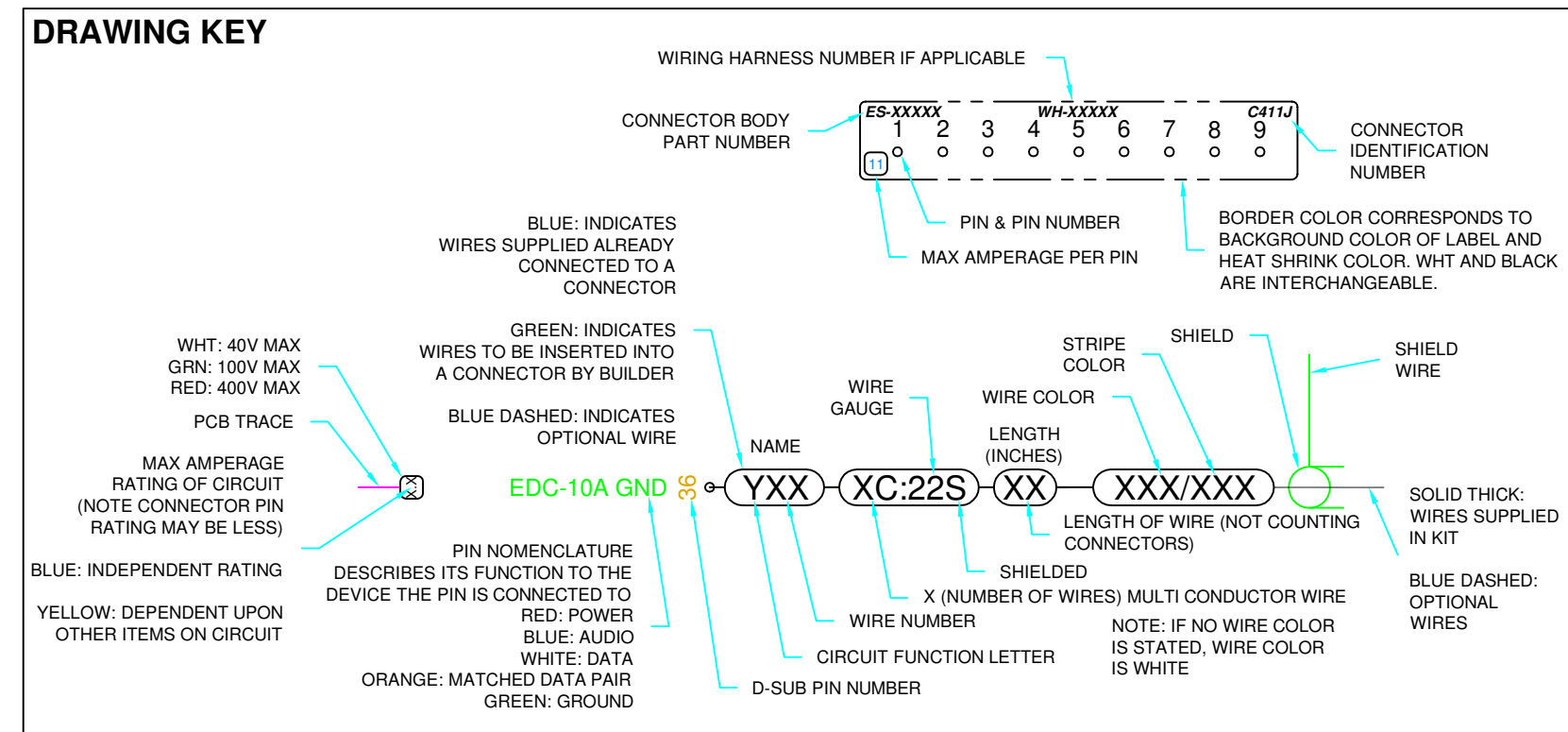


| CIRCUIT LETTER FUNCTION | |
|-------------------------|----------------------|
| LETTER | CIRCUITS |
| C | CONTROL SURFACE |
| D | INSTRUMENT |
| E | ENGINE INSTRUMENT |
| F | FLIGHT INSTRUMENTS |
| H | HEATING VENTILATING |
| J | IGNITION |
| K | ENGINE CONTROL |
| L | LIGHTING |
| P | POWER CONTROL |
| Q | FUEL |
| R | RADIO |
| RZ | HEADPHONE |
| T | SPECIAL ELECTRONIC |
| TC | RADIO CONTROL |
| TD | AIRBORNE ANNOUNCING |
| TP | BEACON |
| TQ | TRANSMITTER RECEIVER |
| W | WARNING EMERGENCY |



ELECTRICAL SYSTEM NOTES

- USE M22759/16 OR M27500 TEFZEL AIRCRAFT WIRE. CONTACT VAN'S ABOUT USING OTHER EQUIV.
- USE MIL-I-23053 HEATSHRINK. CONTACT VAN'S ABOUT USING OTHER EQUIV.
- LABEL THE FLYING LEAD OF EACH WIRE WITH THE TRUNCATED NOMENCLATURE AND WIRE NUMBER.
- CONNECT ALL 20-24 AWG WIRES TO D-SUBS USING ES-SA-1017 SOCKETS OR ES-SA-1018 PINS. PERMISSIBLE TO STRIP 18 AWG WIRE TO FIT ES-SA-1017 SOCKETS OR ES-SA-1018 PINS. ALL CRIMPS TO BE MADE PER MIL-C-22520F (1.2.2) USING A TYPE 1 TOOL.
- USE ONLY NOR-COMP BACKSHELLS ON D-SUB CONNECTORS (WITH THE EXCEPTION OF 50-PIN CONNECTORS)
- HARNESS MUST BE TESTED WITH ALL AVIONICS IN ACCORDANCE WITH THE "ELECTRICAL SYSTEM BENCH TEST PROCEDURE". RESULTS ARE TO BE SUPPLIED TO VAN'S FOR EACH HARNESS.
- CRIMPED MOLEX, TYCO, AND AMP TERMINALS ARE TO BE CRIMPED WITH THE MANUFACTURER'S RECOMMENDED CRIMPING TOOL.
- CRIMPED TERMINALS ARE TO BE INDIVIDUALLY PULL TESTED.
- DO NOT COVER WIRES WITH WIRE NET.
- HARNESSES ARE TO BE BUNDLED WITH LACING CHORD, WITH THE EXCEPTION OF BLUE TIE-WRAPPS USED AT BULKHEAD STATIONS.
- ALL 3 CONDUCTOR JACKETED NON-SHIELDED WIRE MAY BE REPLACED WITH TWISTED WIRES OF THE SAME AWG SIZE AND THE SAME WIRE COLOR.
- ADJUST SOLDER SPLICE / RING TERMINAL SIZE AS REQUIRED TO ACCOMMODATE DESIRED WIRE GAUGE(S). MAINTAIN RING TERMINAL STUD/TAB SIZE.

ELECTRICAL SYSTEM BENCH TEST PROCEDURE

Avionics Group

1. Check PFD & MFD Power On
2. SkyView Check PFD and MFD recognize a USB stick
3. Install latest software and settings per the readme files (applicable portions) on the Van's Web Site
 - a. Setup X Pndr Hex Code
 - b. Setup AP servos if installed
4. Check PFD & MFD recognize all LRU's
5. Check X pndr will transmit.
6. Check COM turns on.
7. Check PFD recognizes COM, and can push frequencies to COM radio
8. Check Backup Battery Function PFD
9. If installed check AP Control Head function (knobs function for SkyView as well)

Audio Group

1. Configure GTN 650 in accordance with "GTN 650 Internal Presets"
2. Configure GMA 245 in accordance with "GMA 245 Internal Presets"
3. Check Pilot Headset Jack
4. Check Pilot Mic Jack for Xmit
5. Check Co-Pilot Headset Jack
6. Check Co-Pilot Mic Jack for Xmit
7. If installed check XM music output to headset.

Cockpit Group

NOTE: If customer has selected the pre-wired stick option then use their control sticks

1. Check Pilot TX Button
2. Check Pilot Trim Buttons (Both Directions)
 - a. Verify proper trim direction movement on screen indicator and servo with input
3. Check Co-Pilot TX Button
4. Check Co-Pilot Trim Buttons (Both Directions)
 - a. Verify proper trim direction movement on screen indicator and servo with input
5. Check function of AP disconnect switch near throttle.
6. Check Pilot AP Disconnect Switch
7. Check Co-Pilot AP Disconnect Switch
8. Check Pilot COM Freq Swap
9. Check Co-Pilot Freq Swap
10. Check Dimmer (Note PCB portion will be checked during AV-60000 Check)
 - a. Turn on all switches. Check that all lighted switches lights turn on and dim. (Ignore wires going to cabin light.)
11. Check canopy latch switch
12. Check flap motor function both directions
13. Check for power output at USB connectors / Power Outlet

Wing Group

1. Check Stall Warning
2. Check NAV/Strobe Lights
3. Check Landing Lights (Both if applicable)
4. Check Wig Wag Function

IS Engine Group

1. Check Master Relay Switch grounds out wire going to master relay
2. Check Key switch connects HIC connector start pins
3. Check spar pin light comes on when spar pin switches are not grounded.
4. Check emergency switch provides power to Power X3 connector Pin 3
5. Check Emergency Li Bat Warn Wire turns on warning in EFIS when grounded. (NOTE Check this error)
6. Check fuel pump A and B switches for function

| REVISIONS | | | |
|-----------|---|----------|----------|
| REV | DESCRIPTION | DATE | APPROVED |
| R0 | INITIAL RELEASE | 01/24/19 | TDM |
| R1 | GEN B RING TERMINALS | 01/30/19 | TDM |
| R2 | -ADDED GTN 650 PRESETS -ROLL SERVO GROUND WIRE EXTENDED -RING TERMINAL UPSIZED FOR EFIS SWITCH & BACKUP BATT -L7258 (WHT) WAS L7019 (DUPLICATE #) | 05/01/19 | TDM |
| R3 | AV-532L CABLE RECEIVED CONNECTOR AND LENGTH SPEC | 05/06/19 | TDM |
| R4 | E6023 WIRES CROSSED AT HIC TO NEGATE AV-60009 PCB ERROR: WHT NOW LO & WHT/BLU NOW HI, ADDED OPTIONAL AITHRE SHIELD EX CO/02 DETECTOR, ADDED F7599 & F7600 FOR OPTIONAL GARMIN G5, ON F6262 & Q6300 ES 31880 WAS ES 36152. Q6300 27 WAS 40, ADDED CABIN LIGHT DIMMER, DELETE L6029, ALL WIRES TO GMC 307 EXTENDED 4 INCHES, NUMEROUS CORRECTIONS | 11/08/19 | BPM |
| R5 | CHANGED CO DETECTOR WIRING, ADDED WH-00144 | 01/06/20 | BPM |
| R6 | CORRECTED CABIN LIGHT TO OPTIONAL, CO DETECTOR WIRE COLORS TO M27500 STD | 02/14/20 | BPM |

GARMIN GTN 650 INTERNAL PRESETS

AIRINC 429 CONFIGURATION

- AIRINC 429 IN 1 LOW EFIS FORMAT 2
- AIRINC 429 IN 2 LOW OFF
- AIRINC 429 OUT 1 LOW GAMA FORMAT 1
- AIRINC 429 OUT 2 LOW OFF
- SDI LNAV 1

RS-232 CONFIGURATION (CHANNEL, INPUT, OUTPUT)

- RS-232 1 MAPMX FORMAT 2 MAPMX FORMAT 2
- RS-232 2 OFF ADS-B+ FORMAT 1
- RS-232 3 OFF OFF
- RS-232 4 CONNECT FORMAT 2 CONNEXT FORMAT 2

MAIN SYSTEM CONFIGURATION

- AIRFRAME TYPE FIXED-WING
- AIR/GROUND THRESHOLD 30KT
- AIR/GROUND DISCRETE ACTIVE FOR AIRBORNE
- GPS ANT. HEIGHT ABOVE GND 4FT
- GPS SELECT AUTO
- HEADING SRC INPUT CONNECTED
- RADIO ALTIMETER INPUT NOT CONNECTED
- ALTITUDE SRC INPUT CONNECTED
- ENHANCED LIGHTING MODE DISABLED
- CROSSFILL STATUS ALERT DISABLED
- SYSTEM ID GTN 1
- DATABASE SYNC PILOT CONTROL
- AIRSPACE LABELS ENABLED
- CHECKLIST PAGE TITLE CHECKLIST

COM CONFIGURATION

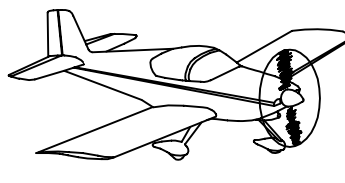
- COM RADIO ENABLED
- COM SQUELCH MODE BASIC
- COM RF SQUELCH 0%
- MIC 1 GAIN +12DB
- SIDETONE SOURCE EXTERNAL
- SIDETONE VOLUME +62.5DB

VOR/LOC/GS CONFIGURATION

- NAV RADIO ENABLED
- AIRINC 429 CONFIGURATION TX LOW SDI VOR/ILS 1

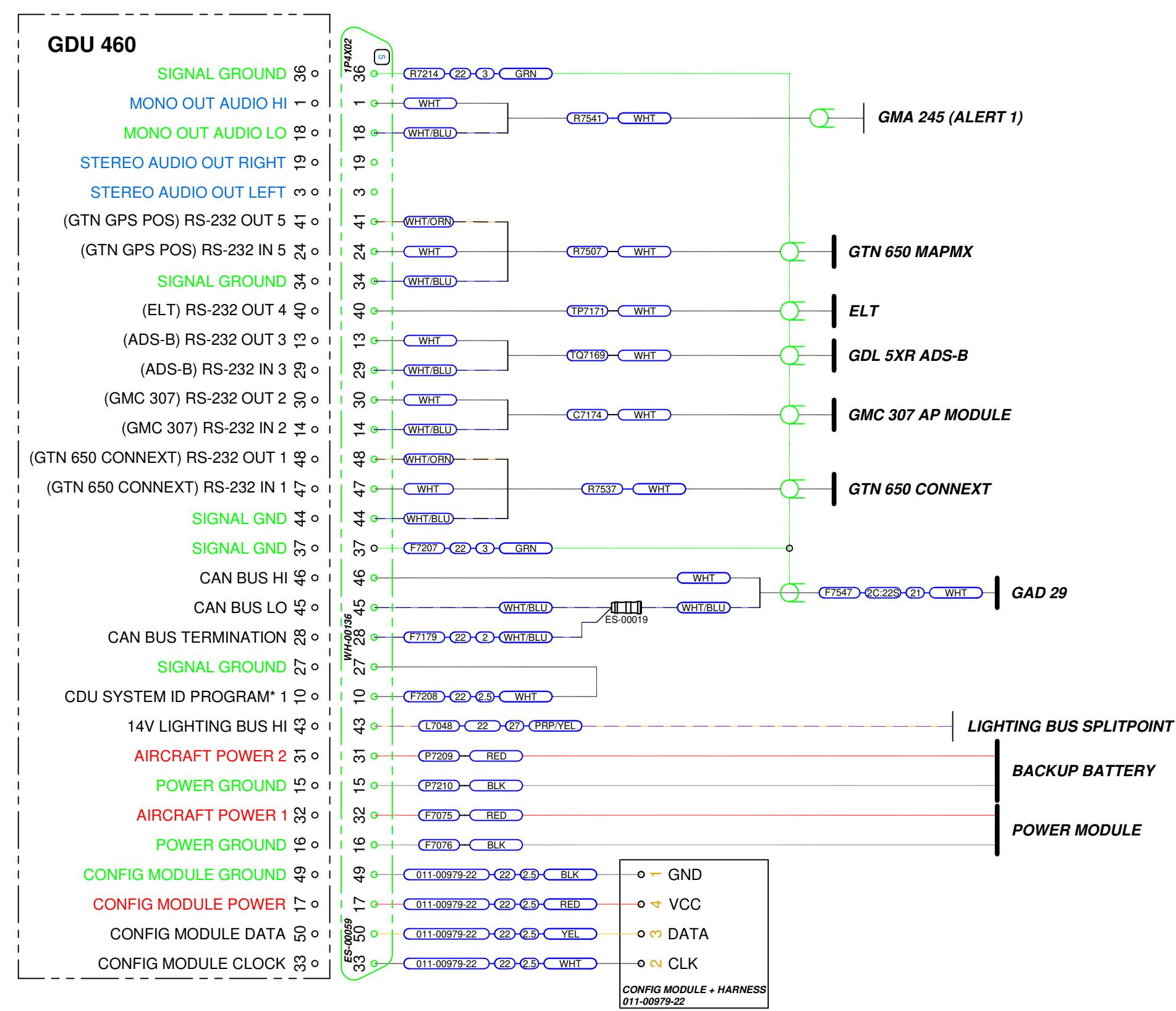
DISCRETE INPUTS

- J1001-36 REMOTE GO AROUND

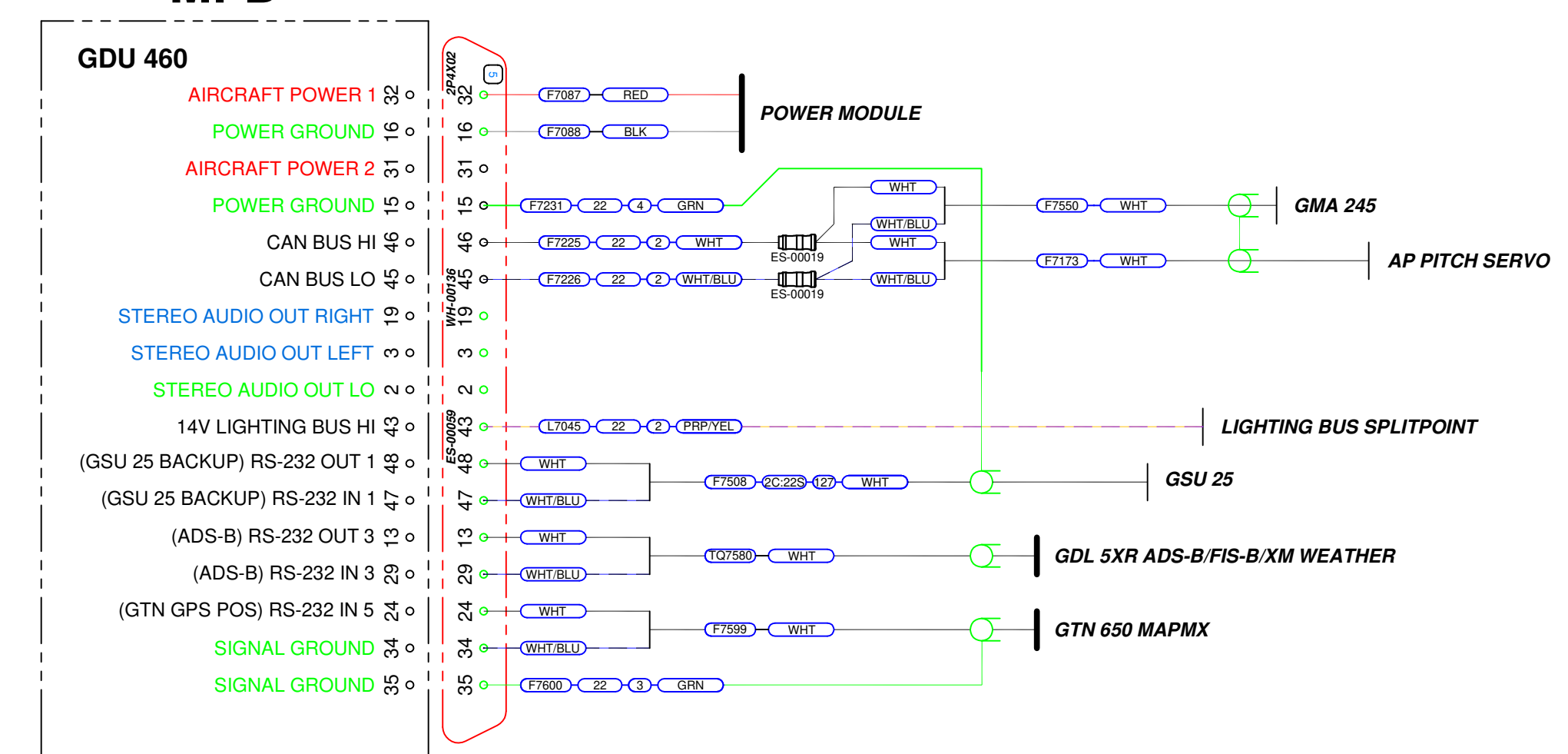
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| | ROTAX 912iS G3X NAVCOM ELECTRICAL SYSTEM | | |
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| REVISIONS | | | |
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| R6 | SEE PG 1 | | |

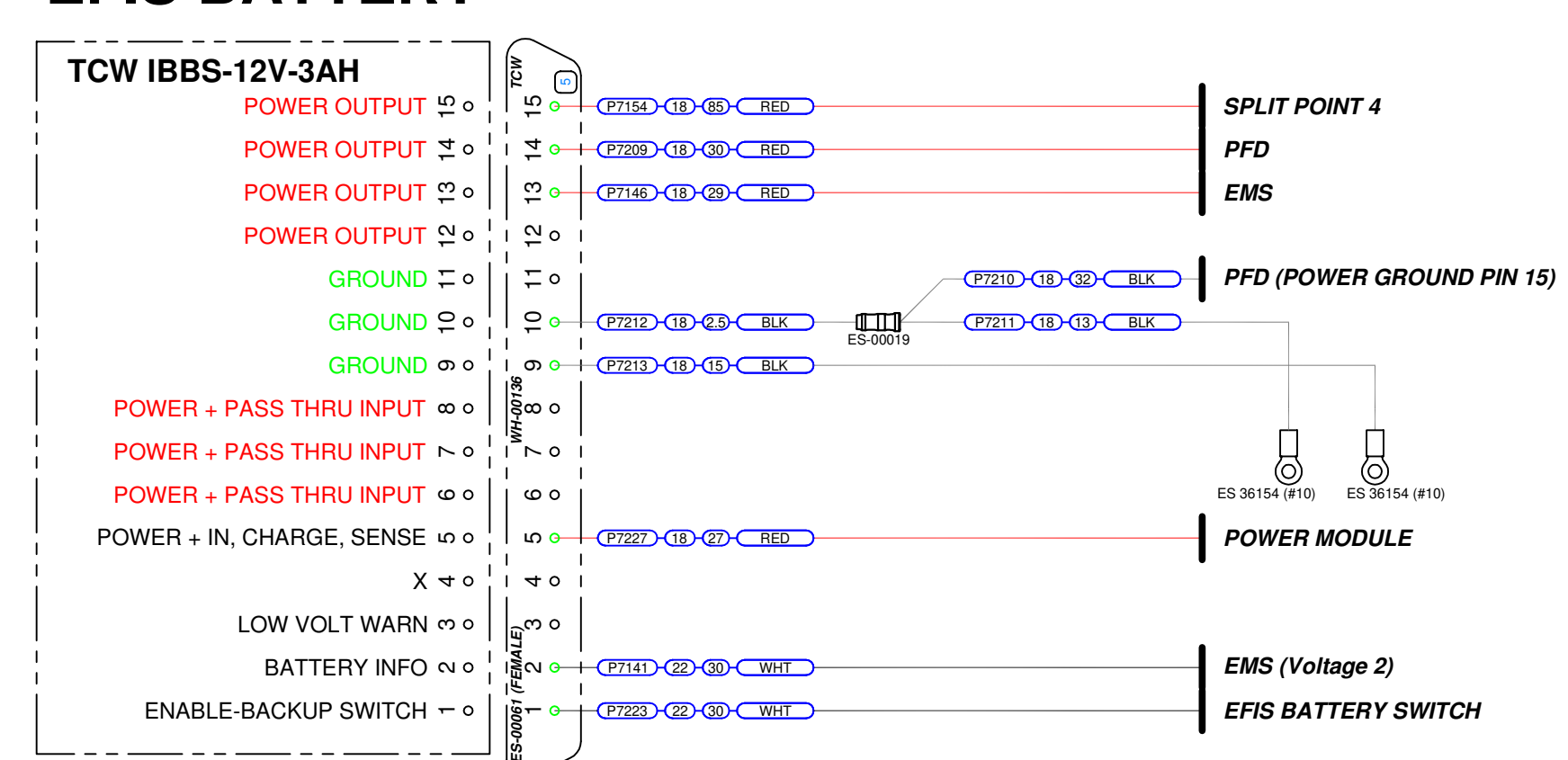
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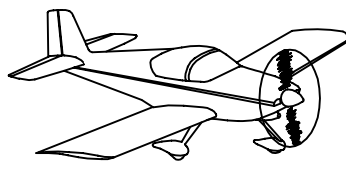


MFD



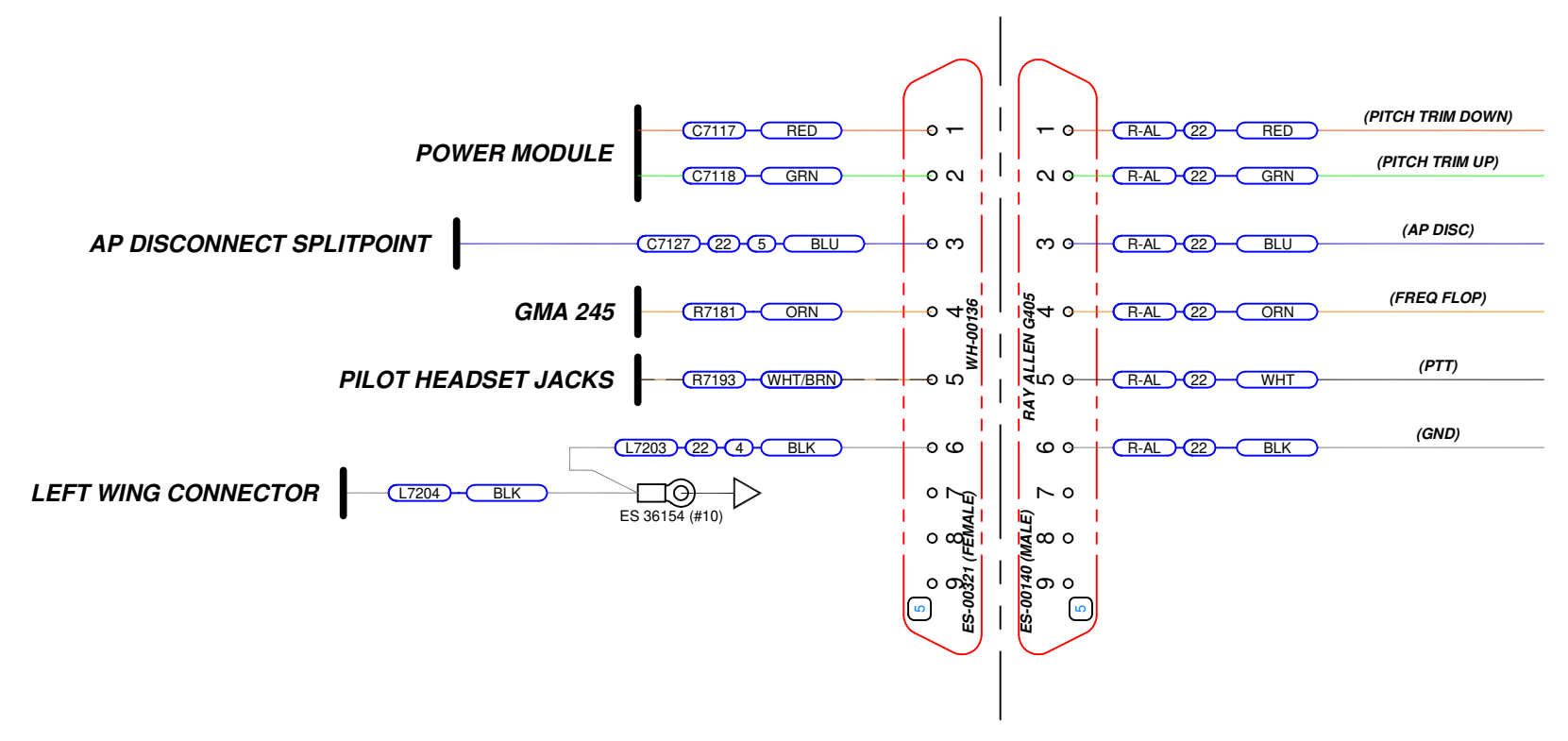
EFIS BATTERY



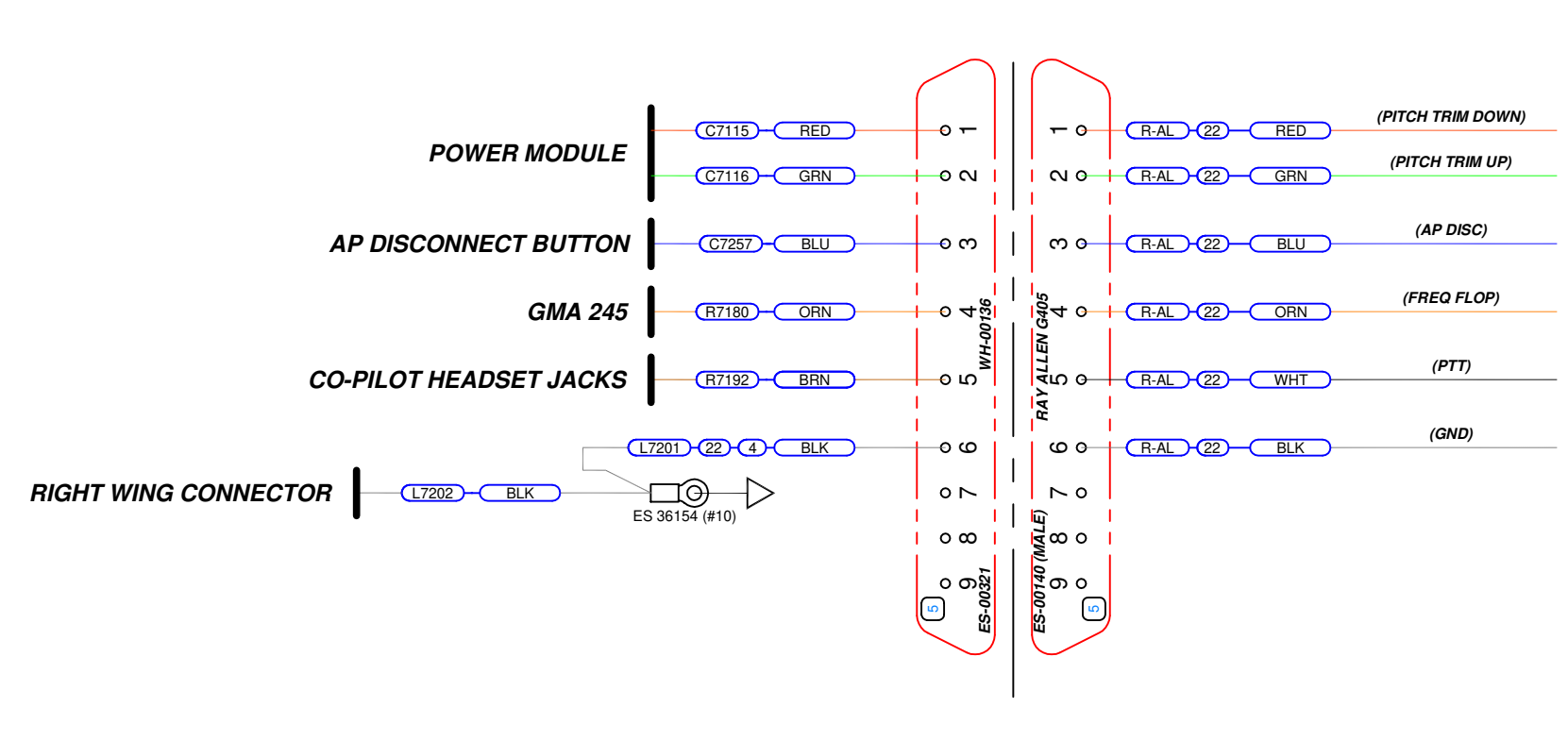
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|  | VAN'S AIRCRAFT, INC. 14401 NE KEIL RD. NE AURORA, OR 97002 USA | |
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| R6 | SEE PG 1 | | |

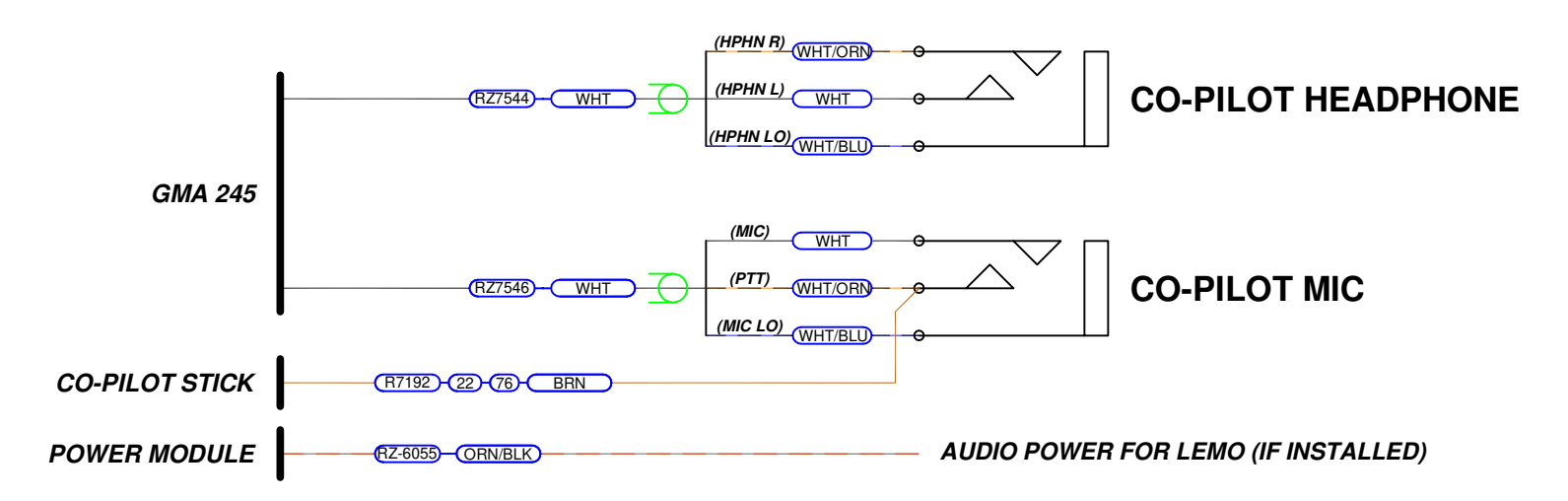
PILOT STICK GRIP



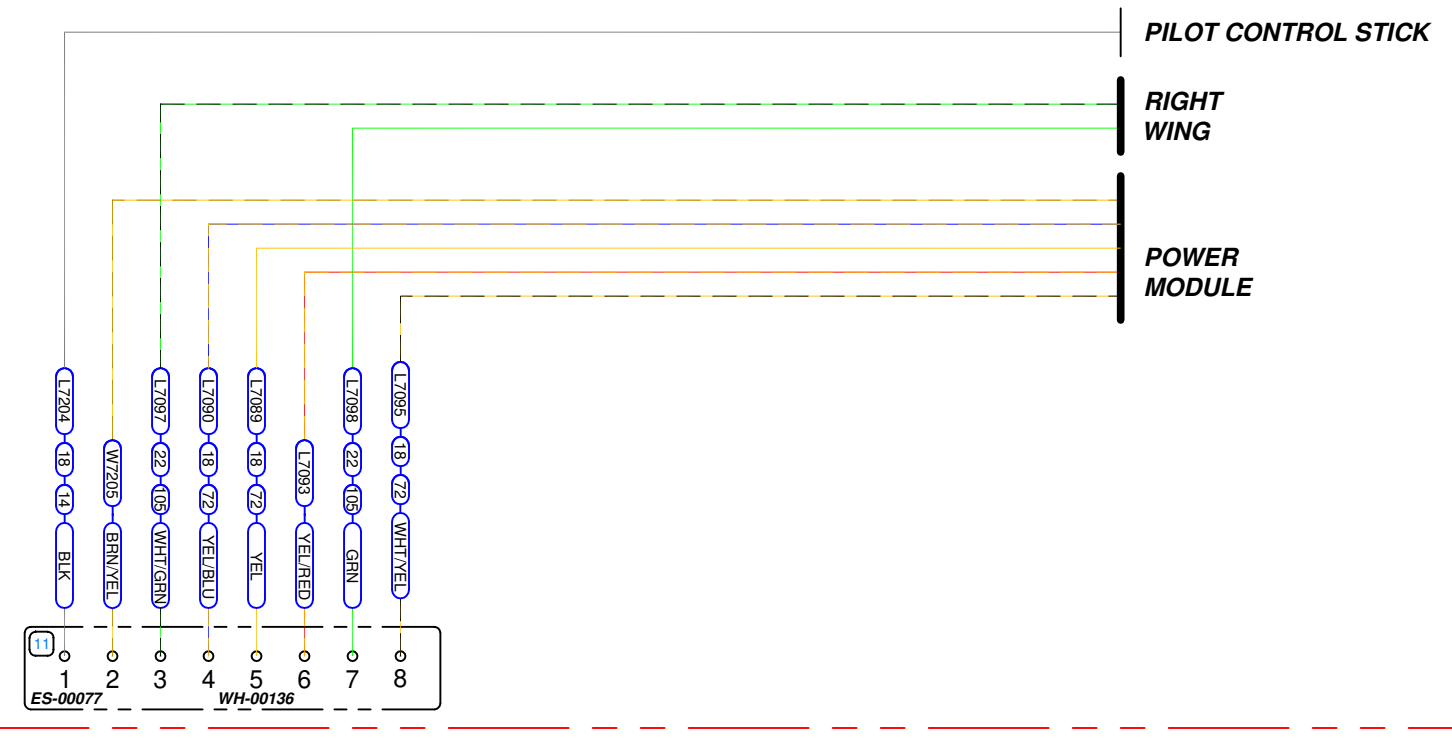
CO-PILOT STICK GRIP



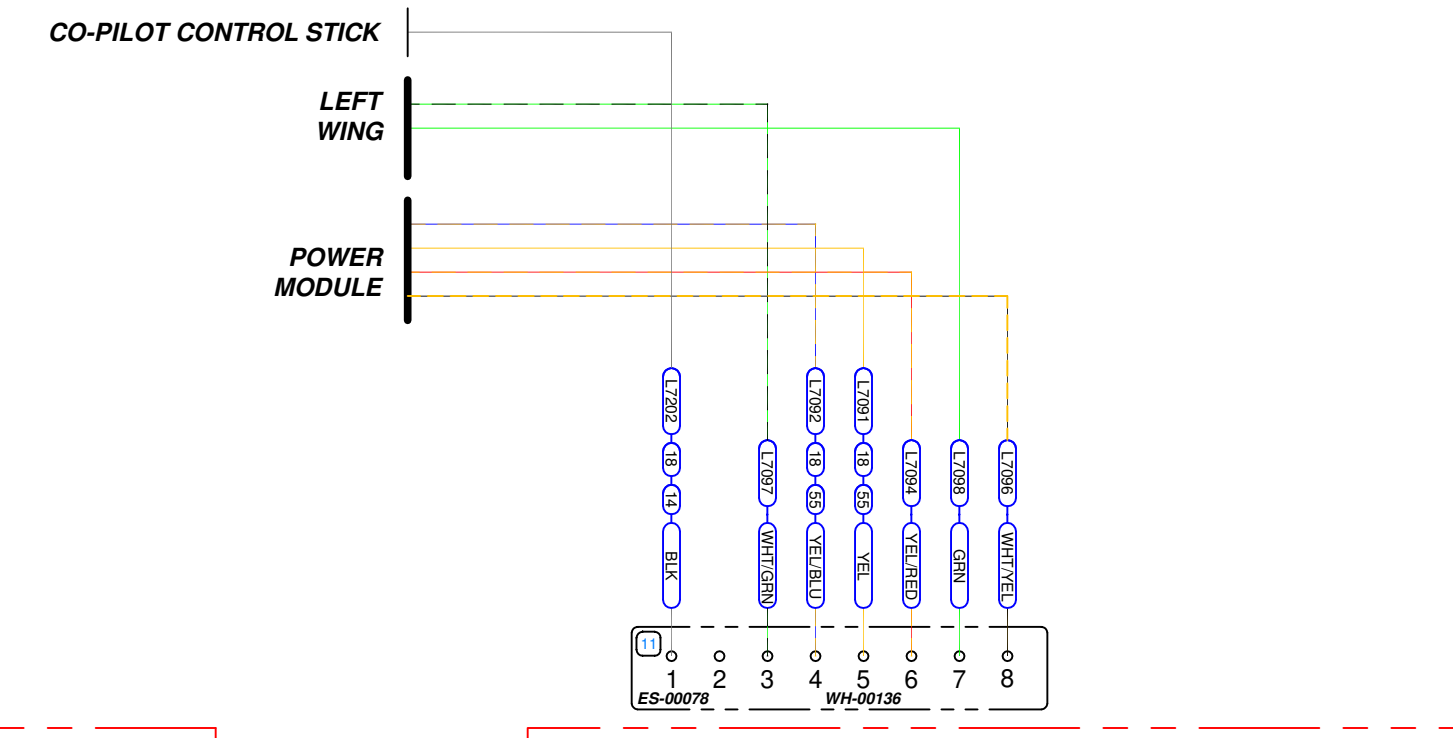
CO-PILOT HEADSET JACKS



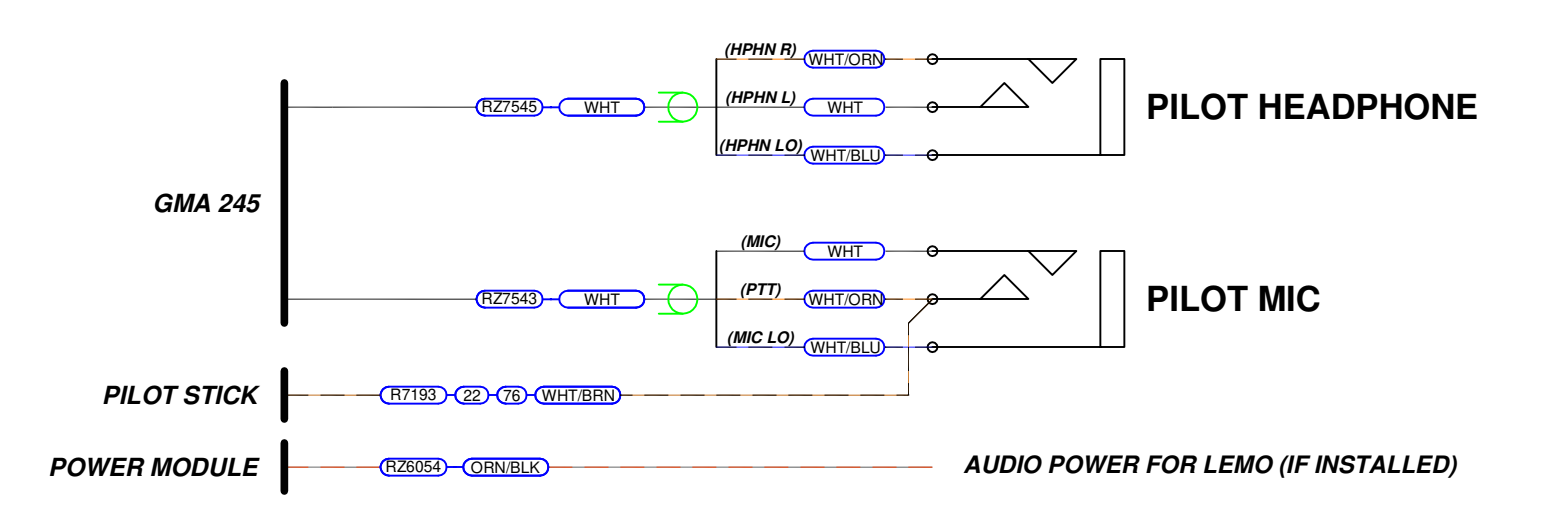
LEFT WING CONNECTOR



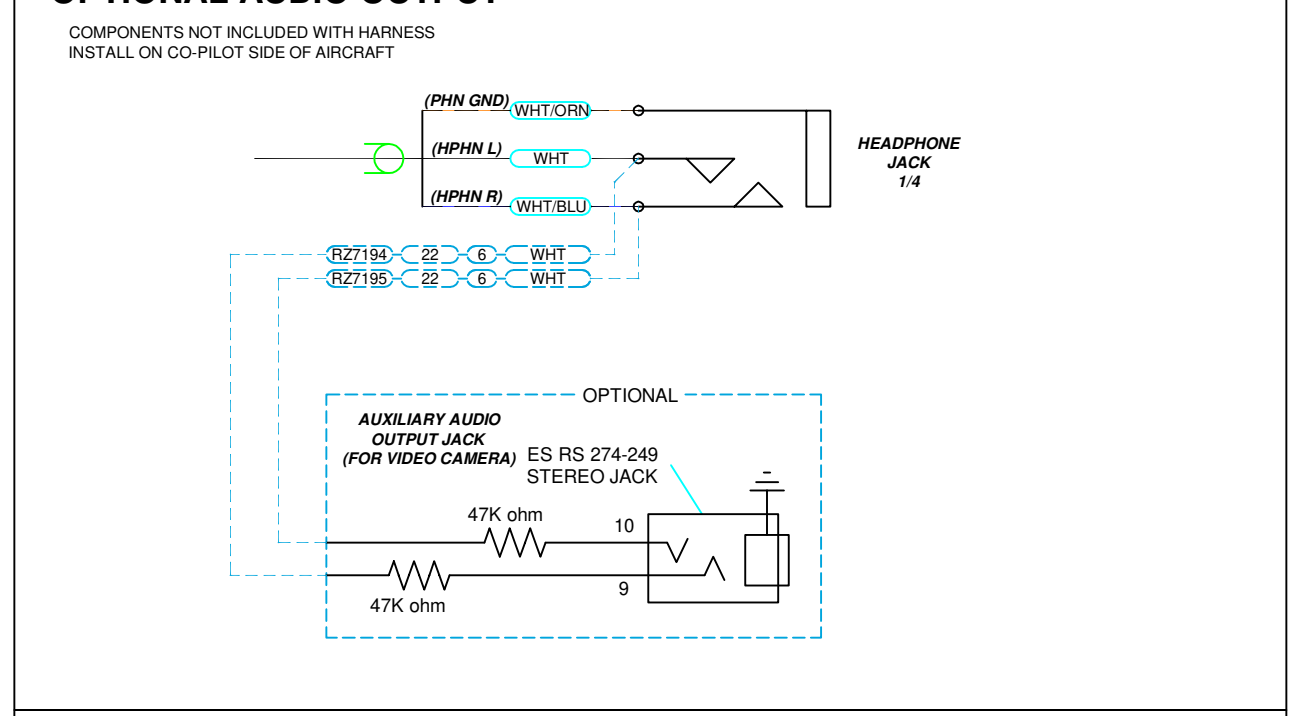
RIGHT WING CONNECTOR



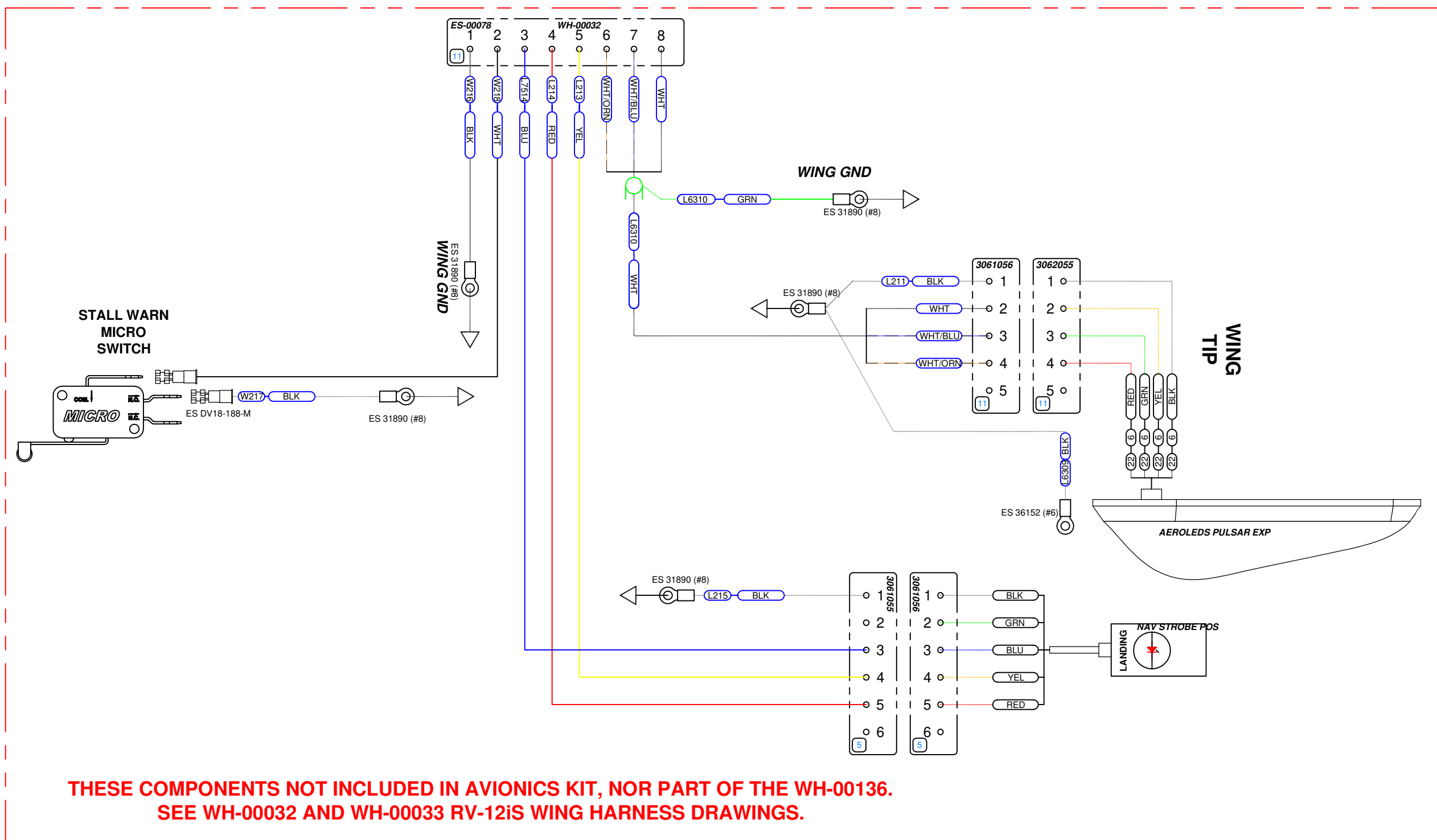
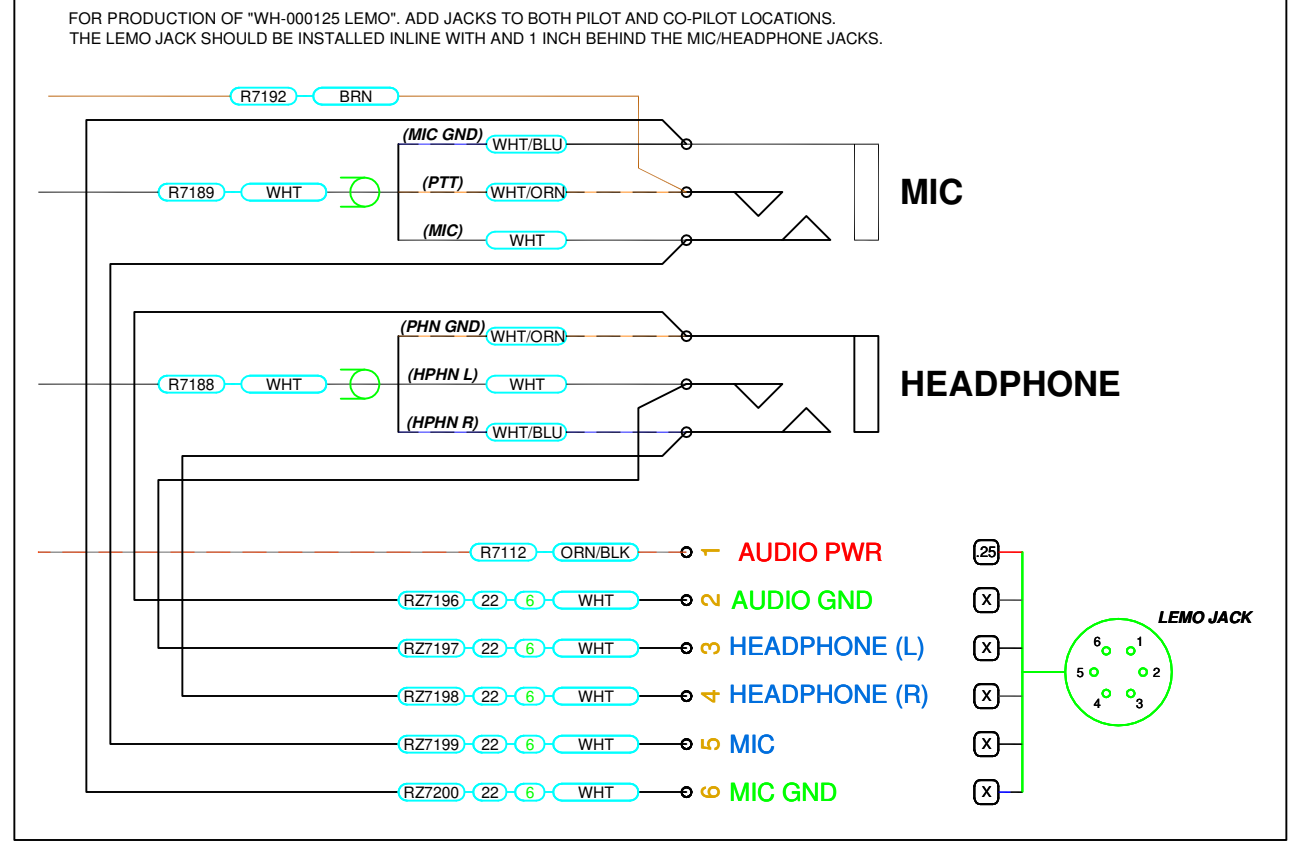
PILOT HEADSET JACKS



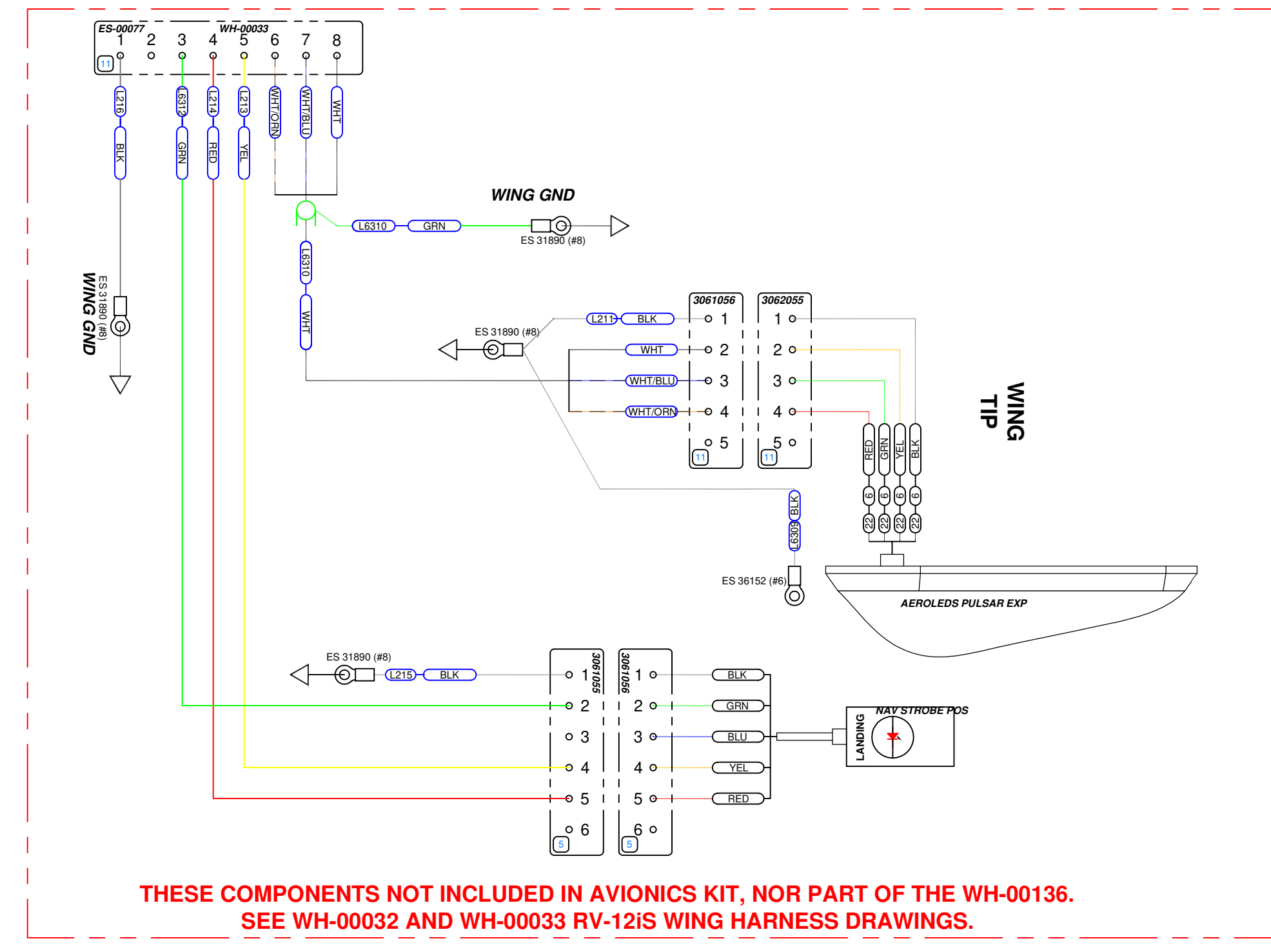
OPTIONAL AUDIO OUTPUT



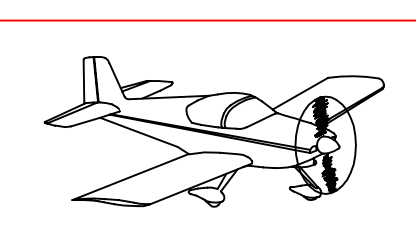
OPTIONAL LEMO JACK



THESE COMPONENTS NOT INCLUDED IN AVIONICS KIT, NOR PART OF THE WH-00136. SEE WH-00032 AND WH-00033 RV-12IS WING HARNESS DRAWINGS.



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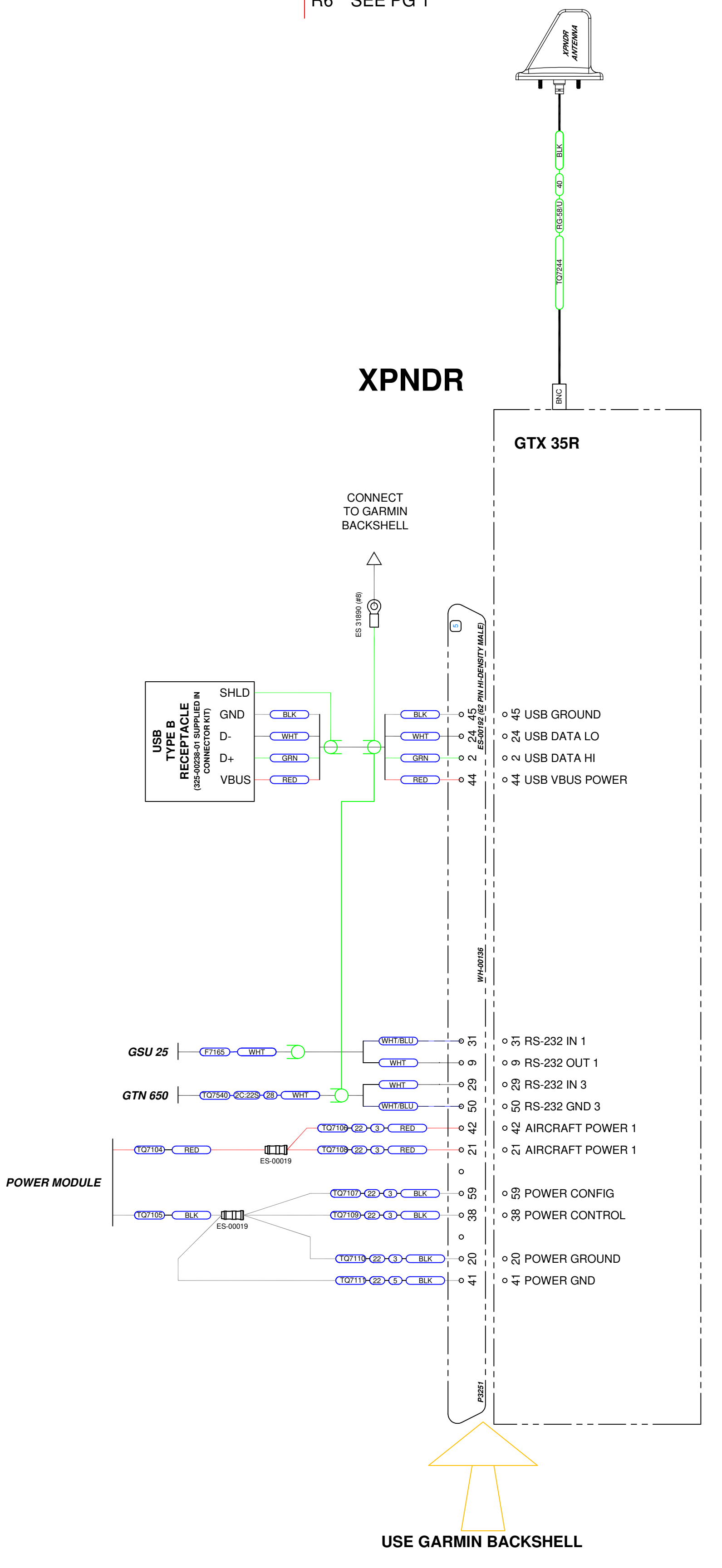
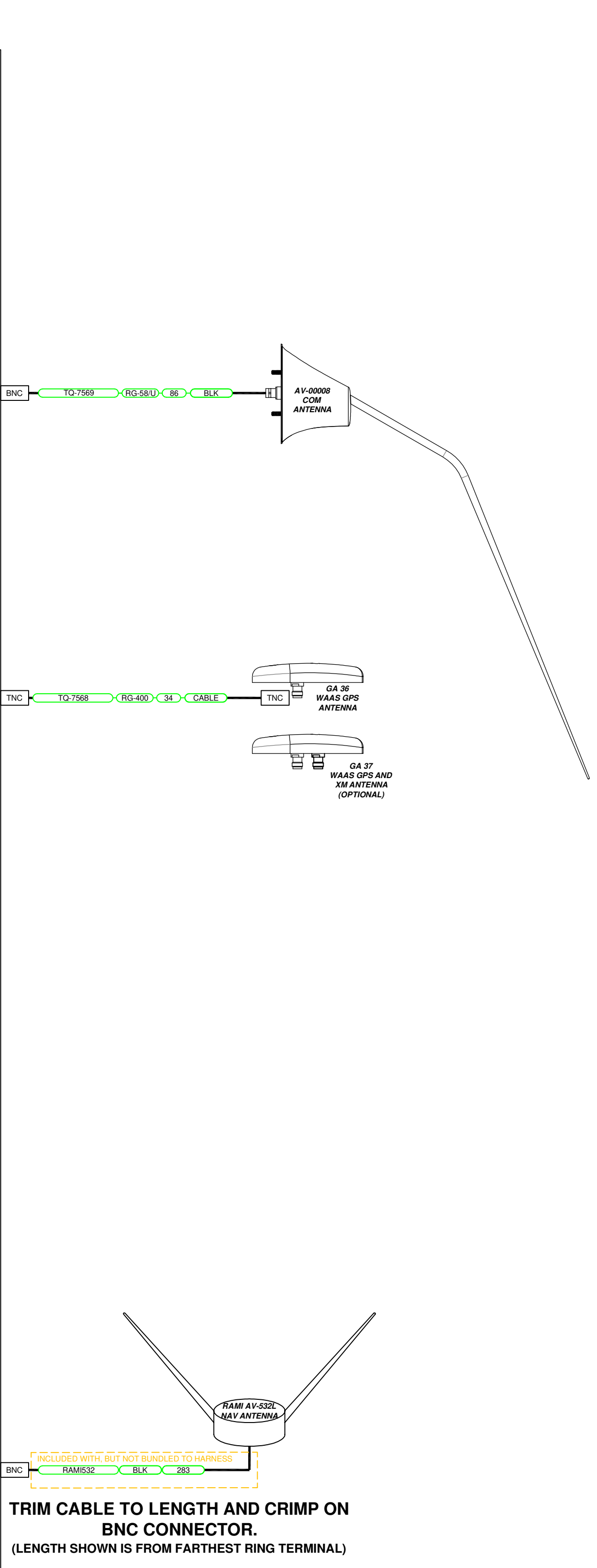
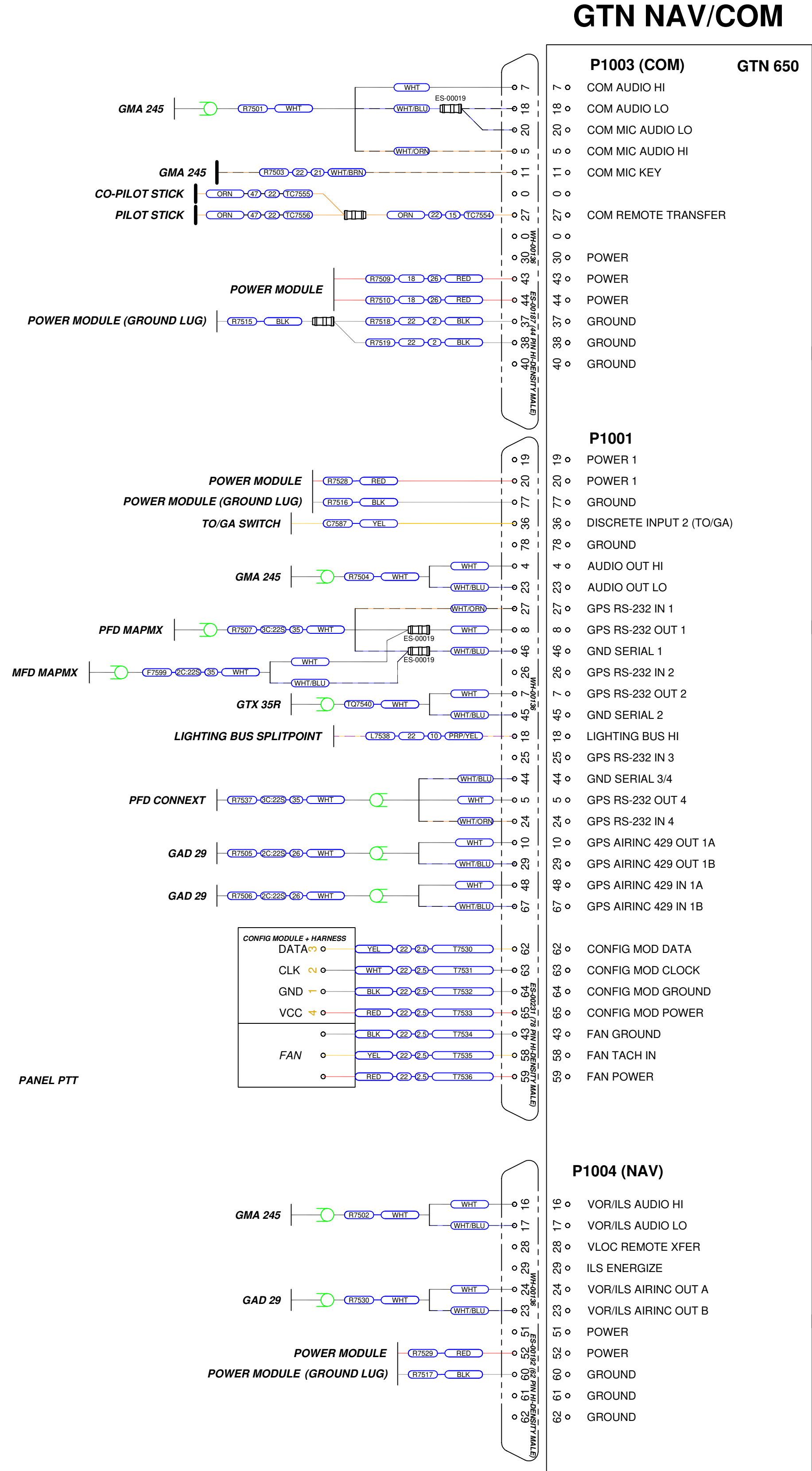
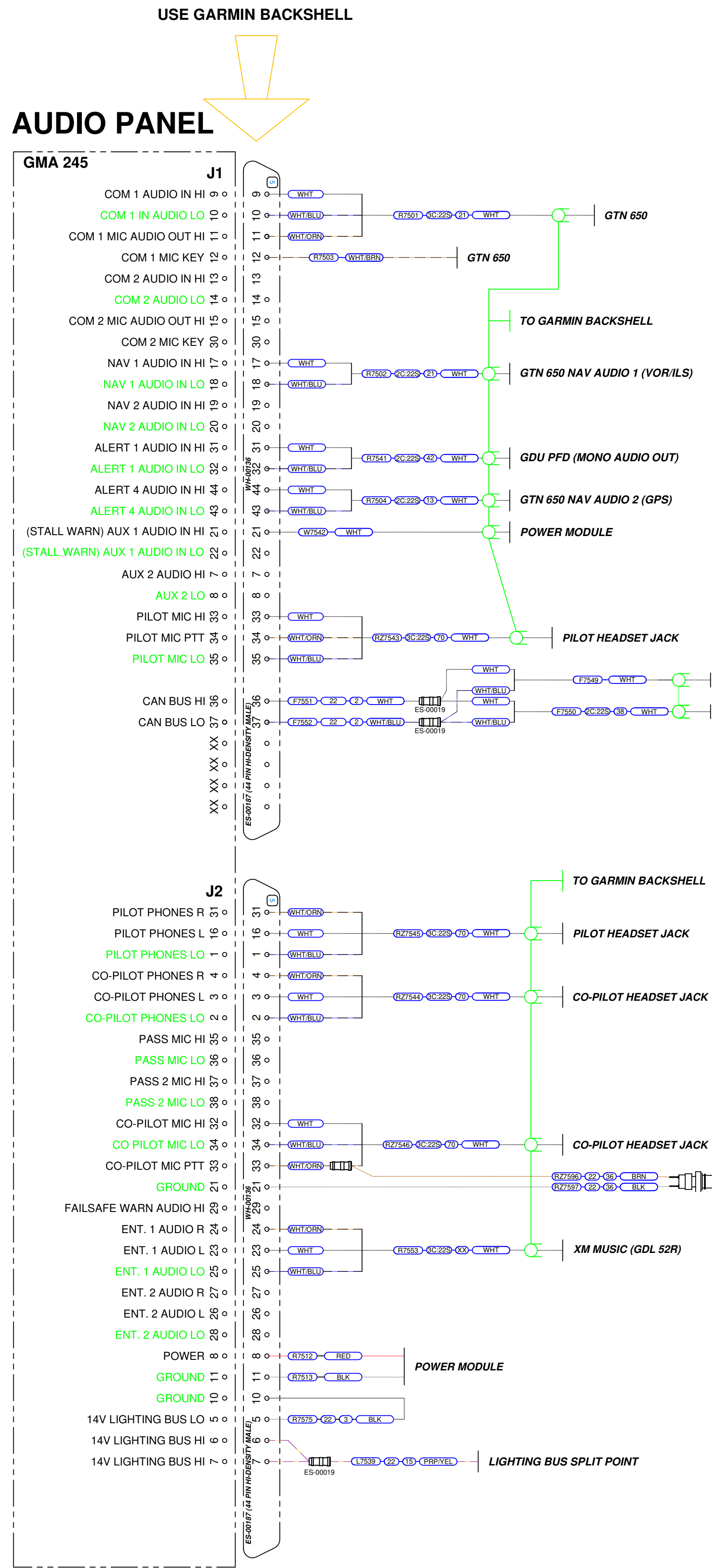
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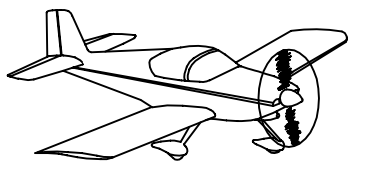
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TOLERANCES: NONE
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UNITS: INCHES
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| REV | DESCRIPTION | DATE | APPROVED |
|-----|-------------|------|----------|
| R6 | SEE PG 1 | | |





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ROTAX 912iS G3X NAVCOM ELECTRICAL SYSTEM

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TOLERANCES: NONE
(UNLESS OTHERWISE SPECIFIED)

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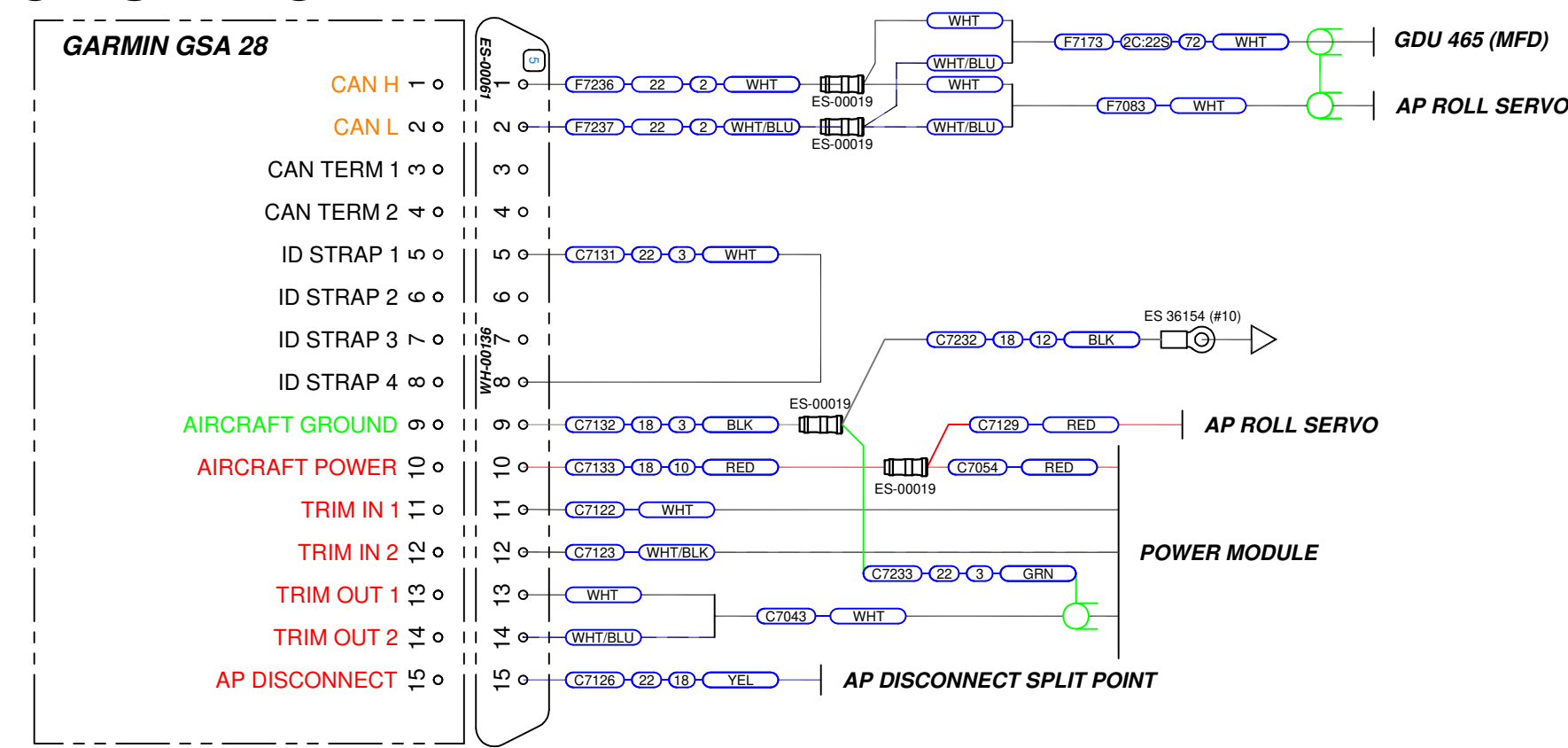
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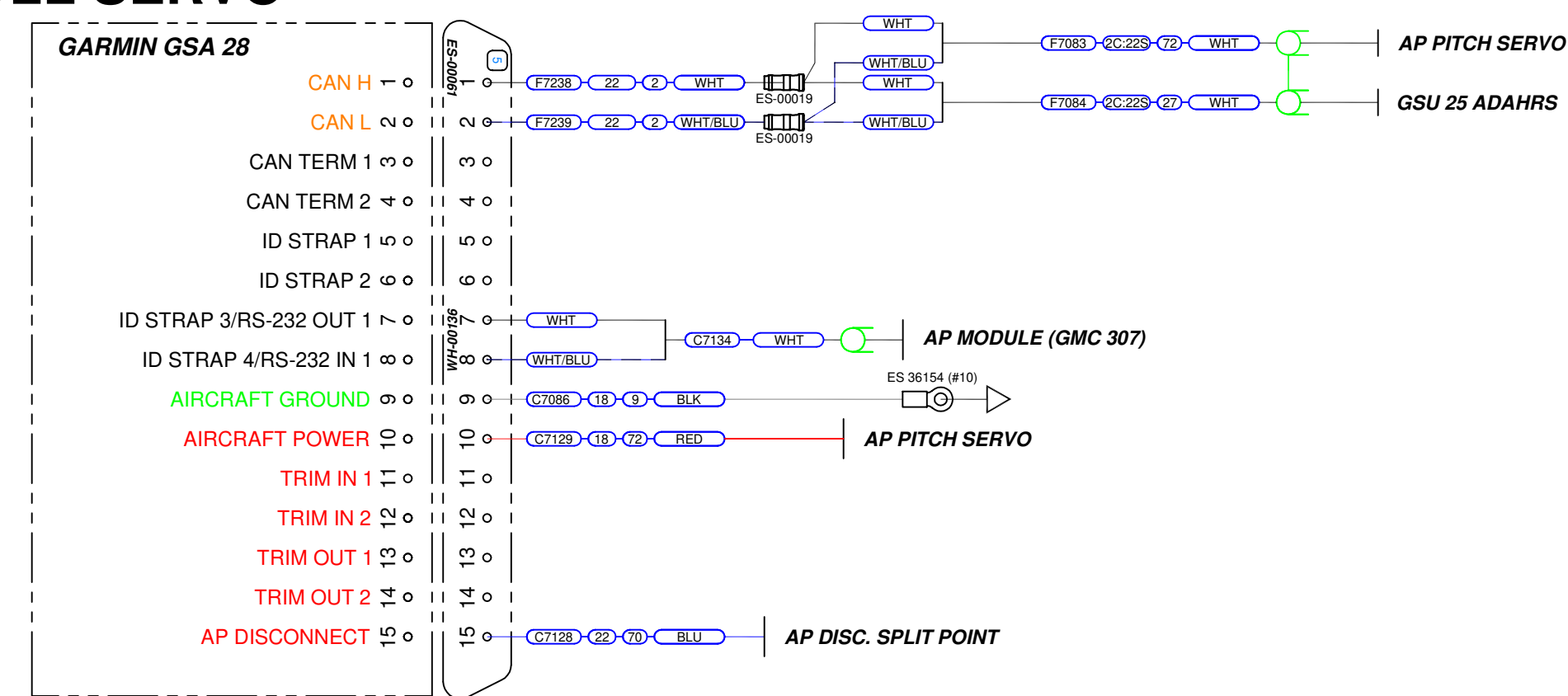
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| REVISIONS | | | |
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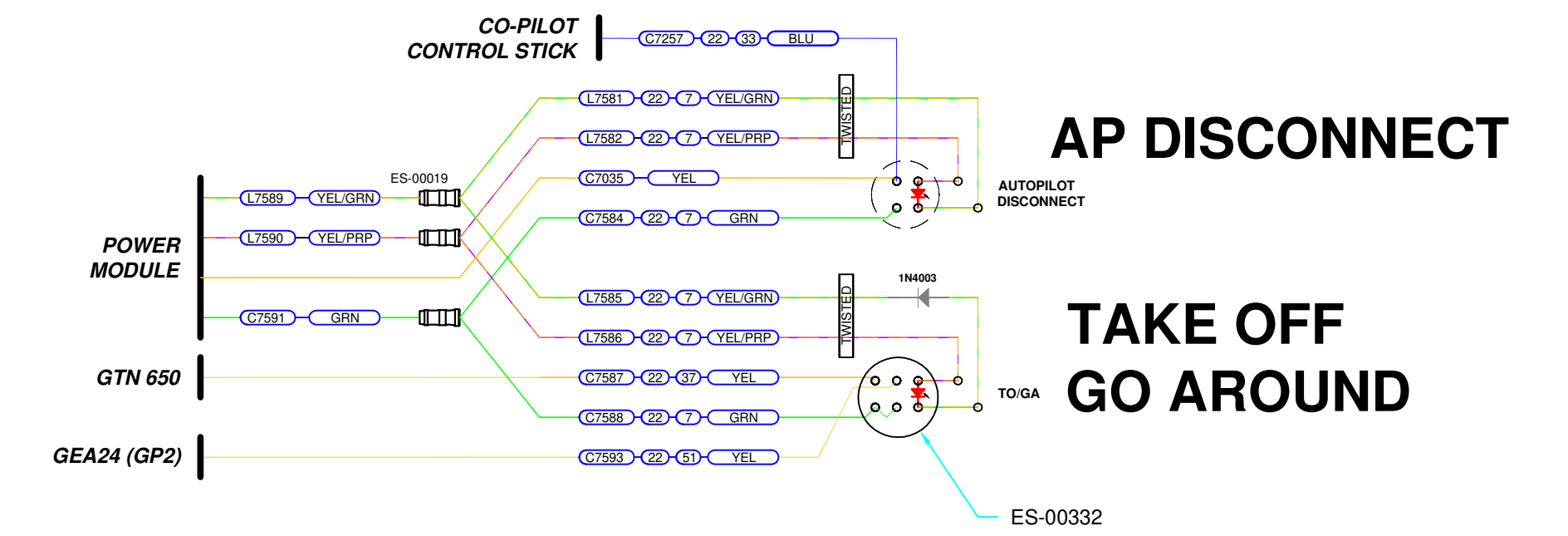
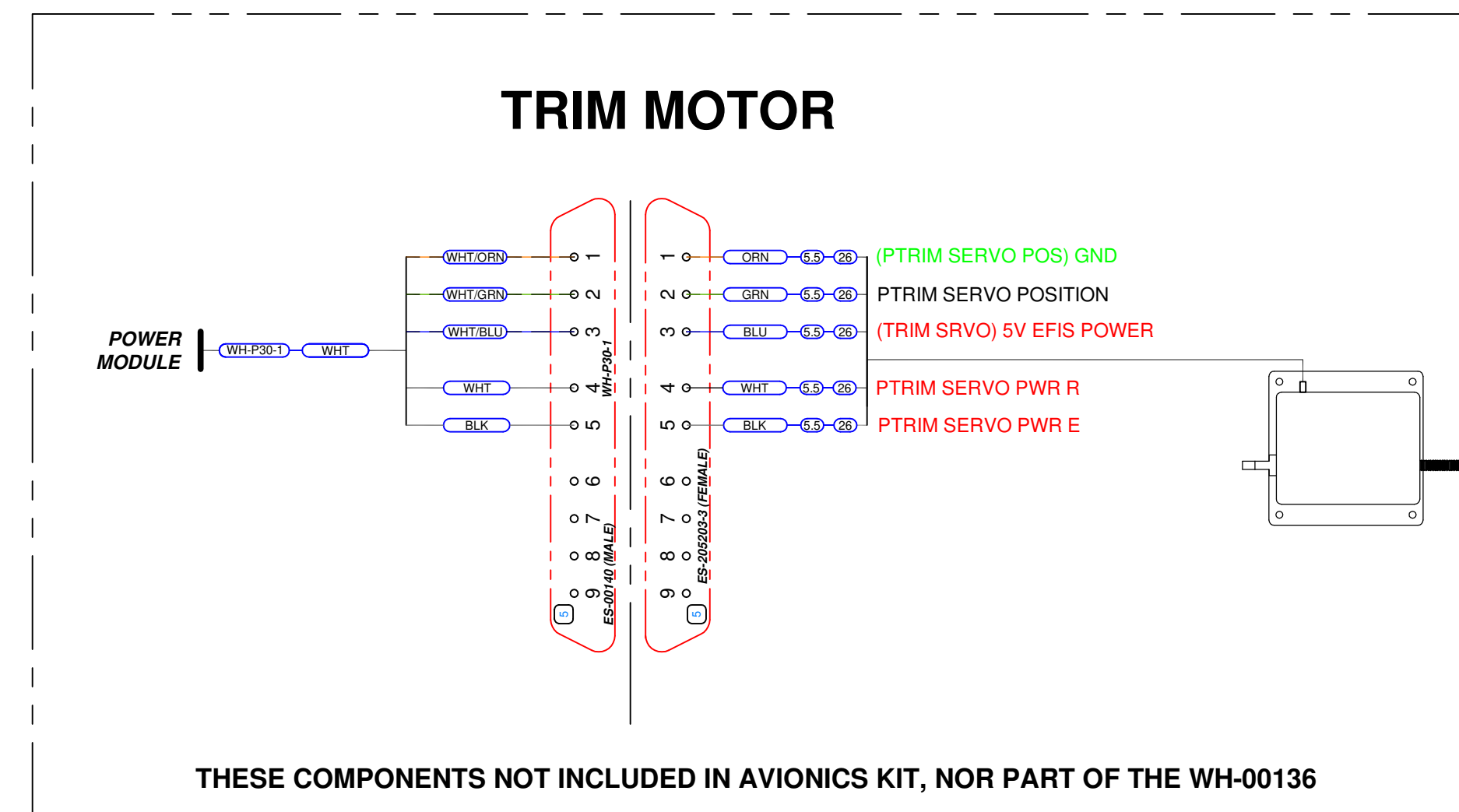
AUTOPILOT PITCH SERVO



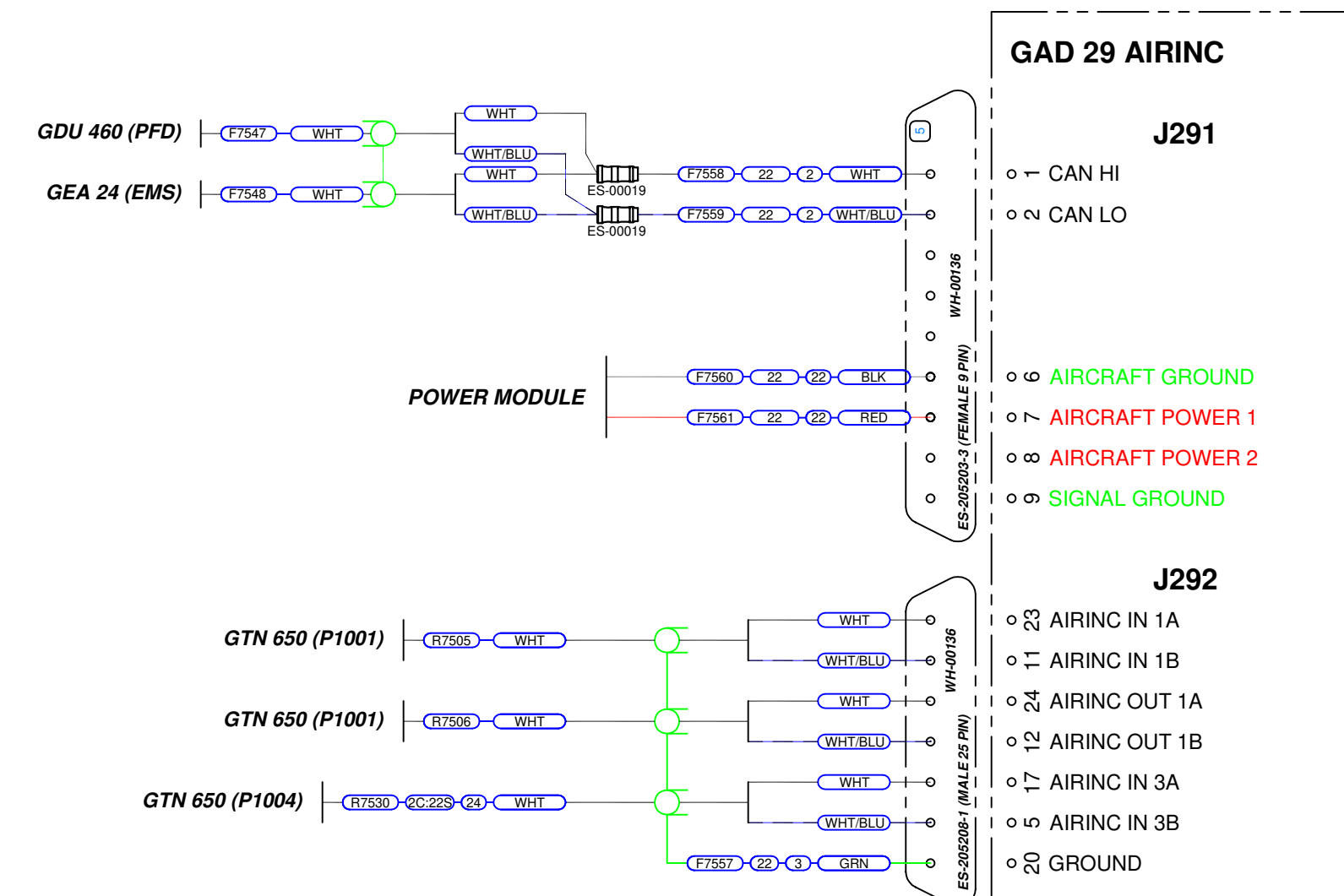
AUTOPILOT ROLL SERVO



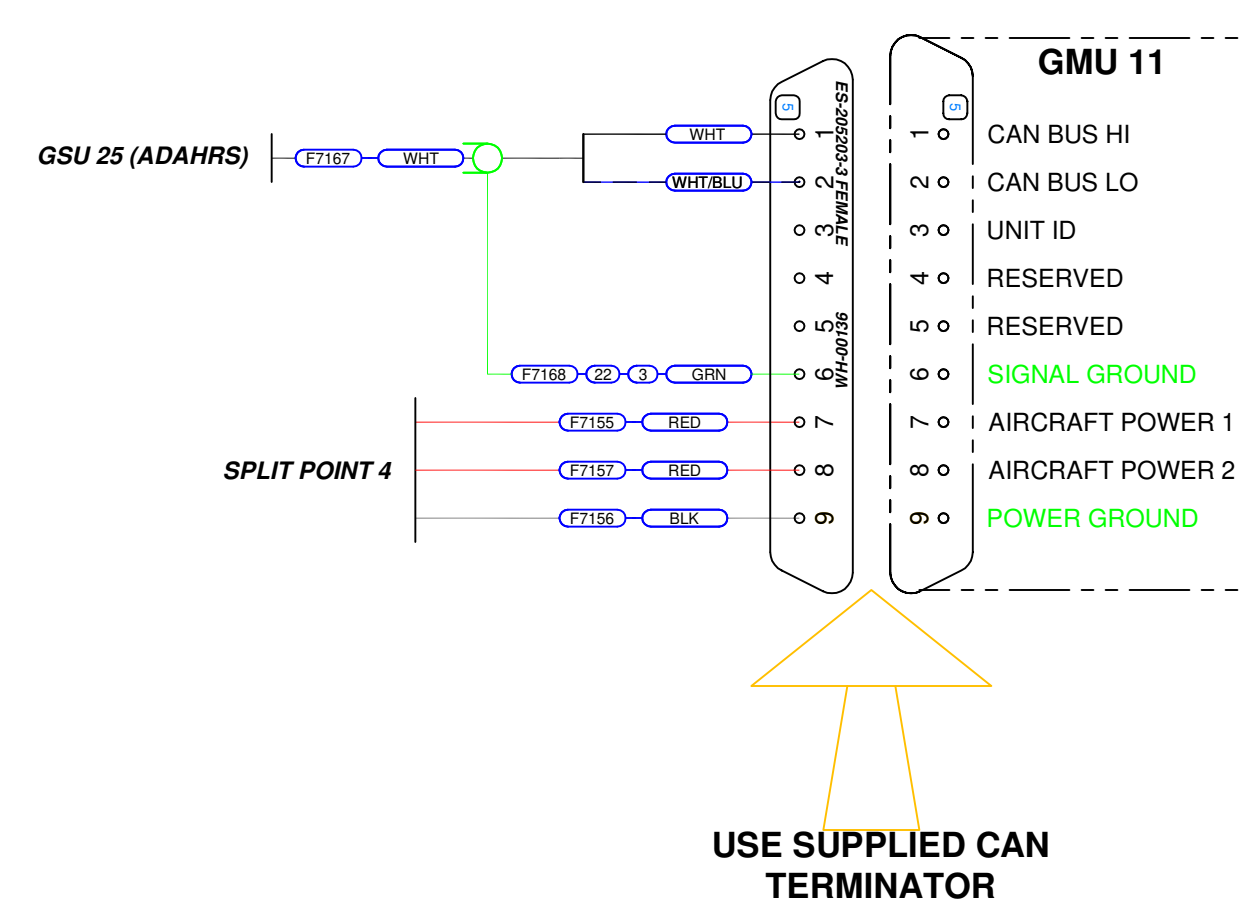
TRIM MOTOR



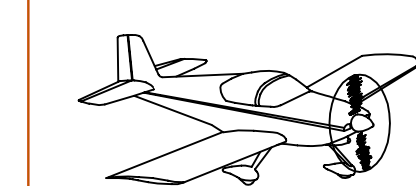
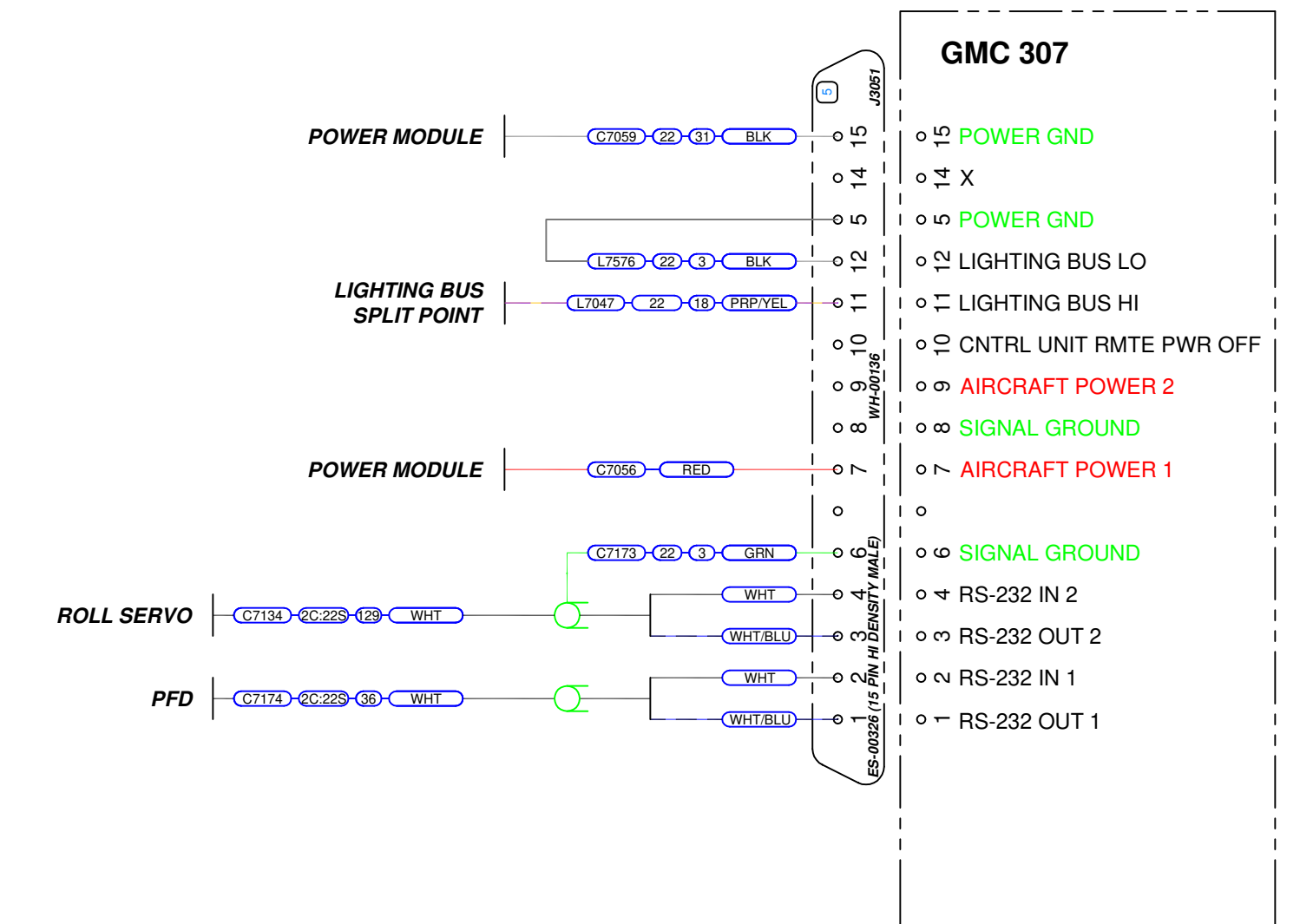
DATA BUS ADAPTER



MAGNETOMETER



AP MODULE



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ROTAX 912iS G3X NAVCOM ELECTRICAL SYSTEM

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UNITS: INCHES

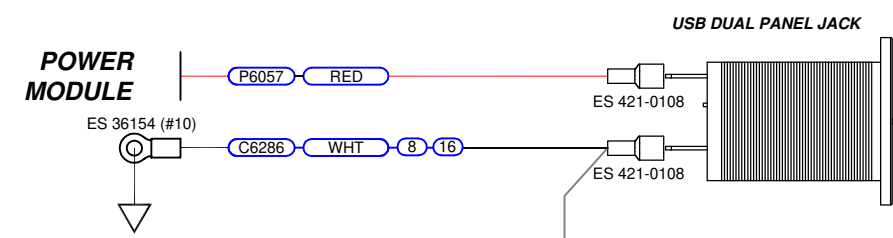
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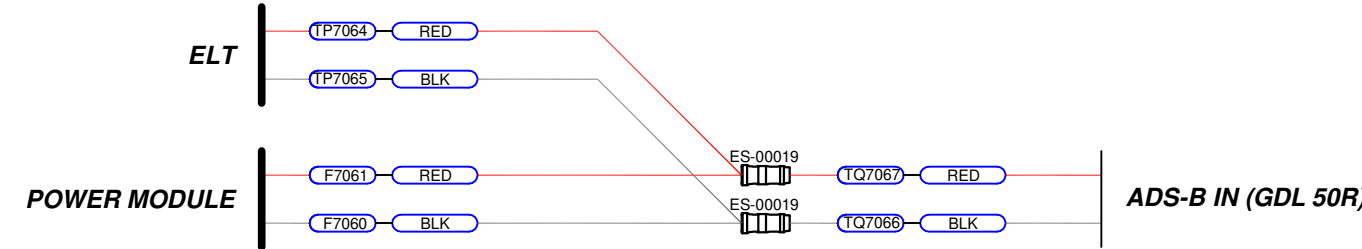
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| REVISIONS | | | |
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| R6 | SEE PG 1 | | |

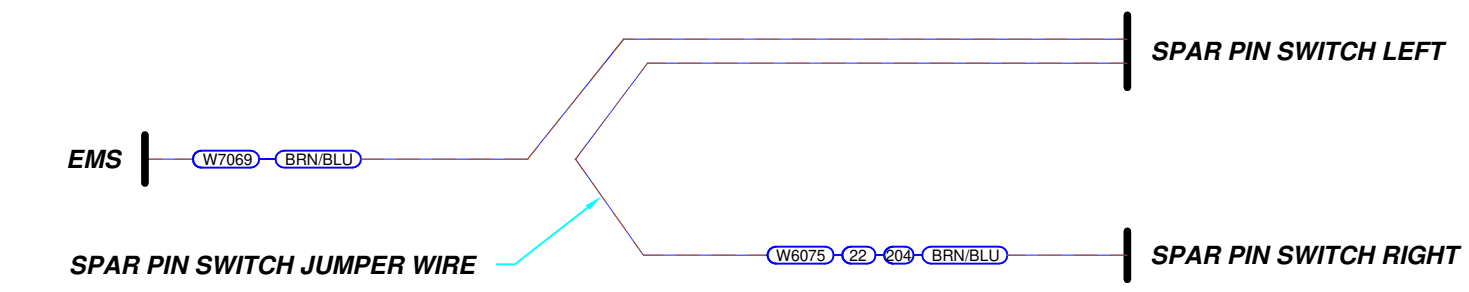
POWER OUTLET



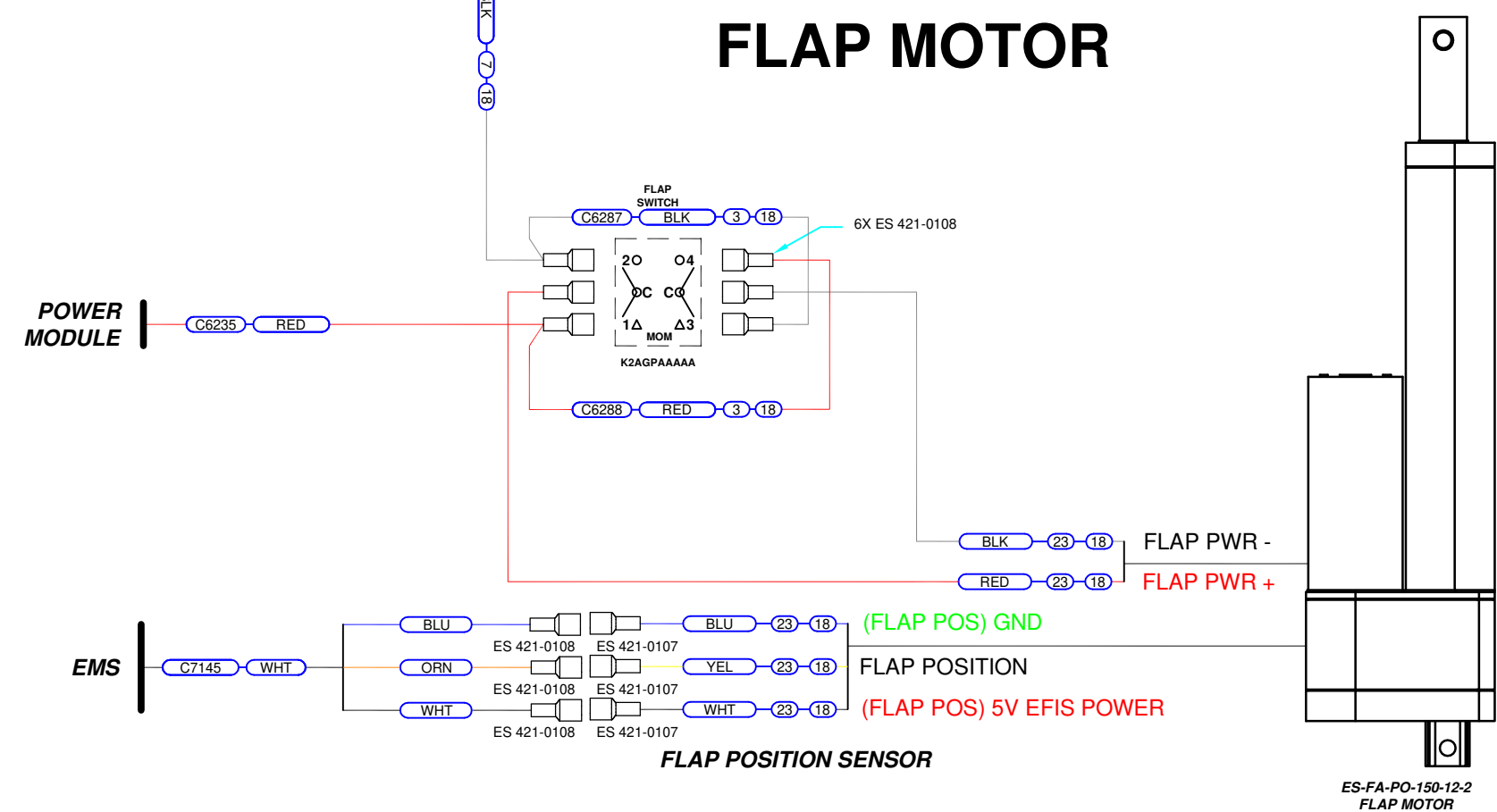
SPLIT POINT 5



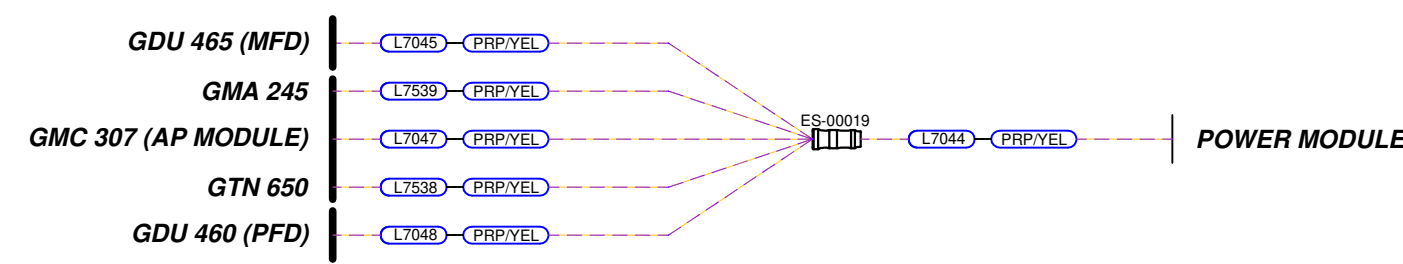
SPLIT POINT 1



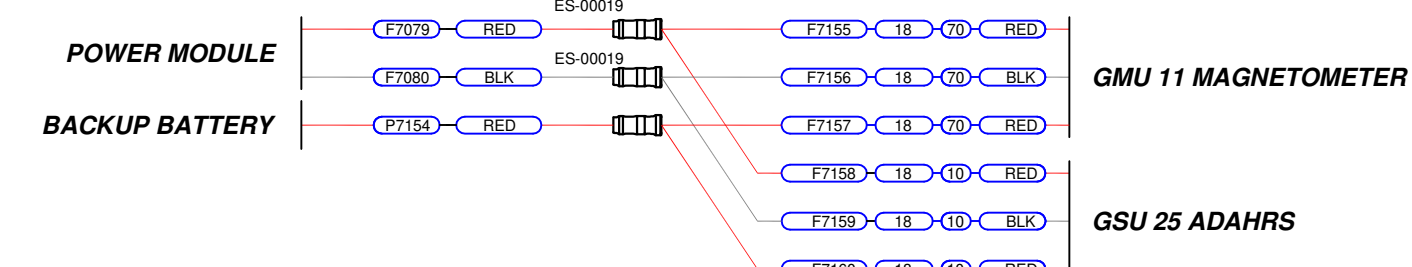
FLAP MOTOR



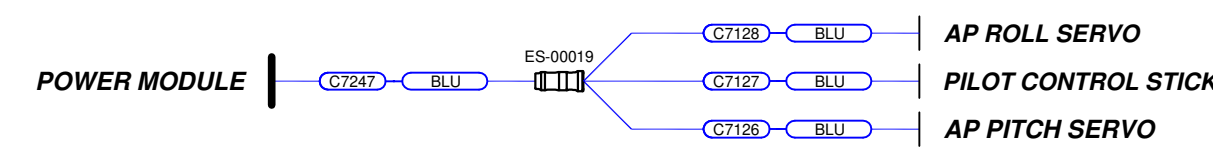
LIGHTING BUS SPLIT



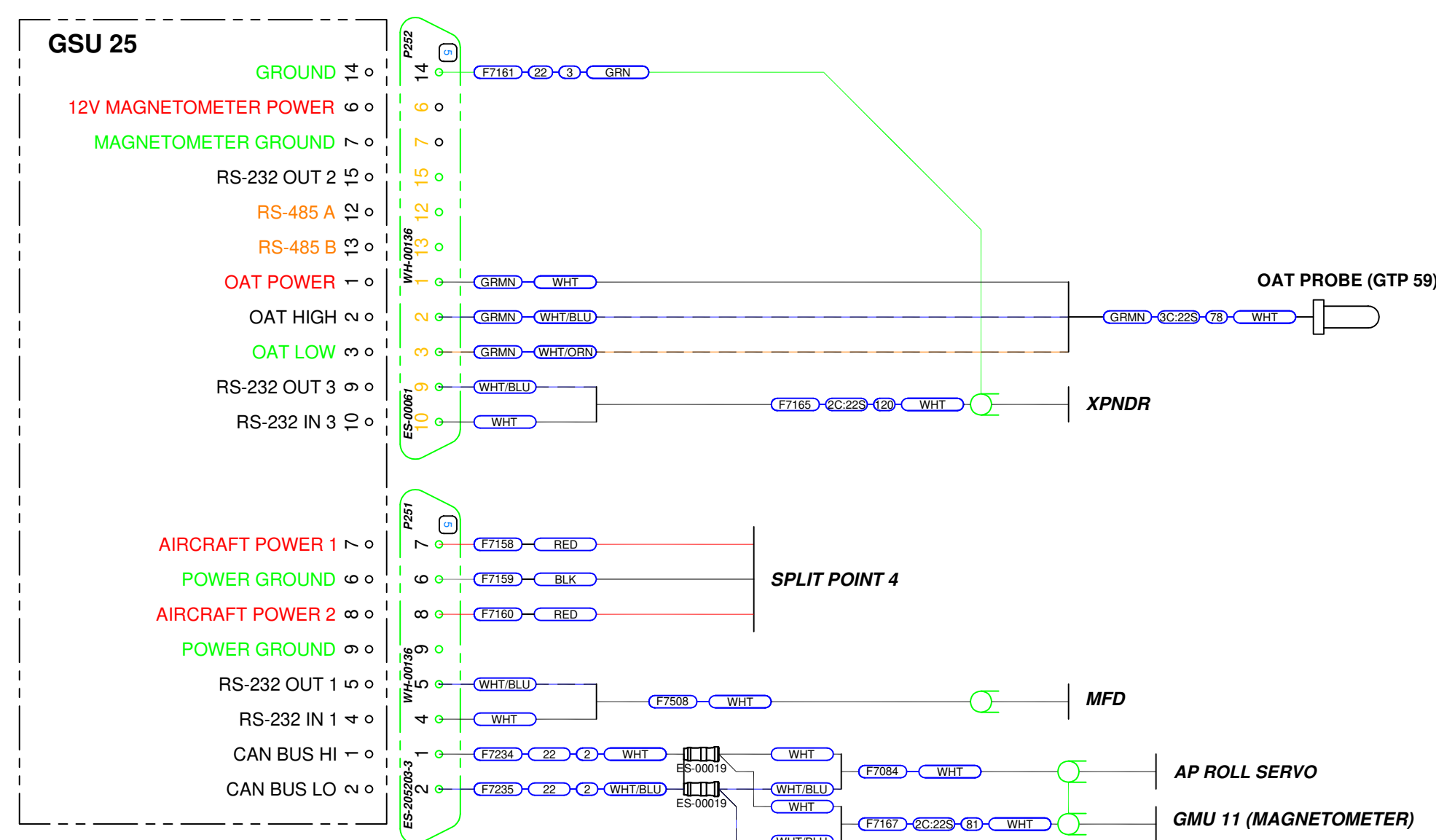
SPLIT POINT 4



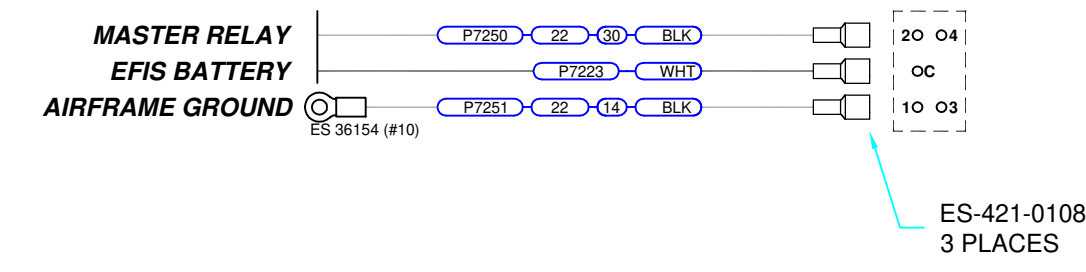
AUTOPILOT DISC. SPLIT POINT



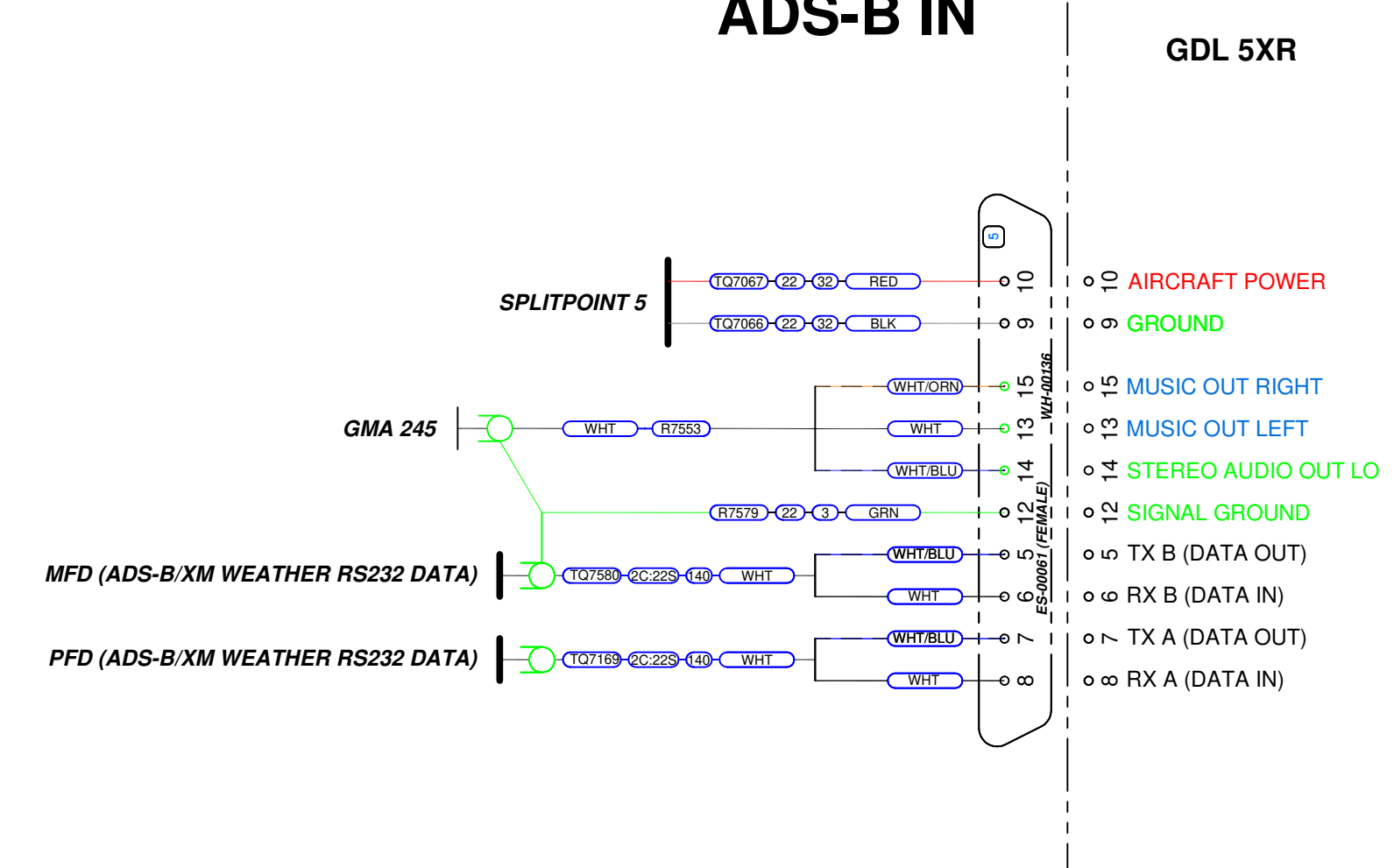
ADAHRS



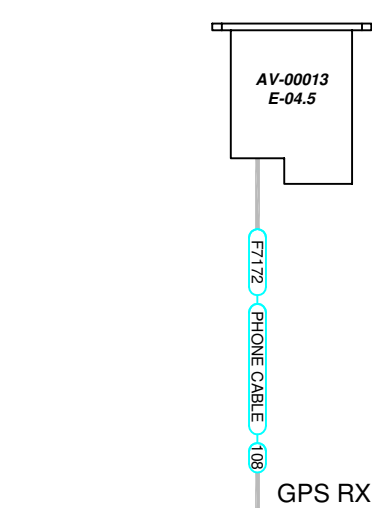
EFIS BATTERY SWITCH



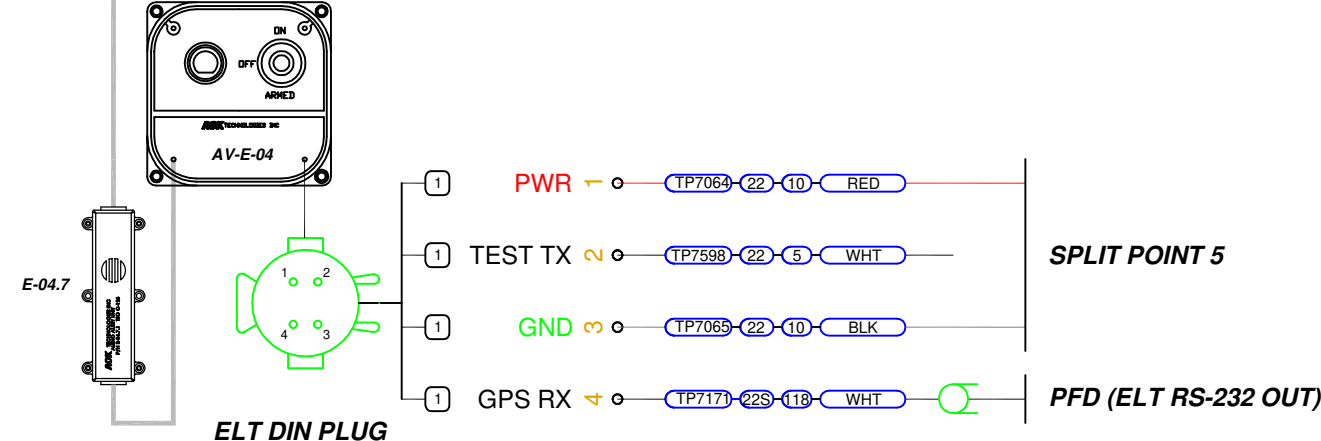
ADS-B IN



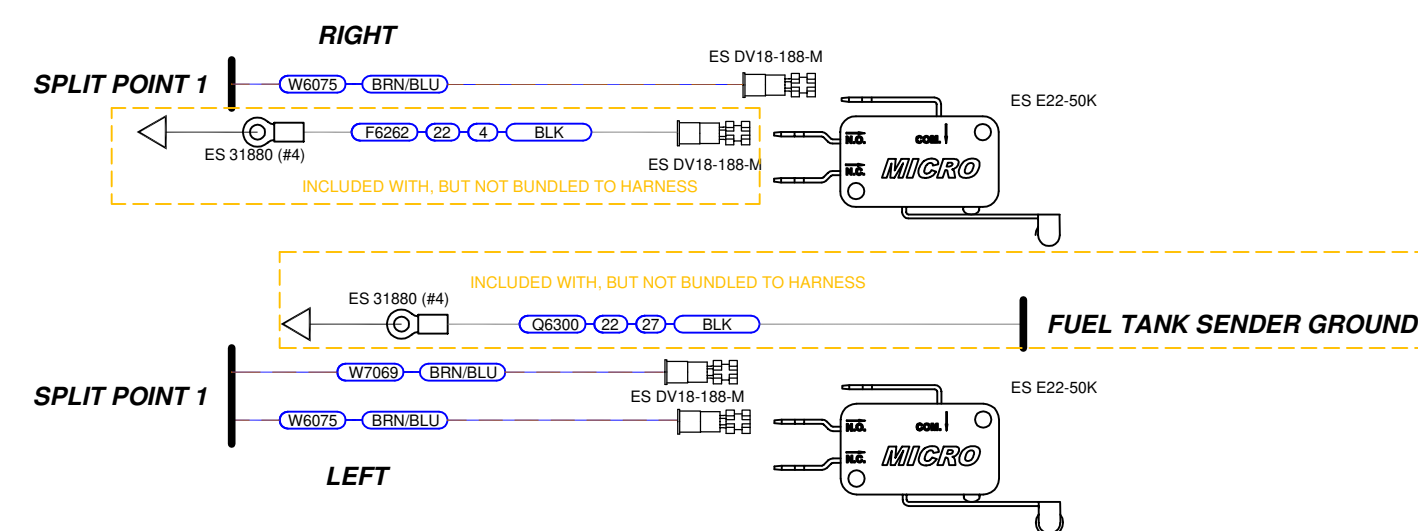
ELT REMOTE



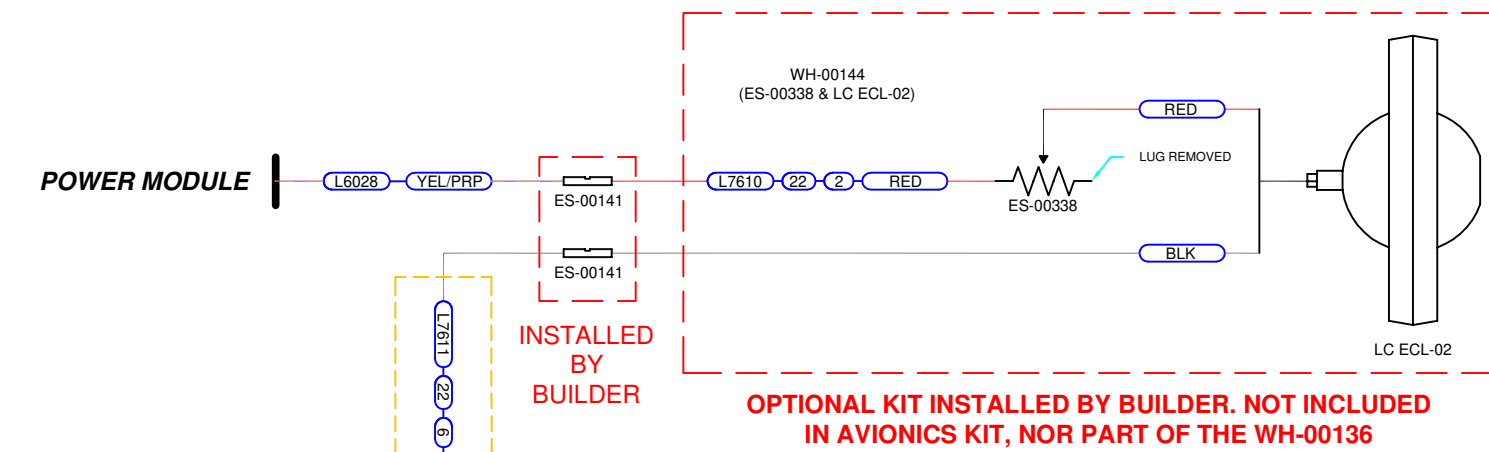
ELT



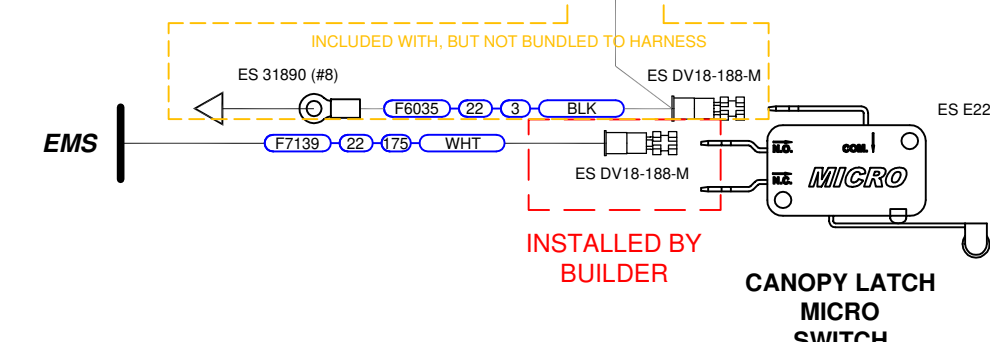
SPAR PIN SWITCHES



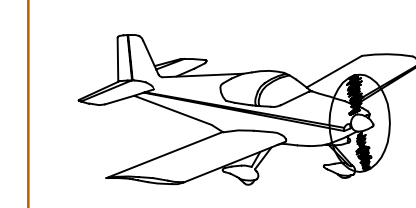
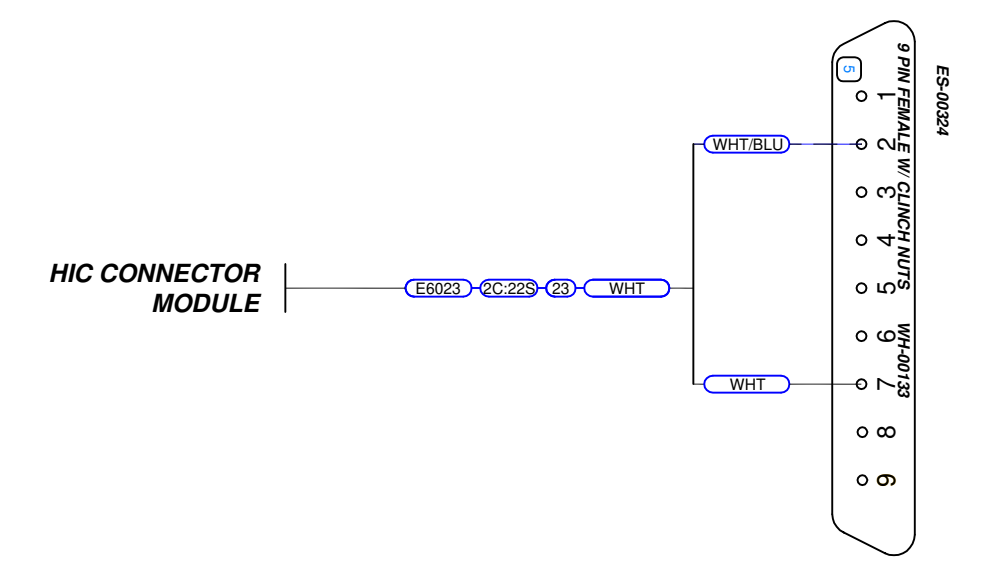
CABIN LIGHT & DIMMER



CANOPY SWITCH



912iS MAINT PORT



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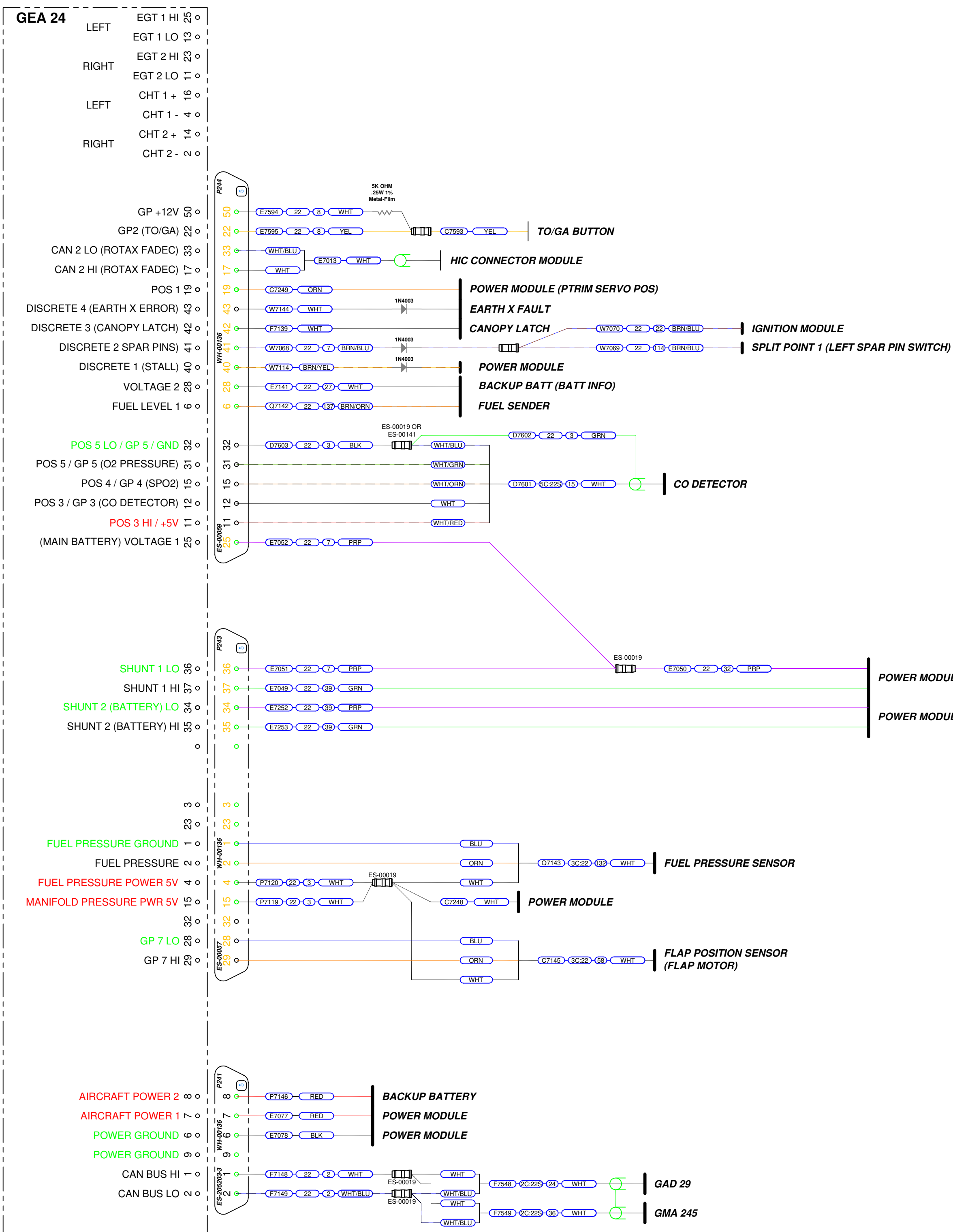
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INCHES WH-00136
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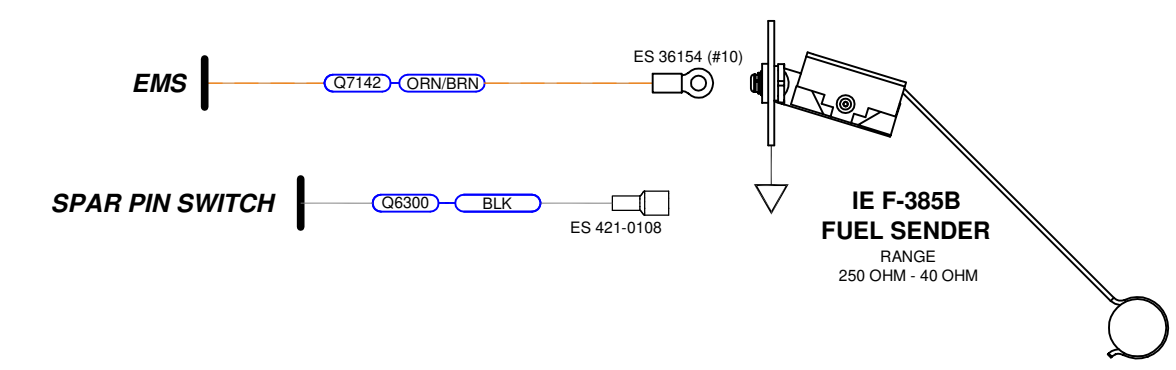
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| REVISIONS | | | |
|-----------|-------------|------|----------|
| REV | DESCRIPTION | DATE | APPROVED |
| R6 | SEE PG 1 | | |

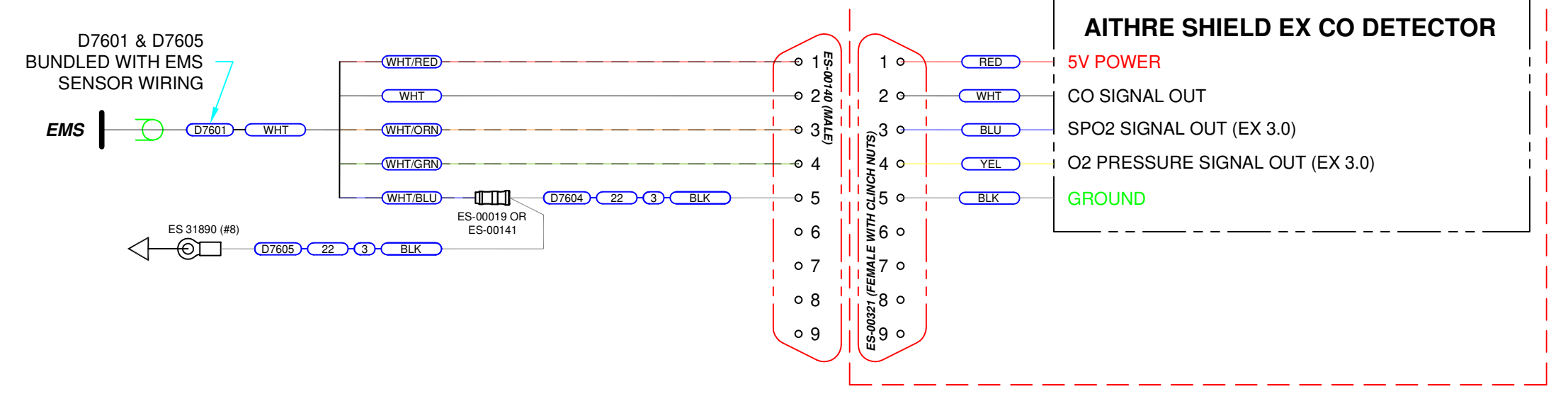
EMS



FUEL SENDER

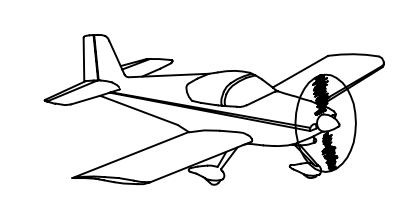
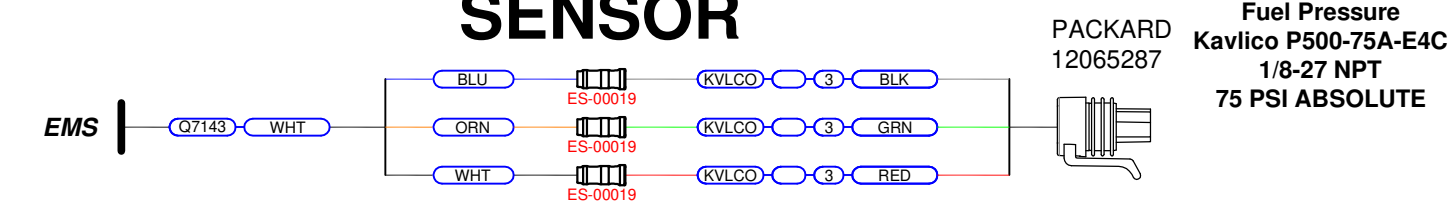


CO DETECTOR



OPTIONAL KIT INSTALLED BY BUILDER. NOT INCLUDED IN AVIONICS KIT, NOR PART OF THE WH-00136

FUEL PRESSURE SENSOR



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AURORA, OR 97002 USA

ROTAX 912iS G3X NAVCOM ELECTRICAL SYSTEM

DATE DRAWN: 04/06/2018

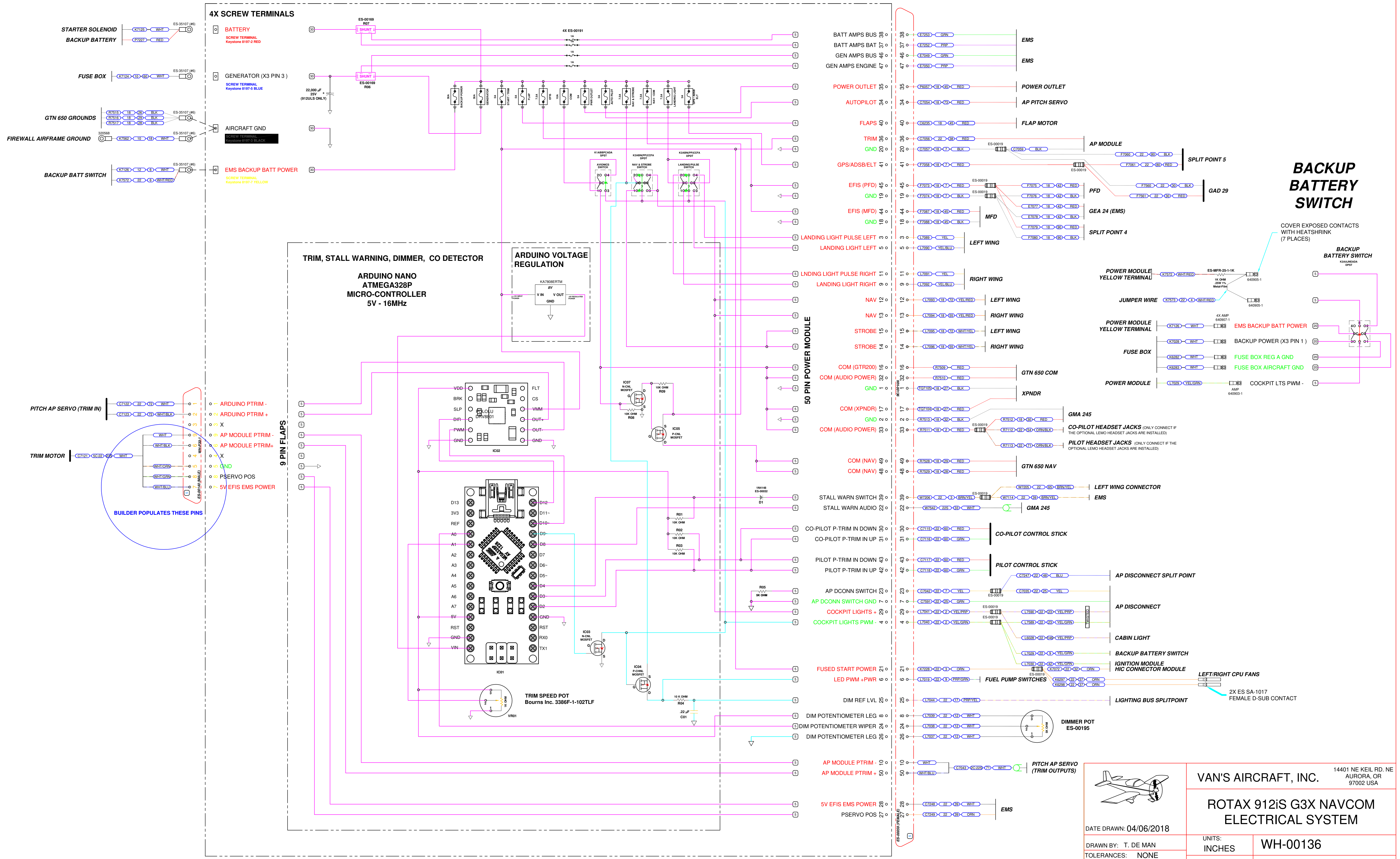
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TOLERANCES: NONE
(UNLESS OTHERWISE SPECIFIED)

UNITS: INCHES
SCALE: NONE
PAGE: 7 OF 11
WH-00136

PATH:FILENAME: Q:\RV-12\System IS\Electrical System IS\Electrical System 912S NavCom (WH-00136).DWG C-SIZE ORIGINAL

POWER MODULE iS-ULS PCB V3.4

| REVISIONS | | | |
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| REV | DESCRIPTION | DATE | APPROVED |
| R6 | SEE PG 1 | | |

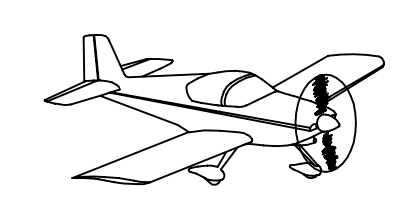


BACKUP BATTERY SWITCH

COVER EXPOSED CONTACTS WITH HEATSHRINK (7 PLACES)

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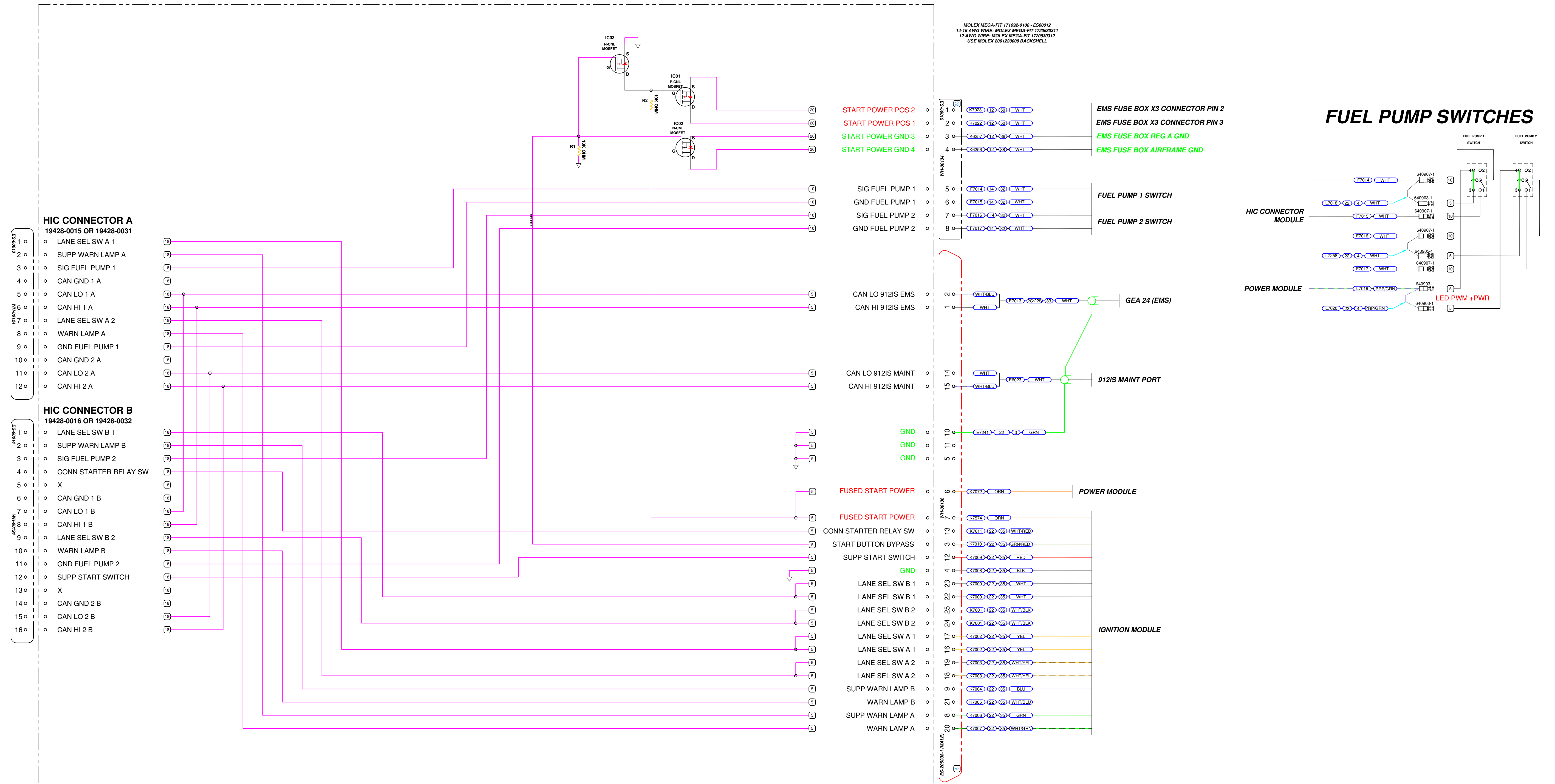
ROTAX 912iS G3X NAVCOM ELECTRICAL SYSTEM

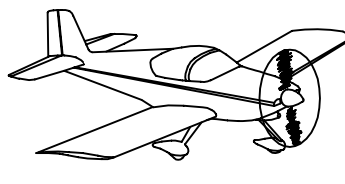


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| DATE DRAWN: 04/06/2018 | UNITS: INCHES | WH-00136 |
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| TOLERANCES: NONE (UNLESS OTHERWISE SPECIFIED) | PATH:FILENAME: Q:\RV-12\System iS\Electrical System iS\Electrical System 912iS NavCom (WH-00136).DWG C-SIZE ORIGINAL | |

HIC CONNECTOR MODULE IS PCB ES-60009

| REVISIONS | | | |
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| REV | DESCRIPTION | DATE | APPROVED |
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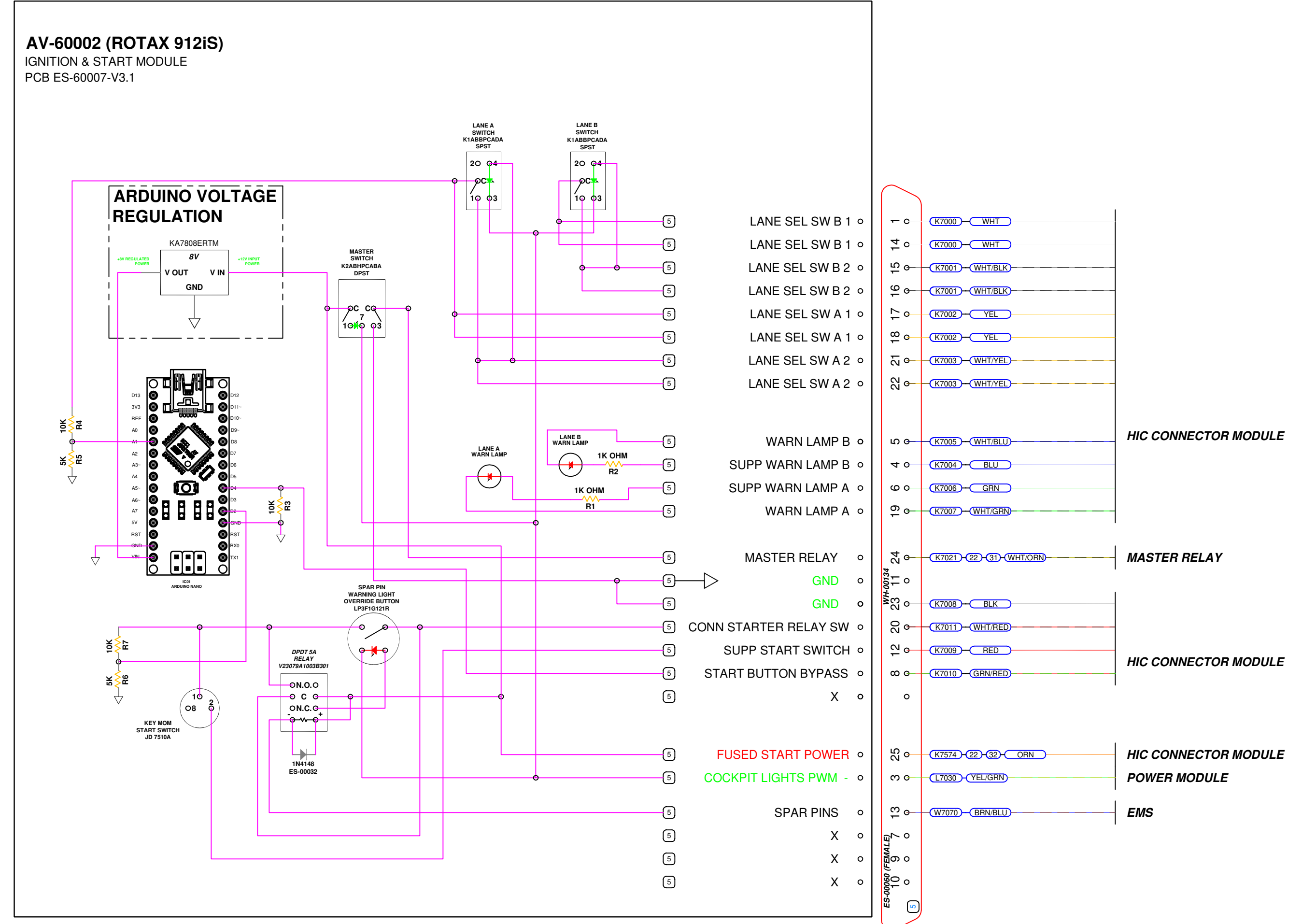
VAN'S AIRCRAFT, INC.

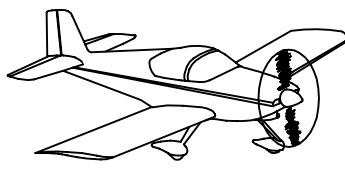
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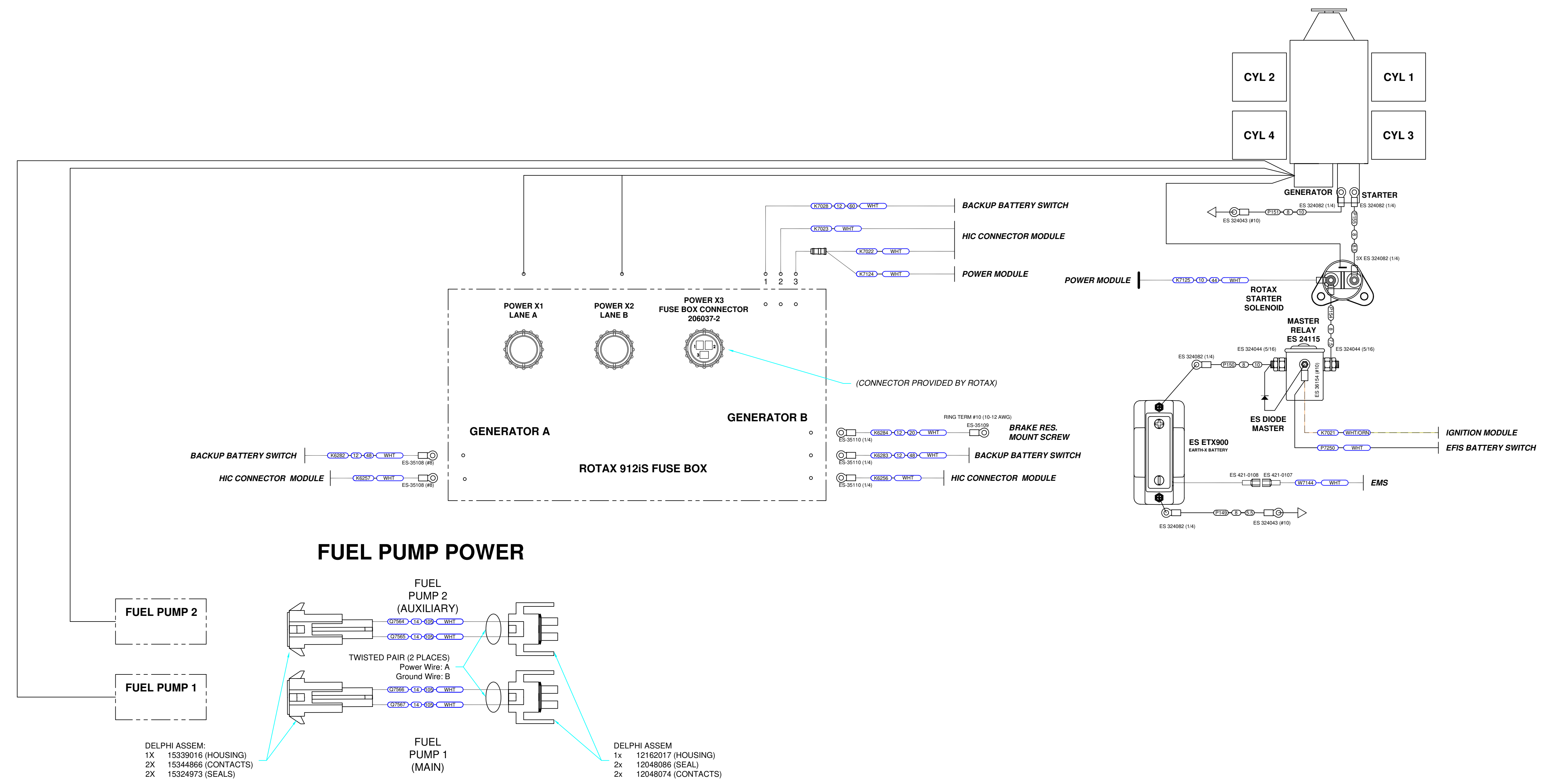
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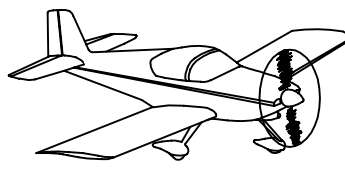
C-SIZE ORIGINAL



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| DATE DRAWN: 04/06/2018 | UNITS: INCHES | WH-00136 | |
| DRAWN BY: T. DE MAN TOLERANCES: NONE (UNLESS OTHERWISE SPECIFIED) | SCALE: NONE | PAGE: 10 OF 11 | |
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