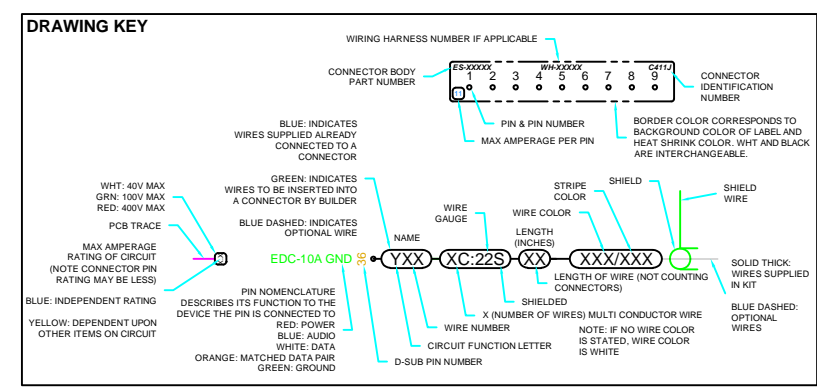


REVISIONS			
REV	DESCRIPTION	DATE	APPROVE
R0	INITIAL RELEASE	06/19/20	RMS
R1	REPLACED P155 WITH P158	10/21/20	SEO

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

GARMIN GTN 650Xi INTERNAL PRESETS

- AIRINC 429 CONFIGURATION**
- AIRINC 429 IN 1 LOW EFIS FORMAT 2
 - AIRINC 429 IN 2 LOW OFF
 - AIRINC 429 OUT 1 LOW GARMIN 429
 - 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 ENABLED
 - CROSSFILL STATUS ALERT DISABLED
 - SYSTEM ID GTN 1
 - DATABASE SYNC PILOT CONTROL
 - AIRSPACE LABELS ENABLED
 - CHECKLIST PAGE TITLE CHECKLIST
 - ENHANCED LIGHTING MODE ENABLED

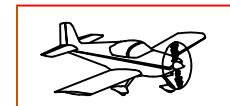
- COM CONFIGURATION**
- COM RADIO ENABLED
 - COM SQUELCH MODE BASIC
 - COM RX SQUELCH 0%
 - MIC 1 GAIN +12DB
 - SIDETONE SOURCE EXTERNAL
 - SIDETONE VOLUME +26DB

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

- DISCRETE INPUTS**
- J1001-36 REMOTE GO AROUND

- ENHANCED LIGHTING SOURCE SETTINGS**
- DISPLAY SOURCE LIGHTING BUS 1
 - KEYS SOURCE LIGHTING BUS 1
 - LIGHTING BUS 1 14V DC 1 SEC

- DAY MODE OPERATION DISPLAY**
- MINIMUM LEVEL 0.05%
 - MAXIMUM LEVEL 100.00%
- CONFIGURE CURVE**
- VERTEX 1 INPUT LEVEL 1.00%
 - VERTEX 1 OUTPUT LEVEL 1.00%
 - VERTEX 2 INPUT LEVEL 8.00%
 - VERTEX 2 OUTPUT LEVEL 1.00%
 - VERTEX 3 INPUT LEVEL 88.00%
 - VERTEX 3 OUTPUT LEVEL 100.00%
 - VERTEX 4 INPUT LEVEL 99.00%
 - VERTEX 4 OUTPUT LEVEL 100.00%
- PHOTOCELL OVERRIDE**
- PHOTOCCELL TRANSITION 10.0%
- KEYS**
- MINIMUM LEVEL 1.00%
 - MAXIMUM LEVEL 100.00%



VAN'S AIRCRAFT, INC. 14401 NE KEIL RD. NI AURORA, OR 97002 USA

ROTAX 912IS G3X NAVCOM ELECTRICAL SYSTEM

DATE DRAWN: 04/06/2018

DRAWN BY: T. DE MAN

TOLERANCES: NONE (UNLESS OTHERWISE SPECIFIED)

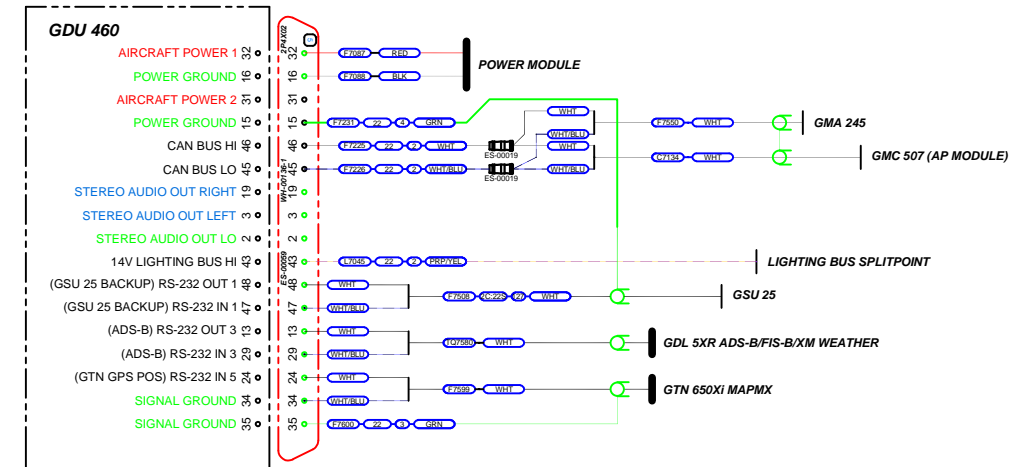
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SCALE: NONE PAGE: 1 OF 11

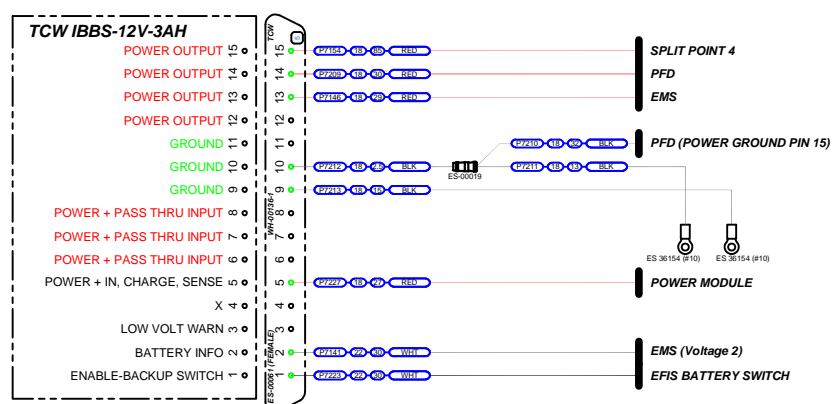
PFD




MFD



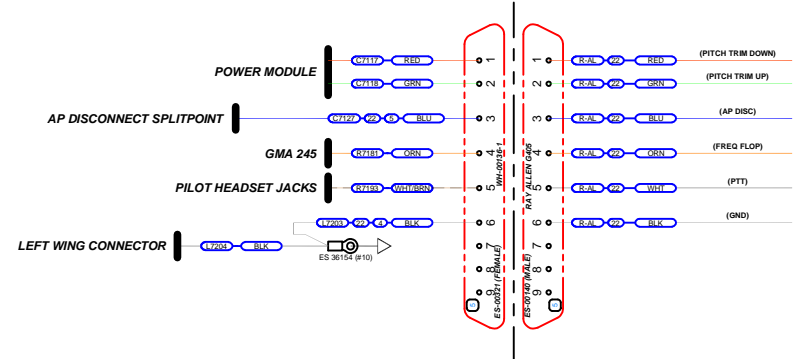
EFIS BATTERY



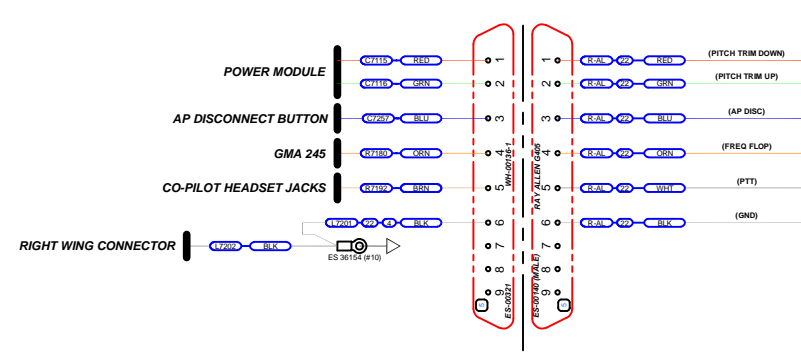
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	ROTAX 912IS G3X NAVCOM ELECTRICAL SYSTEM	
DATE DRAWN: 04/06/2018	UNITS: INCHES	WH-00136-1
DRAWN BY: T. DE MAN	TOLERANCES: NONE (UNLESS OTHERWISE SPECIFIED)	SCALE: NONE PAGE: 2 OF 11
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REVISIONS			
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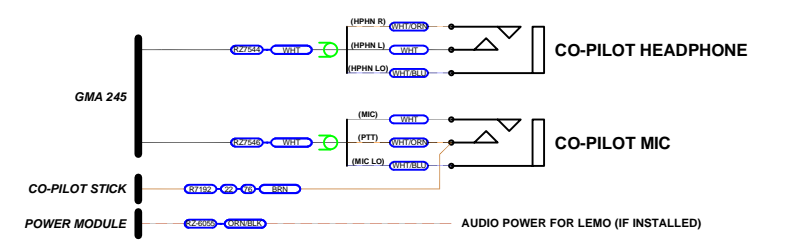
PILOT STICK GRIP



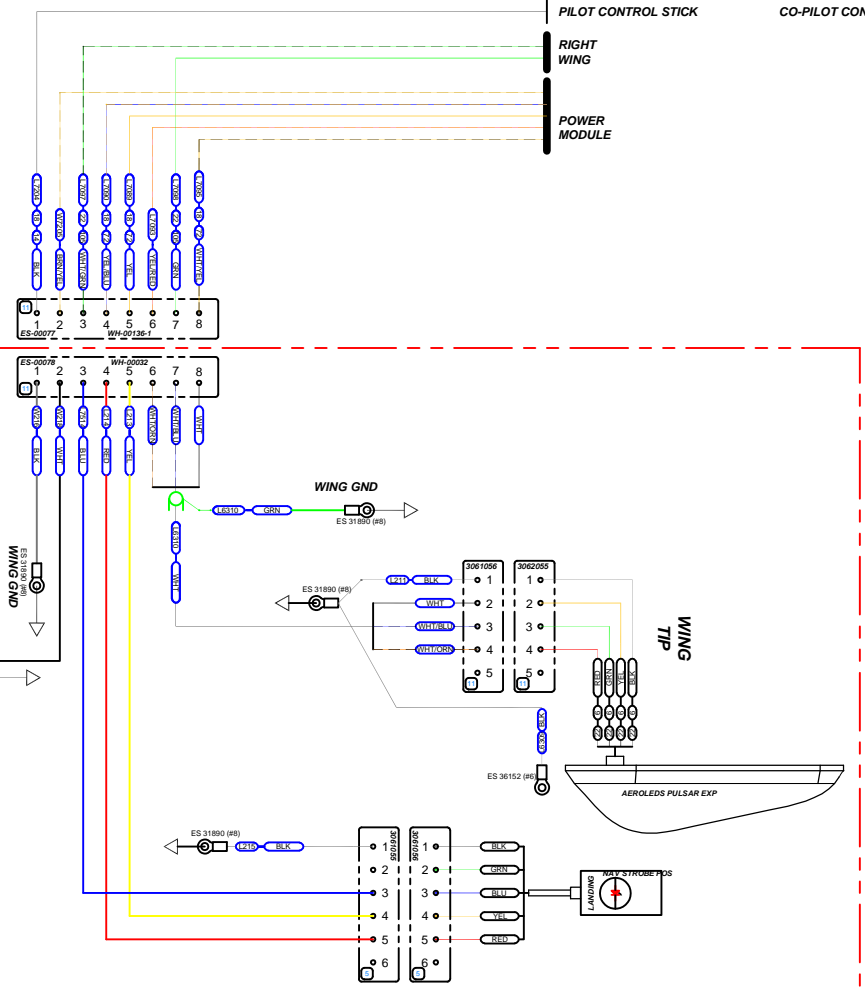
CO-PILOT STICK GRIP



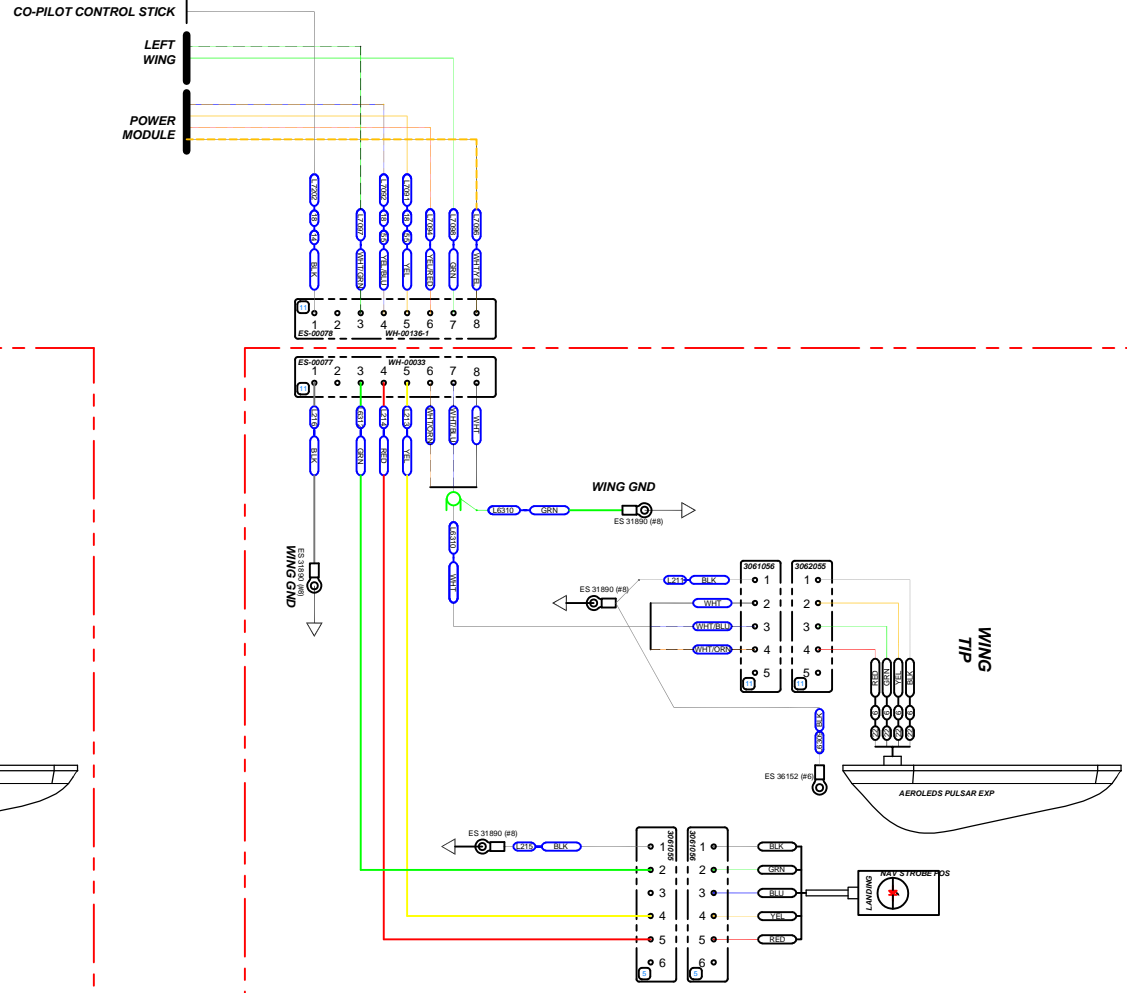
CO-PILOT HEADSET JACKS



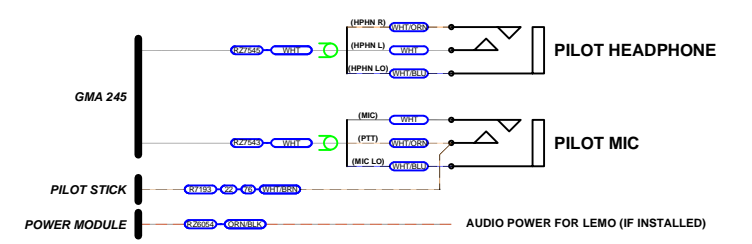
LEFT WING CONNECTOR



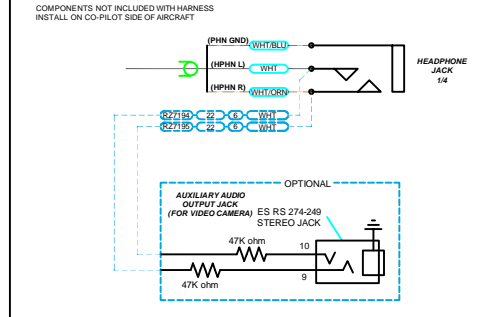
RIGHT WING CONNECTOR



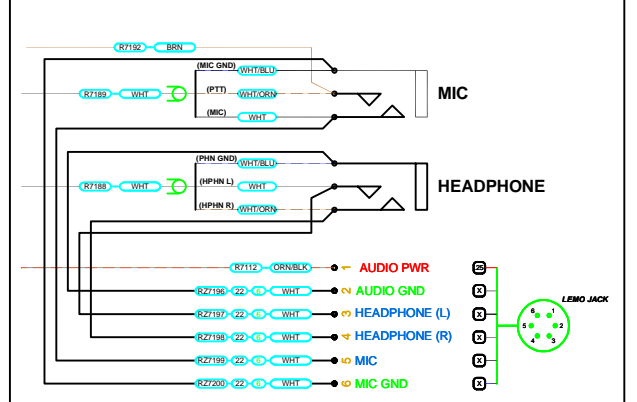
PILOT HEADSET JACKS



OPTIONAL AUDIO OUTPUT




OPTIONAL LEMO JACK



THESE COMPONENTS NOT INCLUDED IN AVIONICS KIT, NOR PART OF THE WH-00136-1. SEE WH-00032 AND WH-00033 RV-12IS WING HARNESS DRAWINGS.

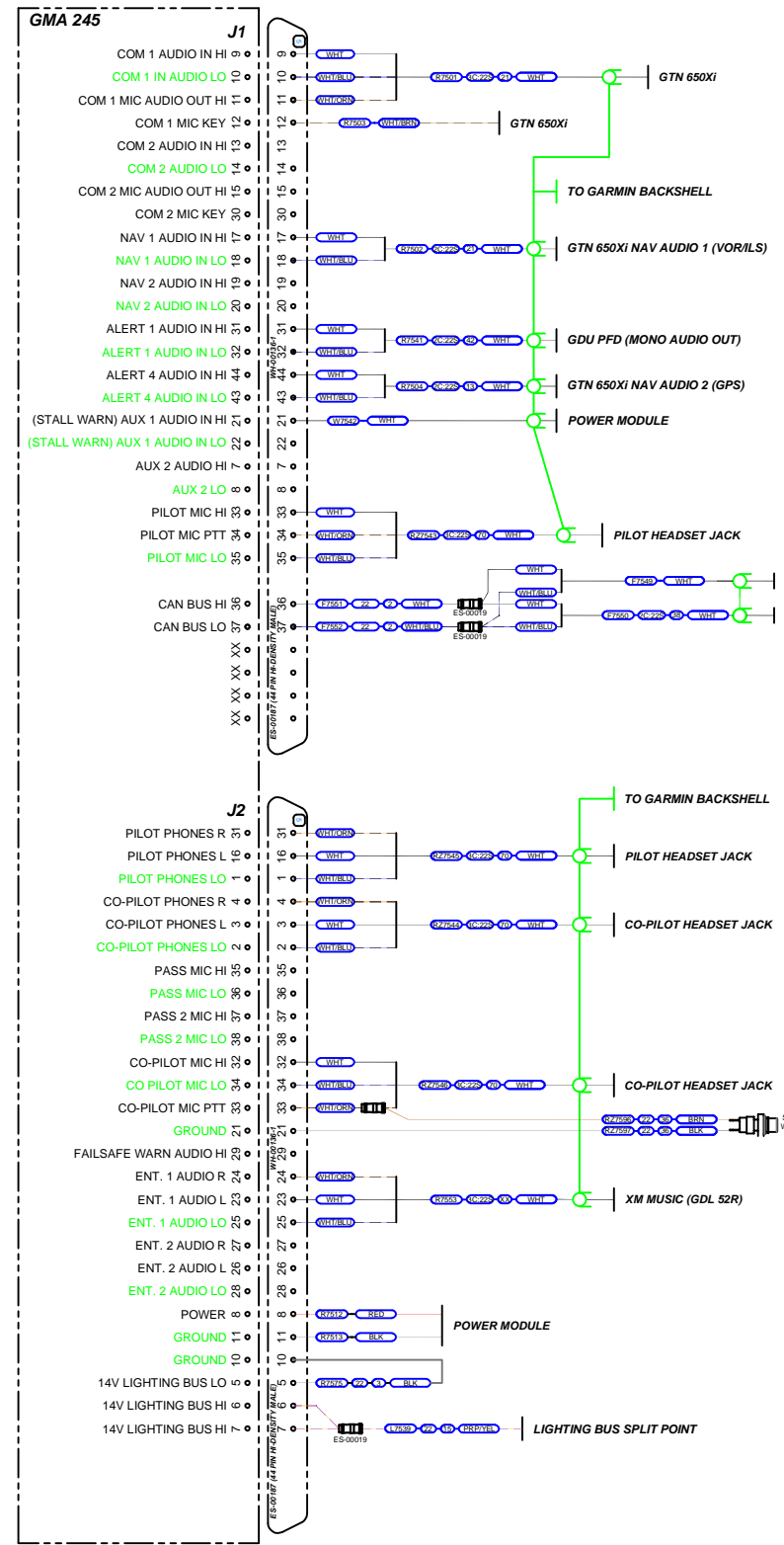
THESE COMPONENTS NOT INCLUDED IN AVIONICS KIT, NOR PART OF THE WH-00136-1. SEE WH-00032 AND WH-00033 RV-12IS WING HARNESS DRAWINGS.

	VAN'S AIRCRAFT, INC. 14401 NE KEIL RD. NI AURORA, OR 97002 USA	
	ROTAX 912IS G3X NAVCOM ELECTRICAL SYSTEM	
DATE DRAWN: 04/06/2018 DRAWN BY: T. DE MAN TOLERANCES: NONE (UNLESS OTHERWISE SPECIFIED)	UNITS: INCHES SCALE: NONE	WH-00136-1 PAGE: 3 OF 11
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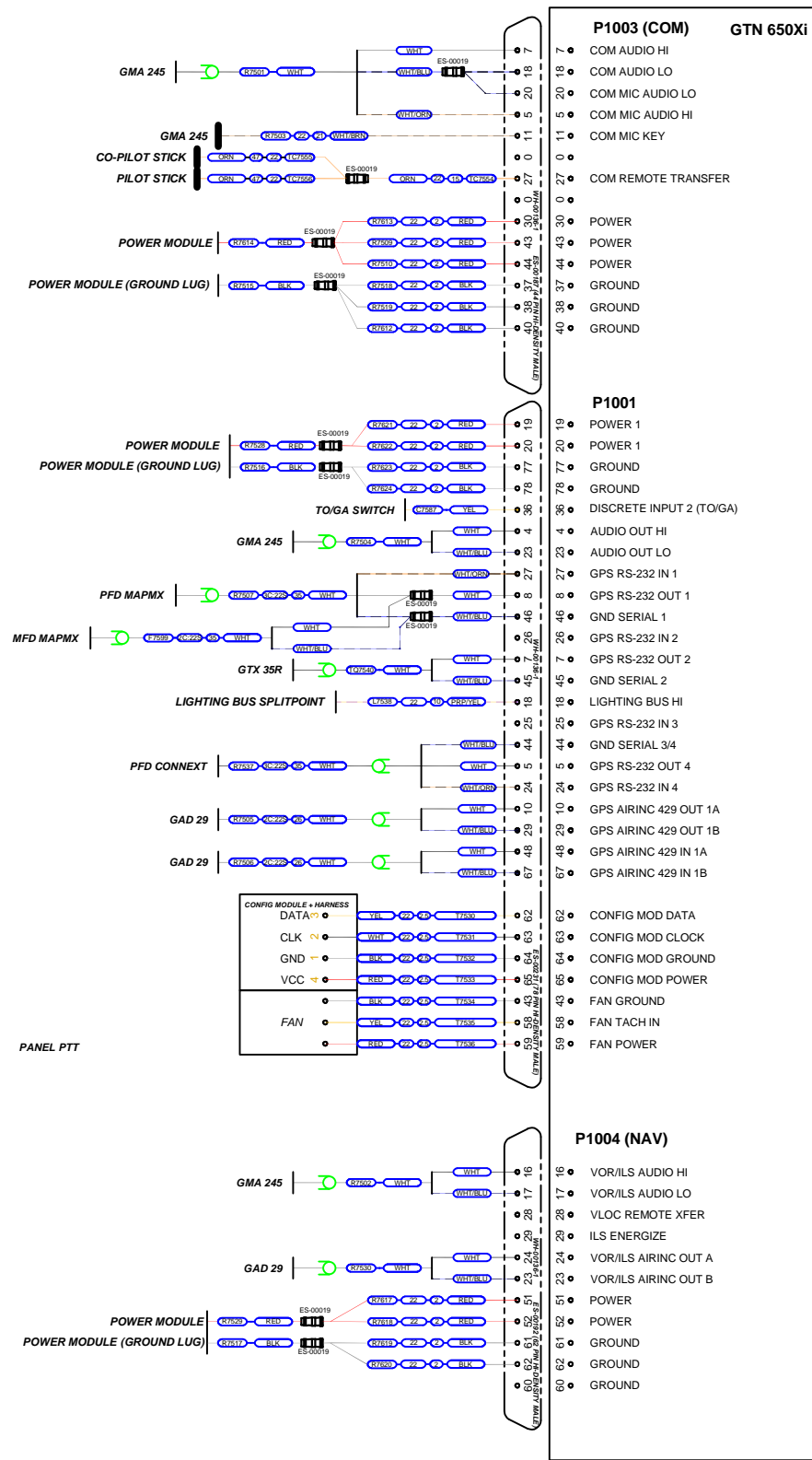
REV	DESCRIPTION	DATE	APPROVAL
R1	SEE PG 1		

USE GARMIN BACKSHELL

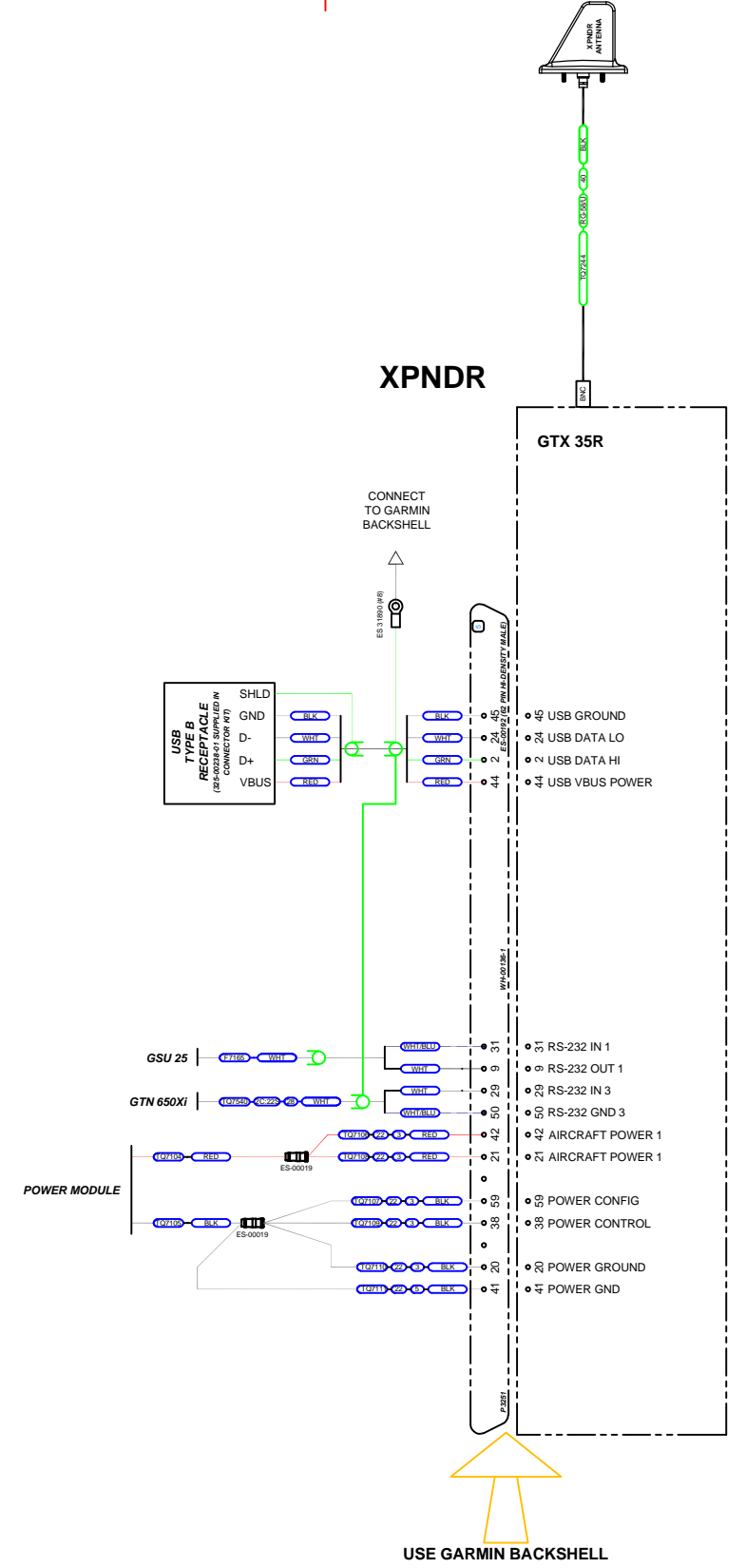
AUDIO PANEL




GTN NAV/COM



XPNDR





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14401 NE KEIL RD. NI
AURORA, OR
97002 USA

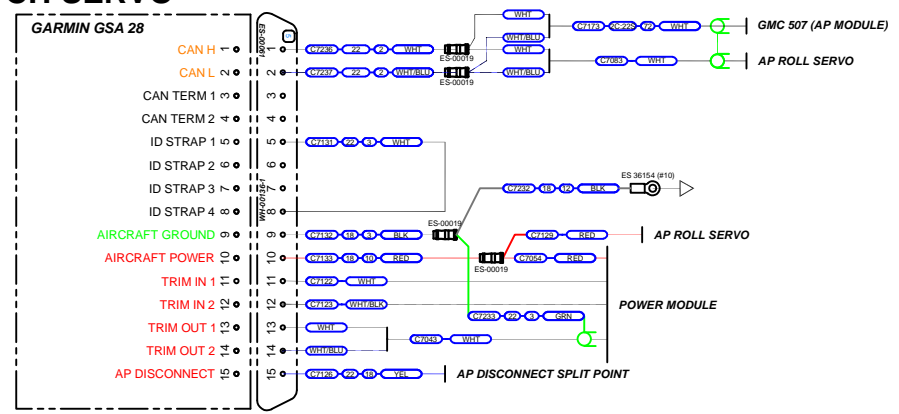
ROTAX 912IS G3X NAVCOM ELECTRICAL SYSTEM

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DRAWN BY: T. DE MAN		WH-00136-1	
TOLERANCES: NONE		SCALE: NONE	
(UNLESS OTHERWISE SPECIFIED)		PAGE: 4 OF 11	

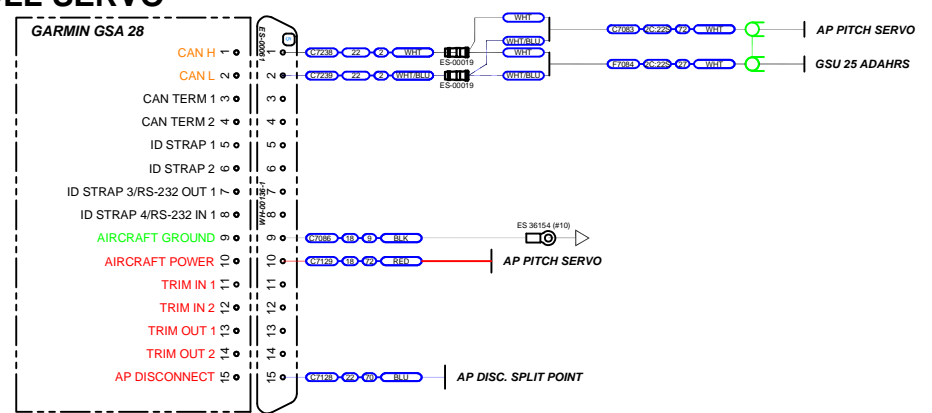
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REVISIONS			
REV	DESCRIPTION	DATE	APPROVAL
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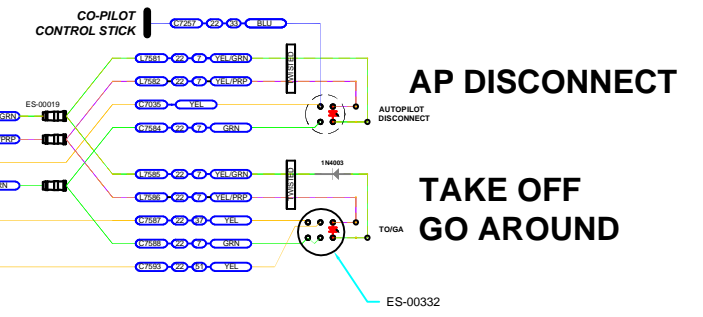
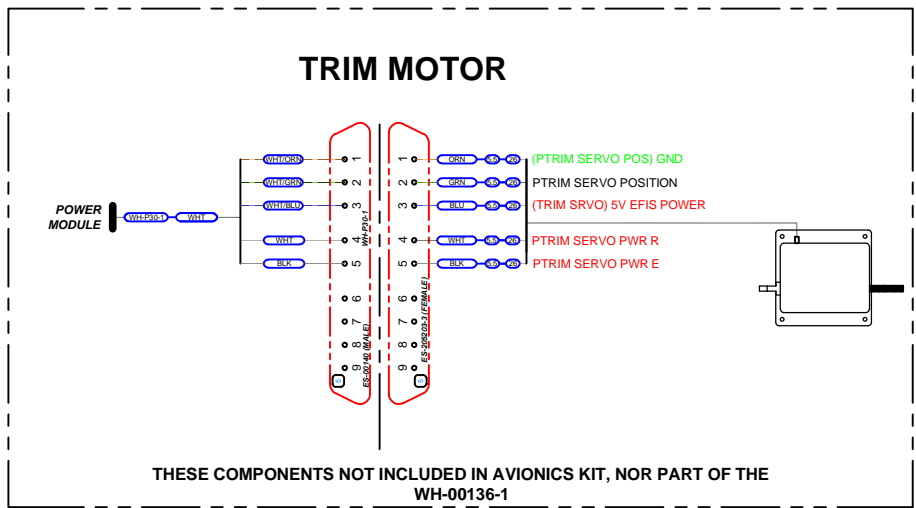
AUTOPILOT PITCH SERVO



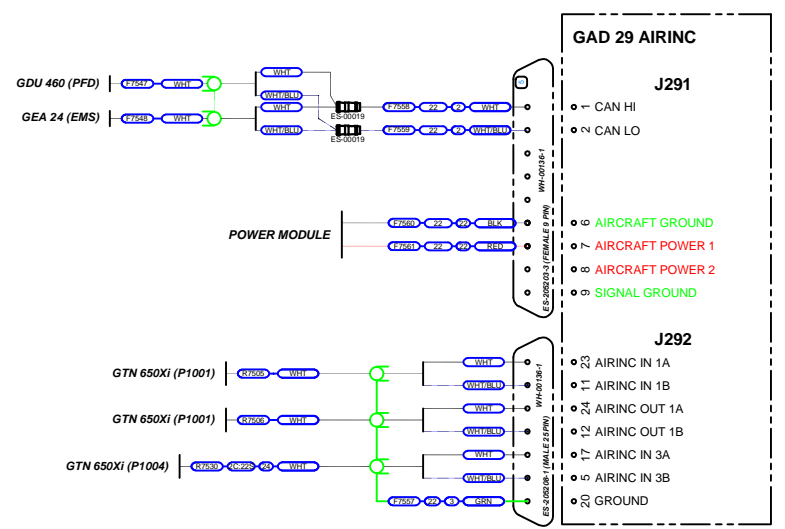
AUTOPILOT ROLL SERVO



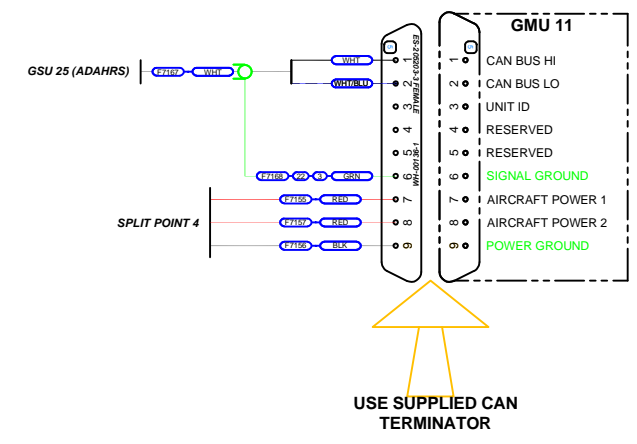
TRIM MOTOR



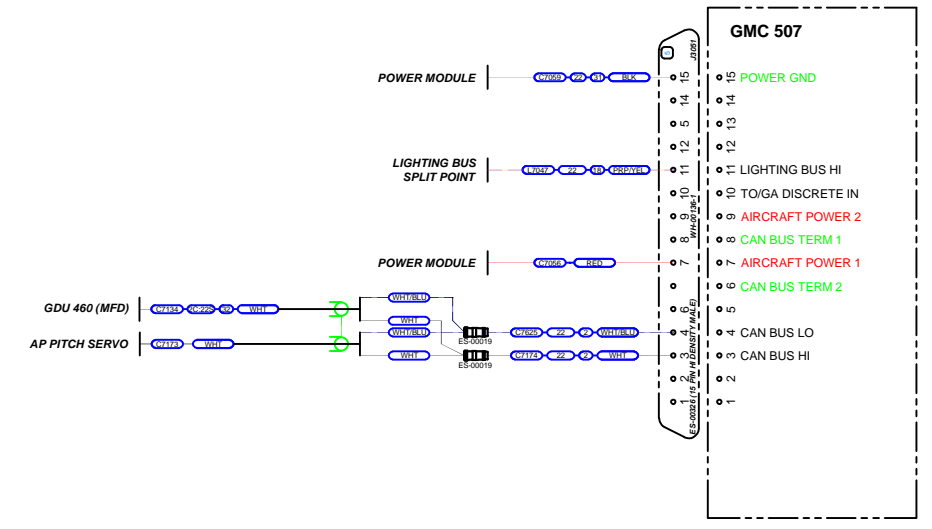
DATA BUS ADAPTER




MAGNETOMETER



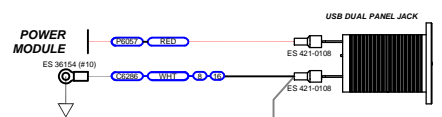
AP MODULE



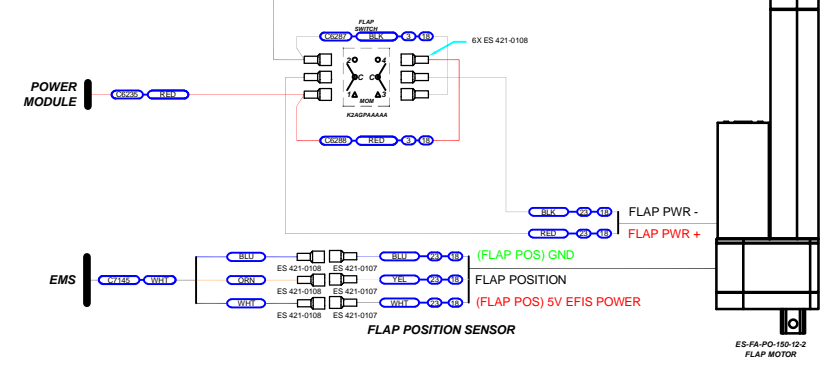
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	ROTAX 912IS G3X NAVCOM ELECTRICAL SYSTEM	
DATE DRAWN: 04/06/2018 DRAWN BY: T. DE MAN TOLERANCES: NONE (UNLESS OTHERWISE SPECIFIED)	UNITS: INCHES	WH-00136-1
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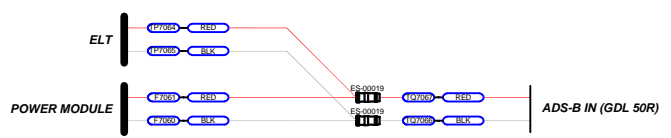
POWER OUTLET



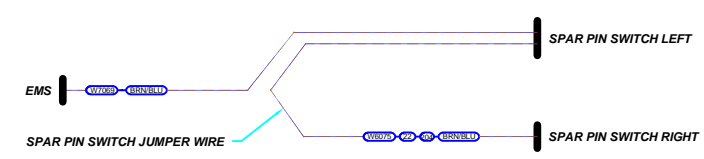
FLAP MOTOR



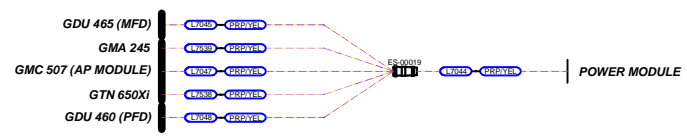
SPLIT POINT 5



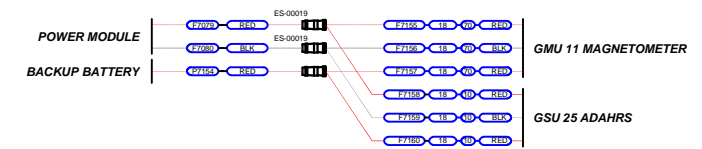
SPLIT POINT 1



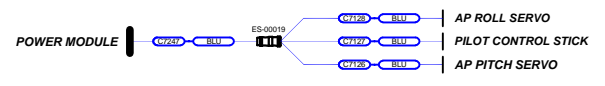
LIGHTING BUS SPLIT



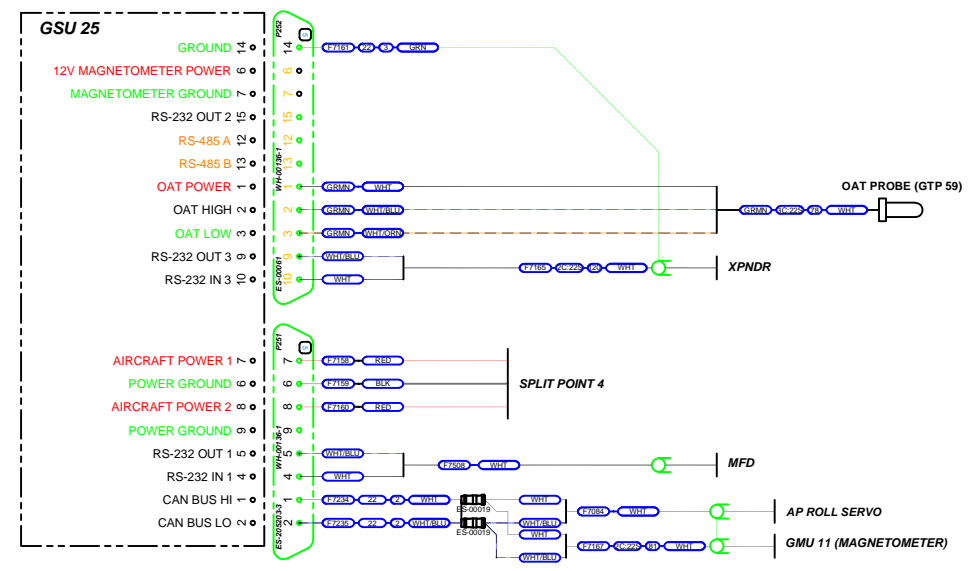
SPLIT POINT 4



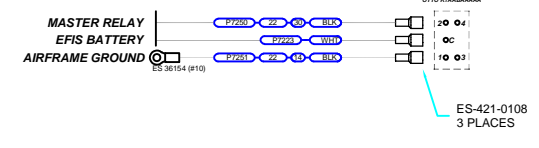
AUTOPILOT DISC. SPLIT POINT



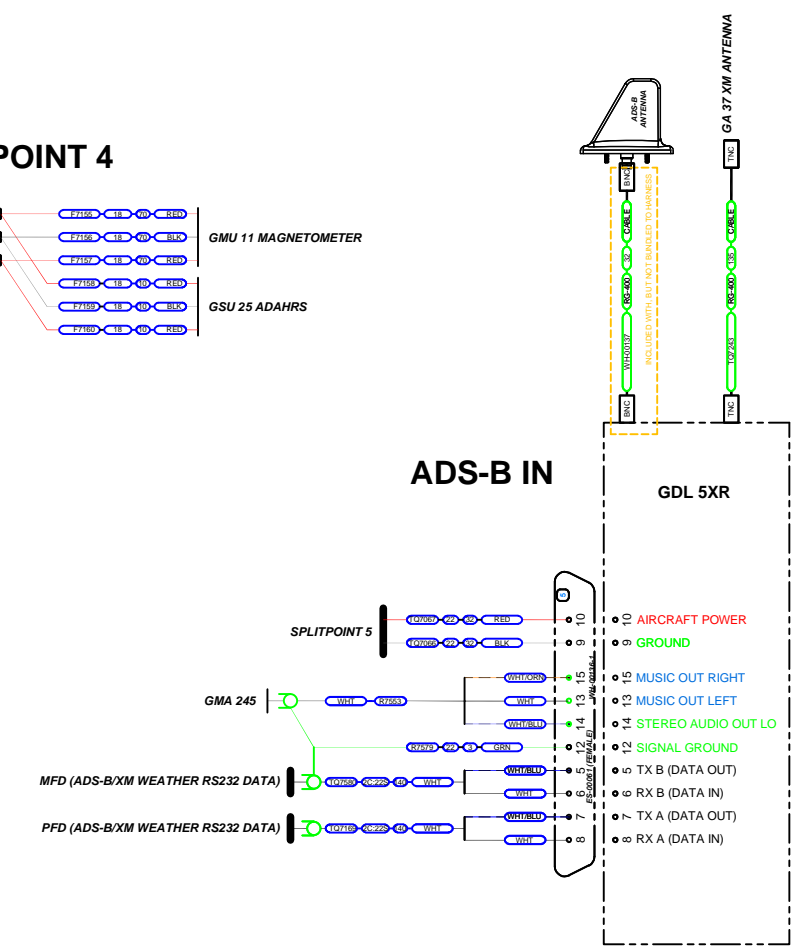
ADAHRS



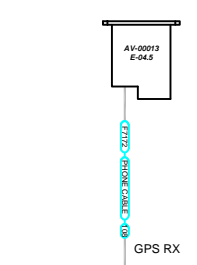
EFIS BATTERY SWITCH



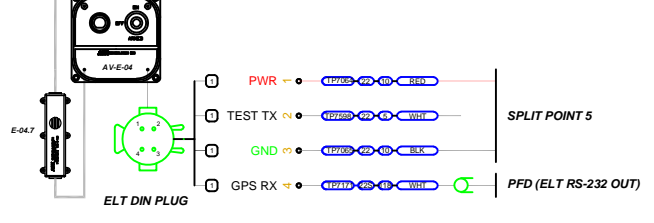
ADS-B IN



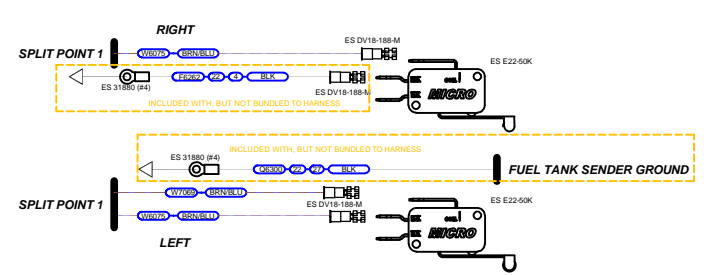
ELT REMOTE



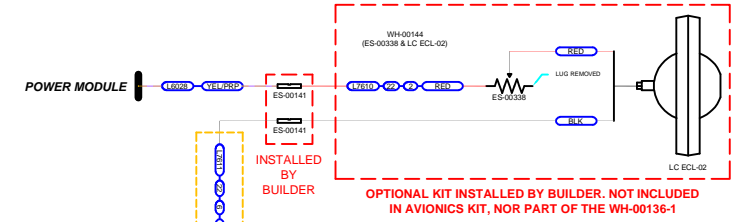
ELT



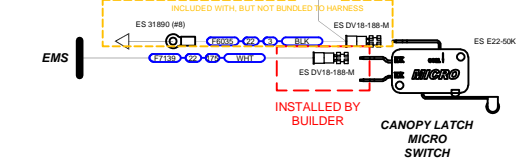
SPAR PIN SWITCHES



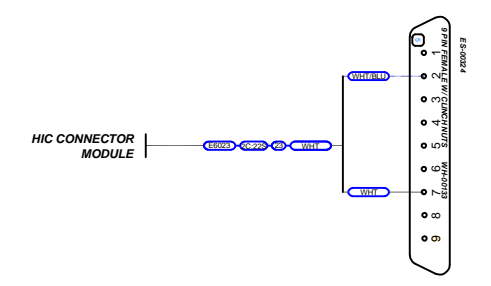
CABIN LIGHT & DIMMER



CANOPY SWITCH



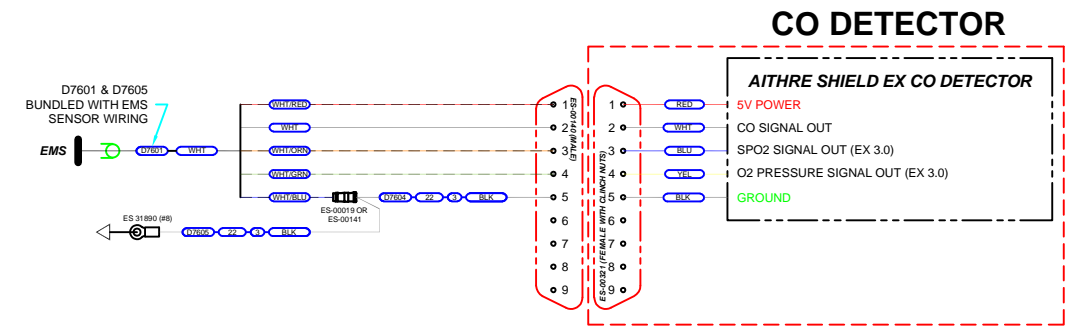
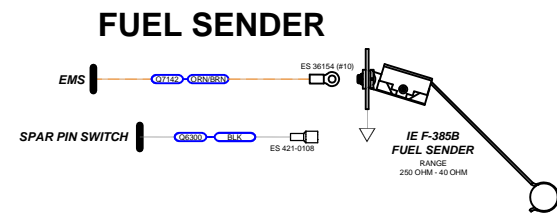
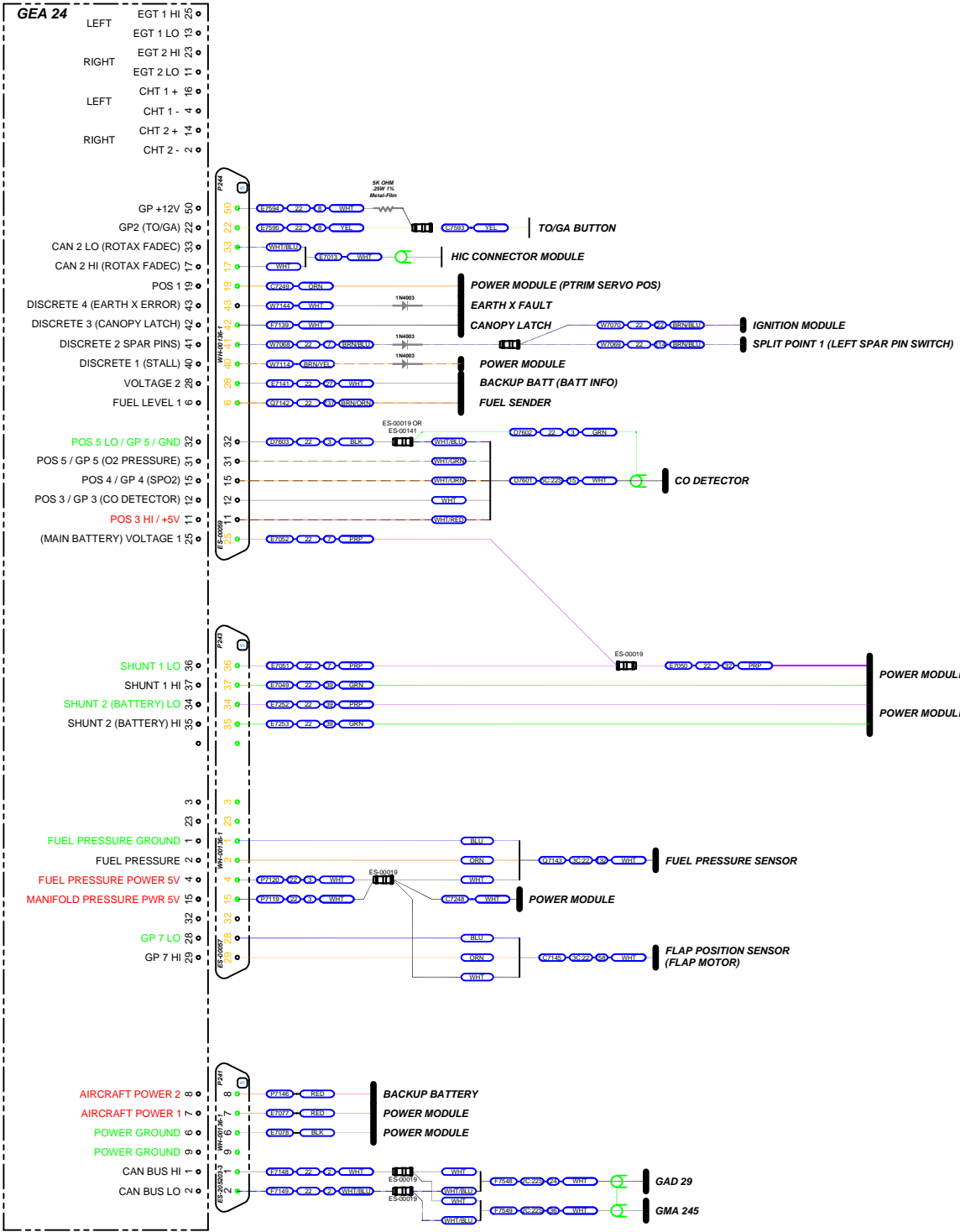
912iS MAINT PORT



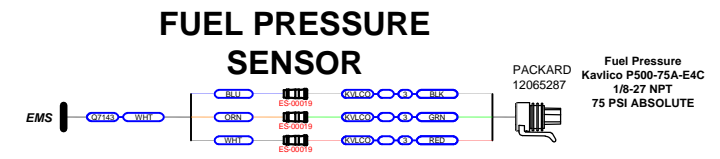
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	ROTAX 912iS G3X NAVCOM ELECTRICAL SYSTEM	
DATE DRAWN: 04/06/2018	INCHES	WH-00136-1
DRAWN BY: T. DE MAN	SCALE: NONE	PAGE: 6 OF 11
TOLERANCES: NONE (UNLESS OTHERWISE SPECIFIED)	C-S17F ORIGINAL	


REVISIONS			
REV	DESCRIPTION	DATE	APPROVAL
R1	SEE PG 1		

EMS



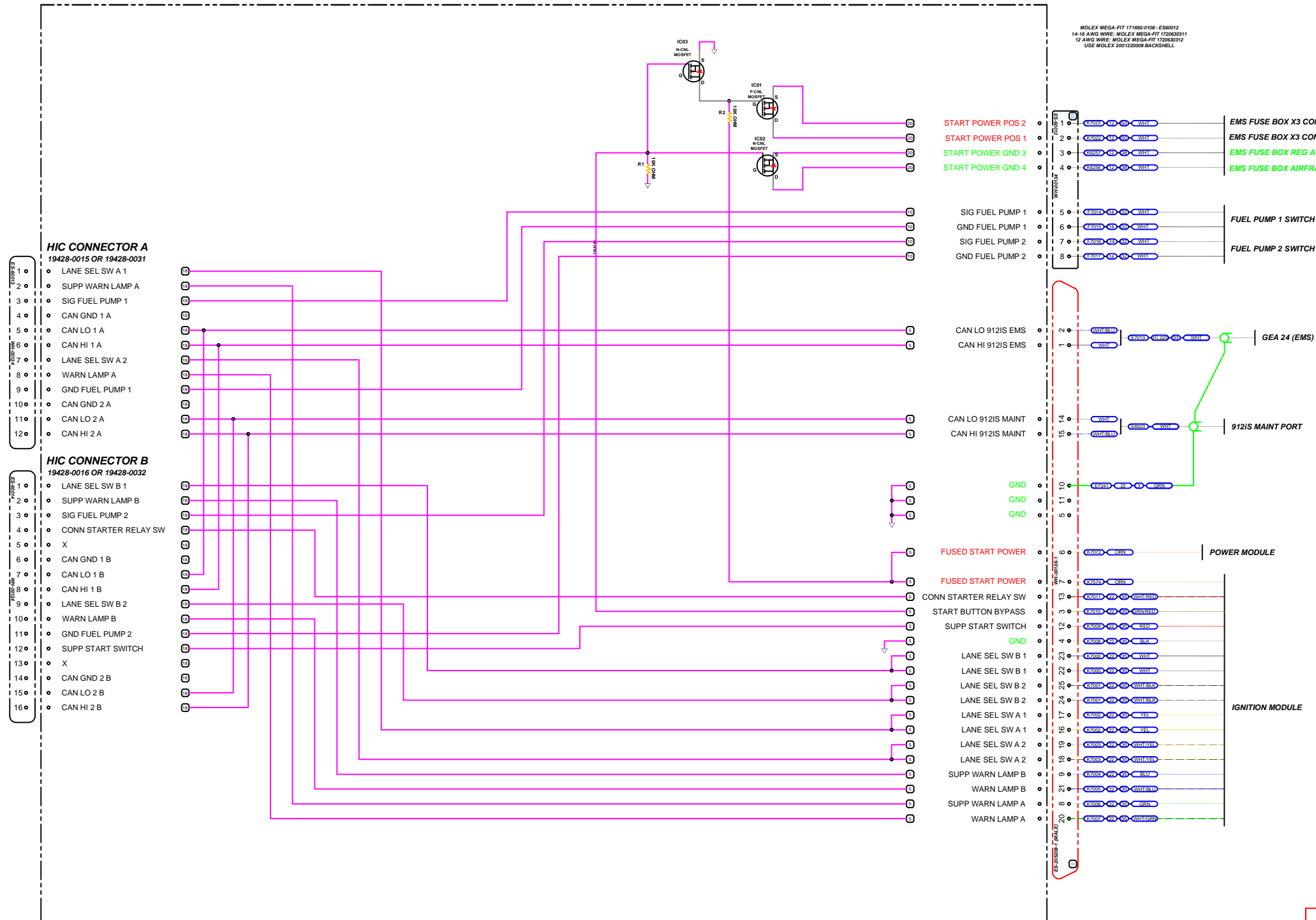
OPTIONAL KIT INSTALLED BY BUILDER. NOT INCLUDED IN AVIONICS KIT, NOR PART OF THE WH-00136-1



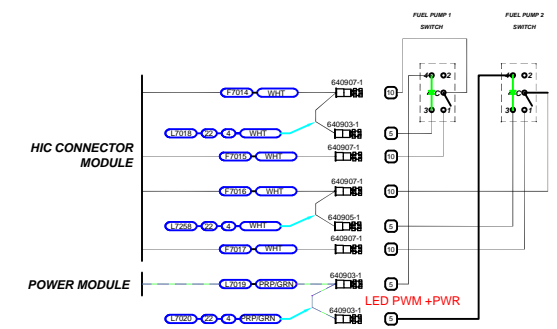
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HIC CONNECTOR MODULE IS PCB ES-60009

REVISIONS			
REV	DESCRIPTION	DATE	APPROVE
R1	SEE PG 1		



FUEL PUMP SWITCHES





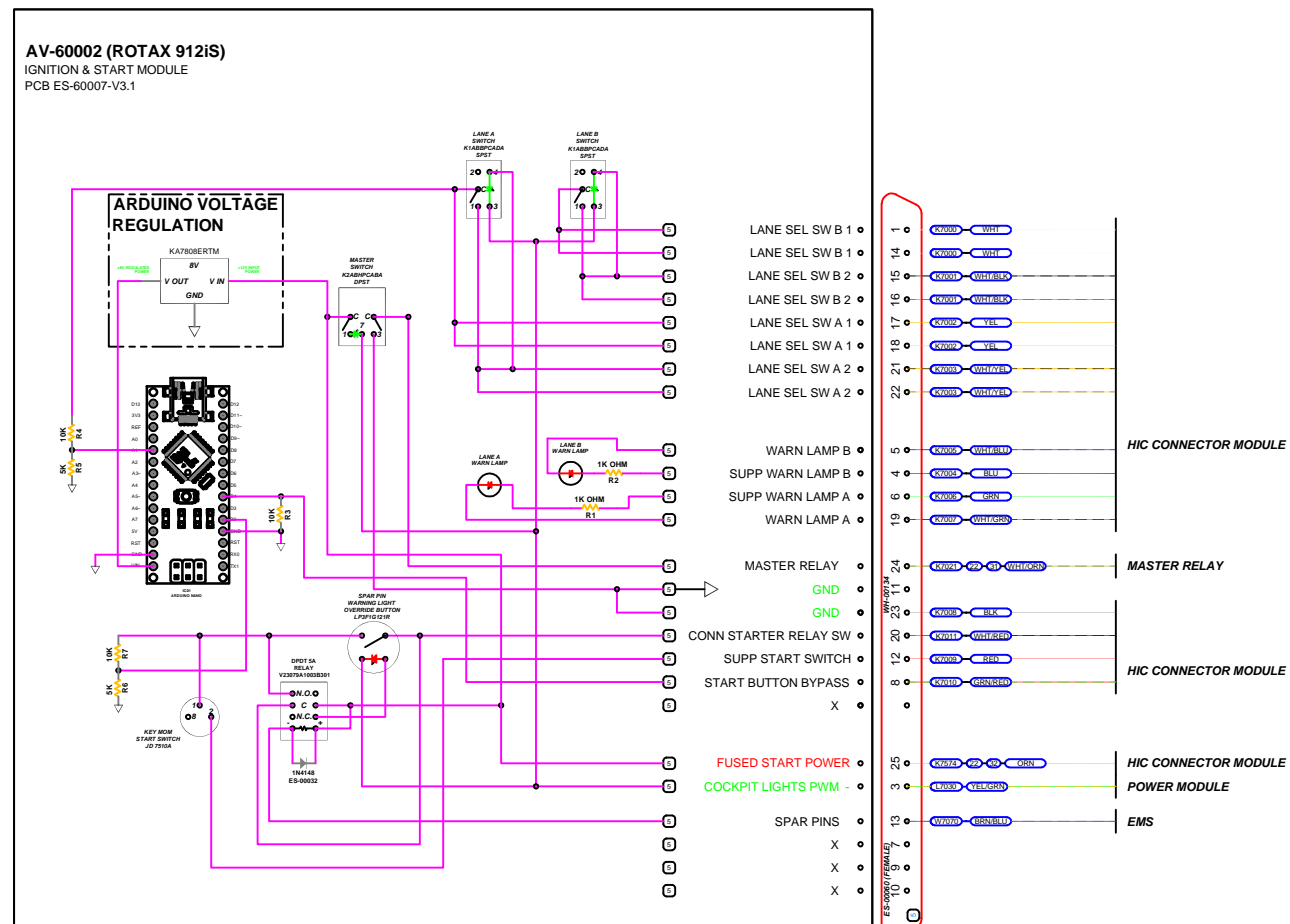
VAN'S AIRCRAFT, INC.


14401 NE KEIL RD. NI
AURORA, OR
97002 USA

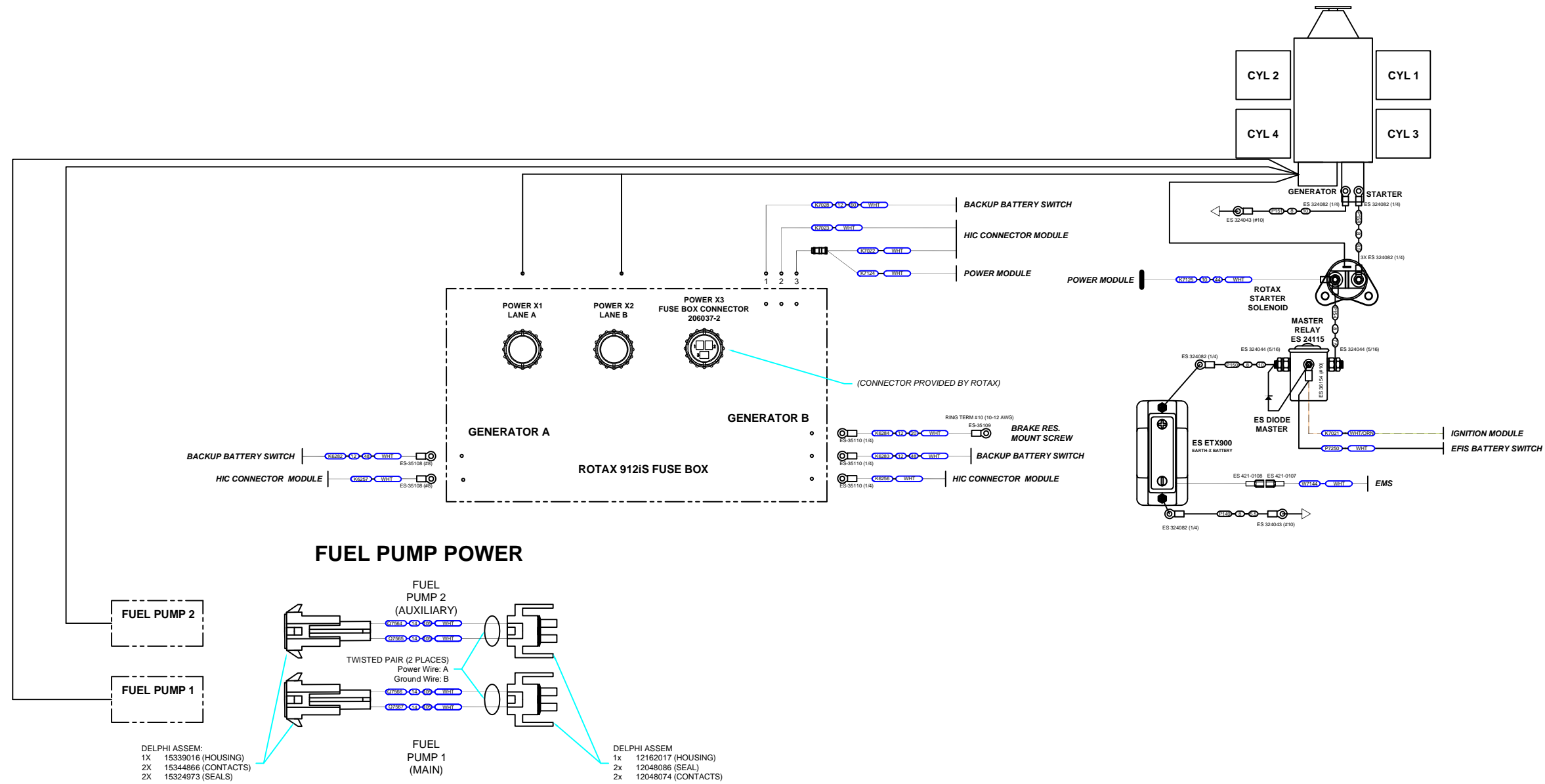
**ROTAX 912IS G3X NAVCOM
ELECTRICAL SYSTEM**


DATE DRAWN: 04/06/2018		UNITS:	WH-00136-1
DRAWN BY: T. DE MAN		INCHES	
TOLERANCES: NONE (UNLESS OTHERWISE SPECIFIED)		SCALE: NONE	PAGE: 9 OF 11

DATE PLEN ENAME: C:\REV_17\System\REV\Electrical System\REV\Electrical System\912IS NavCom\RM\2018\11\DWG C:\S17F ORIGINAL



	VAN'S AIRCRAFT, INC. 14401 NE KEIL RD. NI AURORA, OR 97002 USA	
	ROTAX 912iS G3X NAVCOM ELECTRICAL SYSTEM	
DATE DRAWN: 04/06/2018	UNITS: INCHES	WH-00136-1
DRAWN BY: T. DE MAN	TOLERANCES: NONE (UNLESS OTHERWISE SPECIFIED)	SCALE: NONE PAGE: 10 OF 11
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	VAN'S AIRCRAFT, INC. 14401 NE KEIL RD. NI AURORA, OR 97002 USA	
	ROTAX 912iS G3X NAVCOM ELECTRICAL SYSTEM	
DATE DRAWN: 04/06/2018	UNITS: INCHES	WH-00136-1
DRAWN BY: T. DE MAN	TOLERANCES: NONE (UNLESS OTHERWISE SPECIFIED)	SCALE: NONE PAGE: 11 OF 11
<small>DATA FILE: ENAMEL - C:\REV_17\Systems_VR\Electrical System_VR\Electrical System_0125 NavCom_RML2018.11.DWG C:\S17F ORIGINAL</small>		