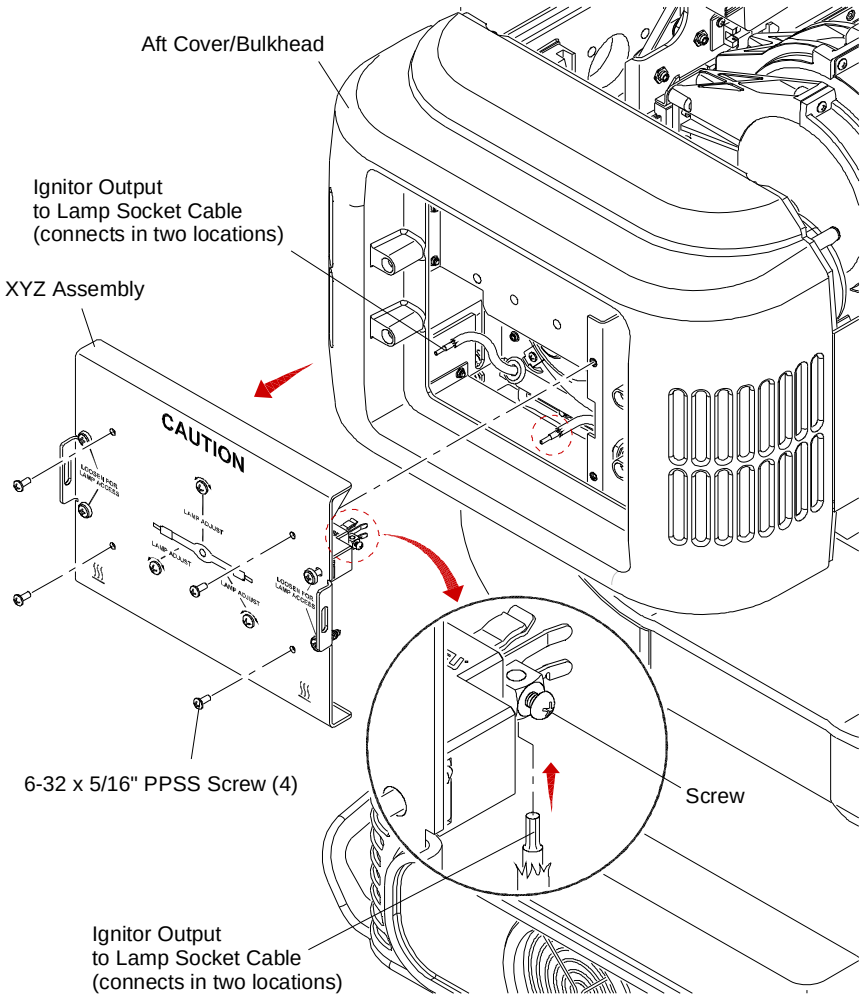


Figure 3-4: Removing XYZ Assembly

Step 6. Remove Aft Cover by removing four 10-32 x 3/8" PPSS screws.

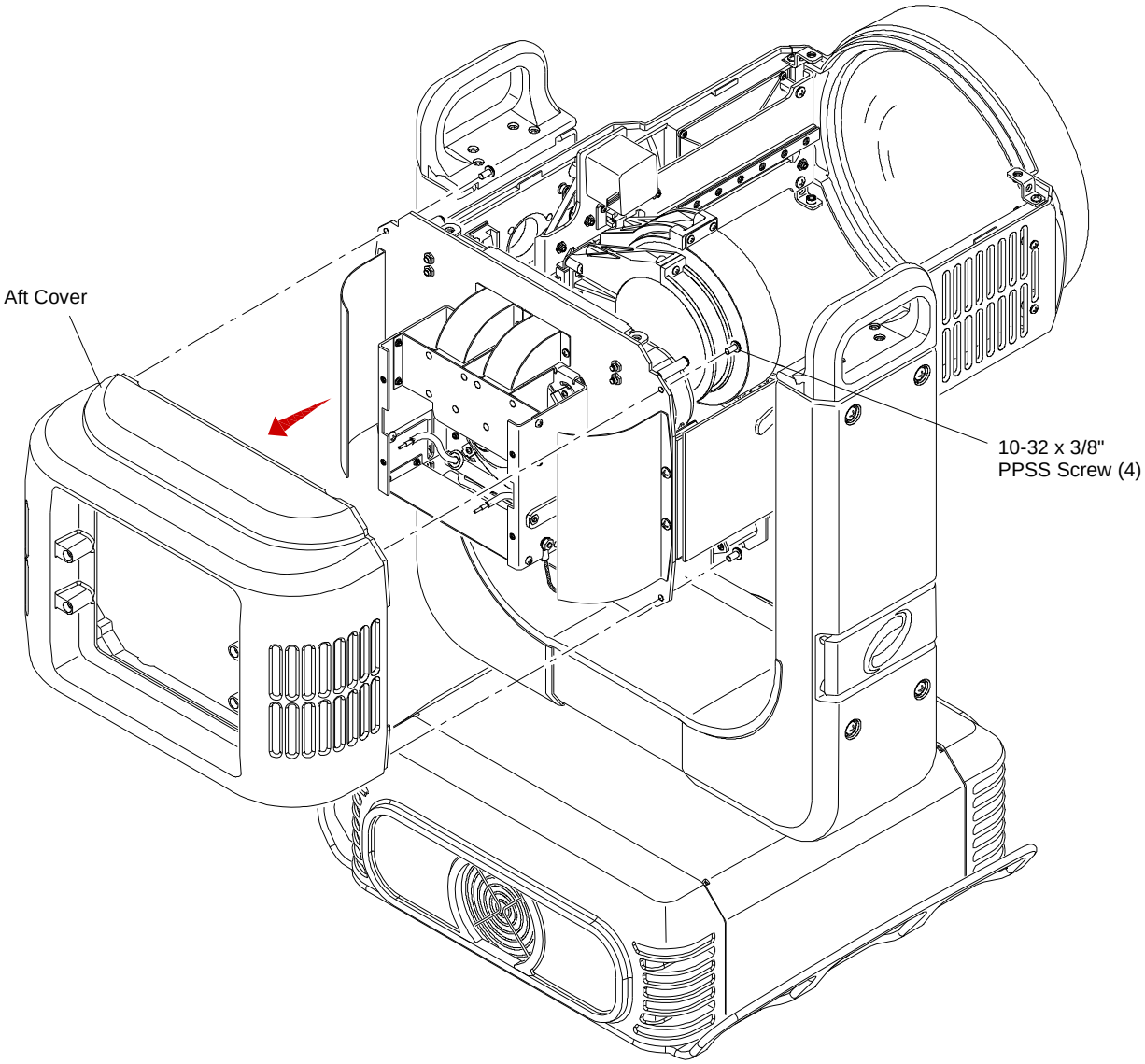


Figure 3-5: Removing Aft Cover

Removing Upper Enclosure Covers

To access some interior components, one or both Upper Enclosure Covers may need to be removed.

Tools & Supplies:
#2 Phillips screwdriver

WARNING: Remove power from luminaire before performing any maintenance procedures.

To remove upper enclosure covers:

Step 1. At cover, loosen four captive screws.

Step 2. Pull cover outward to remove.

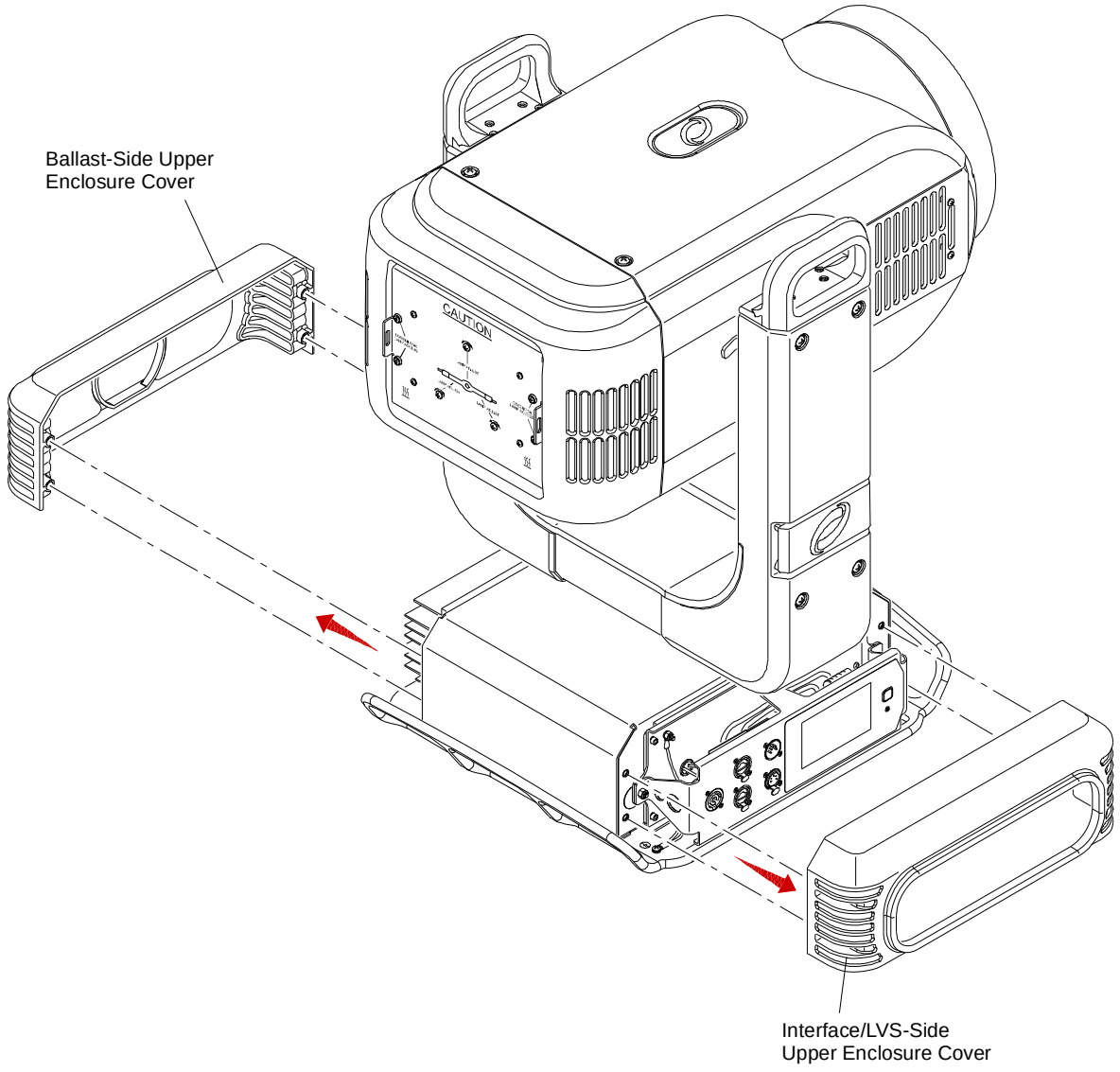


Figure 3-6: Removing Upper Enclosure Covers

Cleaning Intake Filters

The filters should be cleaned or replaced when they become dirty. The frequency will depend on how often and in what conditions the luminaire is used.

Parts:

10.9815.0661 / 2.PRG-1098150661	2 EA	HEAD, AIR FILTER, FOAM
55.9815.0052.0	2 EA	O-RING, FOAM FILTER RETAINING (as needed)

Tools:

#2 Phillips screwdriver
Compressed air *and/or* water

To clean or replace filters:

WARNING: Remove power from luminaire before performing any maintenance procedures.

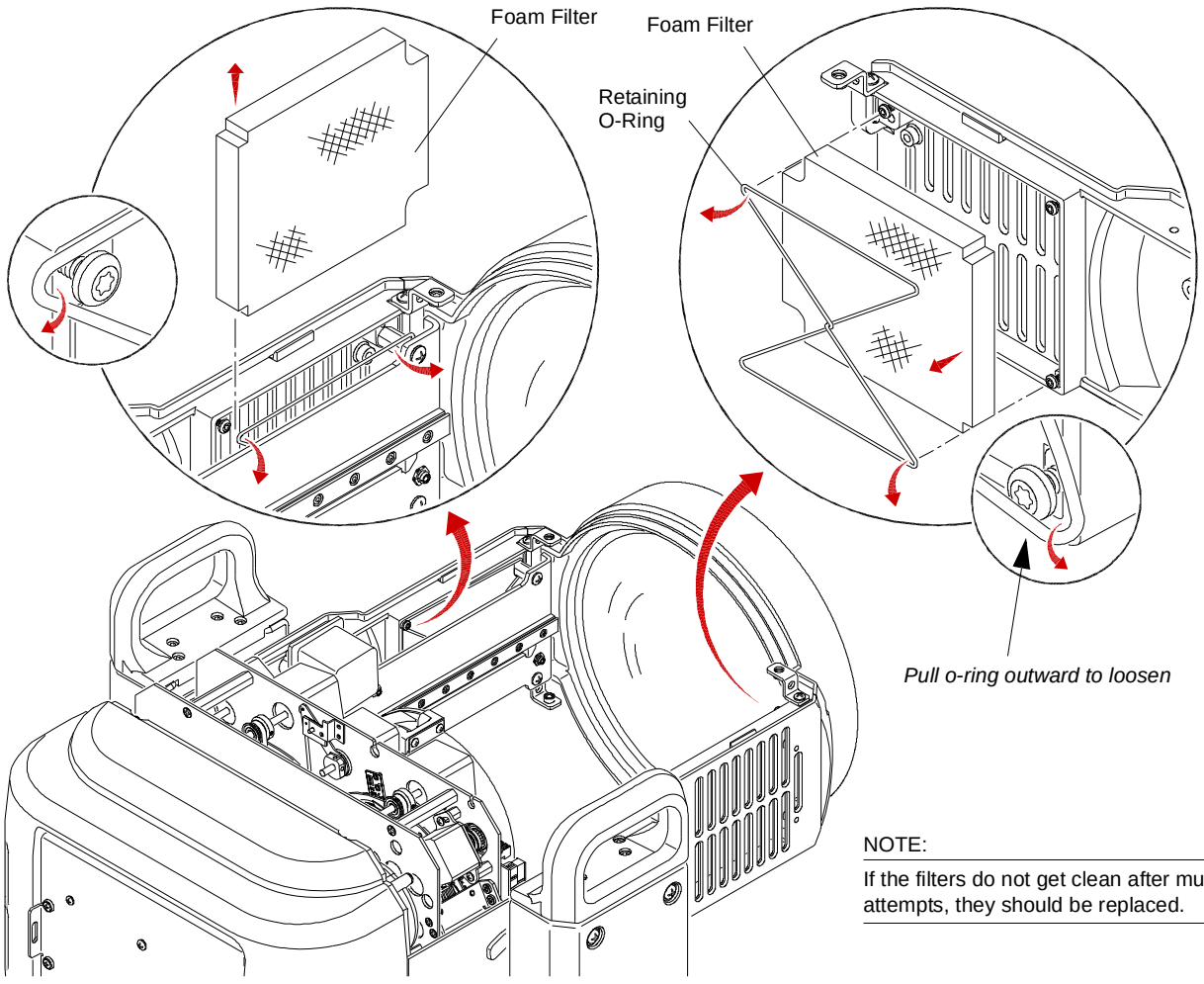
Step 1. Remove power from luminaire.

Step 2. Remove Head Covers. (Refer to "Removing Head Covers" on page 24.)

Step 3. At each Foam Filter, remove retaining o-ring and remove filter (**Figure 3-7**).

Step 4. Clean filters with compressed air and/or by washing with water. Replace as necessary.

Step 5. Re-install components.



NOTE:
If the filters do not get clean after multiple attempts, they should be replaced.

Figure 3-7: Removing Air Filters

Cleaning Lenses, Frosted Glass, and Front Lens

Tools & Supplies:

(2) Micro Fiber cloths (06.6085.0001.0)
OptiMax™ Ultra Pure Cleaning Solution (06.6084.0001.0)
Cotton gloves or finger cots
#2 Phillips screwdriver
3/16" flat screwdriver

To clean internal lenses, frosted glass, and front lens:

CAUTION: Use caution when handling lenses and glass. Avoid scratching optical surfaces.

CAUTION: Use ONLY OptiMax™ Ultra Pure Cleaning Solution to clean optical components. DO NOT use Window Cleaner on lenses! Wear cotton gloves or finger cots when handling lenses/glass.

CAUTION: When cleaning, do not allow the cleaning cloth to come into contact with the lens carrier rail. The rail has lubrication that will contaminate the cleaning cloth. Wear cotton gloves or finger cots.

Step 1. Apply power to luminaire and set intensity to 20%. (A beam will be necessary to see dirt and dust on the lenses.)

Step 2. Remove Head Covers to access interior lenses. (Refer to "Removing Head Covers" on page 24.)

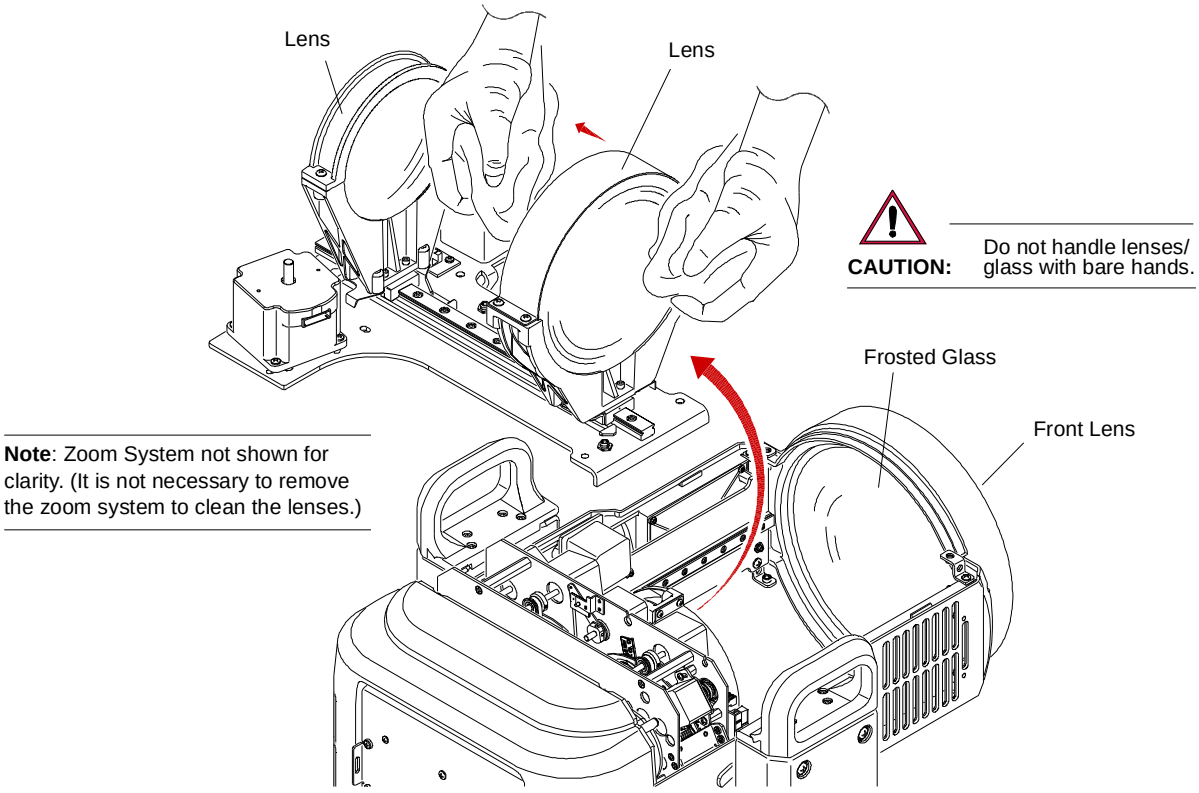
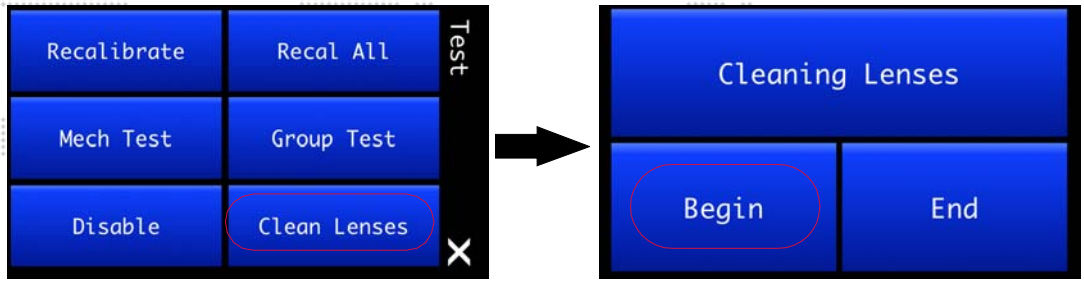


Figure 3-8: Cleaning Lenses and Frosted Glass

Step 3. At TEST menu, press "Clean Lenses." The Cleaning Lenses menu will open.

Step 4. Press "Begin" to position lenses for cleaning.



Step 5. If lenses are only dusty, use Micro Fiber cloth to carefully wipe lens surfaces. If further cleaning is required, use OptiMax™ Ultra Pure Cleaning Solution and a Micro Fiber cloth to clean. *DO NOT use window cleaner!*

Step 6. Use same technique to clean inside of Frosted Glass.

CAUTION: Be extremely careful when removing Front Lens in next step. The glass can be easily chipped or cracked. Wear cotton gloves or finger cots when handling the glass.

Step 7. To clean Front Lens and outside of Frosted Glass, do the following:

a. Position luminaire head so that Front Lens is facing upward. (To prevent it from falling onto the floor when the Retaining Ring is removed in the next step.)

b. Insert flat screwdriver under notch in Front Lens Retaining Ring (**Figure 3-9**). Carefully remove Retaining Ring.

c. Remove Front Lens and place facedown on a Micro Fiber cloth.

d. Using OptiMax™ Ultra Pure Cleaning Solution and a Micro Fiber cloth, clean both sides of Front Lens. *DO NOT use window cleaner!*

e. Using OptiMax™ Ultra Pure Cleaning Solution and a Micro Fiber cloth, clean outside of Frosted Glass. *DO NOT use window cleaner!*

f. Replace Front Lens by doing steps in reverse. Ensure gasket under Front Lens is not damaged or missing.

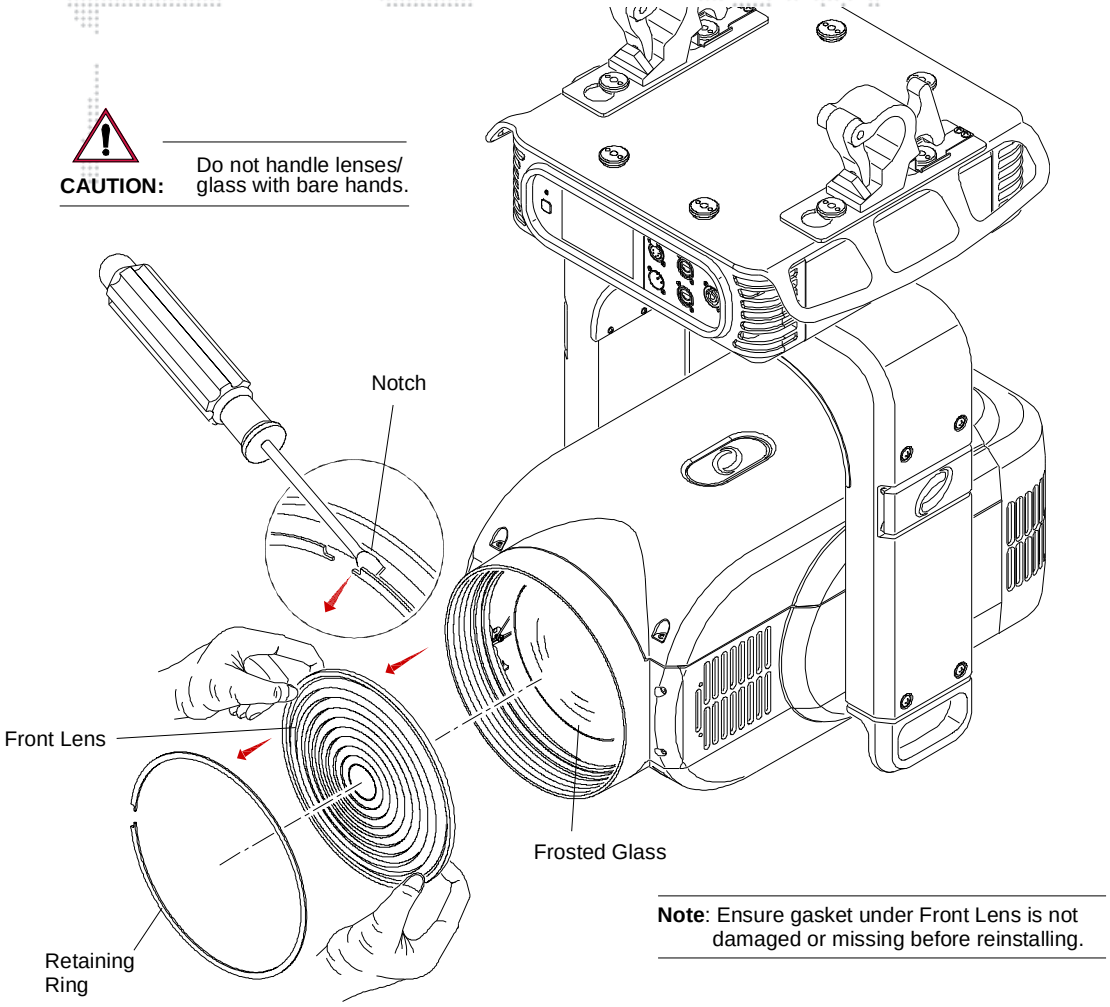
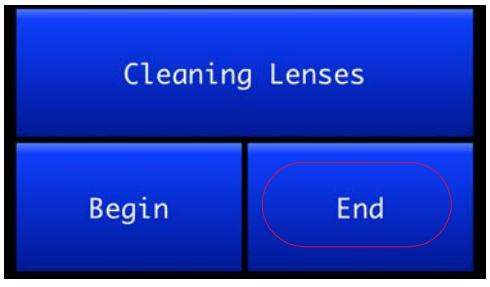


Figure 3-9: Cleaning Front Lens and Frosted Glass

Step 8. At menu, press "End." This will return the lenses back to normal operation.



Step 9. Replace Head Cover.

Cleaning Luminaire Exterior

Tools:

Lint-free cloth
Window cleaner
Vacuum cleaner with brush nozzle or compressed air
#2 Phillips screwdriver

To clean luminaire:

WARNING: Remove power from luminaire before this procedure.

CAUTION: Use ONLY OptiMax™ Ultra Pure Cleaning Solution to clean optical components. DO NOT use Window Cleaner on lens!

Step 1. Remove power from luminaire.

Step 2. Using vacuum cleaner with brush nozzle or compressed air, clean dust from external components. *If using compressed air to clean out luminaire, DO NOT allow fans or blower to spin at high speeds, as this will damage their bearings.*

Step 3. Using window cleaner and a clean, lint-free cloth, wipe outside surface of luminaire. *DO NOT use window cleaner on lens!*

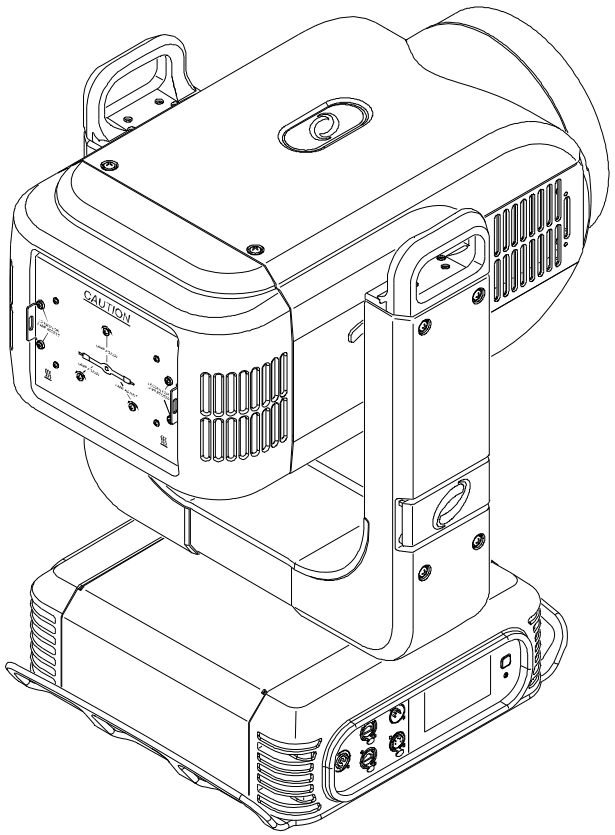


Figure 3-10: Luminaire Exterior

REMOVE AND REPLACE PROCEDURES

Replacing Lamp

Note that the optical system of the Best Boy Wash Luminaire has been optimized for use with the output spectrum produced by the Osram HTI 1500 W/D7/60 Sharxs lamp. While it is possible to use the Phillips lamp, it is not recommend for the following reasons:

1) The Phillips lamp produces less light output. This will reduce overall output by 5-8%.
2) The Phillips lamp produces an output that has a higher green component and will require more correction than is possible with the installed minus green filter.

Parts:

71.2550.1500 / 2.020-108149 1 EA LAMP, HTI 1500W/D7/60 OSRAM

Tools:

Cotton gloves or finger cots
Alcohol wipe (supplied with new lamp)

WARNING: Remove power from luminaire before performing any maintenance procedures.

CAUTION: Refer to "Proper Lamp Servicing and Operation" on page 22 before handling the lamp.

CAUTION: Wear cotton gloves or finger cots while servicing lamp. Touching the lamp glass with bare fingers will leave oil and cause the lamp to explode or burn out early. Clean with alcohol wipe after installing.

To replace lamp:

Step 1. If luminaire is powered-up, douse lamp and allow fans to run for at least 5 minutes.
Step 2. Remove power from luminaire.
Step 3. At lamp access door, loosen four captive screws (two on each side). Refer to **Figure 3-11** on next page.
Step 4. Pull lamp box out of head assembly and rotate 90 degrees to access lamp.
Step 5. Grasp lamp at metal ends and carefully remove from lamp box.
Step 6. While holding new lamp at metal ends, install lamp so that nipple faces rear of luminaire (towards reflector).
Step 7. Ensure lamp base is fully seated so that it touches contacts on both ends of socket.
Step 8. Using supplied alcohol wipe, carefully - but thoroughly - clean glass bulb.
Step 9. Re-insert lamp box into head and tighten four captive screws.
Step 10. Reset Lamp Hours. (Refer to Best Boy Wash User manual.)
Step 11. Optimize lamp. (Refer to "Adjusting Lamp" on page 36.)

CAUTION: Allow lamp to cool before servicing.

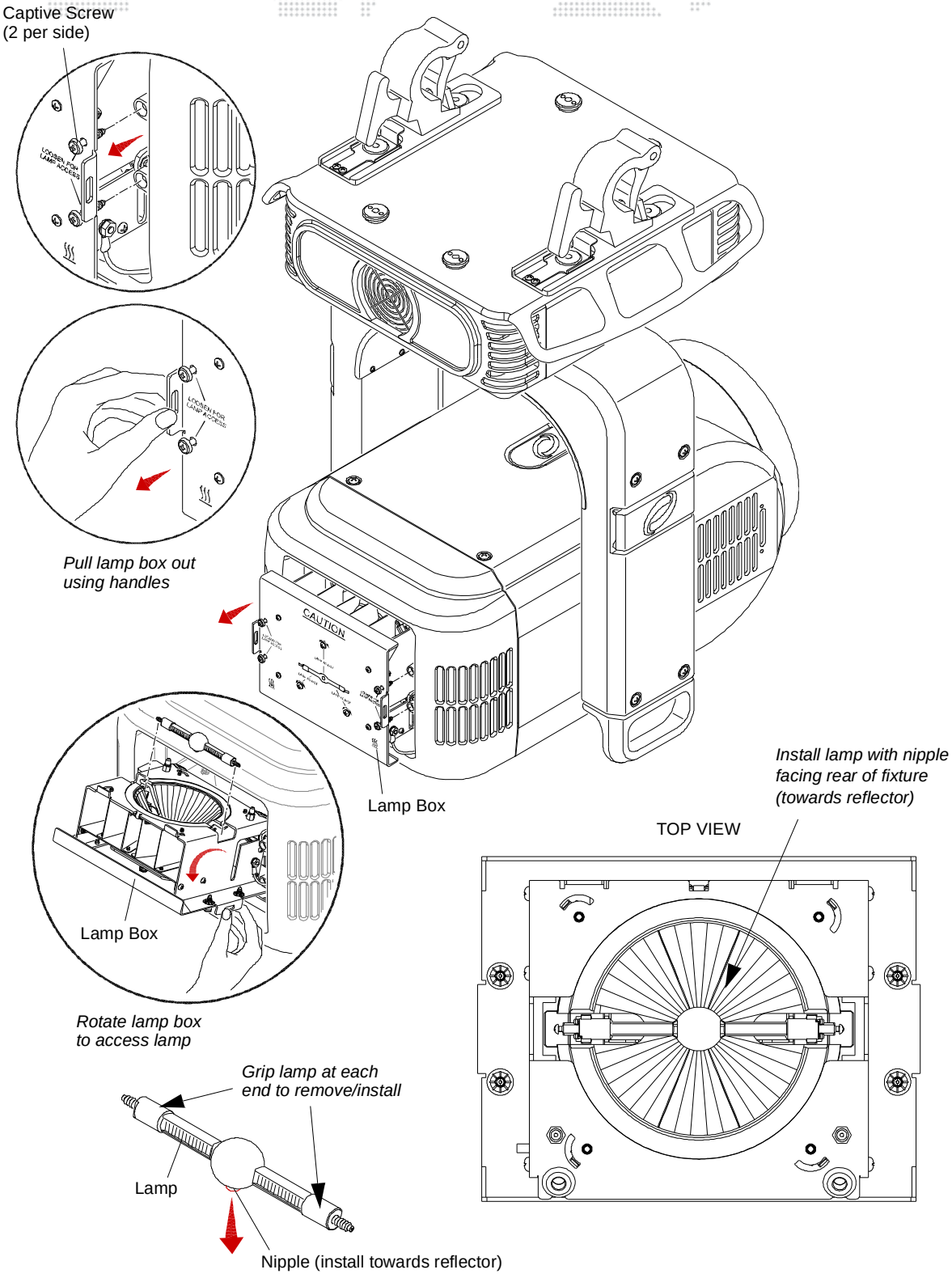


Figure 3-11: Replacing the Lamp

Adjusting Lamp

After a new lamp is installed, the lamp must be aligned to optimize the beam. Adjustment controls are located on the backcap.

Tools:

#2 Phillips screwdriver

optional: 5/16"-1/2" telescoping gauge (http://www.mcmaster.com/#inside-micrometers/=r6gx02 - item # 2081A6)

WARNING: Backcap may be HOT during lamp operation.

To adjust lamp:

Step 1. Power up luminaire and allow to warm up for at least ten minutes.

Step 2. Set intensity to 100%.

Step 3. Position beam on a white wall at a distance of 10' to 20'.

Step 4. At backcap, use three adjustment screws to optimize beam (**Figure 3-12**).

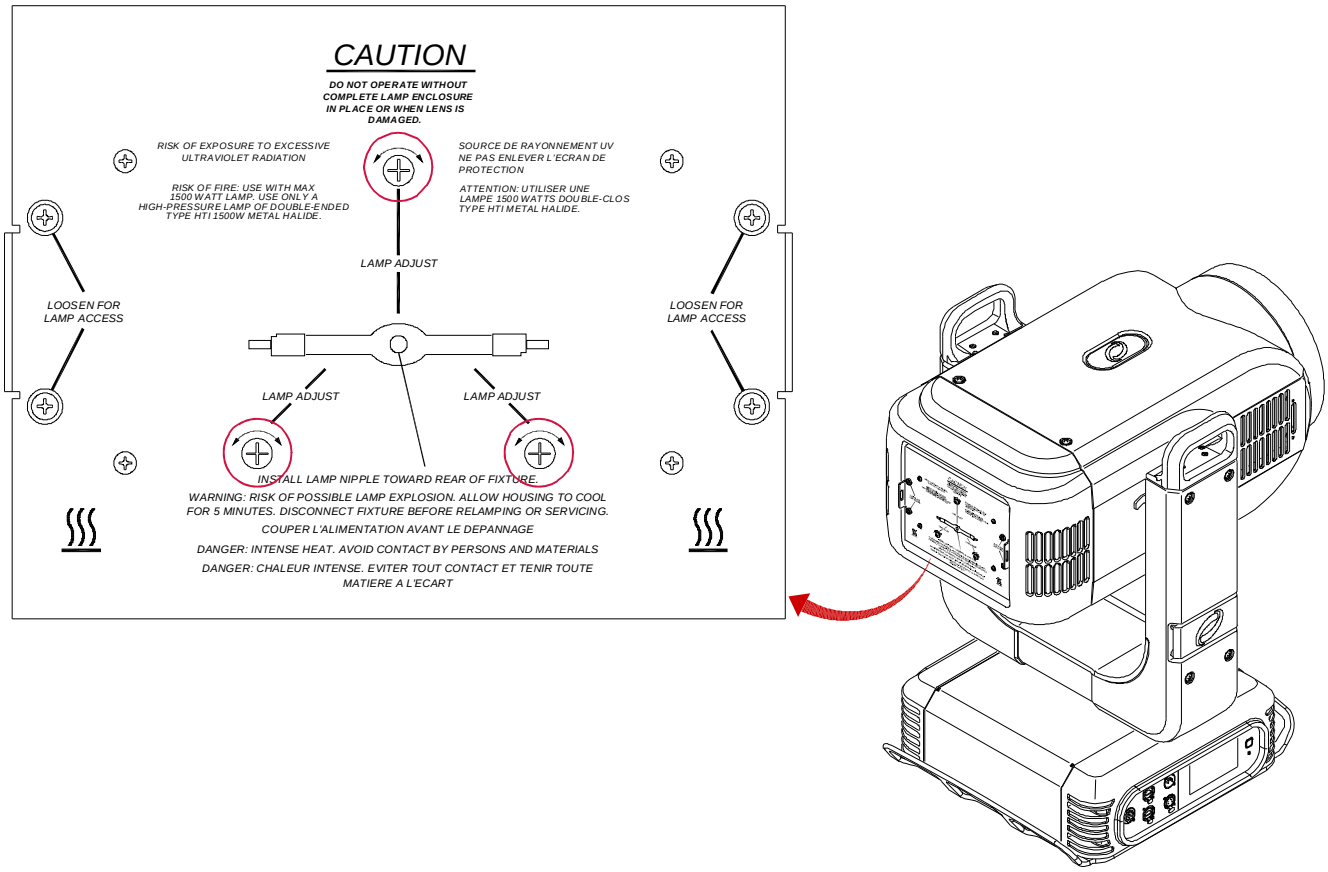


Figure 3-12: Adjusting the Lamp

Note: Be sure to reset Lamp Hours when installing a new lamp.

CAUTION: Allow lamp to cool before servicing.

Step 5. (Optional) Lamp alignment can be double-checked and/or adjusted by measuring the distance of the lamp plate from the rear door.

a. First, open the lamp access door and remove the lamp and XYZ plate. (Refer to "Replacing Lamp Socket" on page 42.)

b. Preset telescoping gauge tool to 0.388" using an adjustable caliper.

c. Use telescoping gauge tool to measure the distance at three places. These should all be 0.388" as shown in **Figure 3-13**. Adjust the lamp plate as necessary using the three lamp adjustment screws.

d. When finished, close lamp access door.

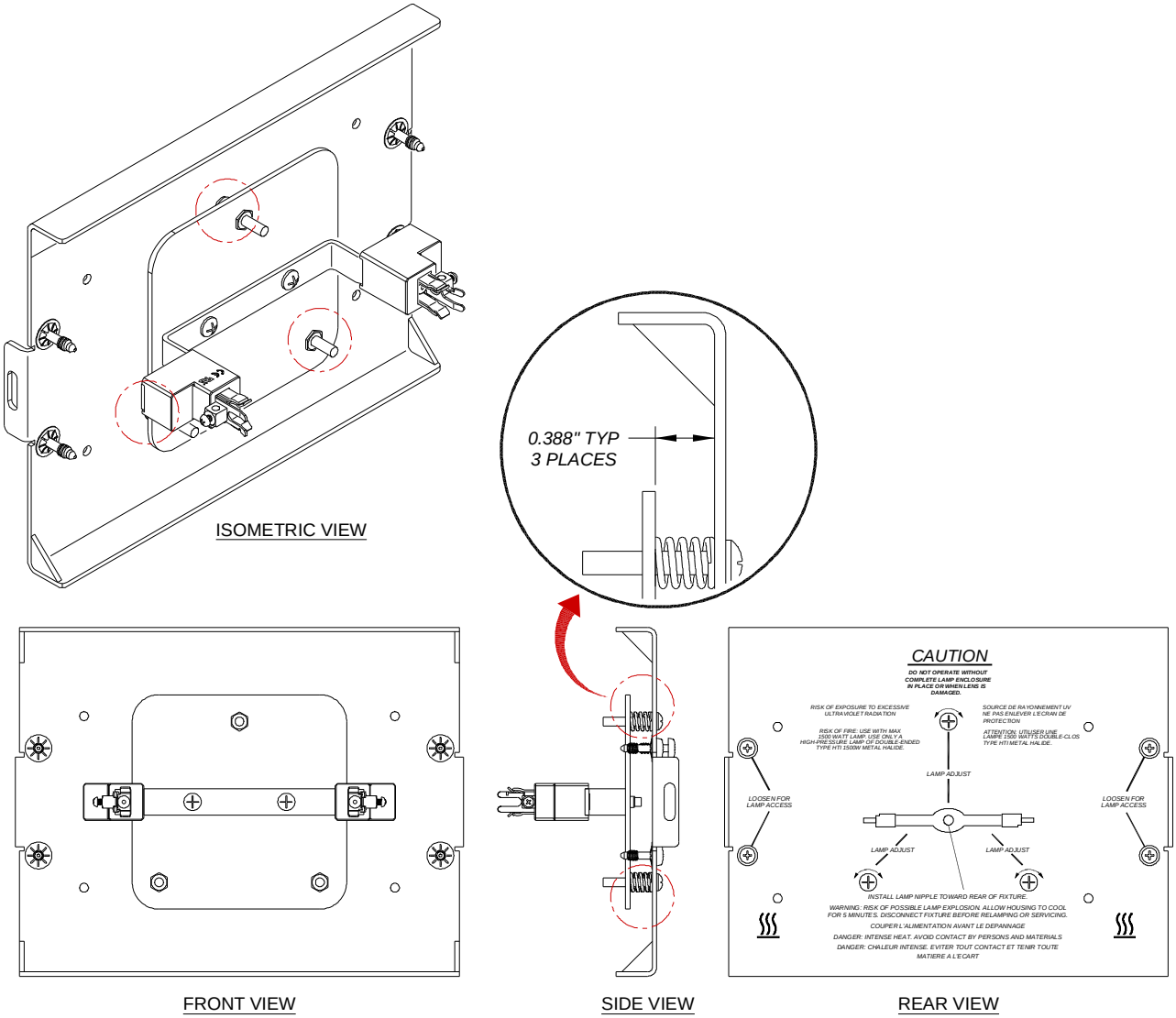


Figure 3-13: Measuring Lamp Alignment Position

Replacing Front Lens

Two types of front lenses are available for the Best Boy Wash luminaire: the Standard Fresnel Lens and a Narrow Fresnel Lens. The narrow lens can be identified in two ways:

1) By a white paint dot near the "PRG" on the inside of the glass.
2) By a raised circle feature in the center of the lens output surface.

   Note: The first 100 Narrow Fresnel Lenses produced do not include the “raised feature."

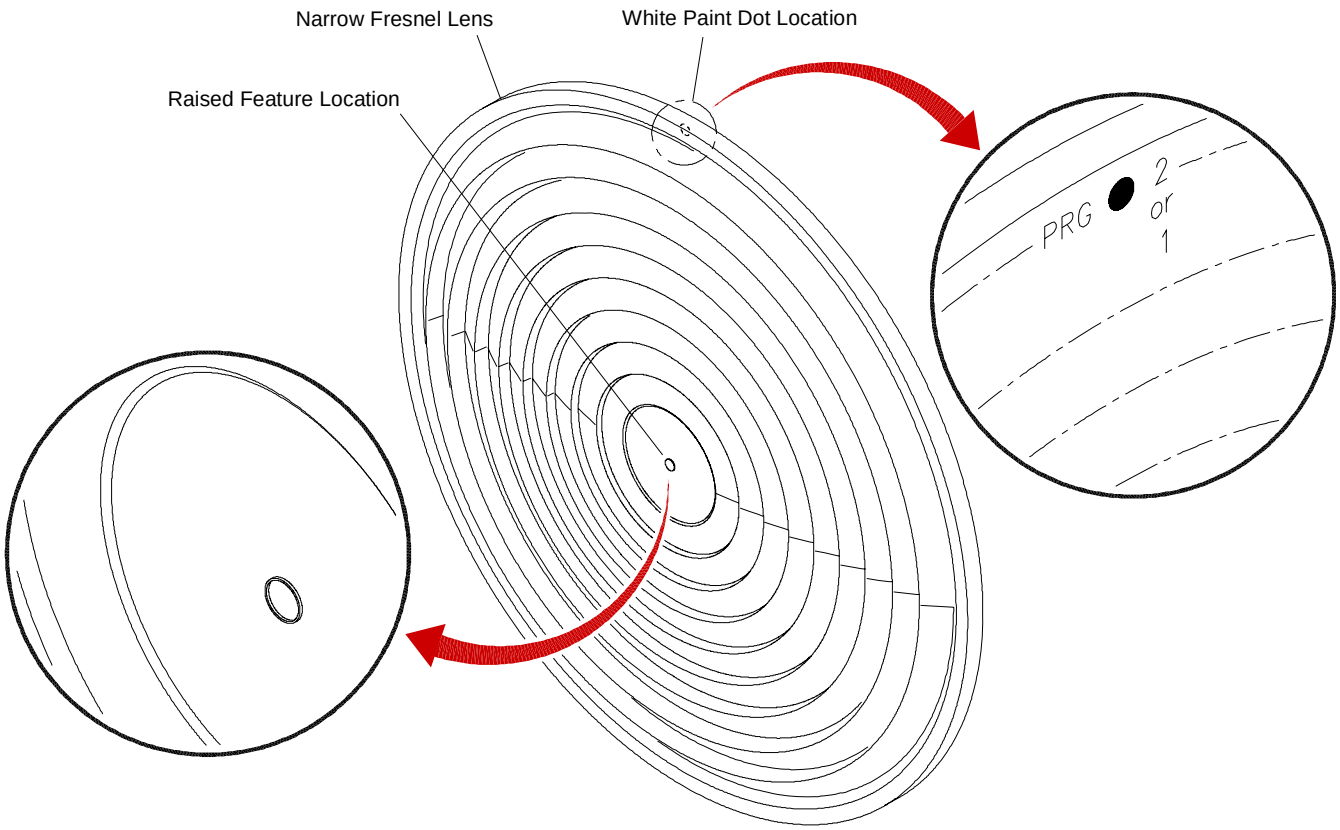


Figure 3-14: Identifying the Narrow Fresnel Lens

Parts:

42.9815.0110 / 3749H-24	1 EA	FRESNEL LENS, *or*
42.9815.0113 / 3749H-20	1 EA	FRESNEL LENS, NARROW

Tools & Supplies:

3/16" flat screwdriver
Cotton gloves or finger cots

WARNING: Remove power from luminaire before performing any maintenance procedures.

To replace front lens lens:

Step 1. If luminaire is powered-up, douse lamp and allow fans to run for at least 5 minutes.

Step 2. Remove power from luminaire.

CAUTION: Be extremely careful when removing Retaining Ring and Front Lens in next step. The lens can be easily chipped or cracked. Wear cotton gloves or finger cots when handling the lens.

Step 3. Position luminaire head so that Front Lens is facing upward. (To prevent it from falling onto the floor when the Retaining Ring is removed in the next step.)

Step 4. Insert flat screwdriver under notch in Retaining Ring (**Figure 3-15**). Carefully remove Retaining Ring.

Step 5. Remove Front Lens.

Step 6. Replace Front Lens by doing steps in reverse. Ensure gasket under lens is not damaged or missing.

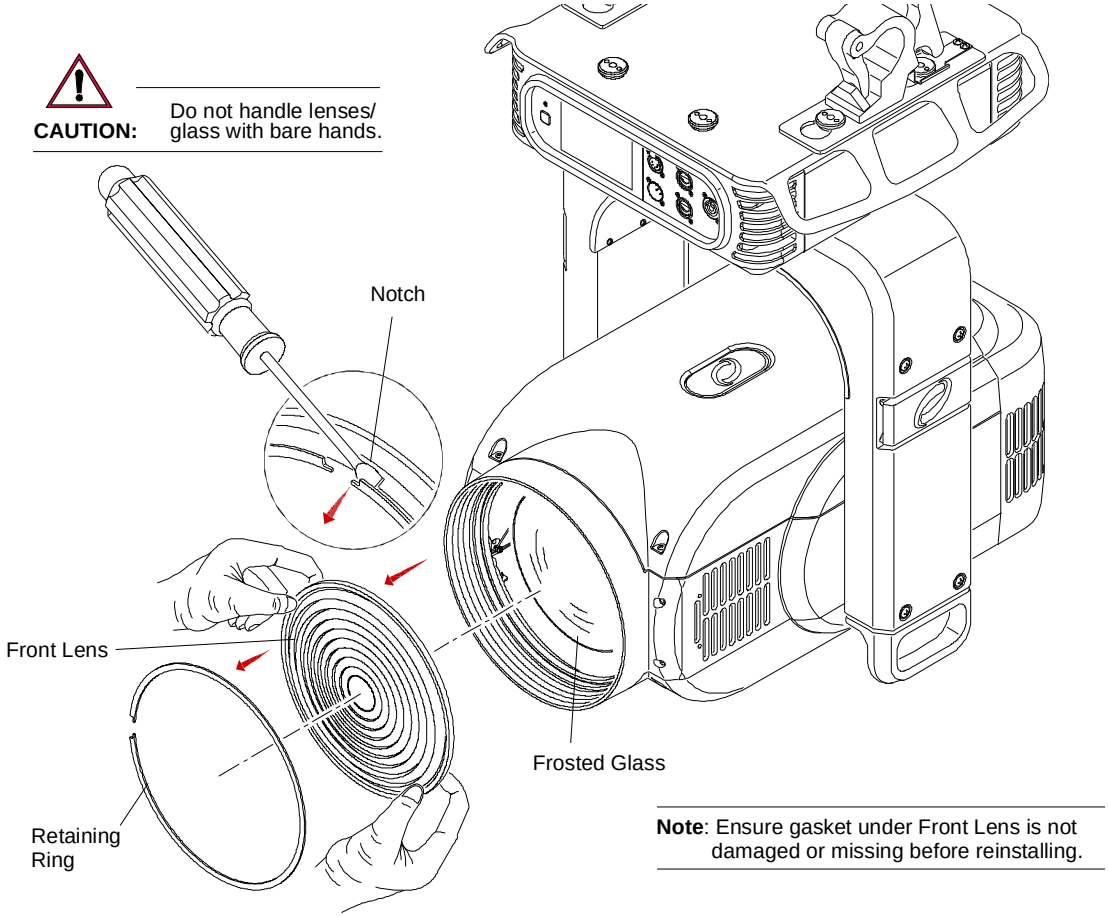


Figure 3-15: Replacing Front Lens (Standard or Narrow)

Replacing a Gobo

Parts:

Standard or Custom Gobo(s), as required. (Refer to "Gobo Wheel Configuration" on page 9.)

Tools:

#2 Phillips screwdriver
Hook & Pick tool
Cotton gloves or finger cots

WARNING: Remove power from luminaire before performing any maintenance procedures.

To replace a gobo:

Step 1. Remove power from luminaire.

Step 2. Rotate Head Assembly so that text on backcap is readable (**Figure 3-16**).

Step 3. Remove Top Head Cover. (Refer to "Removing Head Covers" on page 24.)

Step 4. Remove Wheel Stack as follows:

a. Disconnect one combined Power and Data cable.

b. At Wheel Stack, loosen captive screws (**Figure 3-16**).

c. Gently push lenses out of the way so they will not interfere with removal of the Wheel Stack Assembly.

d. Grasp Wheel Stack Assembly on either side and lift straight up and out of luminaire head.

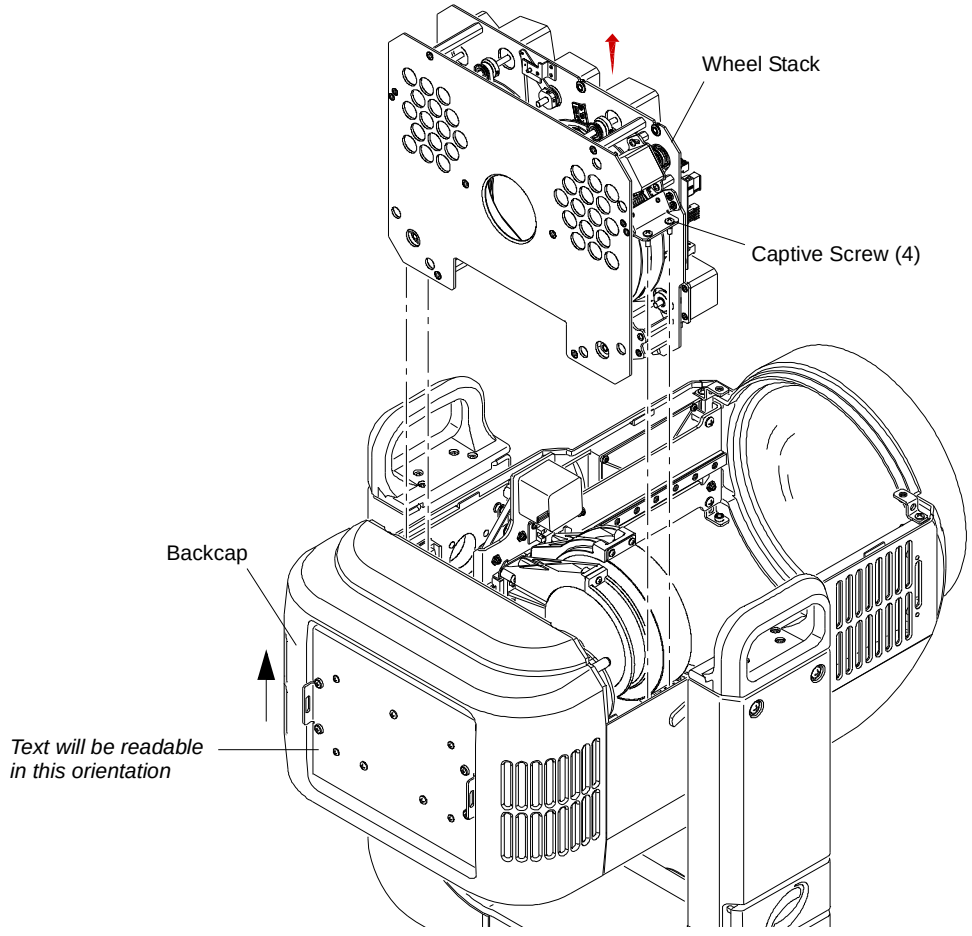


Figure 3-16: Removing Wheel Stack

CAUTION: Do not touch gobos with bare fingers. Wear cotton gloves or finger cots when handling.

Step 5. Rotate Gobo Wheel so that desired gobo is accessible (**Figure 3-17**).

Step 6. Rotate gobo to align magnet with alignment mark on sun gear.

Step 7. Using hook & pick tool, carefully pull out retaining ring and remove gobo. *When removing the retaining ring, do not hook the ring, it can be damaged by the tool.*

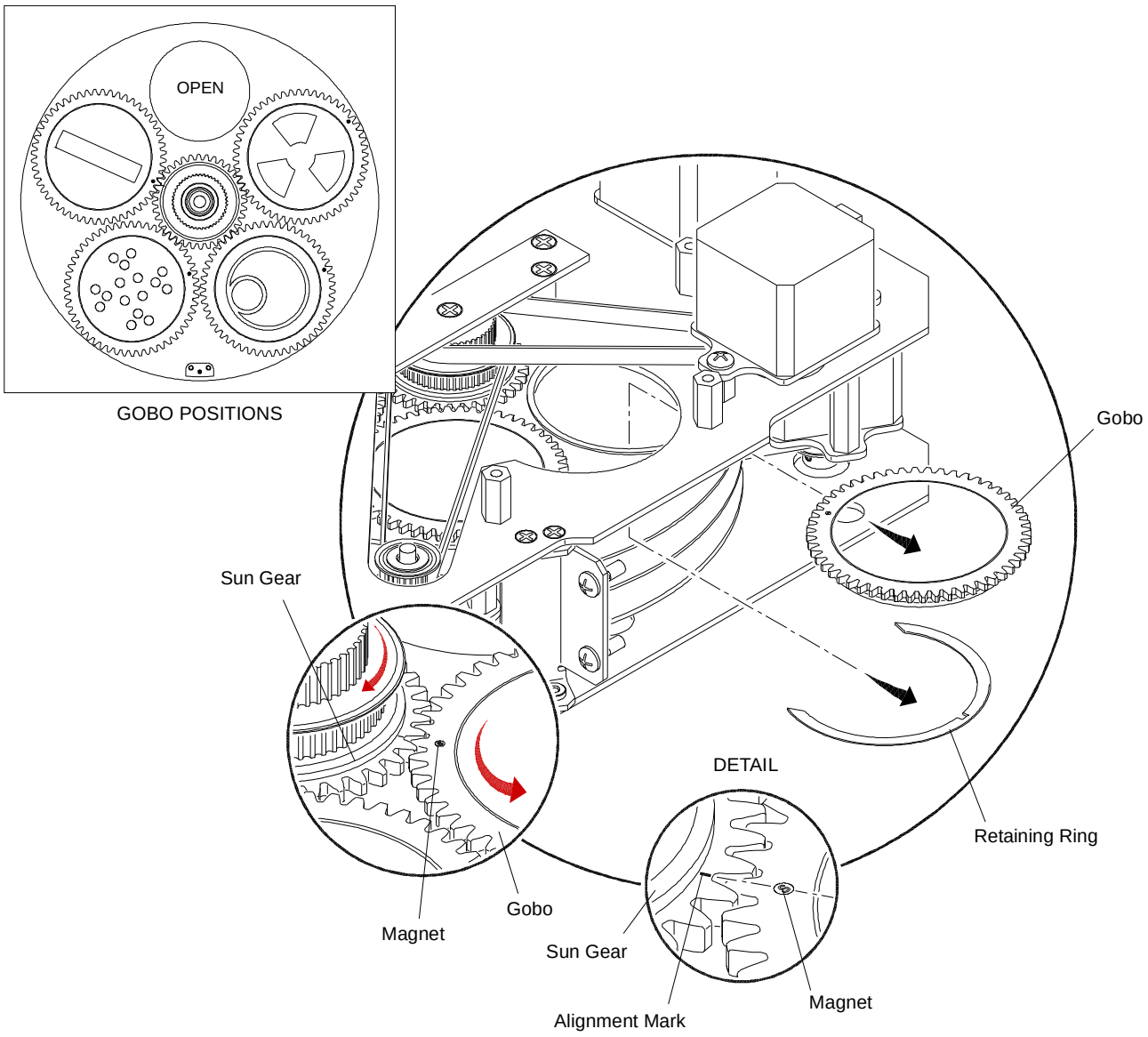


Figure 3-17: Replacing a Gobo

Step 8. Install new gobo by aligning its magnet with alignment mark on sun gear (as shown in **Figure 3-17**) and then inserting into place. *Make sure the white bushing remains installed.*

Step 9. Replace retaining ring.

Step 10. When finished, rotate gobo wheel as a visual test. When properly installed, the gobo magnet for each installed gobo should be positioned in the same approximate position as the gobo wheel is spun around. Adjust as necessary.

Step 11. Replace Head Cover.

Replacing Lamp Socket

Parts:

71.2521.0003.0 / 2.PRG-71252100030 1 EA SOCKET, LAMP OSRAM - CUSTOM BRACKET

Tools:

#2 Phillips screwdriver
Cotton gloves or finger cots
Alcohol wipe (supplied with new lamp)

WARNING: Remove power from luminaire before performing any maintenance procedures.

CAUTION: Refer to "Proper Lamp Servicing and Operation" on page 22 before handling the lamp.

To replace lamp socket:

Step 1. Remove power from luminaire.

Step 2. Remove lamp. (Refer to "Replacing Lamp" on page 34.)

Step 3. Remove four 6-32 x 5/16" PPSS screws which secure XYZ Assembly in place (**Figure 3-18**).

Step 4. Disconnect Ignitor Output to Lamp Socket Cable from two locations by loosening screws. (Refer to detail in **Figure 3-18** below.)

Step 5. Completely remove XYZ Assembly.

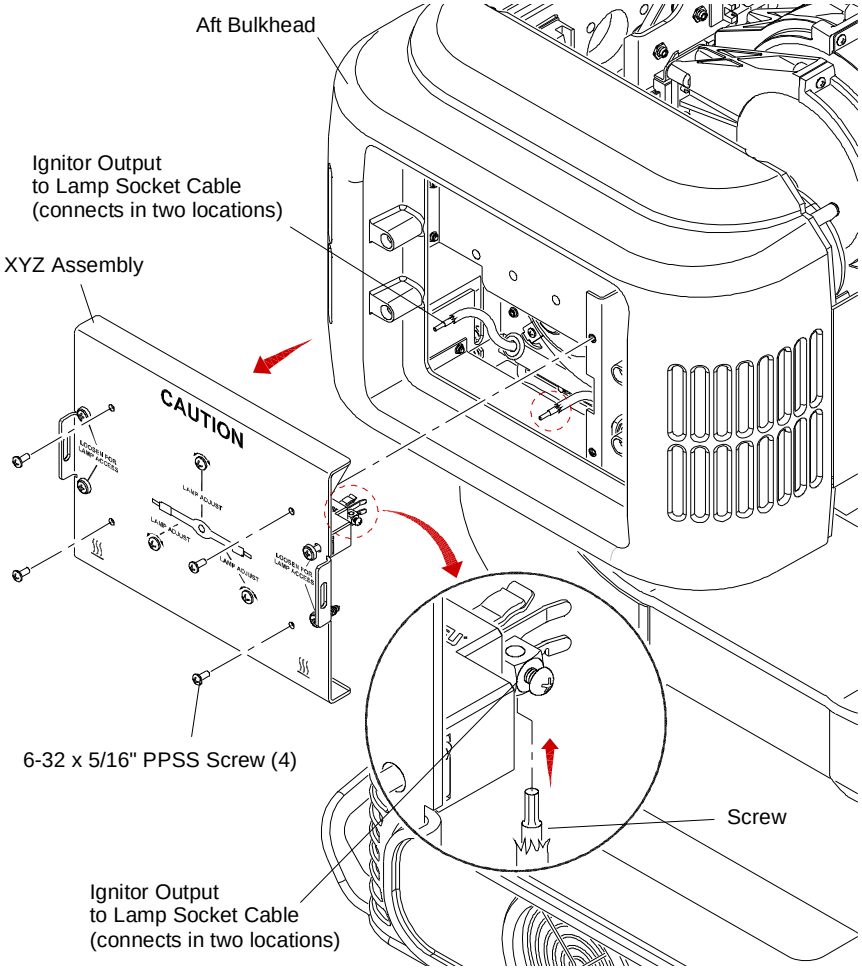


Figure 3-18: Removing XYZ Assembly

Step 6. Remove Lamp Socket from XYZ plate by removing two 8-32 x 3/8" PPSS screws.

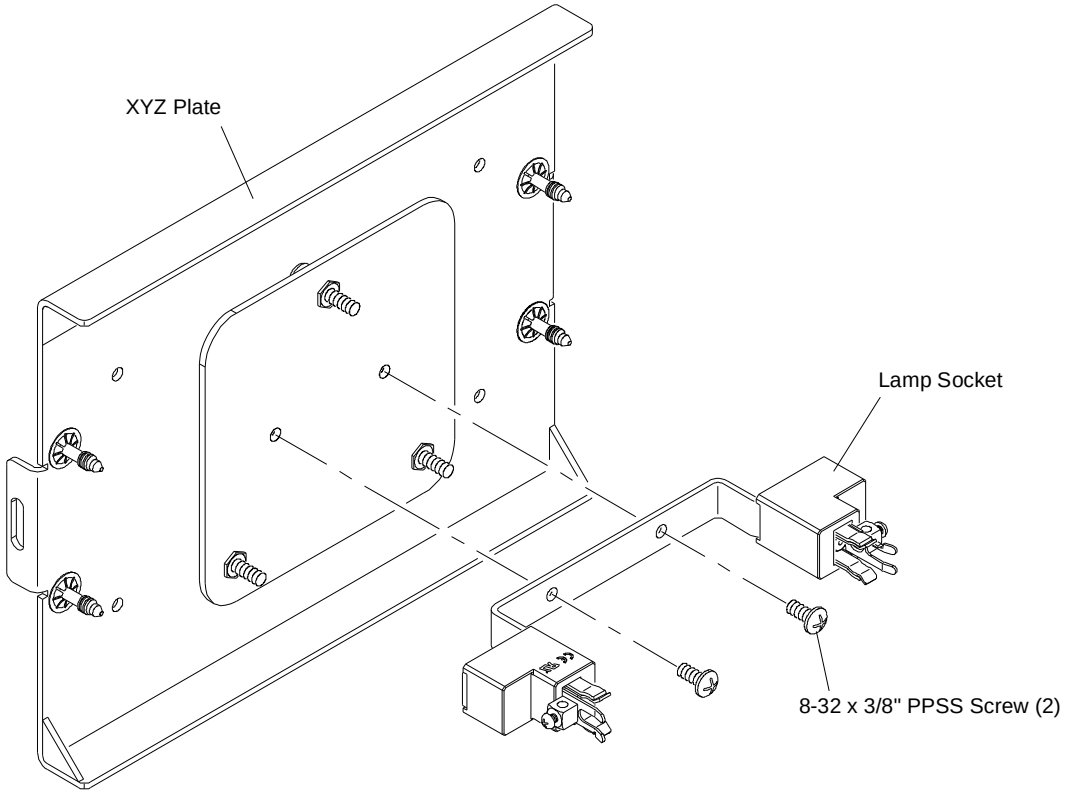


Figure 3-19: Replacing Lamp Socket

Step 7. Install new Lamp Socket by doing steps in reverse.

Step 8. After re-installing the lamp, it must be optimized. (Refer to "Adjusting Lamp" on page 36.)

Replacing Wheel Stack

Parts:

21.9815.0200 / 2.PRG-2198150200 1 EA ASSY, WHEEL STACK

Tools & Supplies:

#2 Phillips screwdriver

WARNING: Remove power from luminaire before performing any maintenance procedures.

To replace wheel stack:

Step 1. Remove power from luminaire.

Step 2. Remove top head cover. (Refer to "Removing Head Covers" on page 24.)

Step 3. Disconnect one combined Power and Data cable.

Step 4. At Wheel Stack, loosen captive screws.

Step 5. Gently push lenses out of the way so they will not interfere with removal of the Wheel Stack Assembly.

Step 6. Grasp Wheel Stack Assembly on either side and lift straight up and out of luminaire head.

Step 7. Install new Wheel Stack by doing steps in reverse.

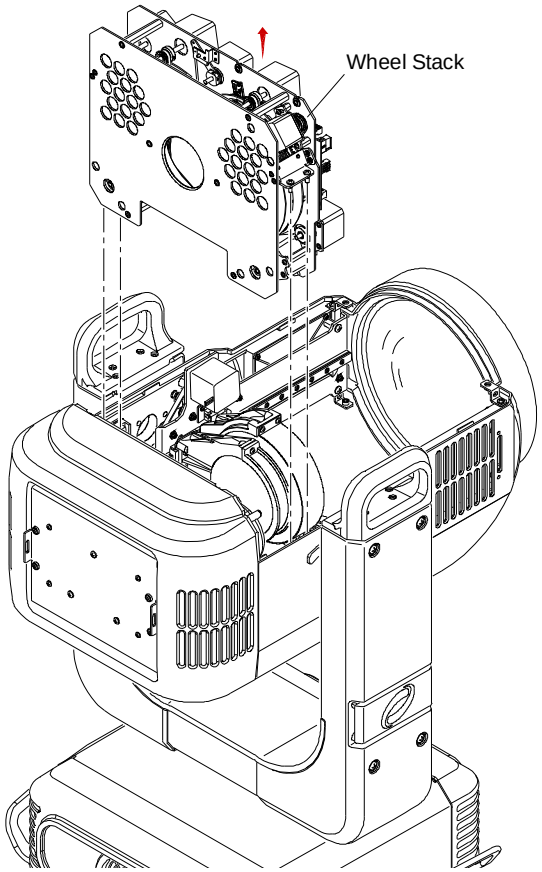


Figure 3-20: Removing Wheel Stack

Replacing Bottom Head Fan

There are five fans located in the Head Assembly; one fan in the bottom of the head, and four fans on the aft bulkhead. The removal procedures for the fans are similar with only a few minor differences depending on where the fan is located. The following steps apply to the fan located in the bottom of the Head Assembly. (To replace a fan located on the aft bulkhead, refer to "Replacing Back Head Fans" on page 47.)

Parts:

25.9815.0994 / 2.PRG-2598150994 1 EA CABLE ASSY, HEAD FAN

Tools & Supplies:

#2 Phillips screwdriver
Wire cutters
Cable Ties
Loctite #242 (06.6008.0001)

WARNING: Remove power from luminaire before performing any maintenance procedures.

To replace bottom fan:

Step 1. Remove power from luminaire.

Step 2. Remove head covers. (Refer to "Removing Head Covers" on page 24.)

Step 3. At Fan, cut cable ties which secure Head Fan Cable to Head Assembly.

Step 4. Disconnect Head Fan Cable from Fan Extension Cable.

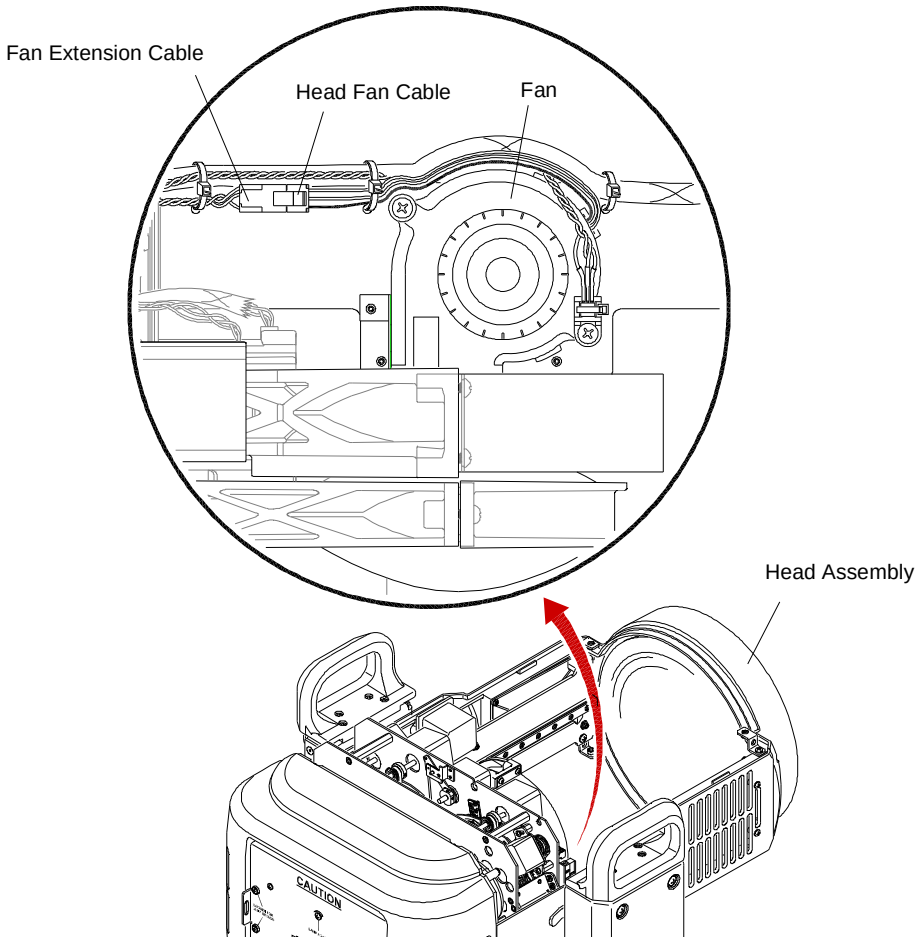


Figure 3-21: Disconnecting Bottom Head Fan

Step 5. Remove Fan by removing two 8-32 x 1-3/8" PPSS screws (**Figure 3-22**). *Retain #8 washer and cable anchor.*

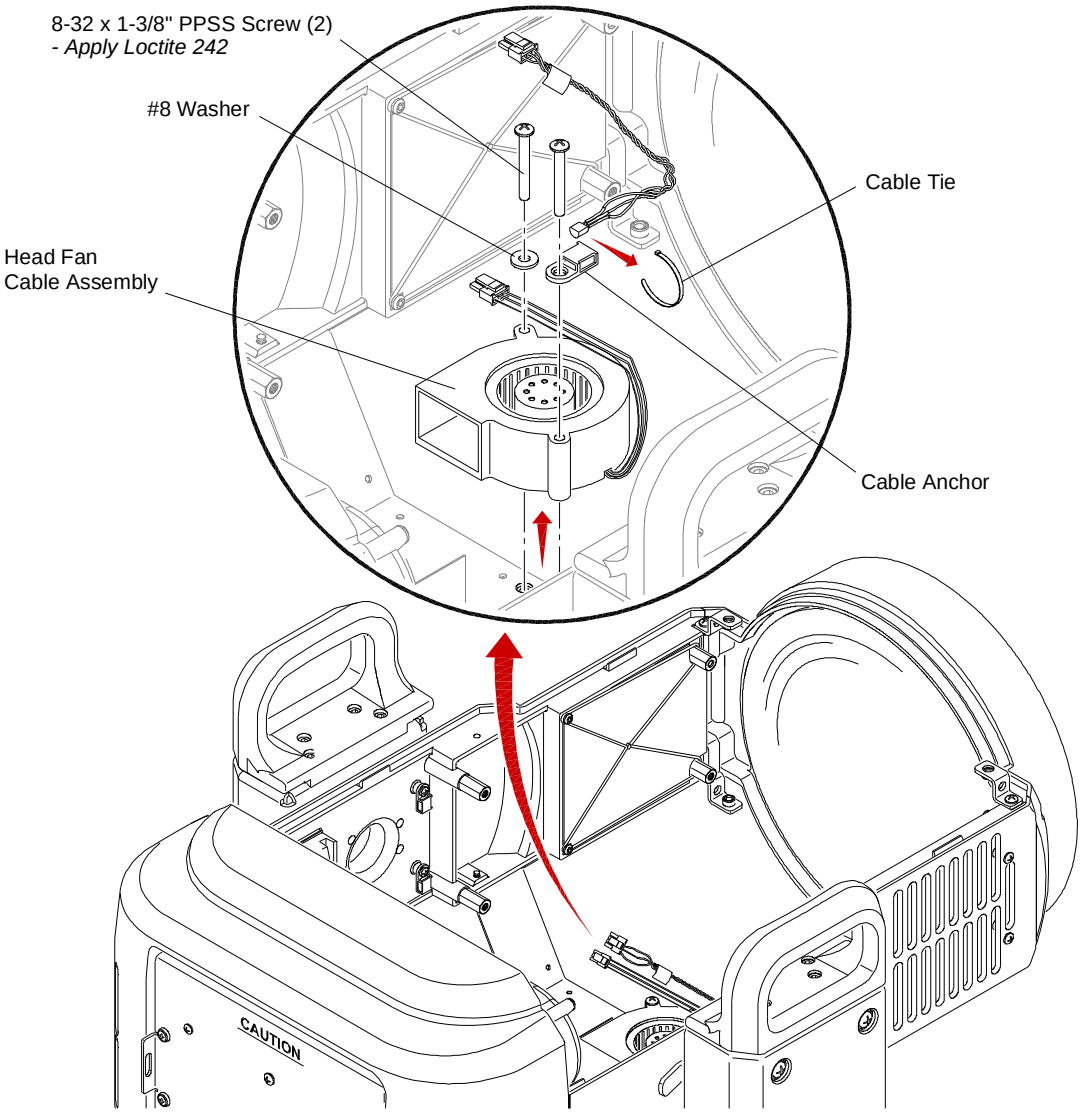
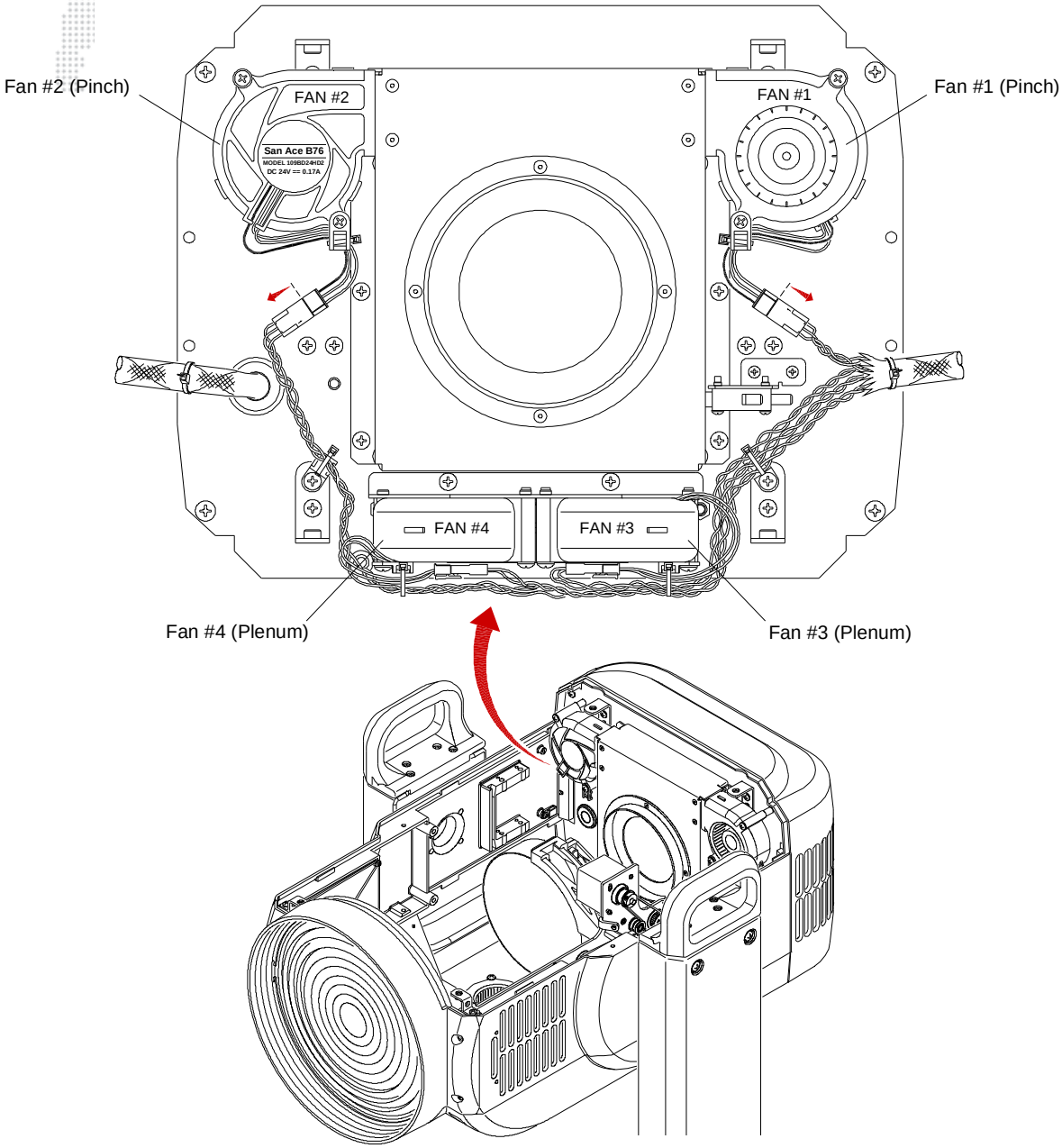


Figure 3-22: Replacing Bottom Head Fan

Step 6. Install new Head Fan Cable Assembly - along with saved #8 washer and cable anchor - by doing steps in reverse. Apply Loctite 242 to screws when installing new Fan as shown in **Figure 3-22**.

Replacing Back Head Fans

There are five fans located in the Head Assembly; one fan in the bottom of the head, and four fans on the aft bulkhead. The following steps apply to the four aft bulkhead "back" fans as shown below:



Parts:

25.9815.0994 / 2.PRG-2598150994 4 EA CABLE ASSY, HEAD FAN

Tools & Supplies:

#2 Phillips screwdriver
Wire cutters
Cable Ties
Loctite #242 (06.6008.0001)

WARNING: Remove power from luminaire before performing any maintenance procedures.

To replace Fan #1 or Fan #2:

Step 1. Remove power from luminaire.

Step 2. Remove top head cover. (Refer to "Removing Head Covers" on page 24.)

Step 3. Remove Wheel Stack. (Refer to "Replacing Wheel Stack" on page 44.)

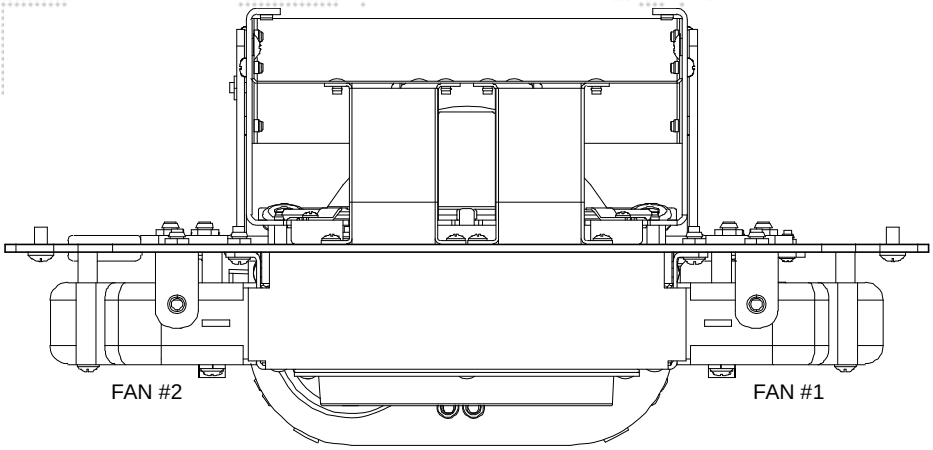
Step 4. At required fan, cut cable ties which secure Head Fan Cable to Head Assembly (**Figure 3-23**).

Step 5. Disconnect Head Fan Cable from Back Fans Cable.

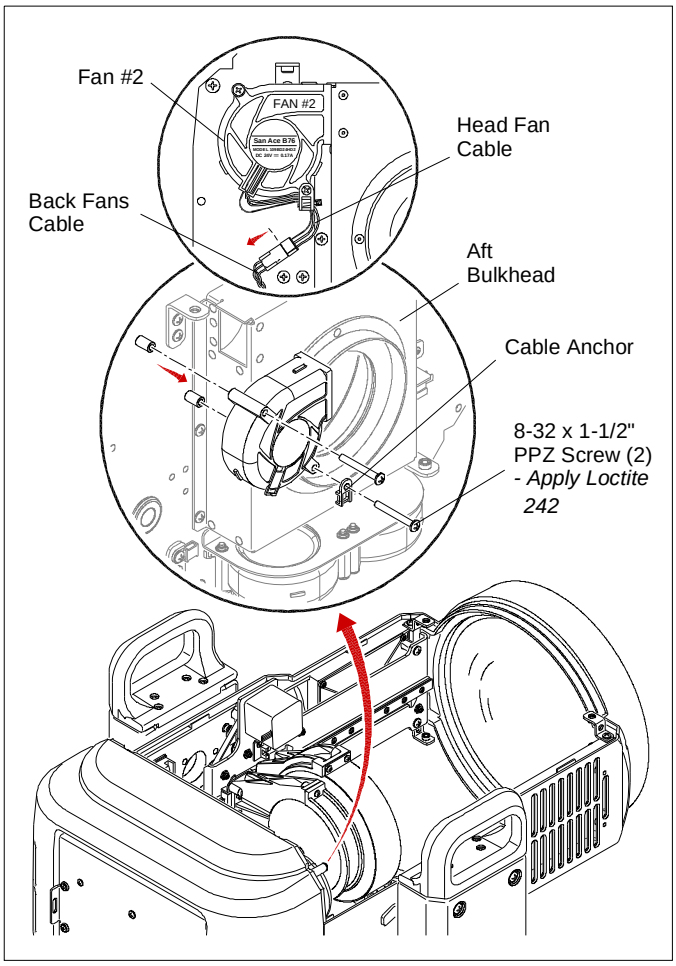
Step 6. Remove Fan by removing two 8-32 x 1-1/2" PPZ screws. *Retain cable anchor.*

Step 7. Install new Head Fan Cable Assembly - along with saved cable anchor - by doing steps in reverse. Apply Loctite 242 to screws when installing new Fan as shown in **Figure 3-23**.

TOP VIEW



FAN #2



FAN #1

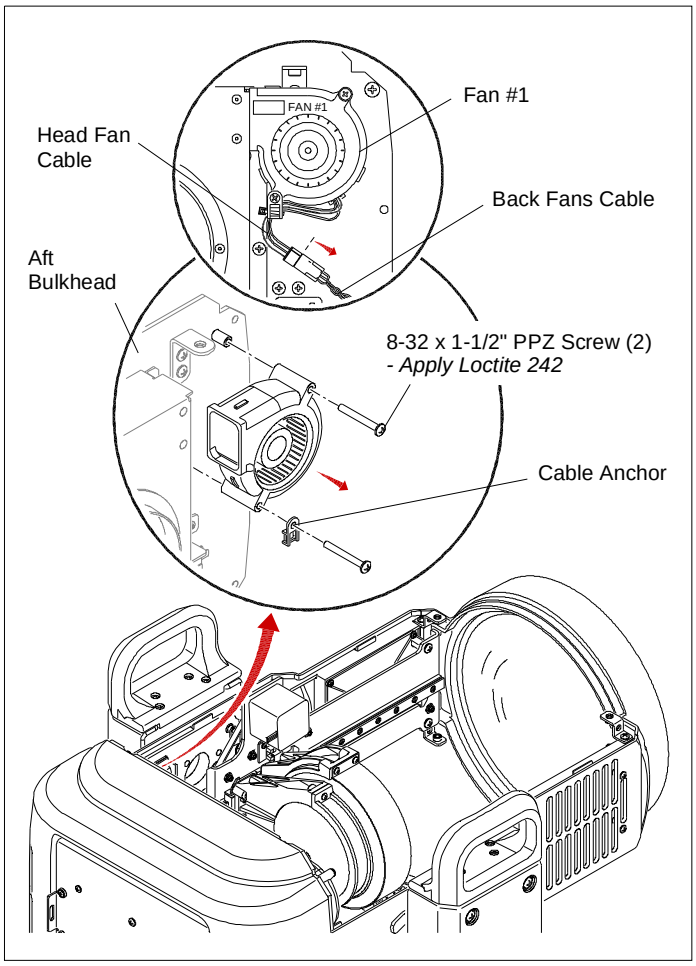


Figure 3-23: Replacing Back Fan #1 or #2

To replace Fan #3 or Fan #4:

Step 1. Remove power from luminaire.

Step 2. Remove head covers. (Refer to "Removing Head Covers" on page 24.)

Step 3. Remove Aft Cover. (Refer to "Removing Aft Cover" on page 26.)

Step 4. At required fan, cut cable ties which secure Head Fan Cable to Head Assembly (**Figure 3-24**).

Step 5. Disconnect Head Fan Cable from Back Fans Cable.

Step 6. Remove Fan by removing two 8-32 x 1-1/2" PPZ screws. *Retain #8 washer and cable anchor.*

Step 7. Install new Head Fan Cable Assembly - along with saved #8 washer and cable anchor - by doing steps in reverse. Apply Loctite 242 to screws when installing new Fan as shown in **Figure 3-24**.

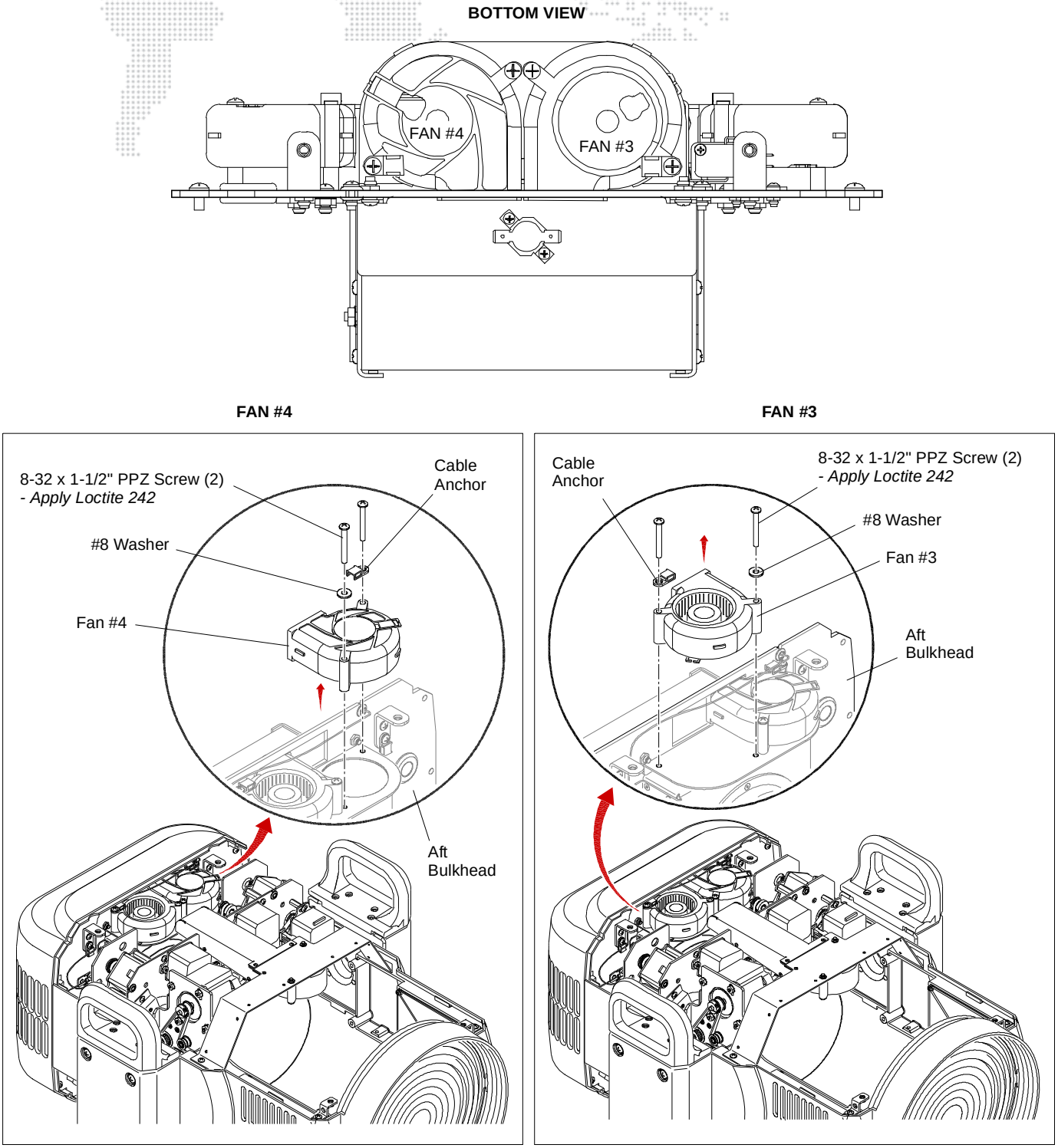


Figure 3-24: Replacing Back Fan #3 or #4

Replacing Door Closure Safety Switch

Parts:

12.2003.0001.0 / 2.PRG-74200300010 1 EA SWITCH SAFETY, HIGH TEMP

Tools & Supplies:

#1 and #2 Phillips screwdrivers

WARNING: Remove power from luminaire before performing any maintenance procedures.

To replace door closure safety switch:

Step 1. Remove power from luminaire.

Step 2. Remove head covers. (Refer to "Removing Head Covers" on page 24.)

Step 3. At Aft Bulkhead, remove four 6-32 x 5/16" PPSS screws and pull XYZ Assembly outward about 1/2-inch as shown in **Figure 3-25**. (This will clear the pin from the Safety Switch toggle so it can be removed.)

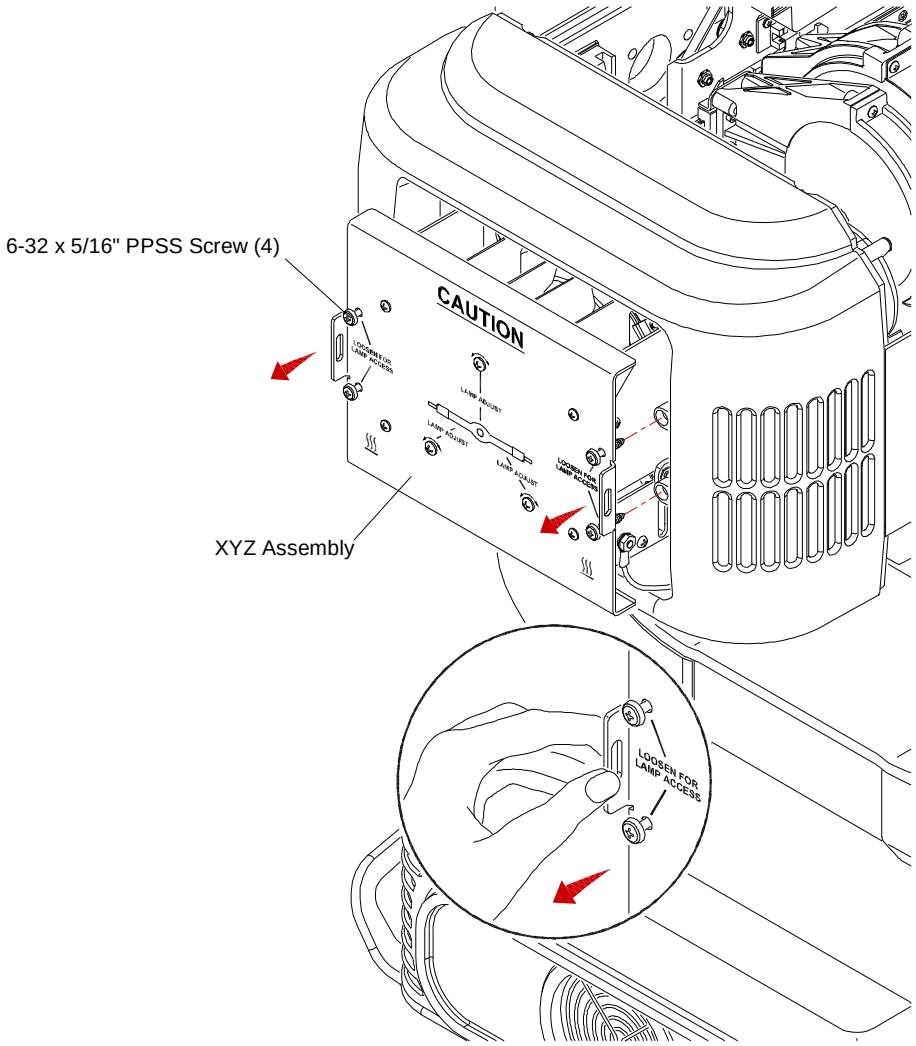


Figure 3-25: Clearing Safety Switch Toggle

Step 4. Rotate Head Assembly so that bottom side is on top (**Figure 3-26**).

Step 5. At Safety Switch, disconnect two wires.

Step 6. Remove Safety Switch from mounting bracket by removing two 4-40 x 5/8" PPZ screws.

Step 7. Replace Safety Switch by doing steps in reverse.

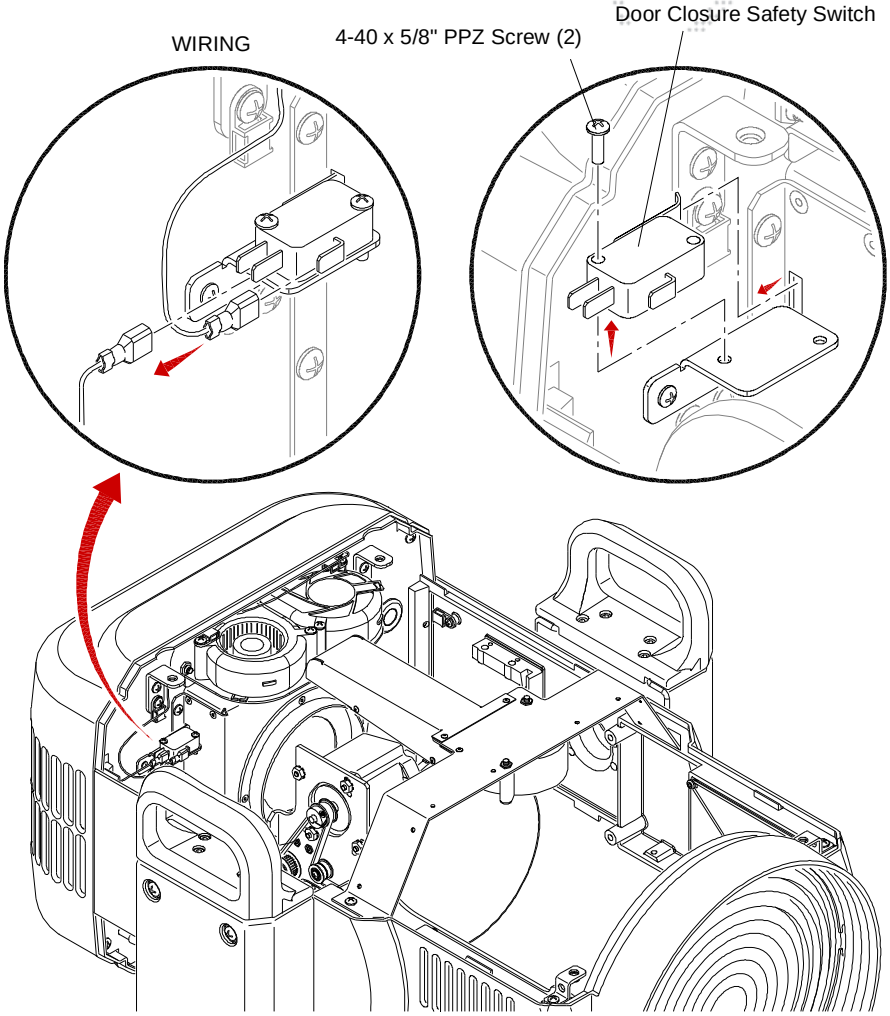


Figure 3-26: Replacing Door Closure Safety Switch

Replacing Reflector

Parts:

42.9815.0160 / 2.PRG-4298150160 1 EA REFLECTOR, STEPPED, 40 LUNES, COATED

Tools & Supplies:

#1 and #2 Phillips screwdrivers

WARNING: Remove power from luminaire before performing any maintenance procedures.

To replace reflector:

Step 1. If luminaire is powered-up, douse lamp and allow fans to run for at least 5 minutes.

Step 2. Remove power from luminaire.

Step 3. Remove lamp. (Refer to "Replacing Lamp" on page 34.)

Step 4. At XYZ Assembly, remove four 6-32 x 5/16" PPSS screws (**Figure 3-27**).

Step 5. Completely remove XYZ Assembly and set aside.

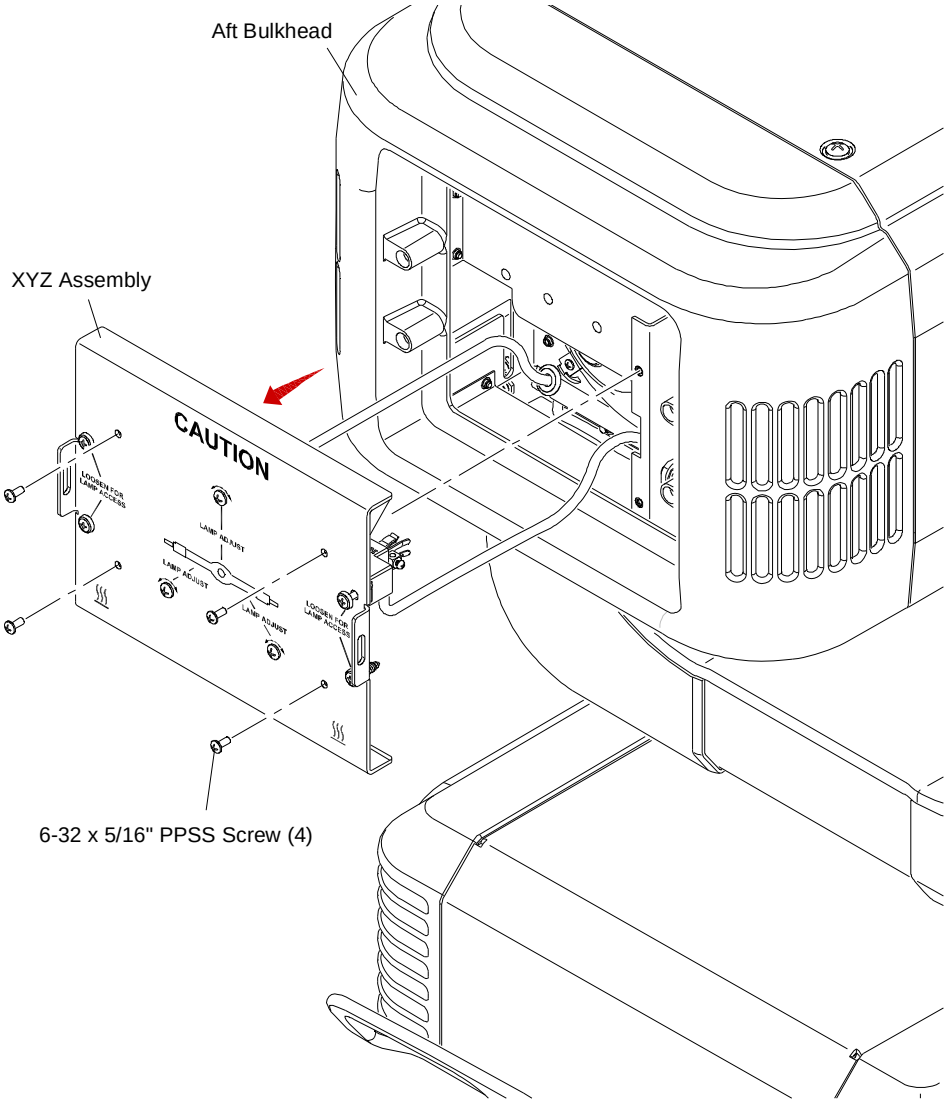


Figure 3-27: Removing XYZ Assembly

Step 6. At Lamp Box, remove Flipper Duct by removing four 6-32 x 1/4" PPSS screws (**Figure 3-28**).

Step 7. At Reflector, in alternating fashion, gradually loosen 4-40 x 1/4" PPSS screws until all four clips are loose. (Don't completely remove screws or clips.)

Step 8. Rotate clips and remove Reflector.

Step 9. Remove gasket and place on new Reflector.

Note: If the gasket is not present, add it according to the procedure in Technicl Bulletin BST-010.

Note: When installing the Reflector, align its clocking notch with the clocking tab as shown below.

Step 10. Install new Reflector and gradually tighten clips in an alternating fashion. *DO NOT overtighten clips or Reflector may crack.*

Step 11. Re-assemble luminaire by doing steps 3-6 in reverse.

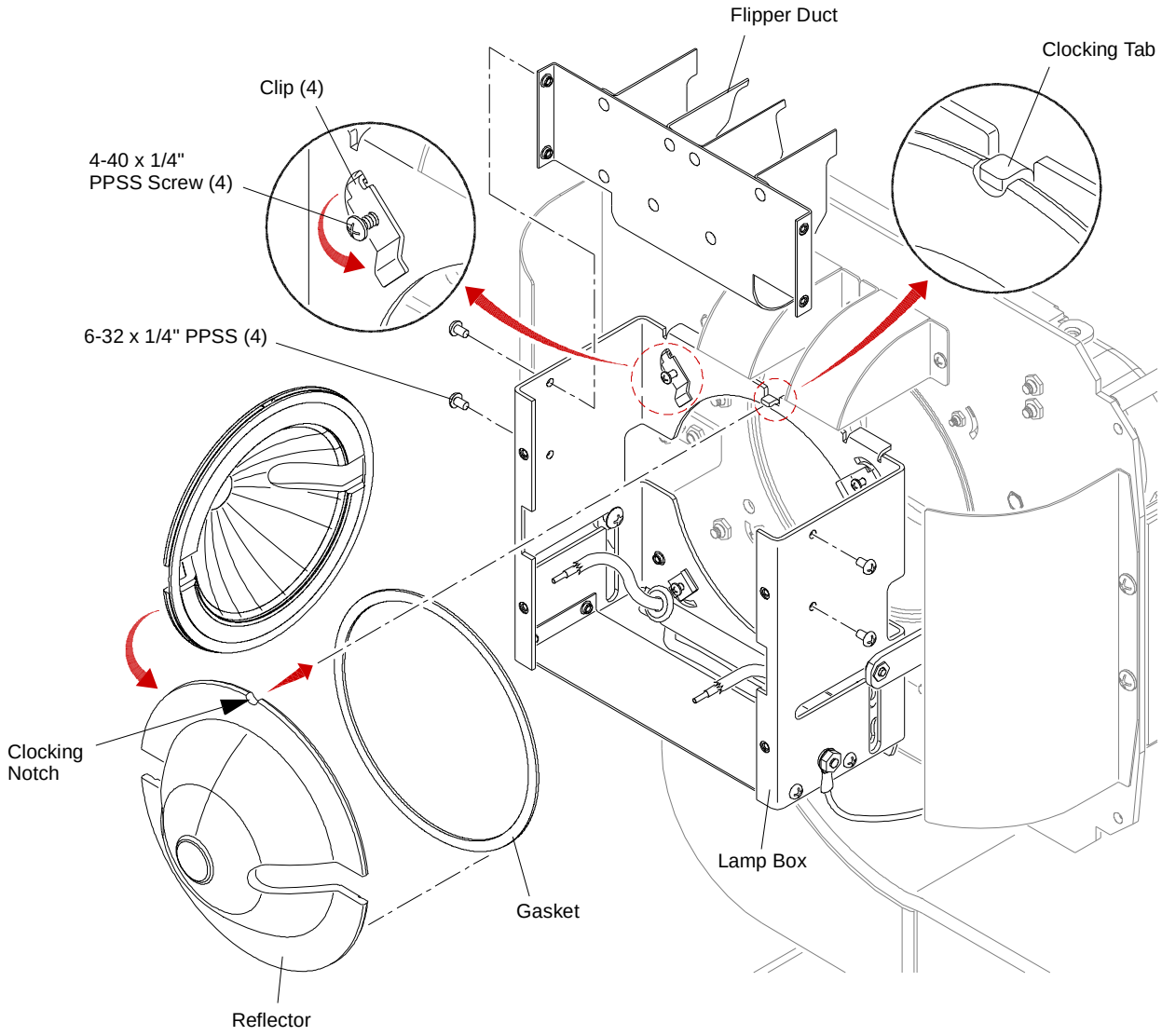


Figure 3-28: Replacing Reflector

Replacing Retro-Reflector

Parts:

42.9815.0161 / 2.PRG-4298150161 1 EA RETRO-REFLECTOR, WASH

Tools & Supplies:

#1 and #2 Phillips screwdrivers
Wire cutters
Cable Ties
Loctite #242 (06.6008.0001)

WARNING: Remove power from luminaire before performing any maintenance procedures.

To replace retro-reflector:

Step 1. Remove power from luminaire.

Step 2. Remove head covers. (Refer to "Removing Head Covers" on page 24.)

Step 3. Remove Aft Cover. (Refer to "Removing Aft Cover" on page 26.)

Step 4. Remove Wheel Stack. (Refer to "Replacing Wheel Stack" on page 44.)

Step 5. Remove two Fans located at top of Aft Bulkhead as follows (**Figure 3-29**):

a. At each fan, cut cable ties which secure Head Fan Cable to Head Assembly.

b. Disconnect Head Fan Cable from Back Fans Cable.

c. Remove Fans by removing two 8-32 x 1-1/2" PPZ screws each. *Retain cable anchors.*

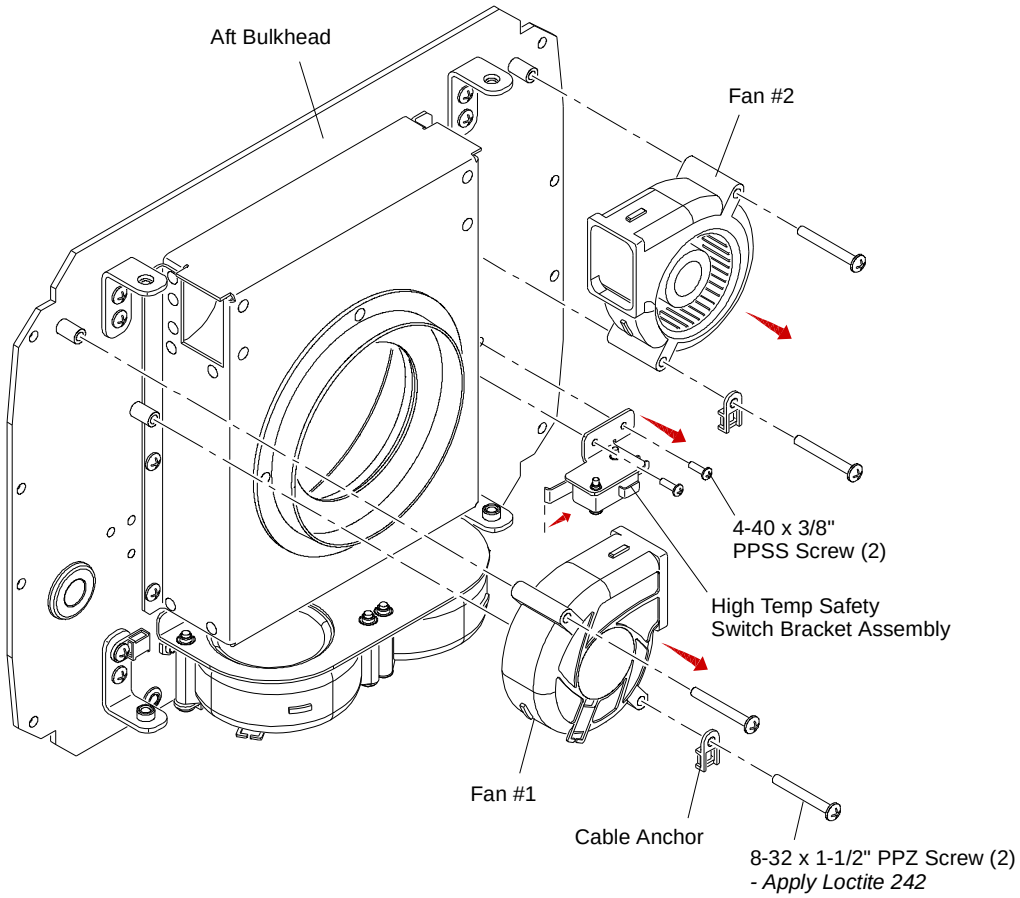


Figure 3-29: Removing Fans and HIgh Temp Safety Switch

Step 6. Remove entire High Temp Switch Bracket Assembly as follows:

a. At High Temp Safety Switch, disconnect two wires.

b. Remove High Temp Safety Switch Bracket Assembly by removing two 4-40 x 3/8" PPSS screws.

Step 7. Remove UV/IR Assembly by removing four 8-32 x 7/16" PPSS screws (**Figure 3-30**).

Step 8. At Retro-Reflector, in an alternating fashion, gradually loosen four 4-40 x 3/8" PPSS screws until all four mounting clips are free.

Step 9. Remove Retro-Reflector.

Step 10. Replace Retro-Reflector by doing steps in reverse. Apply Loctite 242 to screws when re-installing Fans as shown in **Figure 3-29**.

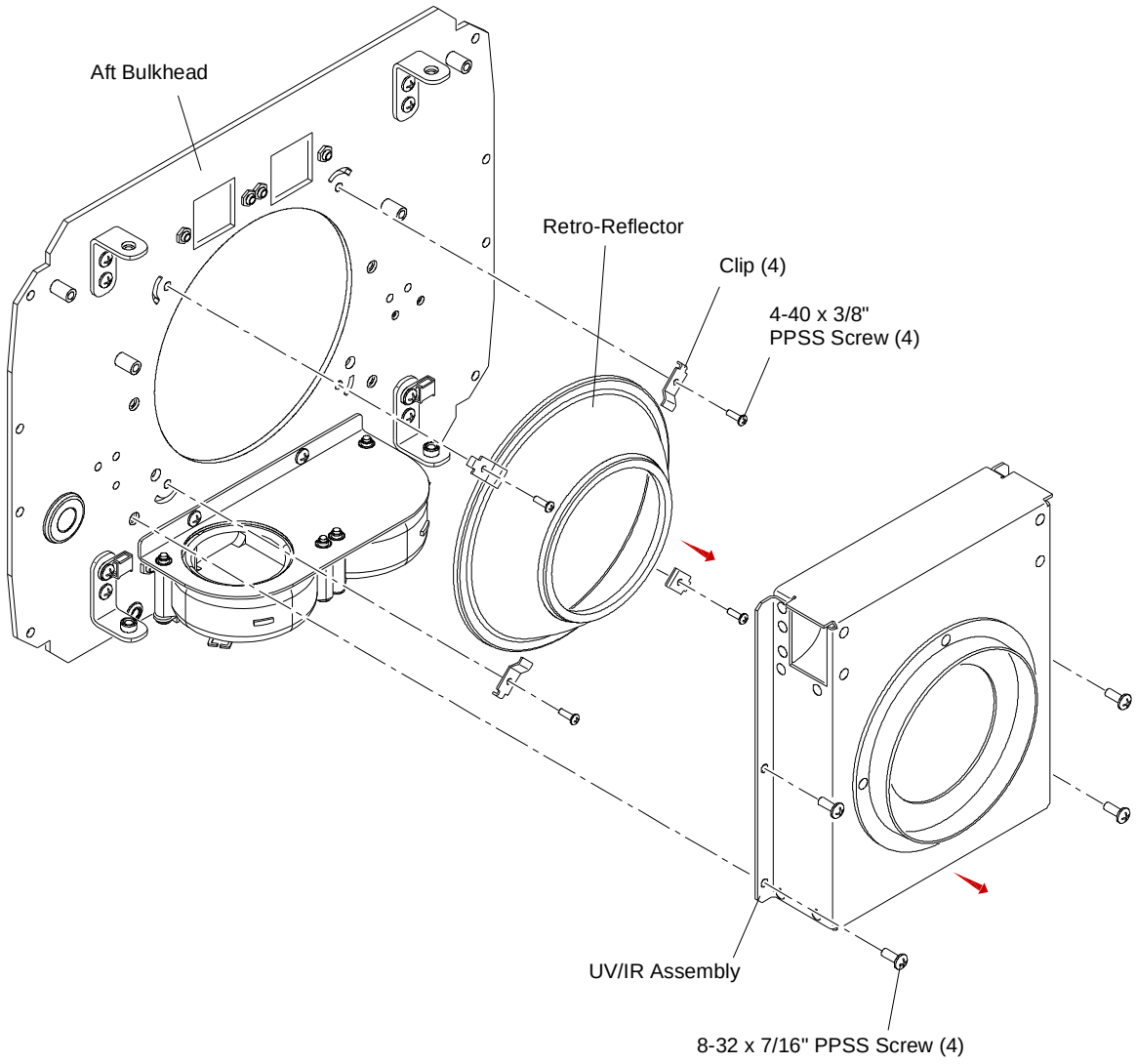


Figure 3-30: Replacing Retro-Reflector

Replacing Zoom Lens 1 Motor (42mm)

Parts:

44.5036.0002.0 / 2.PRG-44503600020 1 EA MOTOR, 3-PHASE STEPPER, SIZE 42MM

Tools & Supplies:

#2 Phillips screwdriver
Loctite #220
Wire cutters
Cable ties

WARNING: Remove power from luminaire before performing any maintenance procedures.

To replace motor:

Step 1. Remove power from luminaire.

Step 2. Remove top head cover. (Refer to "Removing Head Covers" on page 24.)

Step 3. At Zoom Lens 1 Motor, disconnect cable (**Figure 3-31**).

Step 4. Loosen set screw which secures pulley to motor shaft.

Step 5. Remove Zoom Lens 1 Motor from bracket by removing four M3 x .5 x 6mm PPZ screws.

Step 6. Install new Zoom Lens 1 Motor by doing steps in reverse. Do the following:

a. Torque set screw to 2 in-lbs and apply a drop of Loctite 220 to threads.

b. Adjust belt tension by rotating motor mount. Apply light tension, enough so that the belt does not skip on pulleys.

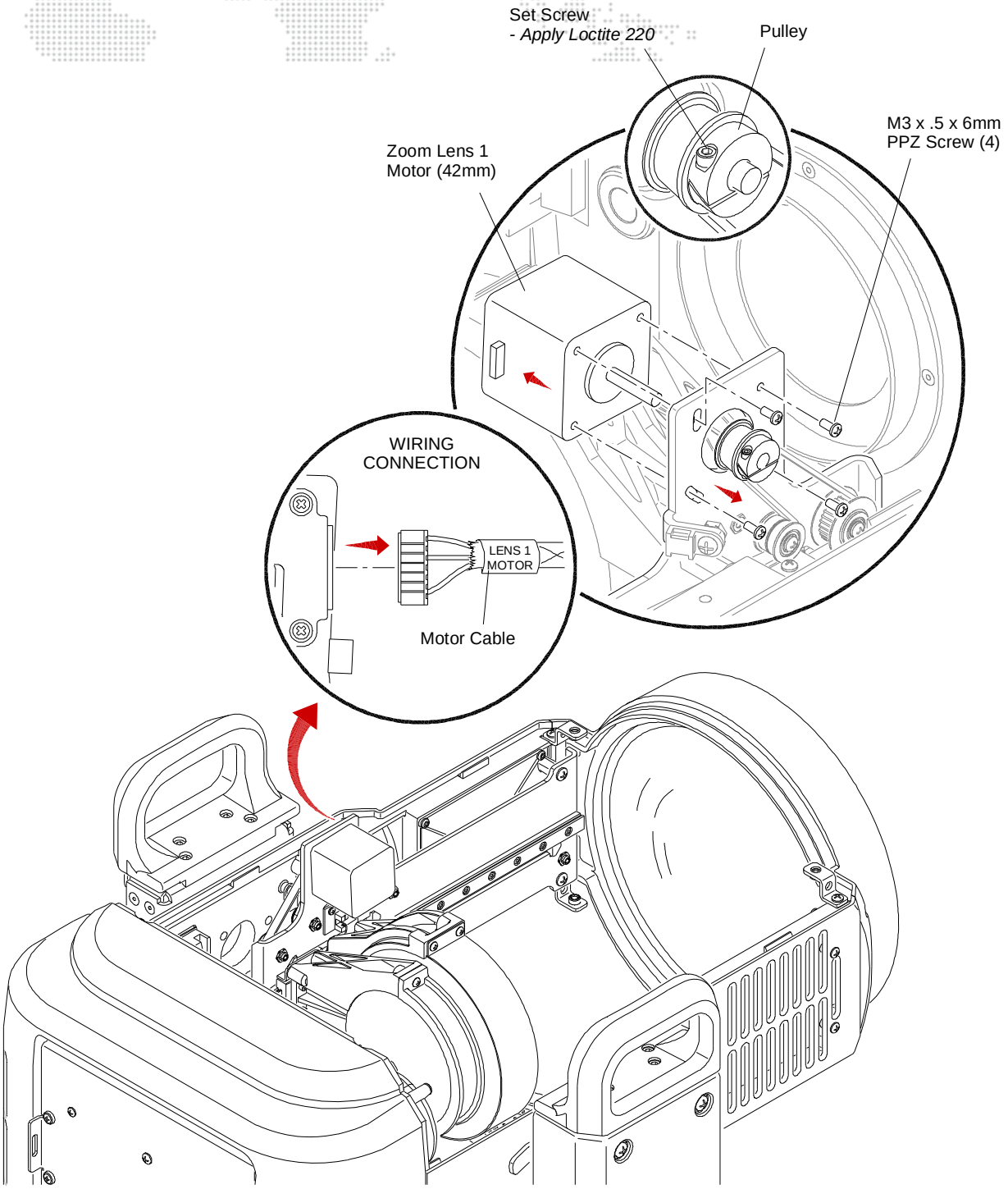


Figure 3-31: Replacing Zoom Lens 1 Motor (42mm)

Replacing Zoom Lens 2 Motor (60mm)

Parts:

44.5060.0060.0 / 2.PRG-44506000600 1 EA MOTOR, 3-PHASE STEPPER, SIZE 60MM

Tools & Supplies:

#2 Phillips screwdriver
11/32" nutdriver
Loctite #220

WARNING: Remove power from luminaire before performing any maintenance procedures.

To replace motor:

Step 1. Remove power from luminaire.

Step 2. Remove bottom head cover. (Refer to "Removing Head Covers" on page 24.)

Step 3. At Zoom Lens 2 Motor, disconnect cable (**Figure 3-32**).

Step 4. Loosen set screw which secures pulley to motor shaft.

Step 5. Remove Zoom Lens 2 Motor from bracket by removing four 8-32 x 5/8" PPZ screws and 8-32 Keps nuts.

Step 6. Install new Zoom Lens 2 Motor by doing steps in reverse. Do the following:

a. Torque set screw to 2 in-lbs and apply a drop of Loctite 220 to threads.

b. Adjust belt tension by rotating motor mount. Apply light tension, enough so that the belt does not skip on pulleys.

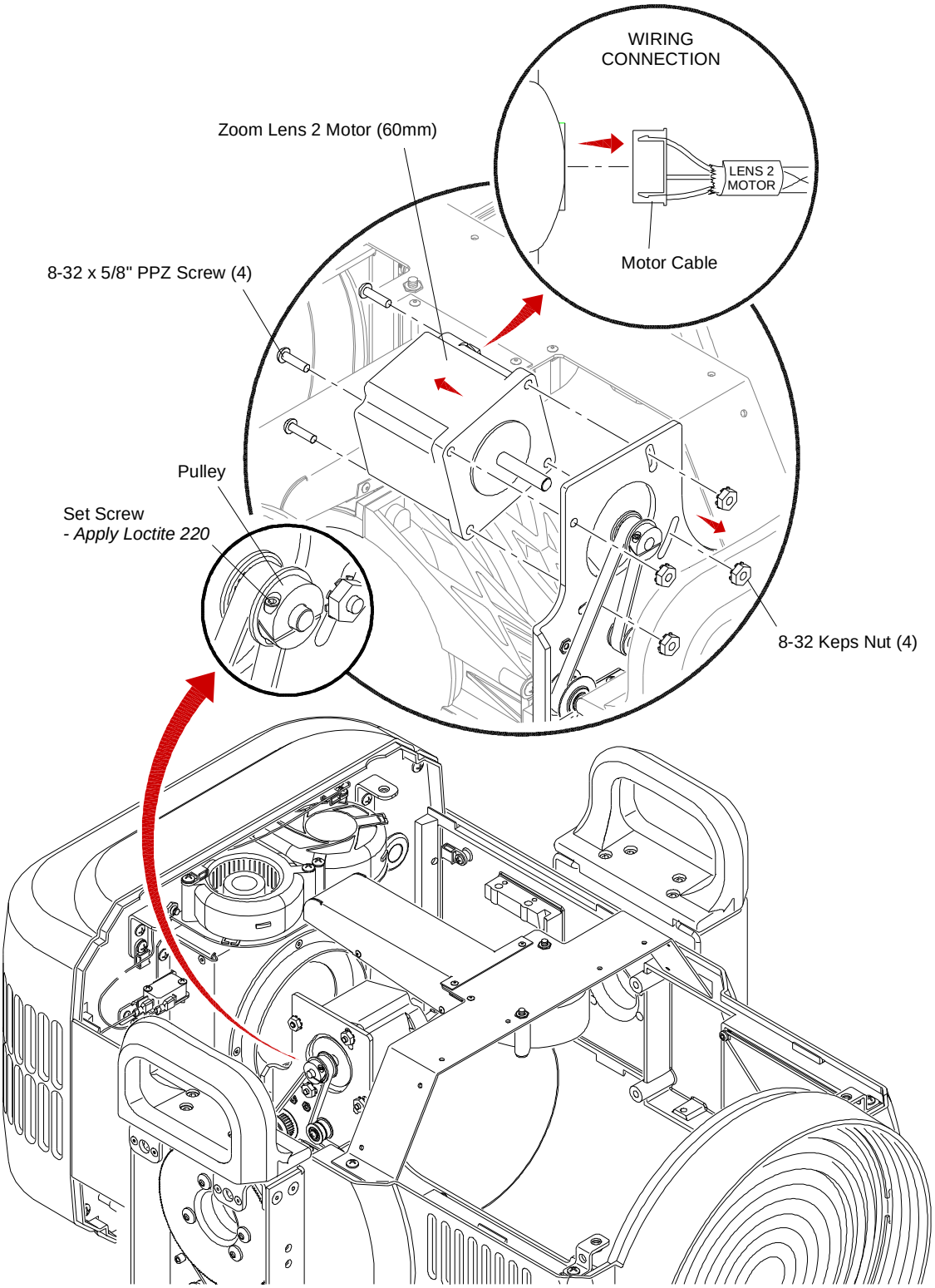


Figure 3-32: Replacing Zoom Lens 2 Motor (60mm)

Replacing Zoom Lens 1 EOT Sensor

Parts:

25.9815.0986 / 2.PRG-2598150986 1 EA CABLE ASSY, LENS 1 EOT SENSOR

Tools & Supplies:

#1 and #2 Phillips screwdrivers
Wire cutters
Cable ties

WARNING: Remove power from luminaire before performing any maintenance procedures.

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

To replace sensor:

Step 1. Remove power from luminaire.

Step 2. Remove head covers. (Refer to "Removing Head Covers" on page 24.)

Step 3. Remove Tilt-Side Yoke Leg Cover. (Refer to "Removing Upper Enclosure Covers" on page 28.)

Step 4. Remove Wheel Stack. (Refer to "Replacing Wheel Stack" on page 44.)

Step 5. At Yoke PCB, disconnect Lens 1 EOT Cable (**Figure 3-33**).

Step 6. Cut cable ties which secure cable and extract from luminaire.

Step 7. Remove Lens 1 EOT Sensor by removing two 4-40 x 5/16" PPSS screws.

Step 8. Replace Lens 1 EOT Sensor by doing steps in reverse.

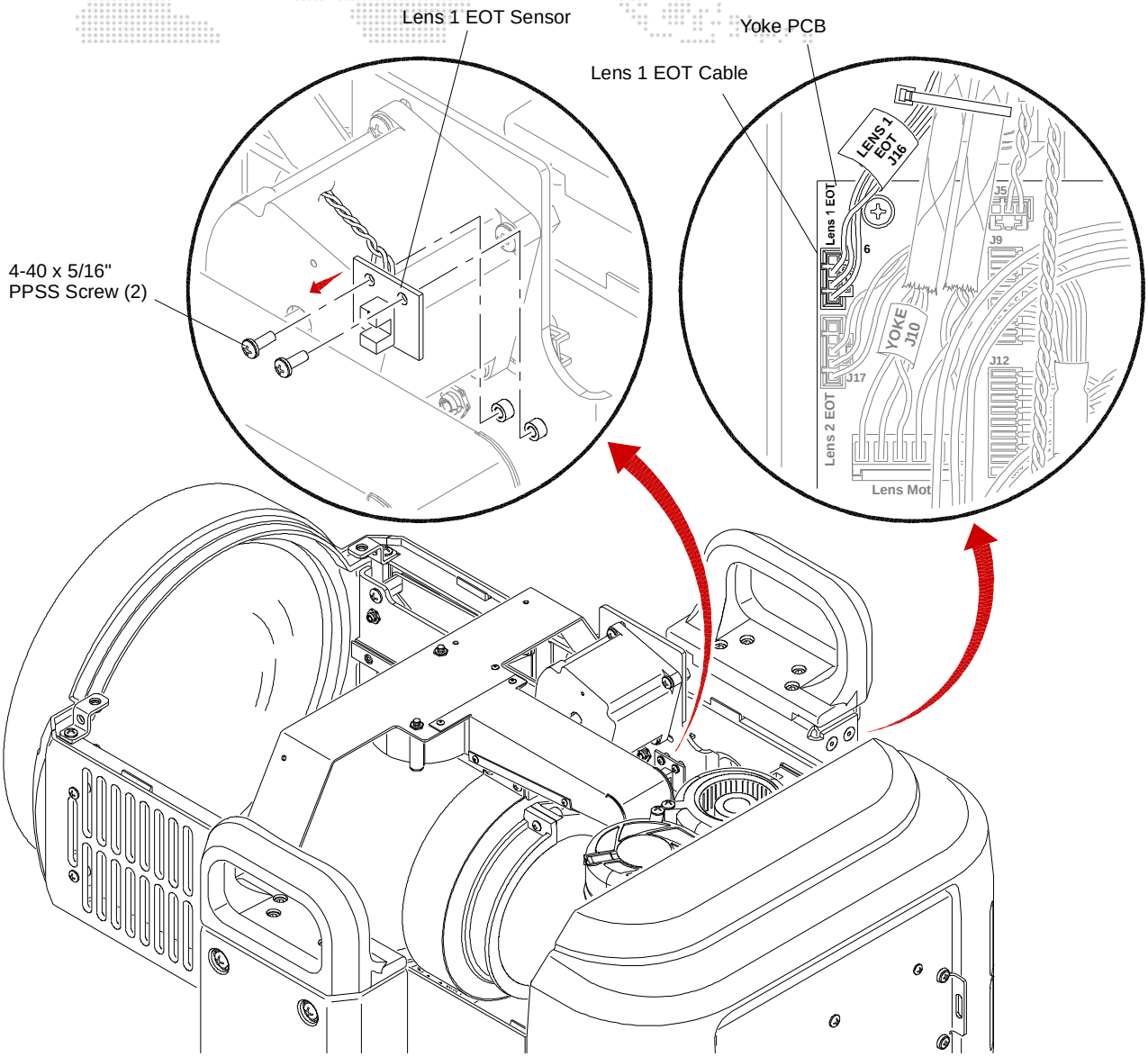


Figure 3-33: Replacing Zoom Lens 1 EOT Sensor

Replacing Zoom Lens 2 EOT Sensor

Parts:

25.9815.0987 / 2.PRG-2598150987 1 EA CABLE ASSY, LENS 2 EOT SENSOR

Tools & Supplies:

#1 and #2 Phillips screwdrivers
Wire cutters
Cable ties

WARNING: Remove power from luminaire before performing any maintenance procedures.

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

To replace sensor:

Step 1. Remove power from luminaire.

Step 2. Remove top head cover. (Refer to "Removing Head Covers" on page 24.)

Step 3. Remove Tilt-Side Yoke Leg Cover. (Refer to "Removing Upper Enclosure Covers" on page 28.)

Step 4. At Yoke PCB, disconnect Lens 2 EOT Cable (**Figure 3-34**).

Step 5. Cut cable ties which secure cable and extract from luminaire.

Step 6. Remove Lens 2 EOT Sensor by removing two 4-40 x 5/16" PPSS screws.

Step 7. Replace Lens 2 EOT Sensor by doing steps in reverse.

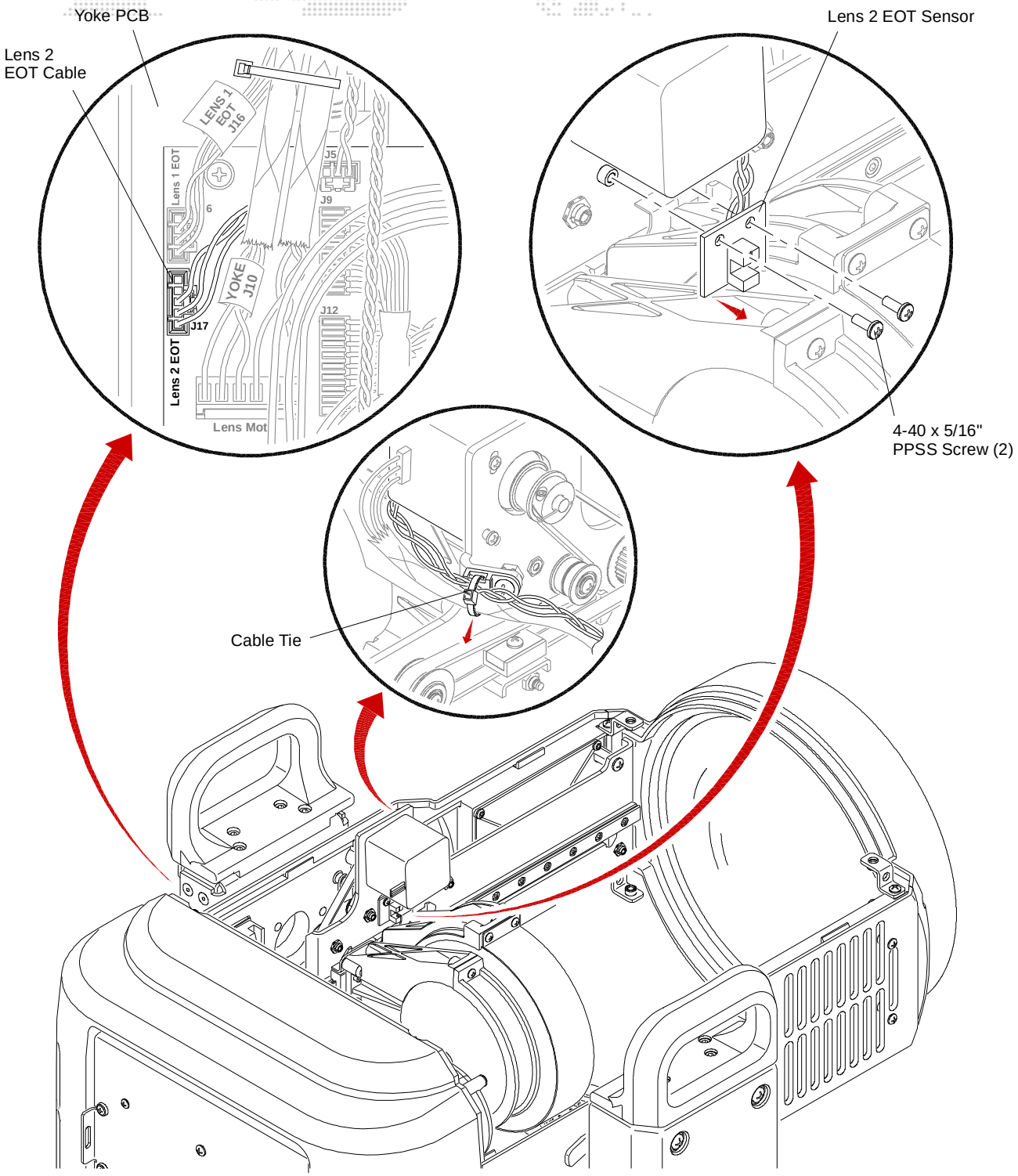


Figure 3-34: Replacing Zoom Lens 2 EOT Sensor

Replacing Ballast Assembly

Parts:

21.9815.0810 / 2.PRG-2198150810 1 EA BALLAST, ASSY

Tools & Supplies:

#2 Phillips screwdriver
5/32" Allen wrench, T-handle

WARNING: Remove power from luminaire before performing any maintenance procedures.

To replace ballast assembly:

Step 1. Remove power from luminaire.

Step 2. Remove enclosure covers. (Refer to "Removing Upper Enclosure Covers" on page 28.)

Step 3. To disconnect wiring, partially remove Interface/LVS Assembly as follows:

a. At front of Interface/LVS Assembly, remove four 10-32 x 3/4" socket head screws (**Figure 3-35**).

b. Remove one 10-32 x 3/8" PPB screw that secures ground wire lug.

c. Pull assembly out of enclosure enough to access wiring.

d. Disconnect AC wires and Main Control cable.

Step 4. At front of Ballast, remove four 10-32 x 3/4" socket head screws. Pull Ballast partially out of enclosure.

Step 5. Disconnect Relay wires and ground cable.

Step 6. Twist Fan Cable connector to disconnect.

CAUTION: Use caution when removing the Ballast from the enclosure.

Step 7. Remove Ballast from enclosure.

Step 8. Install new Ballast by doing steps in reverse.

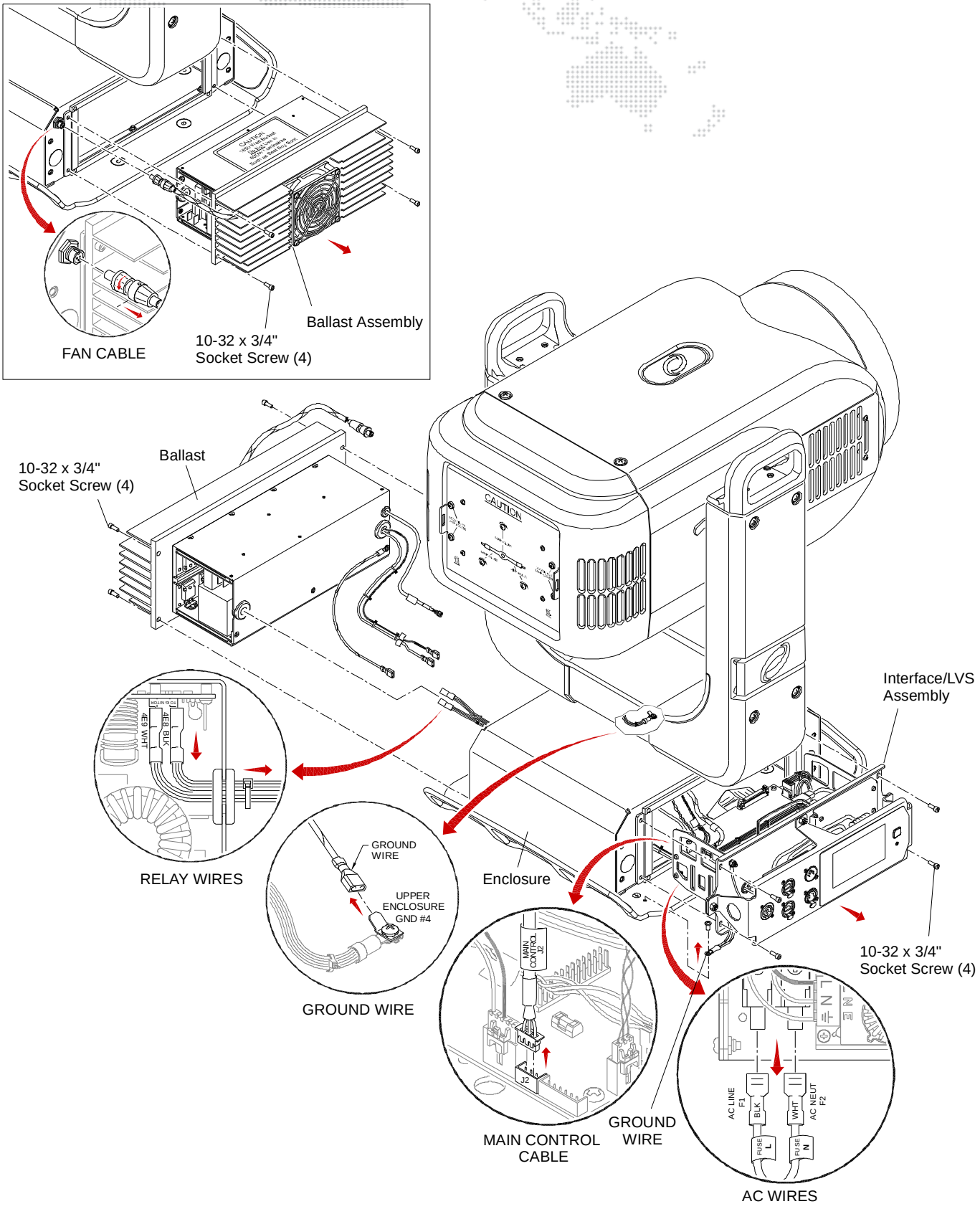


Figure 3-35: Removing Ballast

Replacing Ballast Fan

Parts:

25.9816.0991 / 2.PRG-2598160991 1 EA CABLE ASSY, BALLAST HEATSINK FAN

Tools & Supplies:

#2 Phillips screwdriver
Loctite 222

WARNING: Remove power from luminaire before performing any maintenance procedures.

To replace ballast fan:

Step 1. Remove power from luminaire.

Step 2. Remove Ballast Cover. (Refer to "Removing Upper Enclosure Covers" on page 28.)

Step 3. At Fan Cable connector, twist to disconnect (**Figure 3-36**).

Step 4. Remove Ballast Fan by removing four 8-32 x 1-1/2" PPZ screws. (Fan guard will come loose.)

Step 5. Replace Ballast Fan by doing steps in reverse. Apply Loctite 222 to screws.

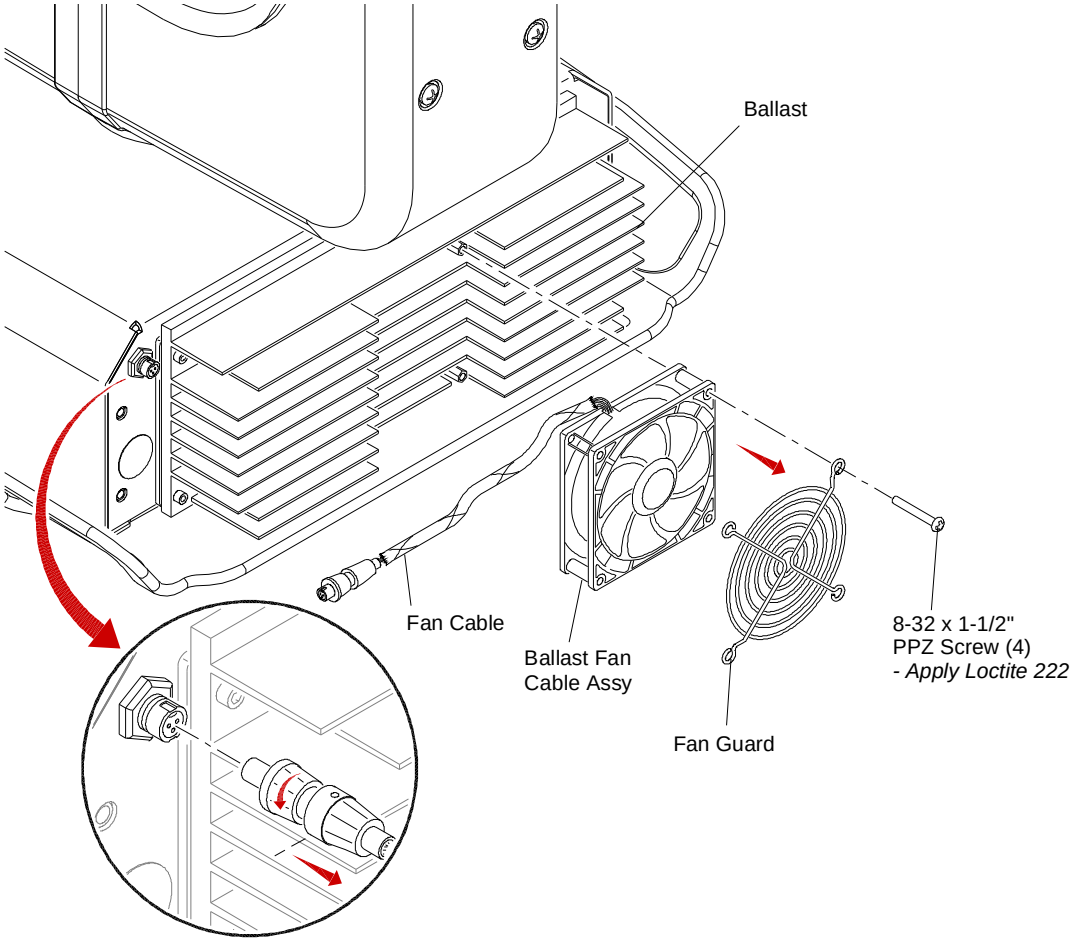


Figure 3-36: Replacing Ballast Fan

Replacing Interface/LVS Assembly

Parts:

21.9815.0811 / 2.PRG-2198150811 1 EA ASSY, INTERFACE/LVS

Tools & Supplies:

#2 Phillips screwdriver
5/32" Allen wrench, T-handle

WARNING: Remove power from luminaire before performing any maintenance procedures.

To replace the Interface/LVS assembly:

Step 1. Remove power from luminaire.

Step 2. Remove enclosure covers. (Refer to "Removing Upper Enclosure Covers" on page 28.)

Step 3. At front of Interface/LVS Assembly, remove four 10-32 x 3/4" socket head screws (**Figure 3-37**).

Step 4. Remove one 10-32 x 3/8" PPB screw that secures ground wire lug.

Step 5. At Main Controller PCB, disconnect four cables as shown in **Figure 3-37**.

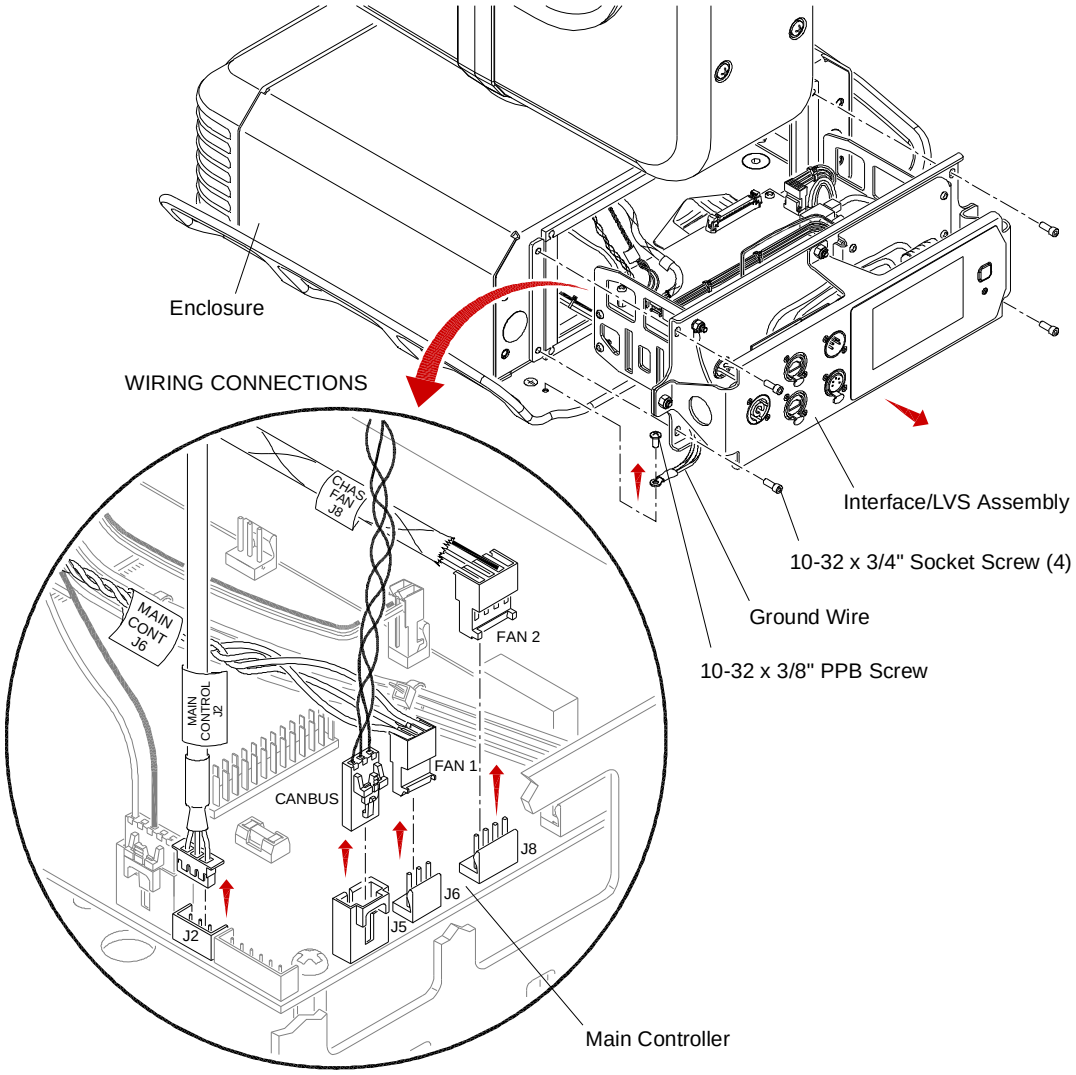


Figure 3-37: Disconnecting Interface/LVS Cables

Step 6. Flip Interface/LVS Assembly upside down as shown in **Figure 3-38**.

Step 7. Disconnect AC cables and LVS DC Output cables.

Step 8. Remove Interface/LVS Assembly

Step 9. Replace Interface/LVS Assembly by doing steps in reverse.

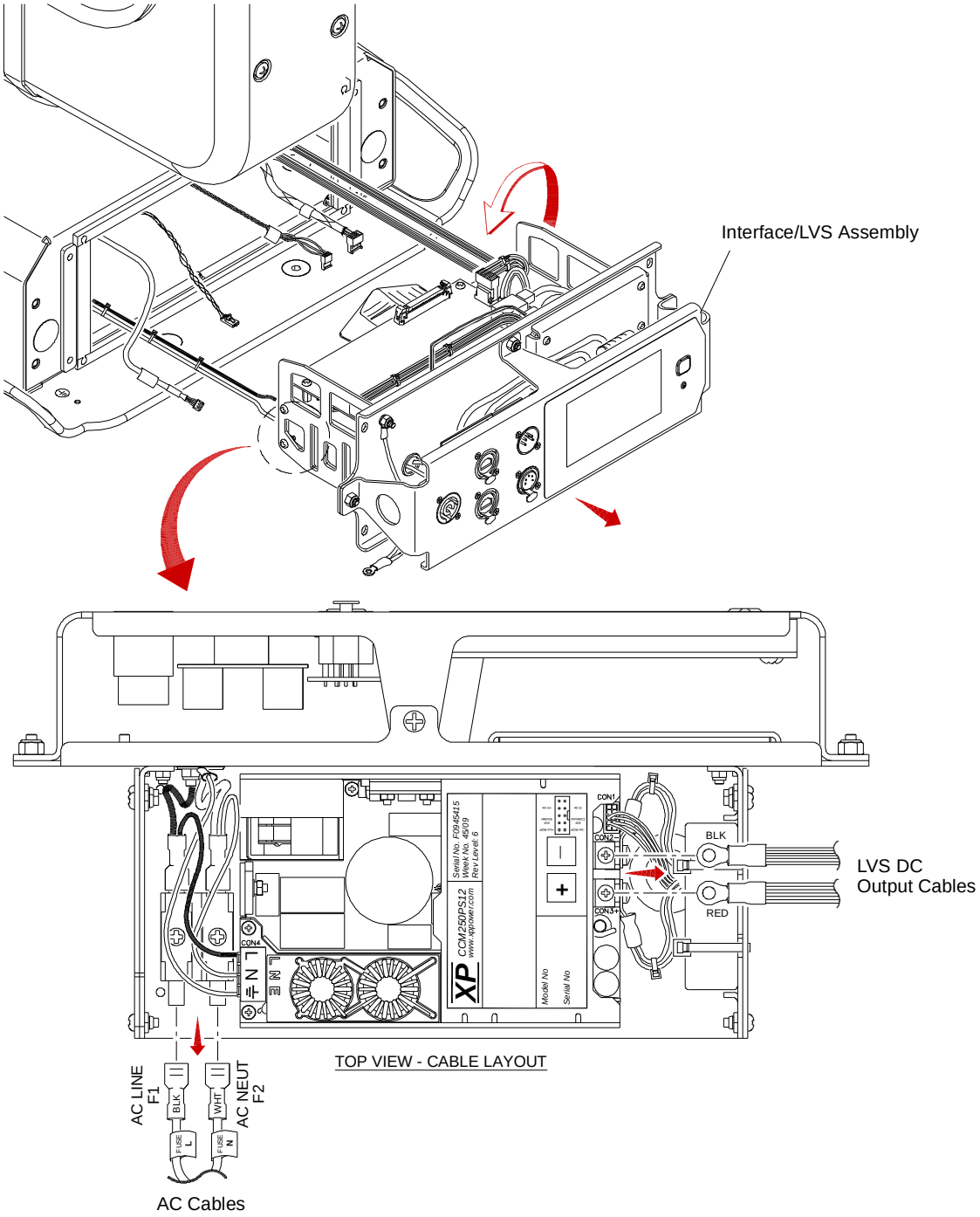


Figure 3-38: Removing Interface/LVS Assembly

Replacing LVS Fuses

Parts:

70.3773.0001.0 2 EA FUSE, 1/4" X 1-1/4" 250V 15A SLO-BLO

Tools & Supplies:

#2 Phillips screwdriver
5/32" Allen wrench, T-handle

WARNING: Remove power from luminaire before performing any maintenance procedures.

To replace LVS fuses:

Step 1. Remove power from luminaire.

Step 2. Remove Interface/LVS Assembly . (Refer to "Replacing Interface/LVS Assembly" on page 69.)

Step 3. At LVS Power Supply, remove two 250V 15A Fuses.

Step 4. Replace Fuses by doing steps in reverse.

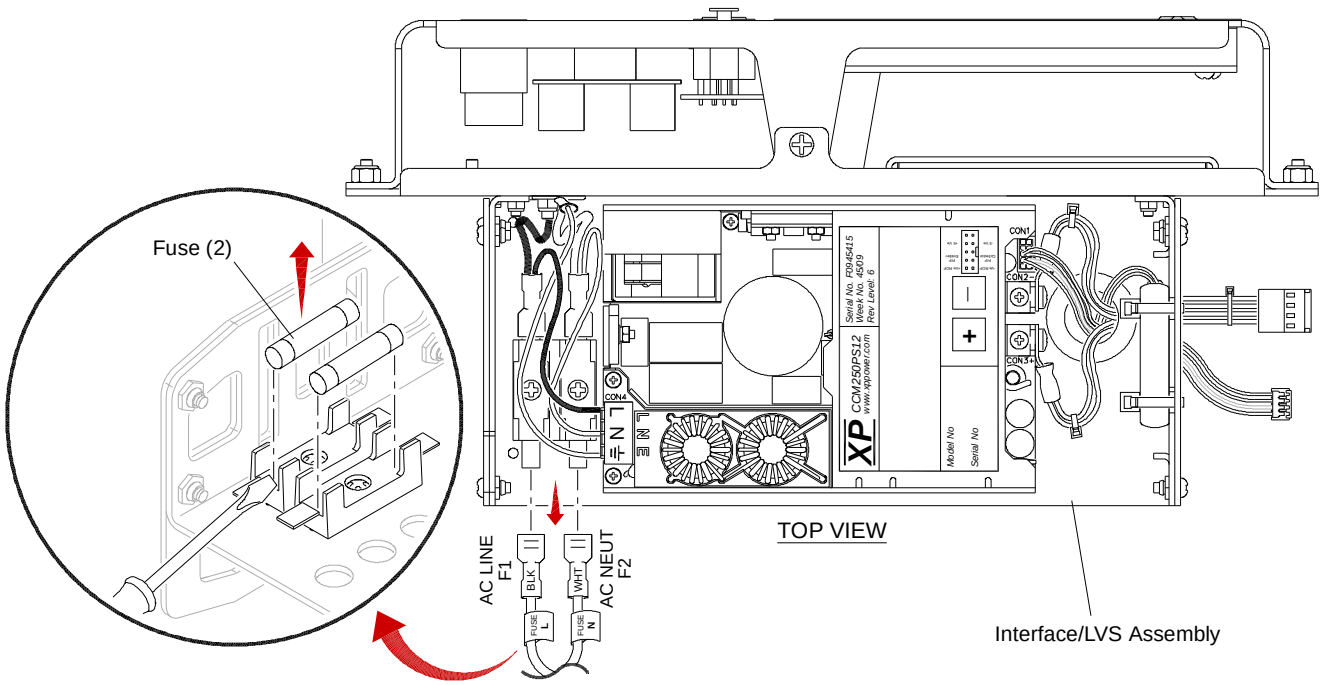


Figure 3-39: Replacing LVS Fuses

Replacing Upper Enclosure Chassis Fan

Parts:

25.9815.0092 / 2.PRG-2598150992 1 EA CABLE ASSY, UE CHASSIS FAN 24V

Tools & Supplies:

#2 Phillips screwdriver
5/32" Allen wrench, T-bar

WARNING: Remove power from luminaire before performing any maintenance procedures.

To replace the upper enclosure chassis fan:

Step 1. Remove power from luminaire.

Step 2. Pull Interface/LVS Assembly out of enclosure enough to disconnect Upper Enclosure Fan Cable (Fan 2). Refer to procedure in "Replacing Interface/LVS Assembly" on page 69 and **Figure 3-40** below.

Step 3. Remove Ballast Assembly. Refer to "Replacing Ballast Assembly" on page 66 and **Figure 3-40**.

Step 4. Locate Upper Enclosure Fan behind Ballast Assembly (**Figure 3-41**).

Step 5. Remove Upper Enclosure Fan by removing two 6-32 x 1-1/4" PPB screws.

Step 6. Install new Upper Enclosure Fan by doing steps in reverse.

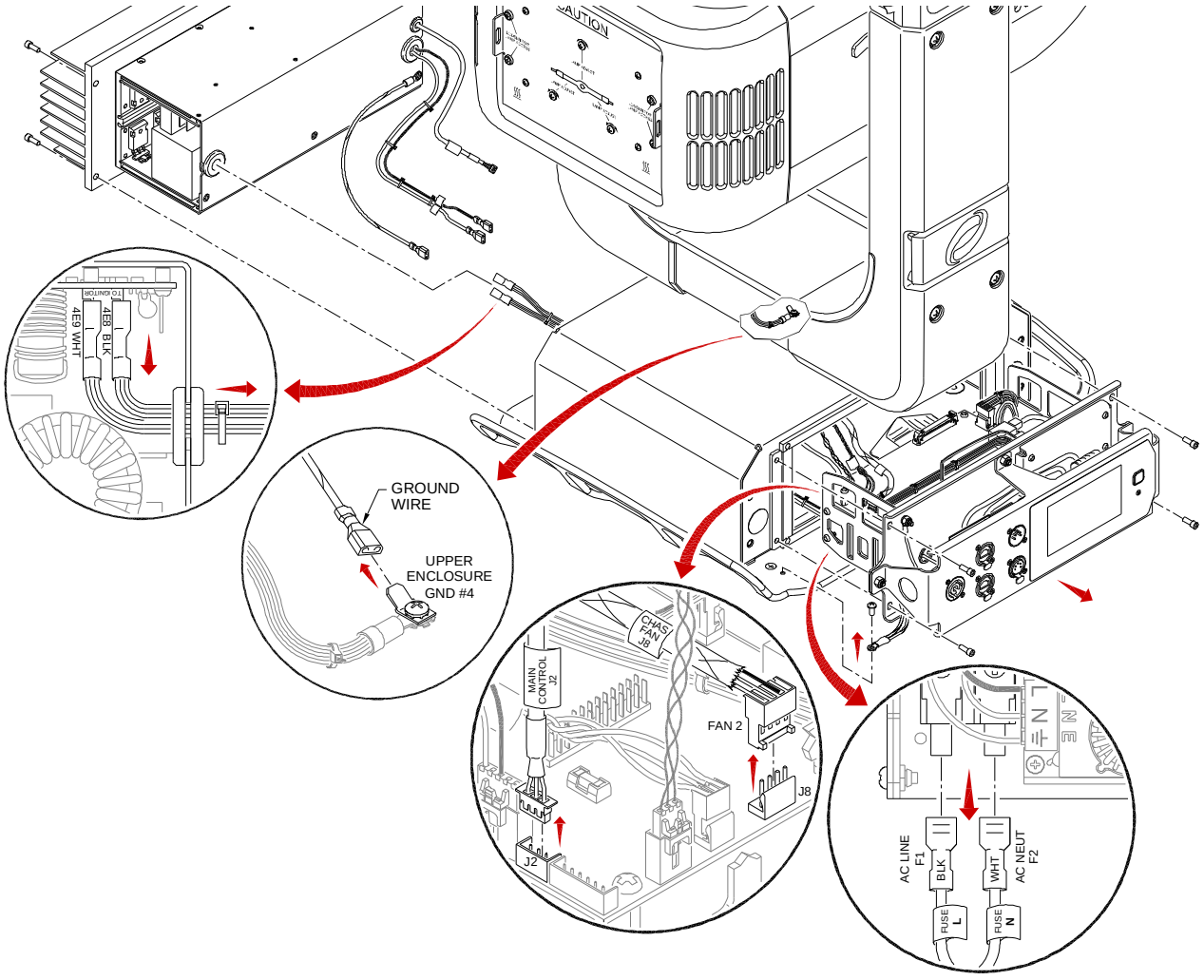


Figure 3-40: Removing Interface/LVS and Ballast Assemblies and Disconnecting Wiring

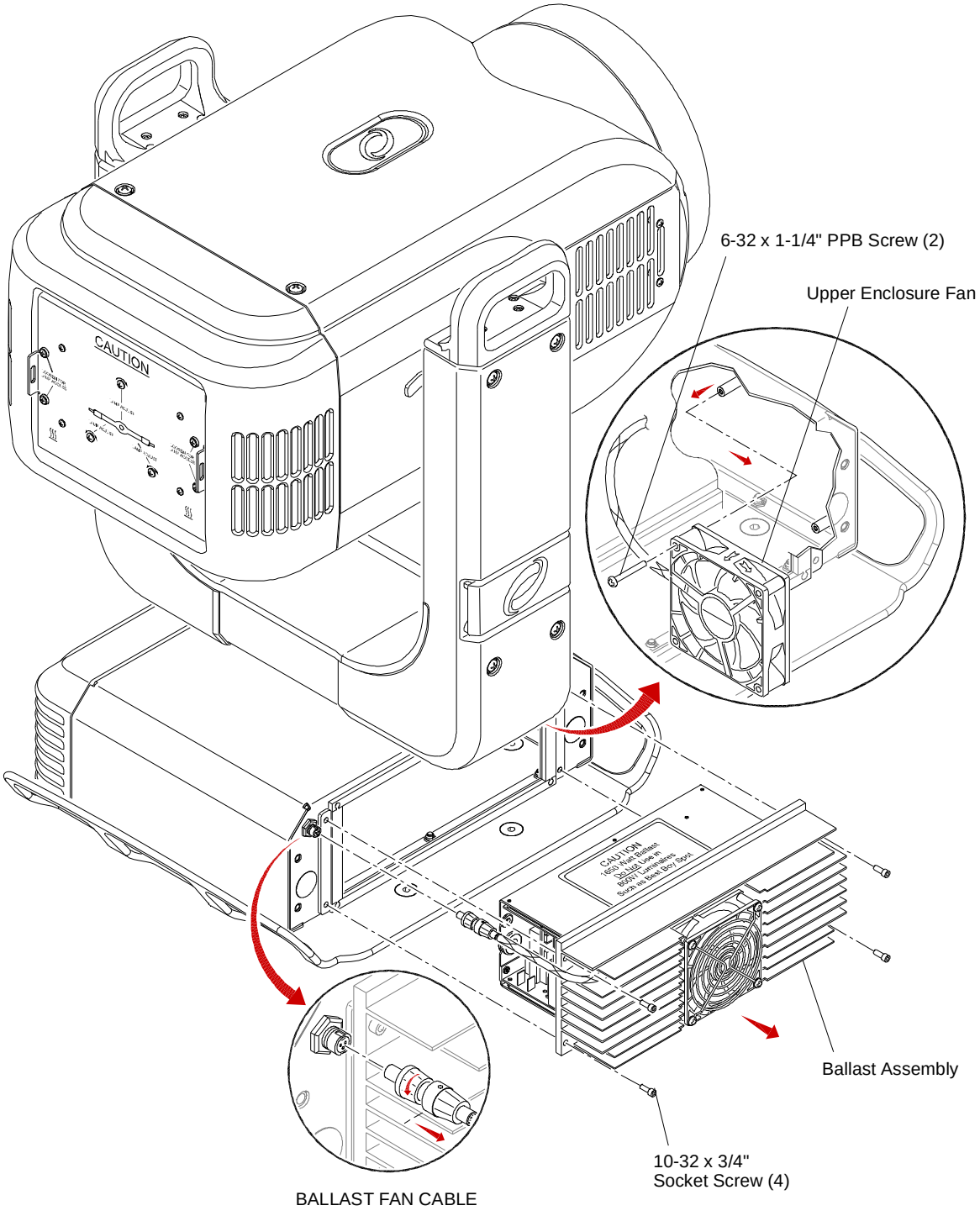


Figure 3-41: Replacing Upper Enclosure Chassis Fan

Replacing Head Over-Temperature (HOT) Relay

Parts:

23.9812.3327 / 2.PRG-2398123327 1 EA ASSY, HOT RELAY

Tools & Supplies:

#2 Phillips screwdriver
Loctite #425 (06.6008.0003)

WARNING: Remove power from luminaire before performing any maintenance procedures.

To replace HOT relay:

Step 1. Remove power from luminaire.

Step 2. Remove Pan-Side Yoke Leg Cover. (Refer to "Removing Yoke Leg Covers" on page 25.)

Step 3. At HOT Relay, disconnect six wires (**Figure 3-42**).

Step 4. Remove HOT Relay by removing two 6-32 x 3/16" PPSS screws.

Step 5. Replace HOT Relay by doing steps in reverse. Apply Loctite 425 to screws.

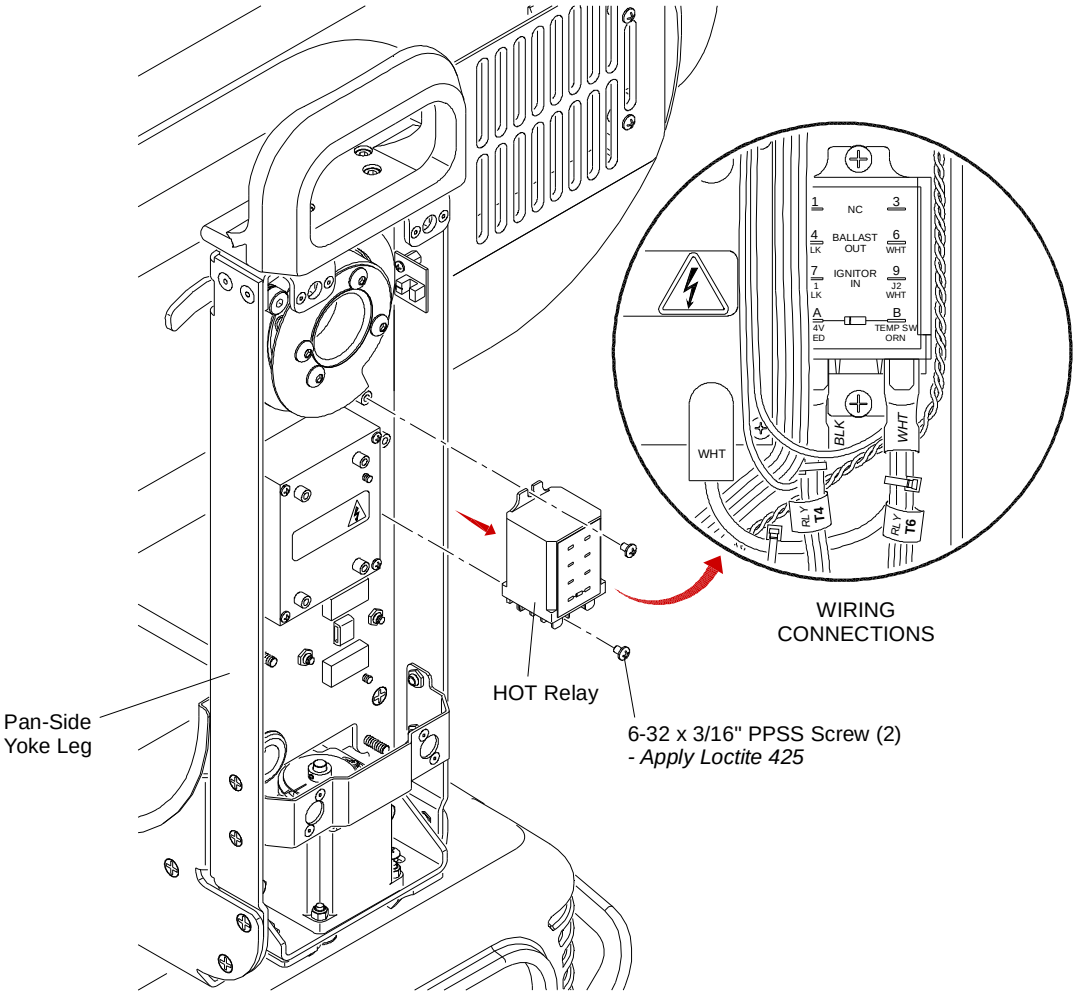


Figure 3-42: Replacing HOT Relay

Replacing Ignitor

Parts:

12.9815.0787 / 2.PRG-1298150787 1 EA IGNITOR, MODIFIED

Tools & Supplies:

#1 and #2 Phillips screwdrivers
Loctite #425 (06.6008.0003)

WARNING: Remove power from luminaire before performing any maintenance procedures.

To replace ignitor:

Step 1. Remove power from luminaire.

Step 2. Remove Pan-Side Yoke Leg Cover. (Refer to "Removing Yoke Leg Covers" on page 25.)

Step 3. At Ignitor, remove rubber safety caps and disconnect four wires (**Figure 3-43**).

Step 4. Remove Ignitor by removing four 4-40 x 1-3/8" PPZ screws.

Note: Be sure to orient the new Ignitor correctly. Markings on the side indicate wiring "To Lamp" and "To Ballast."

Step 5. Replace Ignitor by doing steps in reverse. Apply Loctite 425 to screws.

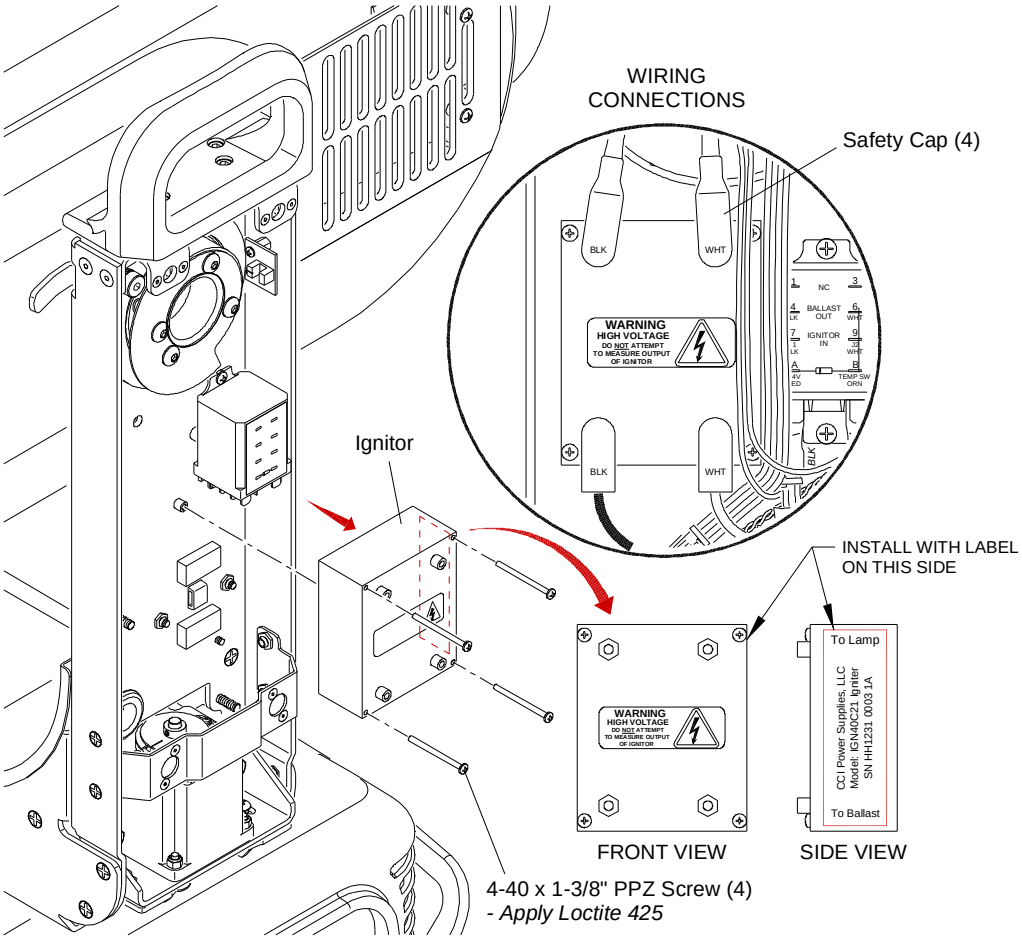


Figure 3-43: Replacing Ignitor

Replacing Yoke PCB

Parts:

24.9815.0766 / 2.PRG-2498150766 1 EA PCB ASSY, YOKE

Tools & Supplies:

#2 Phillips screwdriver

WARNING: Remove power from luminaire before performing any maintenance procedures.

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

To replace Yoke PCB:

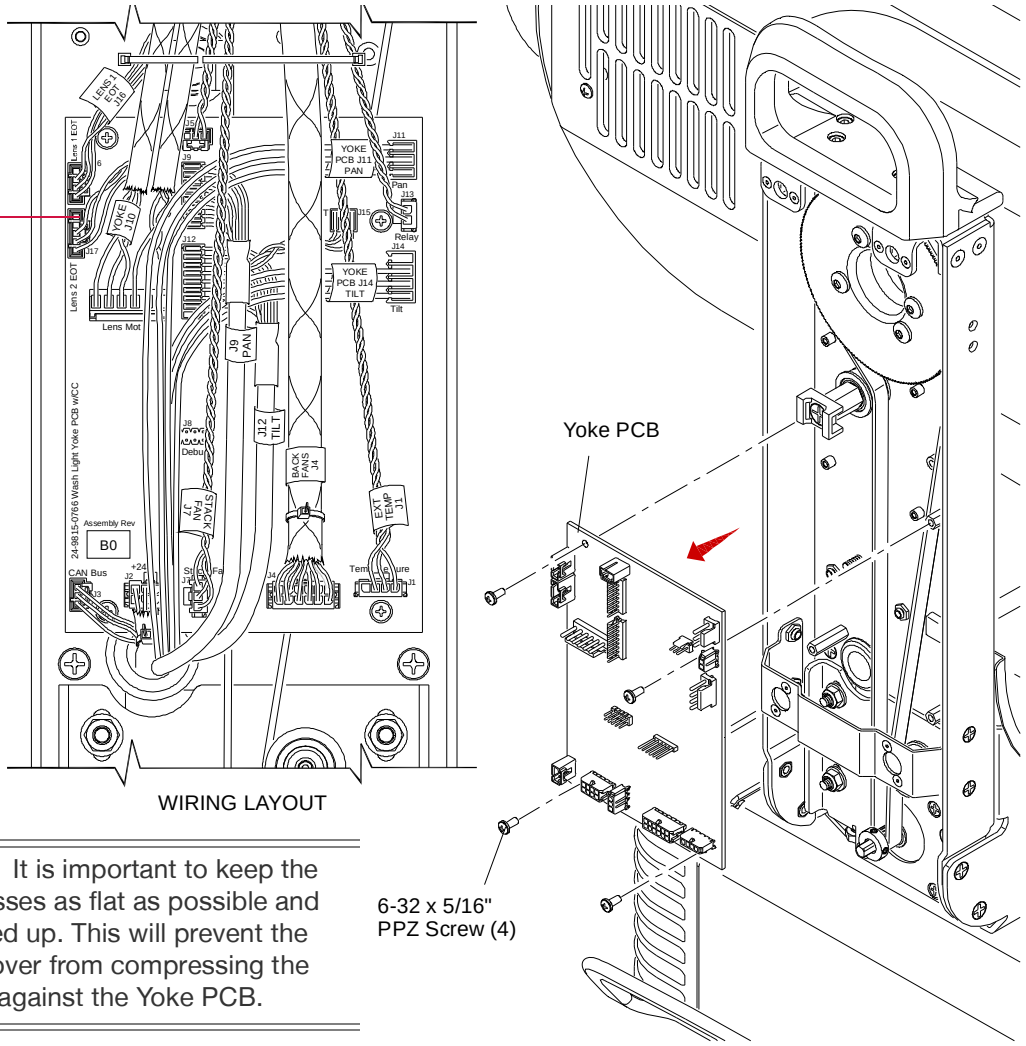
Step 1. Remove power from luminaire.

Step 2. Remove Tilt-Side Yoke Leg Cover. (Refer to "Removing Yoke Leg Covers" on page 25.)

Step 3. At Yoke PCB, disconnect all wiring (**Figure 3-44**).

Step 4. Remove Yoke PCB by removing four 6-32 x 5/16" PPZ screws.

Step 5. Replace Yoke PCB by doing steps in reverse.



CAUTION: It is important to keep the wire harnesses as flat as possible and not bunched up. This will prevent the yoke leg cover from compressing the harnesses against the Yoke PCB.

Figure 3-44: Replacing Yoke PCB

Replacing Tilt Drive Mechanism

Parts:

21.9815.0719 / 2.PRG-2198150719 1 EA ASSY, TILT DRIVE MECHANISM

Tools & Supplies:

#2 Phillips screwdriver
3/8" nutdriver
Wire cutters
Sonic Tension Meter
Cable Ties

WARNING: Remove power from luminaire before performing any maintenance procedures.

To replace the tilt drive mechanism:

Step 1. Remove power from luminaire.

Step 2. Remove Tilt-Side Yoke Leg Cover and Pan Shield. (Refer to "Removing Yoke Leg Covers" on page 25.)

Step 3. Remove Yoke Cover Bracket by removing four 8-32 x 1/2" PFB screws (**Figure 3-45**).

Step 4. At Tilt Drive Mechanism, disconnect Motor Cable and Encoder Cable.

Step 5. Loosen four 10-32 nylon insert nuts and move Tilt Mechanism enough so that Tilt Belt can be removed.

Step 6. To remove Tilt Mechanism, fully remove four 10-32 nylon insert nuts and #10 flat washers.

Step 7. Replace Tilt Mechanism by doing steps in reverse.

Step 8. Set proper belt tension. Refer to "Setting Pan/Tilt Belt Tension" on page 83.

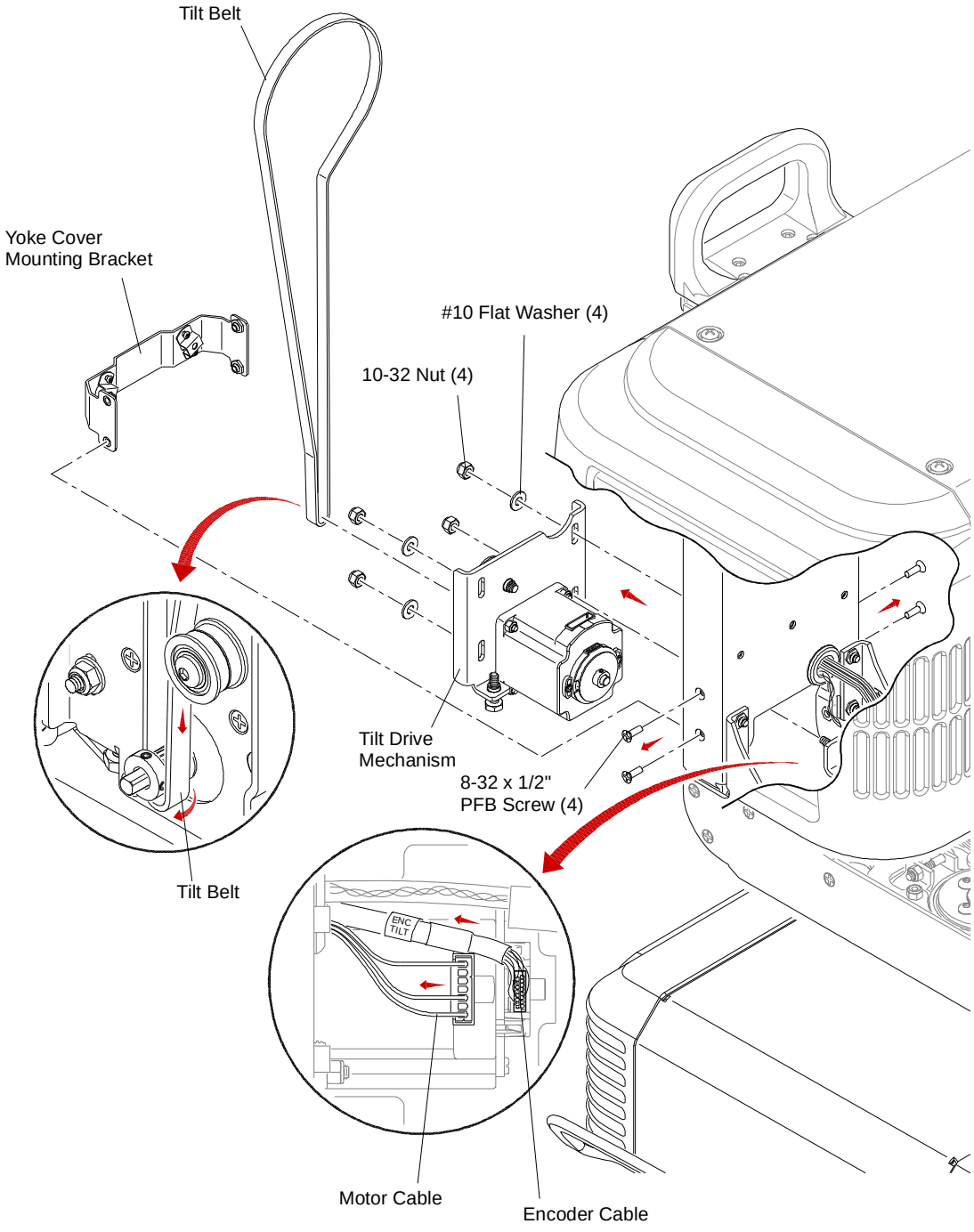


Figure 3-45: Replacing Tilt Drive Mechanism

Replacing Pan Drive Mechanism

Parts:

21.9815.0718 / 2.PRG-2198150718 1 EA ASSY, PAN DRIVE MECHANISM

Tools & Supplies:

#2 Phillips screwdriver
5/32" Allen wrench, T-handle
Sonic Tension Meter

WARNING: Remove power from luminaire before performing any maintenance procedures.

To replace pan drive mechanism:

Step 1. Remove power from luminaire.

Step 2. Remove Pan-Side Yoke Leg Cover and Pan Shield. (Refer to "Removing Yoke Leg Covers" on page 25.)

Step 3. Remove Yoke Cover Bracket by removing four 8-32 x 1/2" PFB screw (**Figure 3-46**).

Step 4. At Pan Drive Mechanism, disconnect Motor Cable and Encoder Cable.

Step 5. Loose Pan Mechanism Tension Bolts and remove Pan Belt.

Step 6. Remove Pan Drive Mechanism by removing four 8-32 x 1/2" socket head screws and #8 flat washers.

Step 7. Replace Pan Mechanism by doing steps in reverse.

Step 8. Set proper belt tension. Refer to "Setting Pan/Tilt Belt Tension" on page 83.

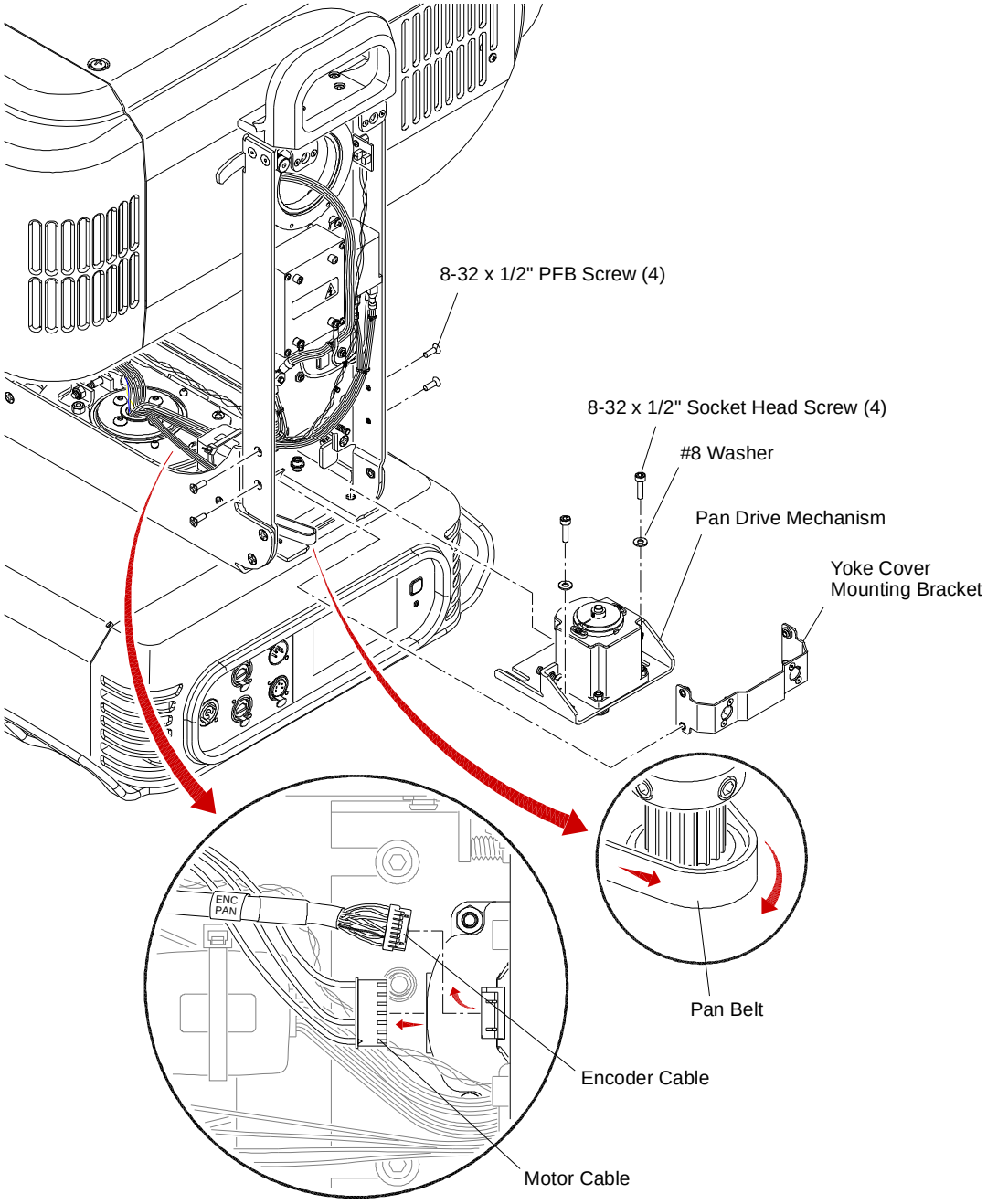


Figure 3-46: Replacing Pan Drive Mechanism

Replacing Tilt COT Sensor

Parts:

25.9815.0981 / 2.PRG-2598150981 1 EA CABLE ASSY, TILT COT SENSOR

Tools & Supplies:

#1 and #2 Phillips screwdrivers
1/4" nutdriver
Wire cutters
Loctite #242 (06.6008.0001)
Cable Ties

WARNING: Remove power from luminaire before performing any maintenance procedures.

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

To replace tilt sensor:

Step 1. Remove power from luminaire.

Step 2. Remove yoke leg covers and Pan Shield. (Refer to "Removing Yoke Leg Covers" on page 25.)

Step 3. At Yoke PCB, disconnect Tilt COT Sensor Cable (**Figure 3-47**).

Step 4. Cut cable ties which secure Tilt COT Sensor Cable to yoke and crossmember.

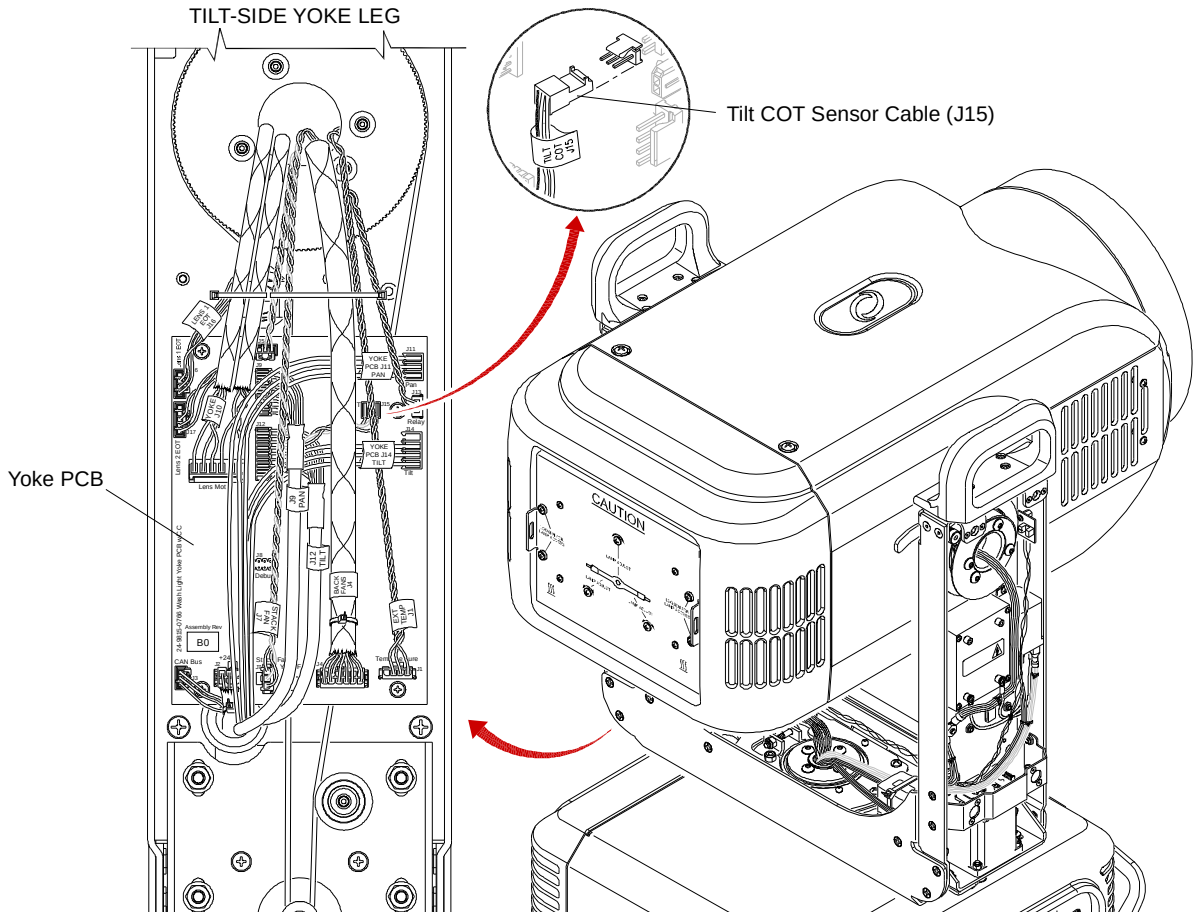


Figure 3-47: Disconnecting Tilt COT Sensor Cable

Step 5. At Pan-Side Yoke Leg, remove Tilt COT Sensor by removing two 4-40 x 1/4" PFSS screws (**Figure 3-48**).

Step 6. At Tilt COT Sensor PCB, remove two 4-40 x 1/4" PFSS screws which secure standoffs to yoke.

Step 7. Remove Tilt COT Sensor Cable Assembly from yoke.

Step 8. Remove two 1/4" Hex Standoffs from Tilt COT Sensor PCB by removing two 4-40 x 1/4" PPSS screws.

Step 9. Install 1/4" Hex Standoffs on new Tilt COT Sensor PCB, applying Loctite 242 to screws/standoffs.

Step 10. Install new Tilt COT Sensor Cable Assembly by doing steps in reverse.

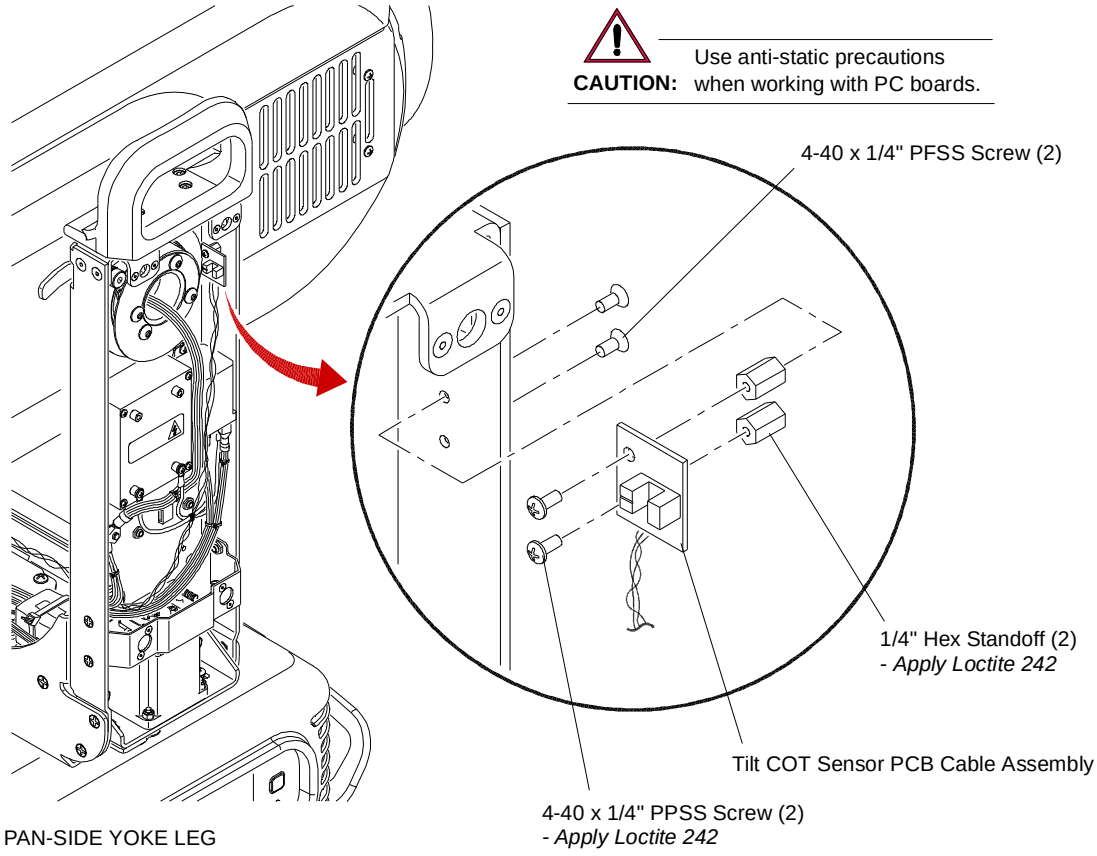


Figure 3-48: Replacing Tilt COT Sensor

Setting Pan/Tilt Belt Tension

A loose pan or tilt belt can create calibration problems. When the luminaire reaches the end of travel, excess belt slack can produce a vibration causing the encoder to continue producing a movement output signal to the processor (even though the luminaire is at its stop).

When properly set, the belt should not show bilateral deflection. Bilateral deflection may be observed by loosening the tension adjustment bolt(s) and rotating the head assembly. As the head is rotated back and forth, tension is created on one side and deflections are created on the other.

There are two ways to set proper belt tension:

1) Using a Sonic Tension Meter (recommended).

2) By manually tightening until no bilateral deflection is present.

When using the Sonic Tension Meter, it will be necessary to program separate presets for the Pan and Tilt Drive belts as follows:

Preset	Belt	Mass	Width (mm)	Span (mm)	Tension (lbs.)
6	Pan Drive	1.4	9	197	15-17
7	Tilt Drive	1.4	9	266	15-17

Tools & Supplies:

7/16" open-ended wrench
Sonic Tension Meter, Model 507C (07.3082.1052.0) - *optional*

CAUTION: Do not overtighten belt. This will break the pulley or damage the bearings.

To set belt tension using a meter:

Step 1. Set Pan and Tilt presets on the Tension Meter as given above.

Step 2. Orient head as shown in **Figure 3-49** on next page.

Step 3. Loosen motor mount screws.

Step 4. Slowly tighten belt adjustment bolt(s). Use Tension Meter to verify correct tension by strumming at the middle-point of the belt.

Step 5. Take at least three readings to confirm that results are consistent and meter is not erroneously reading background noise.

Step 6. Re-tighten motor mount screws.

CAUTION: Do not overtighten belt, pulley will break and/or bearings will fail.

To set belt tension manually:

Step 1. Orient head as shown in **Figure 3-49**.

Step 2. Manually move the luminaire head back and forth (tilt) or around (pan), noting the tension created on one side of belt and deflections on the other.

Step 3. Loosen motor mount screws.

Step 4. Using wrench, tighten belt adjustment bolt(s) until no bilateral deflection occurs.

Step 5. Re-tighten motor mount screws.

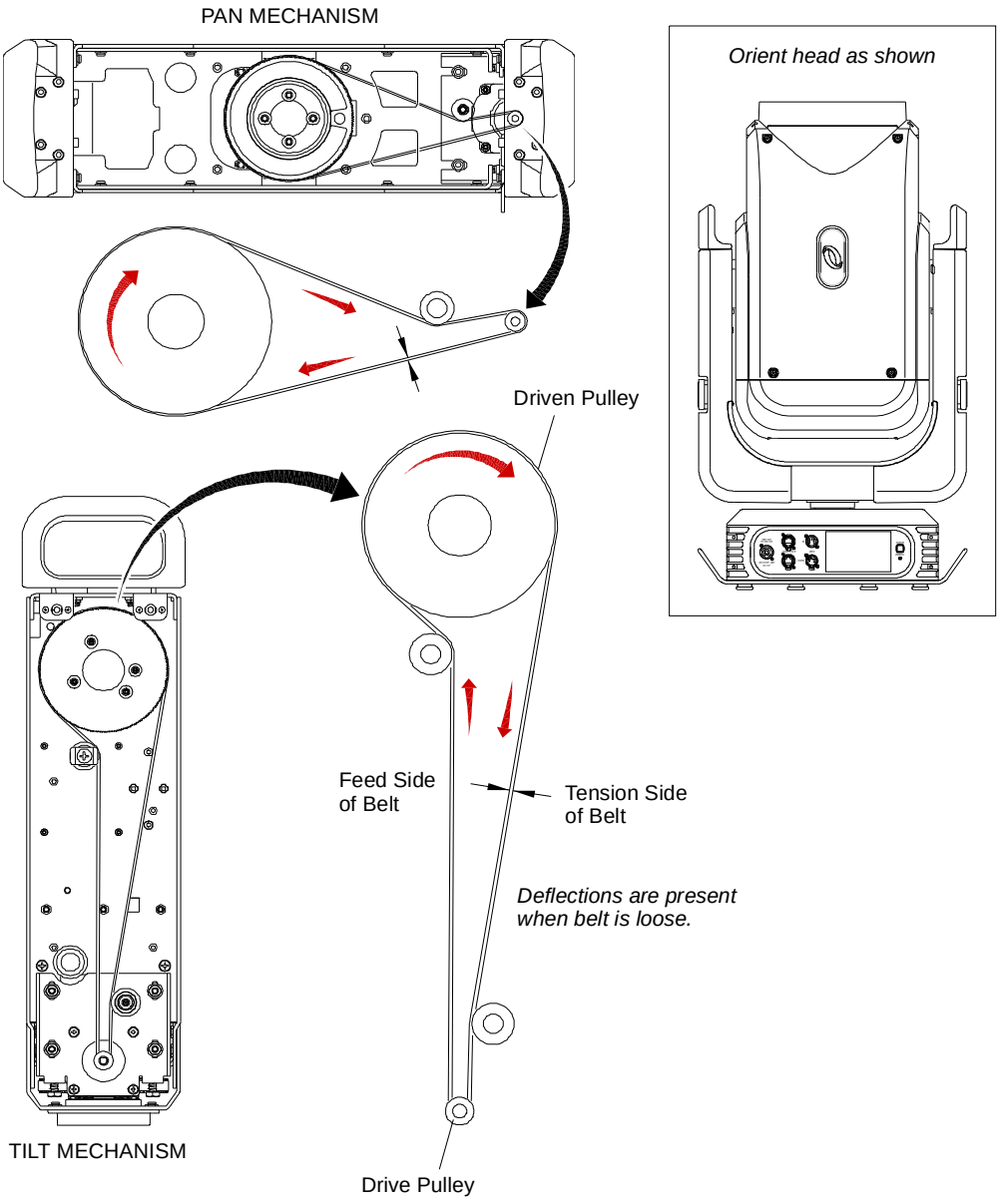


Figure 3-49: Belt Tension Adjustment

4.

ILLUSTRATED PARTS BREAKDOWN

This chapter provides illustrated parts breakdowns for all luminaire spares components.

OVERVIEW

About this IPB

The Illustrated Parts Breakdown is intended for use with Field Service of the luminaire. The items identified here are common spare components. This IPB is not a complete shop-level breakdown.

Best Boy Wash spares include the following items:

PRG P/N	TEAM Ecode	Qty Each	Description
10.9815.0661	2.PRG-1098150661	2	HEAD, AIR FILTER, FOAM
12.9815.0787	2.PRG-1298150787	1	IGNITOR, MODIFIED
20.9815.1229	2.PRG-2098151229	1	CASE, WHEEL STACK *
21.9815.0200	2.PRG-2198150200	1	ASSY, WHEEL STACK
21.9815.0810	2.PRG-2198150810	1	ASSY, BALLAST
21.9815.0811	2.PRG-2198150811	1	ASSY, INTERFACE/LVS
21.9815.0718	2.PRG-2198150718	1	ASSY, PAN DRIVE MECHANISM
21.9815.0719	2.PRG-2198150719	1	ASSY, TILT DRIVE MECHANISM
22.9815.0691	2.PRG-2298150691	2	ASSY, SAFETY LANYARD
23.9812.3327	2.PRG-2398123327	1	ASSY, HOT RELAY
24.9815.0766	2.PRG-2498150766	1	PCB ASSY, YOKE
25.9815.0994	2.PRG-2598150994	5	CABLE ASSY, HEAD FAN
25.9815.0986	2.PRG-2598150986	1	CABLE ASSY, LENS 1 EOT SENSOR
25.9815.0987	2.PRG-2598150987	1	CABLE ASSY, LENS 2 EOT SENSOR
25.9815.0981	2.PRG-2598150981	1	CABLE ASSY, TILT COT SENSOR
25.9815.0992	2.PRG-2598150992	1	CABLE ASSY, UE CHASSIS FAN 24V
25.9816.0991	2.PRG-2598160991	1	CABLE ASSY, BALLAST HEATSINK FAN
28.9812.1302	2.37493-T70	1	KIT, BAD BOY OPTICS CLEANING
28.9815.1301	2.PRG-2898151301	1	SPARES HARDWARE KIT
42.9815.0110	3749H-24	1	FRESNEL LENS
42.9815.0113	3749H-20	1	FRESNEL LENS, NARROW
42.9815.0160	2.PRG-4298150160	1	REFLECTOR, STEPPED, 40 LUNES, COATED
42.9815.0161	2.PRG-4298150161	1	RETRO-REFLECTOR, WASH
44.5036.0002.0	2.PRG-44503600020	1	MOTOR, STEPPER 3-PHASE, 42MM
44.5060.0060.0	2.PRG-44506000600	1	MOTOR, STEPPER 3-PHASE, 60MM
71.2521.0003.0	2.PRG-71252100030	1	SOCKET, LAMP OSRAM - CUSTOM BRACKET
71.2550.1500.0	2.3749H-03	1	LAMP, 15000W/D7/60 DOUBLE ENDED OSRAM
74.2003.0001.0	2.PRG-74200300010	1	SWITCH SAFETY, HIGH TEMP (DOOR CLOSURE)

* For more information about Wheel Stack Road Case, refer to "Wheel Stack Road Case Instructions" on page 23.

Torque Chart

Unless otherwise specified, torque all fasteners as called out below:

TORQUE CHART	
SCREW SIZE	TORQUE IN-LBS
2-56	2.20
4-40	4.70
6-32	8.70
8-32	17.80
10-32	29.70
1/4-20	65.00

PARTS BREAKDOWN

Covers and Included Items

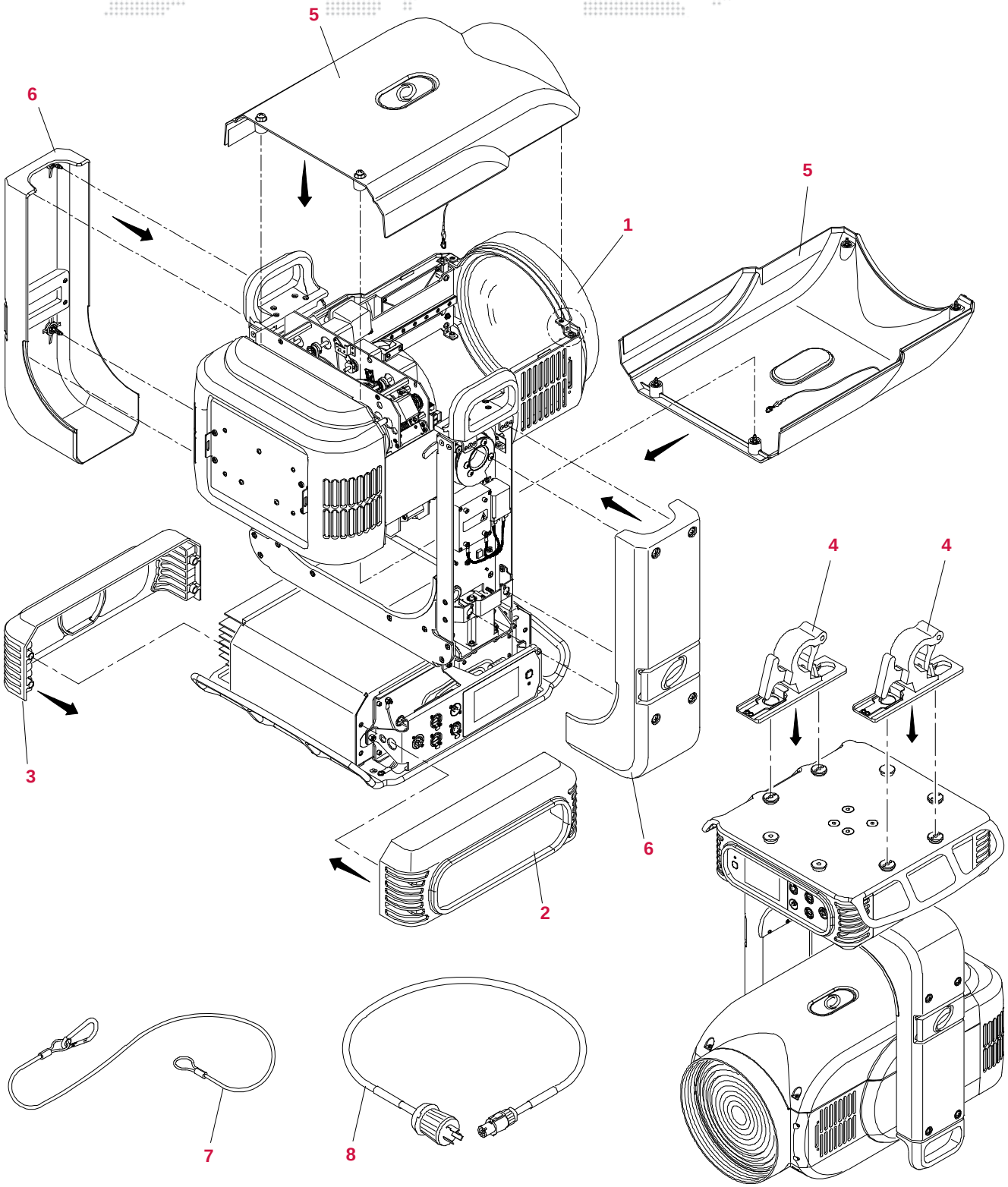
20.9815.0001

No.	PRG P/N	TEAM Ecode	Qty	UM	Description	Procedure
1	21.9815.0020	n/a	1	EA	SUB-ASSEMBLY, WASH LUMINAIRE w/o COVERS	-
2	21.9816.0820	n/a	1	EA	ASSEMBLY, UE INTERFACE COVER	page 28
3	21.9816.0830	n/a	1	EA	ASSEMBLY, UE BALLAST COVER	page 28
4	21.9816.0863	n/a	2	EA	ASSEMBLY, HOOK BRACKET	-
5	22.9815.0630	n/a	2	EA	ASSEMBLY, WASH LIGHT HEAD COVER	page 24
6	22.9815.0716	n/a	2	EA	ASSEMBLY, YOKE ARM COVER	page 25
7	22.9816.0033	n/a	1	EA	ASSEMBLY, SAFETY CABLE HEAVY DUTY	-
8	25.9812.0902.5	n/a	1	EA	CABLE ASSY, AC LINE CORD 2.5' 14/3 L6-20	-

Refer to illustration on next page.

Covers and Included Items (continued)

Refer to Parts List on previous page.



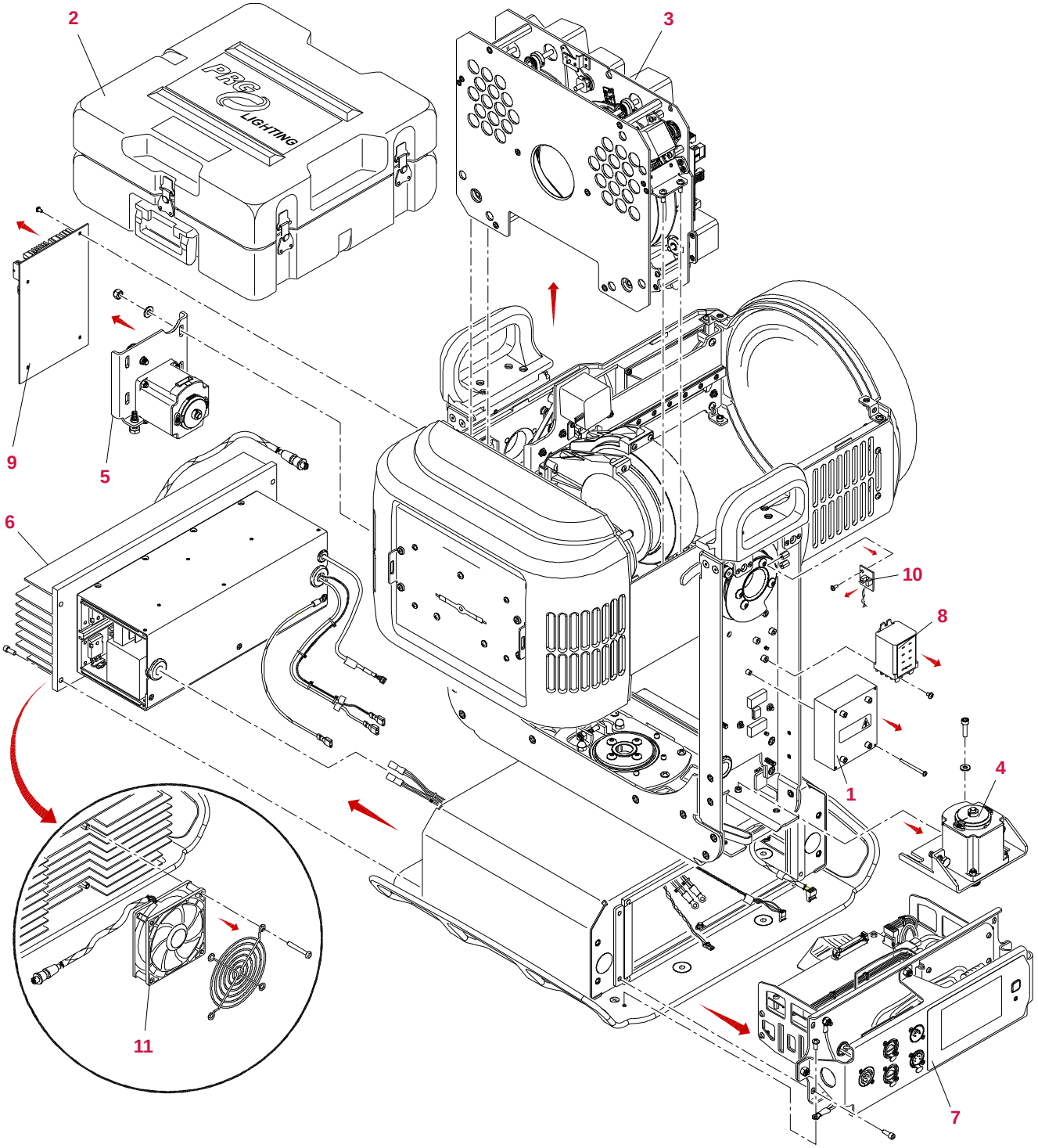
Best Boy Wash Spares

No.	PRG P/N	TEAM Ecode	Qty	UM	Description	Procedure
1	12.9815.0787	2.PRG-1298150787	1	EA	IGNITOR, MODIFIED	page 75
2	20.9815.1229	2.PRG-2098151229	1	EA	CASE, WHEEL STACK	page 23
3	21.9815.0200	2.PRG-2198150200	1	EA	ASSY, WHEEL STACK	page 44
4	21.9815.0718	2.PRG-2198150718	1	EA	ASSY, PAN DRIVE MECHANISM	page 79
5	21.9815.0719	2.PRG-2198150719	1	EA	ASSY, TILT DRIVE MECHANISM	page 77
6	21.9815.0810	2.PRG-2198150810	1	EA	ASSY, BALLAST	page 66
7	21.9815.0811	2.PRG-2198150811	1	EA	ASSY, INTERFACE/LVS	page 69
8	23.9812.3327	2.PRG-2398123327	1	EA	ASSY, HOT RELAY	page 74
9	24.9815.0766	2.PRG-2498150766	1	EA	PCB ASSY, YOKE WASH LIGHT	page 76
10	25.9815.0981	2.PRG-2598150981	1	EA	CABLE ASSY, TILT COT SENSOR	page 81
11	25.9816.0991	2.PRG-2598160991	1	EA	CABLE ASSY, BALLAST HEATSINK FAN	page 68

Refer to illustration on next page.

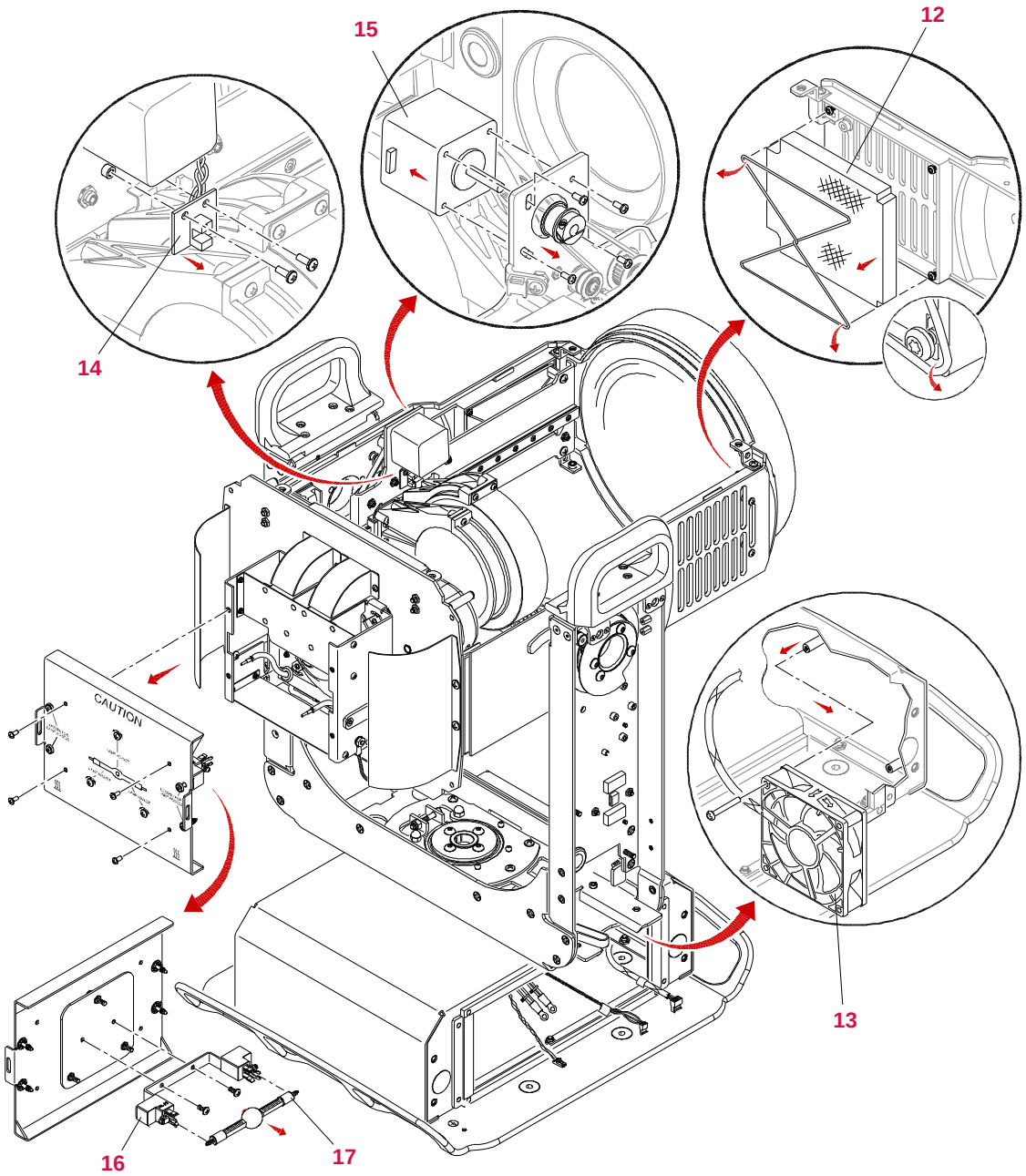
Best Boy Wash Spares (continued)

Refer to Parts List on previous page.



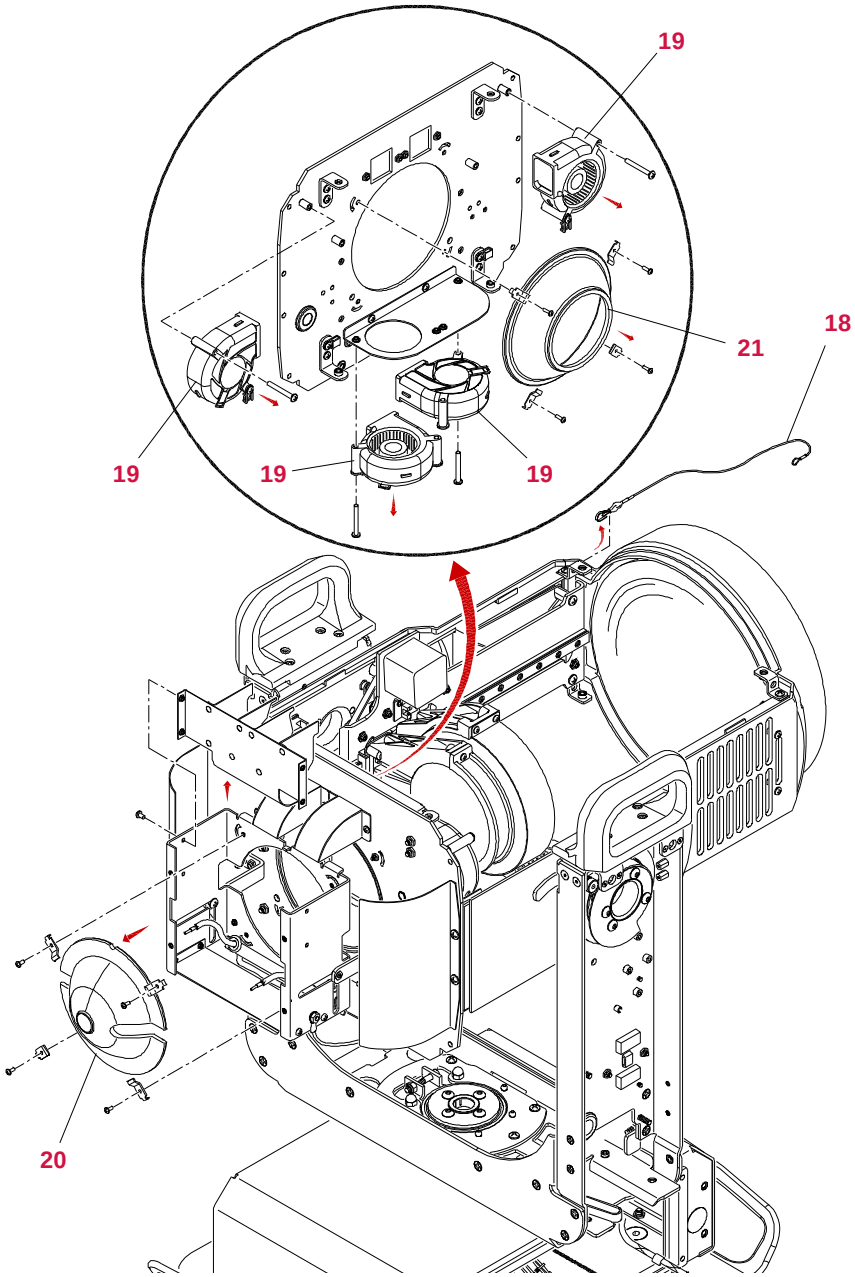
Best Boy Wash Spares (continued)

No.	PRG P/N	TEAM Ecode	Qty	UM	Description	Procedure
12	10.9815.0661	2.PRG-1098150661	1	EA	HEAD, AIR FILTER, FOAM	page 29
13	25.9815.0992	2.PRG-2598150992	1	EA	CABLE ASSY, UE CHASSIS FAN 24V	page 72
14	25.9815.0987	2.PRG-2598150987	1	EA	CABLE ASSY, LENS 2 EOT SENSOR	page 64
15	44.5036.0002.0	2.PRG-44503600020	1	EA	MOTOR, STEPPER 3-PHASE, 42MM	page 58
16	71.2521.0003.0	2.PRG-71252100030	1	EA	SOCKET, LAMP OSRAM - CUSTOM BRACKET	page 42
17	71.2550.1500.0	2.3749H-03	1	EA	LAMP, 15000W/D7/60 OSRAM	page 34



Best Boy Wash Spares (continued)

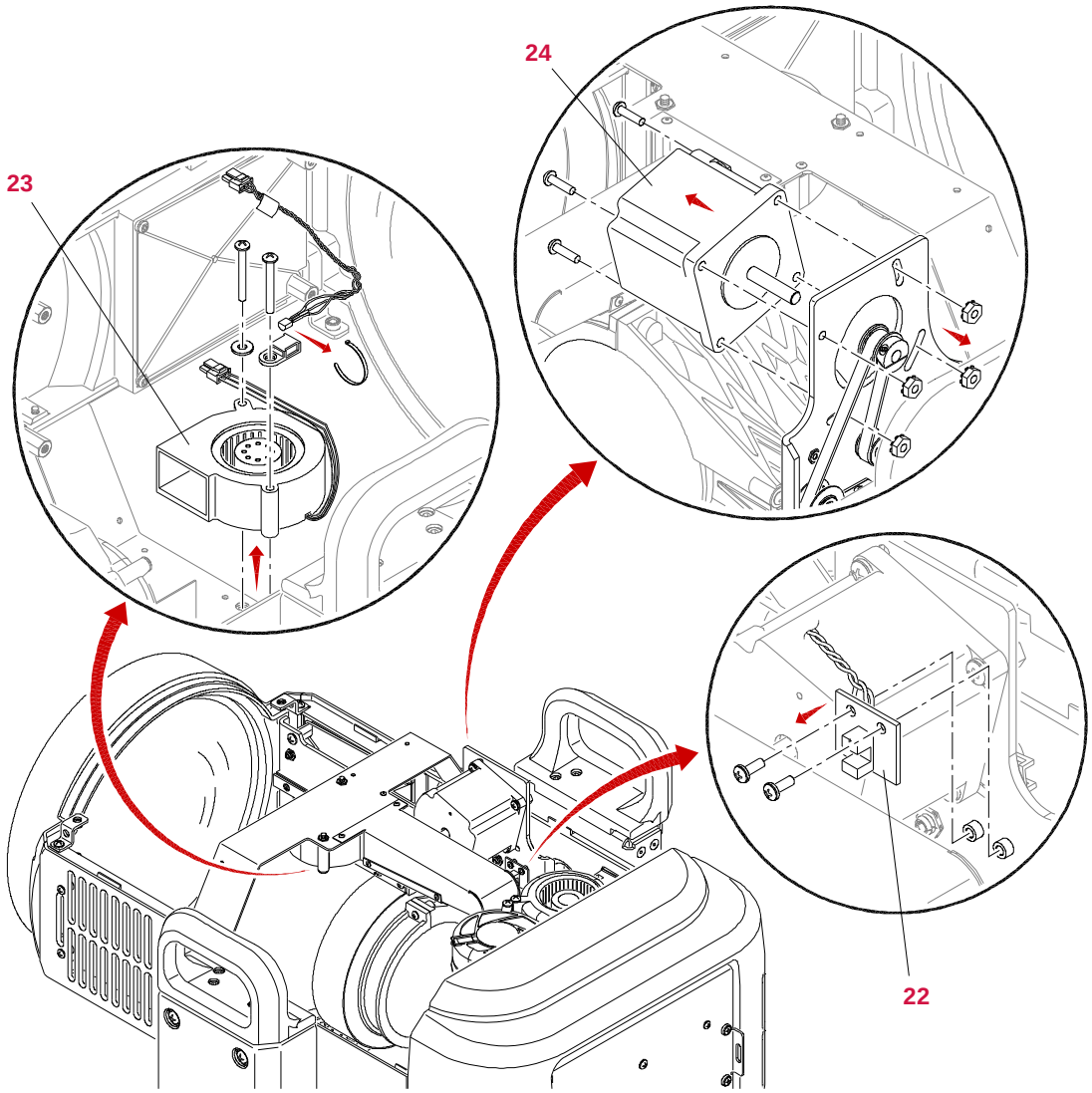
No.	PRG P/N	TEAM Ecode	Qty	UM	Description	Procedure
18	22.9815.0691	2.PRG-2298150691	2	EA	ASSY, SAFETY LANYARD	-
19	25.9815.0994	2.PRG-2598150994	4	EA	CABLE ASSY, HEAD FAN (BACK) *	page 47
20	42.9815.0160	2.PRG-4298150160	1	EA	REFLECTOR, STEPPED, 40 LUNES, COATED	page 54
21	42.9815.0161	2.PRG-4298150161	1	EA	RETRO-REFLECTOR, WASH	page 56



* See additional Head Fan Cable Assy location on next page.

Best Boy Wash Spares (continued)

No.	PRG P/N	TEAM Ecode	Qty	UM	Description	Procedure
22	25.9815.0986	2.PRG-2598150986	1	EA	CABLE ASSY, LENS 1 EOT SENSOR	page 62
23	25.9815.0994	2.PRG-2598150994	1	EA	CABLE ASSY, HEAD FAN (BOTTOM) *	page 45
24	44.5060.0060.0	2.PRG-44506000600	1	EA	MOTOR, STEPPER 3-PHASE, 60MM	page 60



* See additional Head Fan Cable Assy locations on previous page.

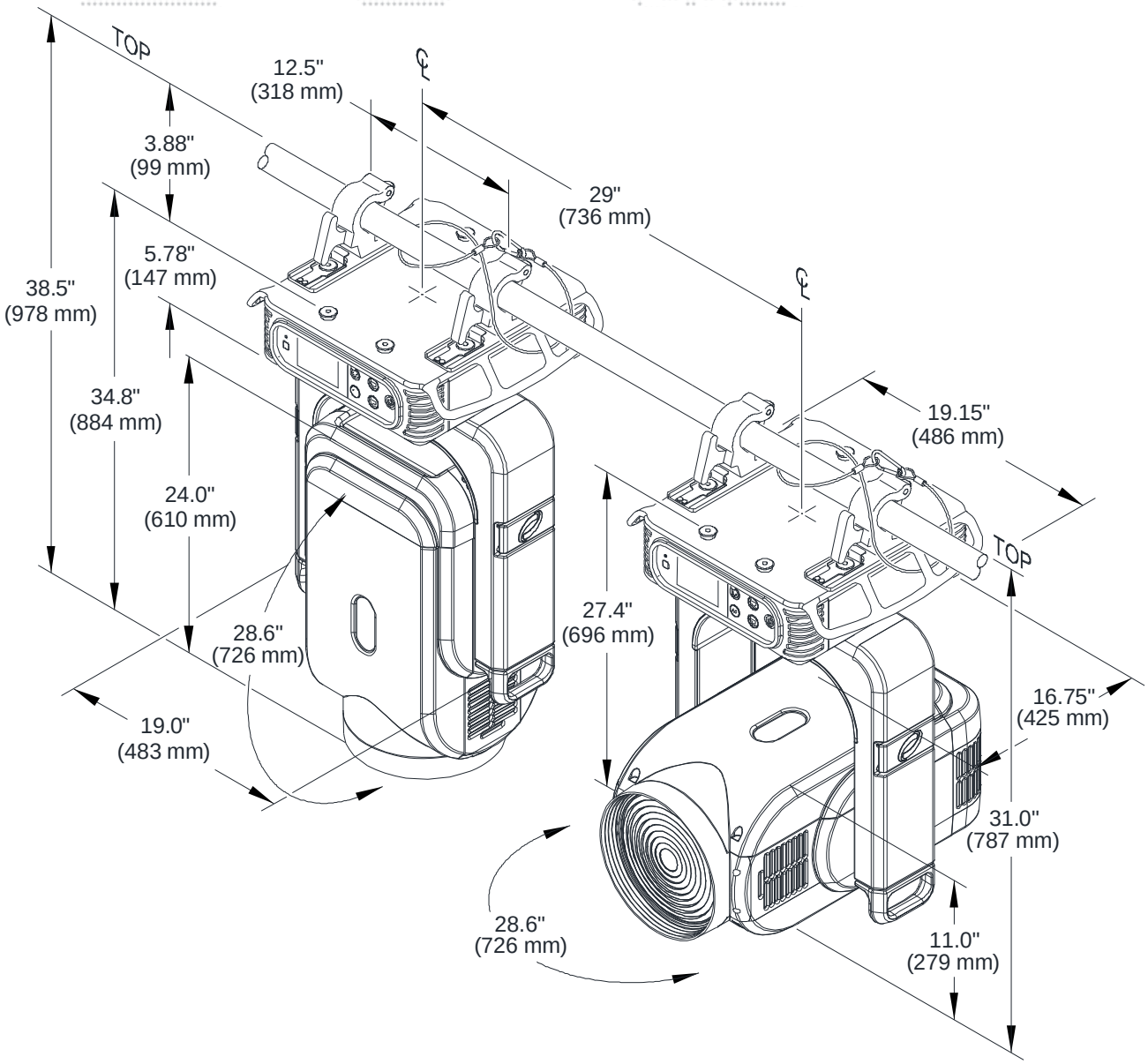
A.

TECHNICAL SPECIFICATIONS

+ BEST BOY WASH LUMINAIRE
+ BEST BOY WASH ROAD CASE

Best Boy Wash Luminaire

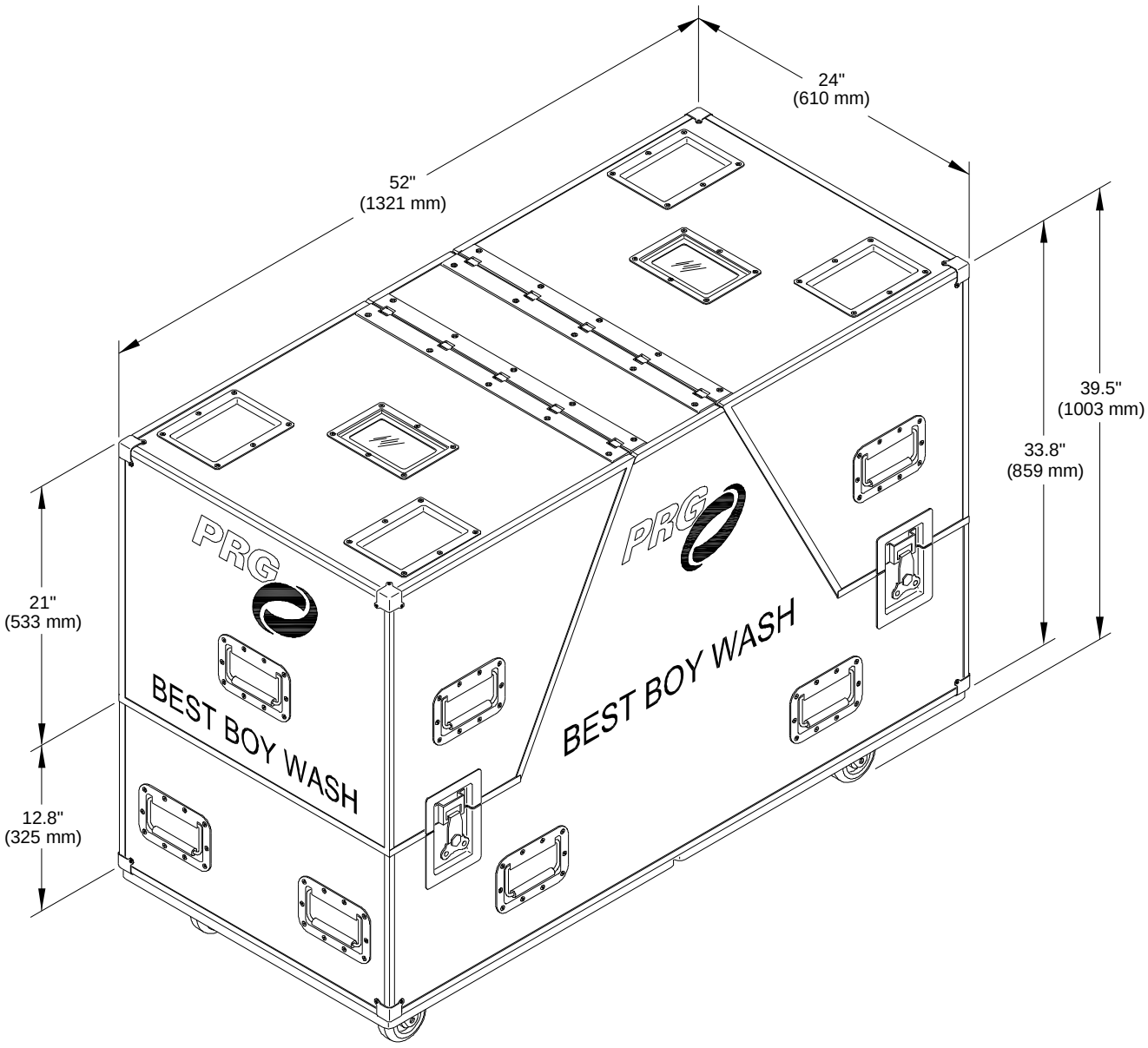
SOURCE:	HTI 1500 lamp optics optimized for 60,000 lumens
OUTPUT:	60,000+ lumens
POWER DRAW:	10.5 Amps at 208V, 8.75 Amps at 240V. Auto-sensing voltage input range is 170V to 270V.
POWER FACTOR:	0.99
REFLECTOR:	Precision glass reflector with cold mirror coating
ZOOM RANGE:	Standard Fresnel Lens - 6:1 from a narrow beam of 10° to a wide flood of 60° Narrow Fresnel Lens - 4.6:1 from a narrow beam of 8° to a wide flood of 37°
BEAM SIZE CONTROL:	In addition to the zoom optics, a mechanical iris provides continuous beam size control for both rapid changes and smooth, timed beam angle changes
DIMMING:	Gray-scale glass dimmer for full-field dimming from 0% to 100% with accurate slow-speed control and fast bumps
STROBE:	Lightning fast strobe wheel
COLOR:	CMY color system featuring three (3) crossfading color wheels of Cyan, Magenta, and Yellow, plus one (1) fixed wheel with five (5) fixed filters
COLOR TEMP CONTROL:	Adjustable color temperature wheel, range from 3,200K all the way up to 8,000K. Also includes a minus green filter on the fixed color wheel
ROTATING GOBOS:	One (1) indexable, rotating gobo wheel with four (4) gobos
OPERATING TEMP:	0° to 120°F (18° to 49°C)
CONTROL:	Compatible with all PRG consoles and a wide variety of DMX512 and Art-Net consoles
ON-BOARD CONTROL:	Built-in LCD touchscreen display allows for on-board fixture control and feedback. On-board battery power allows for the fixture address and configurations to be set without having to apply AC power to the luminaire
DMX CHANNELS:	26 channels
PAN & TILT:	Three-phase stepper motors
RANGE:	Pan - 540°, Tilt - 260°
POSITIONING:	Can be mounted in any orientation
SPACING:	Hangs on 29 inch (736 mm) centers
WEIGHT:	88 lbs (39.9 kg) without hooks


TOP
12.5"
(318 mm)
3.88"
(99 mm)
29"
(736 mm)
5.78"
(147 mm)
38.5"
(978 mm)
34.8"
(884 mm)
19.15"
(486 mm)
24.0"
(610 mm)
TOP
27.4"
(696 mm)
28.6"
(726 mm)
16.75"
(425 mm)
19.0"
(483 mm)
31.0"
(787 mm)
28.6"
(726 mm)
11.0"
(279 mm)

Best Boy Wash Road Case

EMPTY WEIGHT: 171 lbs (77.56 kg)

LOADED WEIGHT: 389 lbs (176.45 kg)



Best Boy® Wash Luminaire Field Service Manual

Version as of: April 3, 2015

PRG part number: 02.9815.0005 A

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