G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
Limitations	Max Ramp Weight	75,000 lbs **SN 4001-4239 With ASC 016 SN 4240 & Subs**	**- 25,000 lbs**	91,400 lbs	**- 8,600 lbs**	100,000 lbs
Limitations	Max Ramp Weight **Extended Range**	75,000 lbs	**- 29,000 lbs**	91,400 lbs	**- 12,600 lbs**	GVI-ER 104,000 lbs **ASC014**
Limitations	Max Ramp Weight	74,300 lbs **SN 4001-4239**	**- 25,700 lbs**	91,400 lbs	**- 8,600 lbs**	100,000 lbs
Limitations	Max Ramp Weight – **Airport Access**			75,000 **ASC 008B**		74,900 lbs **ASC 026**
Limitations	Max Ramp Weight – **Airport Access**					90,000 lbs **ASC 027**
Limitations	Max Ramp Weight – **Airport Access**					95,000 lbs **ASC 028**

G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
Limitations	Max Takeoff Weight	74,600 lbs **SN 4001-4239 With ASC 016 SN 4240 & Subs**	**- 25,000 lbs**	91,000 lbs	**- 8,600 lbs**	99,600 lbs
Limitations	Max Takeoff Weight **Extended Range**	74,600 lbs	**- 29,000 lbs**	91,000 lbs	**- 12,600 lbs**	**GVI-ER** 103,600 lbs **ASC14**
Limitations	Max Takeoff Weight	73,900 lbs **SN 4001-4239**	**- 25,700 lbs**	91,000 lbs	**- 8,600 lbs**	99,600 lbs
Limitations	Max Landing Weight	66,000 lbs	**- 17,500 lbs**	75,300 lbs	**- 8,200 lbs**	83,500 lbs
Limitations	Max Landing Weight **With ASC**	58,500 lbs **ASC 007E**	**- 25,000 lbs**	75,000 lbs **ASC 008**	**- 8,500 lbs**	**NA**
Limitations	Max Zero Fuel Weight	49,000 lbs	**- 11,500 lbs**	54,500 lbs	**- 6,000 lbs**	60,500 lbs
Limitations	Max Zero Fuel Weight **With ASC**	48,000 lbs **ASC 008A**	**- 12,500 lbs**	53,500 lbs **ASC 009B**	**- 7,000 lbs**	60,000 lbs - **ASC 30** 59,500 lbs - **ASC 46**
Limitations	Max Zero Fuel Weight **JAA Cert**	**NA**	**NA**	52,000 lbs **JAA Cert**	**- 8,500 lbs**	**NA**

G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
Limitations	Max Fuel Weight	29,500 lbs	**- 14,700 lbs**	41,300 lbs	**- 2,900 lbs**	44,200 lbs
Limitations	Max Fuel Weight	29,500 lbs	**- 18,700 lbs**	41,300 lbs	**- 6,900 lbs**	**GVI-ER** 48,200 lbs **ASC014**
Limitations	Max Operating Altitude	45,000 ft	**- 6,000 ft**	51,000 ft	**Same**	51,000 ft
Limitations	Mmo	0.880	**- 0.045**	0.885	**- 0.040**	0.925
Limitations	Reverse Thrust MAX LP (%)	65.0 %	**- 13.1%**	70.0 % 30 Seconds	**- 8.1%**	78.1% 30 Seconds
Limitations	Minimum flight crew	**Pilot and copilot**		**Same as G450**		**Same as G450**
	Passengers	Passengers shall not exceed **19**		**Same as G450**		**Same as G450**
		No Requirement		**An additional trained crewmember** must be carried on all flights of **10 to 19 passengers.** The required pilot and copilot cannot serve this function.		No Requirement **Same as G450**

G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
Dimension	Fuselage Length	89 Ft 3 In.	**- 10 Ft 6 In**	96 Ft 5 In.	**- 3 Ft 4 In**	99 Ft 9 In.
Dimension	Wing Tip	77 Ft 4 In.	**- 22 Ft 4 In**	93 Ft 6 In.	**- 6 Ft 2 In**	99 Ft 8 In.
Dimension	Tail Height	25 Ft 2 In.	**- 2 In**	25 Ft 11 In.	**+ 3 In**	25 Ft 8 In.
Dimension	Fuselage Width	7 Ft 10 In.	**- 1 Ft 2 In**	7 Ft 10 In.	**- 1 Ft 2 In**	9 Ft.
Dimension	Baggage Compartment	169 Ft	46 cu ft.	193 cu ft.	22 cu ft.	215 cu ft.
Dimension	Baggage Door	40 inches high 35 inches wide	4 inches higher - 8 inches less wide	35 inches high 39 inches wide	1 inch higher 4 inches less wide	36 inches high 43 inches wide
Dimension	Baggage Door Lower edge	? inches high	? inches high	86 inches high	12 inches higher	74 inches high

G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
Overhead Panel Layout	System Test	HMG Test Switch on System Monitor Test Panel		HMG Test Switch on System Monitor Test Panel		RAT Installed RAT Test Switch Installed 15 KVA
Overhead Panel Layout	Ram Air Turbine GEN Switch installed	HMG Switch 5 KVA		HMG Switch 10 KVA		RAT Installed **15 KVA**
Overhead Panel Layout	EBHA Battery Switch installed	NA		NA		EBHA Battery installed
Overhead Panel Layout	UPS Battery Switch installed	NA		NA		UPS Battery installed
Overhead Panel Layout	Continuous Ignition single switch	2 Switches 1 switch for each engine Center Console		2 Switches 1 switch for each engine Center Console **Same as G450**		Single switch for both engines
Overhead Panel Layout	ADS Probe Heat	2 Switches Primary and Standby		2 Switches Upper and Lower		4 ADS Probe Heat Switches Probe 1 Probe 2 Probe 3 Probe 4
Overhead Panel Layout	Landing Gear Dump Switch	Single Dump Switch **LDG GEAR DUMP VALVE**		Single Dump Switch **LDG GEAR DUMP VALVE** **Same as G450**		Two **LDG GEAR DUMP VALVE** Switches installed **NOSE Gear** **MAIN Gear**
Overhead Panel Layout	CVR Test	**Same as G550** SN 5183 & Subs Two tones heard in headset		SN 5183 & Subs Two tones heard in headset May be different Same SN 5182 & Subs		**Similar to G450** and **G550 SN 5183 & Subs** **Single** tone heard in headset

G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
Overhead Panel Layout	Windshield Heat Lights	4 Lights Installed		4 Lights Installed **Same as G450**		None Installed
Overhead Panel Layout	Cockpit Airflow Switch	None Installed		One switch Installed		None Installed **Same as G450**
Overhead Panel Layout	Door Open Switch	**None Installed** Door Closed Switch Switch ONLY works with ESS power applied. **Will not OPEN the MED without power or with E-Batt power only**		**None Installed** Door Closed Switch **Same as G450**		Switch installed Will open MED with **Essential power**
Flight Panel Layout	Standby Flight Instruments	SFD + EBDI Lower Display SFD command Bars = Cross Pointer		SFD + EBDI Lower Display SFD command Bars = Cross Pointer **Same as G450**		Switch Panel Unit + Display Panel = SMC No command Bars Cross Pointer ONLY

G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
Avionics	Display Controller	Display Controller		Display Controller **Same as G450**		**Standby Multifunctional Controller** Made up as a Switch Panel Unit & Display Screen
Avionics	Baro Set Knob Location	Display Controller		Display Controller **Same as G450**		Guidance Panel **Different than G450 & G550**
Avionics	Altitude Pre-Select Knob	100 Foot Increments below 18,000 feet 500 Foot Increments above 18,000 feet 10 Foot Increments within 250 feet of MDA set on DC		100 Foot Increments below 18,000 feet 500 Foot Increments above 18,000 feet 10 Foot Increments within 250 feet of MDA set on DC **Same as G450**		**1000 Foot Increments** Pull knob out for **100 foot increments** GP displays Flight Levels (FL) above transition altitude Metric Altitudes: 10 Meters Knob out 50 Meters Knob in SMC - MDA / DA
Avionics	Altitude Pre-Select Knob	If the BARO is set on the Display Controller on the PFD Command side and boxed. You can still rotate the Altitude Pre-Select Knob all the way to 0 Feet if you want		**Same as G450**		If the BARO is set on SMC on the PFD Command side and boxed. You **cannot** rotate the Altitude Pre-Select Knob all the way to 0 Feet if you want. It will stop at the altitude BARO Set
Avionics	Radar	Lateral on MAP or HSI		Lateral on MAP or HIS **Same as G450**		3-D Radar Lateral on MAP or HSI **Vertical on VSD**

G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
Avionics	Predictive Windshear Option	Not Available		Not Available **Same as G450**		Available if ASC 007 is installed
Avionics	Radar	Turning ON the radar while still on the ground- Press the STAB 4 times in 3 seconds will remove FSTBY		**Same as G450**		SMC – WXR – page 2/2 Select GND ORIDE at the 5 Left LSK Then select it again to CONFIRM
Avionics	AOA Probes	Cone type 4001 – 4142 Airfoil type 4143 @ Subs		Airfoil type		4 Multifunctional Air Data Probes **No AOA probes**
Avionics	EGPWS Switch	Flight Panel Terrain Display		Flight Panel Terrain Display **Same as G450**		Center Pedestal left side Terrain Display
Avionics	GPWS Voice ORIDE Switch	Master Warning Panel If selected to ON, it must be selected OFF from the side it was selected ON		**Same as G450**		Can be selected ON or OFF from either side
Avionics	RAD ORIDE Switch	Master Warning Panel If selected to ON, it must be selected OFF from the side it was selected ON		**Same as G450**		Can be selected ON or OFF from either side
Avionics	GPWS Switch	Right Side Center Pedestal GPWS GND/SPLR FLAP ORIDE		Right Side Center Pedestal GPWS GND/SPLR FLAP ORIDE **Same as G450**		Left Side Center Pedestal GPWS GND/SPLR FLAP ORIDE
Avionics	GND SPOILER Switch	Aft Center Pedestal		Aft Center Pedestal **Same as G450**		Left Side Center Pedestal

G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
Avionics	DU Power Supplies	DU 1 = L ESS DC DU 2 = L MAIN DC + L MAIN DC DU 3 = R MAIN DC + R ESS DC DU 4 = R ESS DC		DU 1 = L ESS DC DU 2 = L MAIN DC + L MAIN DC DU 3 = R MAIN DC + R ESS DC DU 4 = R ESS DC **Same as G450**		DU 1 = L ESS DC DU 2 = L MAIN DC DU 3 = R MAIN DC DU 4 = R ESS DC – Primary L ESS DC – Secondary
Avionics	FANS-1A	Cert F Enhanced		Cert F Enhanced		Standard
Avionics	Radio / ICS	Radio / ICS - Control Wheel		Radio / ICS - Control Wheel		**ICS Not installed on Control Wheel**
Avionics		Radio Transmit switch on CCD Below thumb rest		Radio Transmit switch on CCD Below thumb rest **Same as G450**		Radio Transmit switch on CCD Below thumb rest and Control wheel on front outboard side
Avionics	MCDUs	3 - MCDUs		3 - MCDUs **Same as G450**		3 - **N**ext **G**en MCDU II **Master, Slave, Standby Architecture** **With Block Point 1 Master, Slave, Clone Synchronous Pair with 3rd FMS in Standby**
Avionics	FMSs	Synchronous **Initiated Transfer** Independent Single		Synchronous **Initiated Transfer** Independent Single		Synchronous Independent Single

G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
Avionics	Radar Altitude Test	Display Controller – TEST page Push RAD ALT **Displays 100 feet** on both PFDs		Display Controller – TEST page Push RAD ALT **Displays 100 feet** on both PFDs **Same as G450**		SMC – TEST page Push RAD ALT **Displays 50 feet** on both PFDs Press & Hold test switch to get 50 feet **50T** in the HUD
Avionics	SV- PFD	SVS or ESVS Option		SVS or ESVS Option		ESVS - **Standard**
Avionics	EVS Camera	Under the nose		Under the nose **Same as G450**		On top of nose
Avionics	EVS Camera Overhaul Period	1,500 flight hours or 3 Years		1,500 flight hours or 3 Years **Same as G450**		1,500 flight hours or 3 Years Or On Condition
Avionics	EVS I	May take up to 30 minutes to cool		May take up to 30 minutes to cool		NA
Avionics	EVS II	**Same as G650**		**Same as G650**		May take up to 15 to 30 minutes to cool
Avionics	HUD Display	SN 4001 – 4201 Honeywell HUD Or SN 4202 & Subs Collins HUD II		SN 5001 - 5275 Honeywell HUD Or SN 5276 & Subs Collins HUD II		Collins HUD II **Standard Equipment**
Avionics	HUD Display	EVS I		EVS I		**NA**
		EVS II Option		EVS II Option		EVS II **Only**
Avionics	**HUD I** Control Knobs	Rotates CW and CCW **with clicks** and **no STOP positions** SN 4001 – 4201		**Same as G450** SN 5001 - 5275		NA
Avionics	**HUD II** Control Knobs	**Same as G650** SN 4202 & Subs		**Same as G650** SN 5276 & Subs		Rotate CW and CCW smoothly with **no clicks** and **with STOP positions** **Video BRT has a tic mark indicating best place for brightness in AUTO mode**

G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
Avionics	HUD Display	HUD I Smaller Combiner Symbology SN 4001 – 4201		**Same as G450** SN 5001 - 5275		**Collins HUD II Only** Larger Combiner Some of the Symbology Is different
Avionics	IRS Mode Select Unit	Aircraft must be stationary on the ground to align. The pilot must initiate a Position Initialization on one of the three MCDUs		**Same as G450**		Aircraft must be stationary on the ground to align. The Hybrid IRS will initiate a Position Initialization **automatically** if a GPS position is available **There is no indication that the FMS has done this.**
Avionics	ADF Receivers	Dual ADF Receivers		Dual ADF Receivers **Same as G450**		Single ADF Receiver **ADF #1 Only** **Use for navigation prohibited above 2500 feet AGL**
Avionics	ADF Receivers	ADF #1 – L ESS DC Bus ADF #2 – R Main DC Bus		ADF #1 – L ESS DC Bus ADF #2 – R Main DC Bus **Same as G450**		ADF #1 – L ESS DC Bus ADF #2 – **Not Installed**
Avionics	ACPs on E-Batts	Pilots ACP powered CPs not powered but hard wired to Pilots if EMER selected		Pilots ACP powered CPs not powered but hard wired to Pilots if EMER selected **Same as G450**		Pilots, CPs and Jump Seat ACP powered

G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
Avionics	CVR Test	Push and Hold the CVR button on ACP until CVR is displayed. Push and Hold CVR button on System Test Panel until switch light illuminates “TEST” With your headset ON you will hear **2** - two second 800 Hz tones in the headset. Press the CVR button on the ACP to release the ACP to normal operation		S/N 5001 thru 5182, the Cockpit Voice Recorder (CVR) test function on the AV900 Audio Control Panel (ACP) is **inoperative.** G550 SN 5001 to SN 5182 **Separate panel** on Co-Pilots side panel **SN 5183 and Subs same as G450**		**Push and Hold** the CVR button on ACP until CVR is displayed. **Push and Hold** CVR button on System Test Panel until switch light illuminates “TEST” At least 3 seconds. Releasing the TEST switch with your headset ON you will hear **1 - two second 800 Hz** tone in the headset. Press the CVR button on the ACP to release the ACP to normal operation
Avionics	Do Not Operate Weather Radar within	300 ft of Refueling Operations 49 ft of Ground Personnel		300 ft of Refueling Operations 49 ft of Ground Personnel **Same as G450**		**50 ft** of Refueling Operations **11 ft** of Ground Personnel
Avionics	A/P Disconnect Button on Yoke	Disconnects A/P **Same for JAA Aircraft** Remove a RED flashing **AP1 or AP2** on PFD		**Same as G450** **Same for JAA Aircraft** Remove a RED flashing **AP1 or AP2** on PFD		**Same as G450** Must press a second time to disable the disconnect tone Remove a RED flashing **AP1 or AP2** on PFD

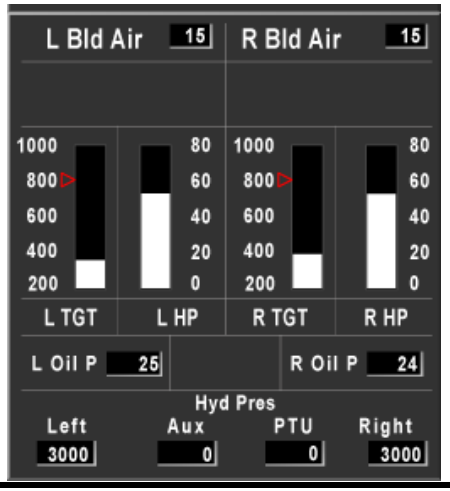
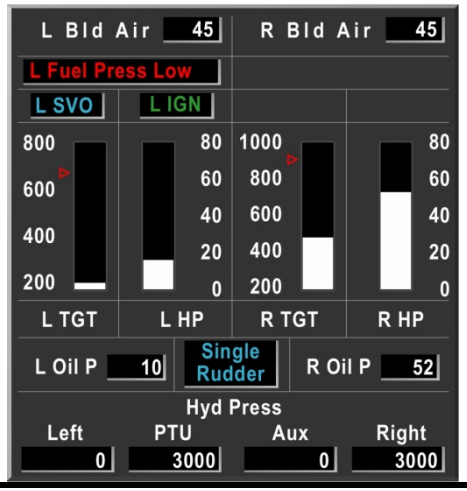
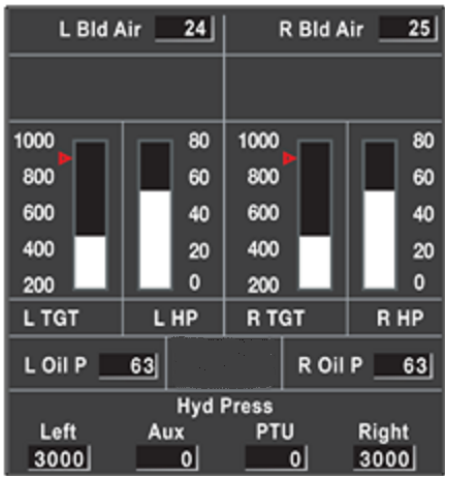
G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
Avionics	A/P Disconnect Button on Yoke	**PRESS and HOLD the A/P DISC switch for:** – Mach Trim Failure – Stall Barrier Malfunction – Runaway Pitch Trim – Frozen Pitch Trim – Un-commanded Stabilizer Movement – Un-commanded Flap Movement		**Same as G450**		**PRESS and HOLD the A/P DISC switch for:** – Un-commanded Aircraft Motion – Runaway Roll Trim

G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
Avionics	A/P Disconnect Button on Yoke	**Pressing the A/P disconnect button is the first step in these emergency procedures:** – Jammed Ailerons – Jammed Elevator – Jammed Rudder – Aileron HOPS – Elevator HOPS – Rudder HOPS		**Same as G450**		**Pressing the A/P disconnect button is the first step in these emergency procedures:** – Jammed Ailerons – Jammed Elevator – Jammed Rudder – Jammed Spoilers – Ground Spoiler Failure in Flight – Runaway Pitch Trim – Runaway Rudder Trim – FCC Multiple 2 or 3 Channels Fail – Left or Right Aileron Failure – Aileron Single Actuator Failure – Left or Right Elevator Failure – Elevator Single Actuator Failure – Jammed Flight Control Column – Jammed Flight Control Wheel – Jammed Flight Control Pedals – Rudder Failure – Rudder Single Actuator Fail – Spoiler Panel Failure – Stabilizer Failure – Autopilot Malfunction – Autopilot (AP) Failure

G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
Avionics	Engine Start 1/6 synoptic page	No Single Rudder There is no window in that area to display anything on the Engine Start page 		Single rudder is displayed on the engine start page when only one hydraulic system is available 		No Single Rudder There is no window in that area to display anything on the Engine Start page **Same as G450** 

G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
Center Pedestal Panel Layout	RAT Handle	NA		NA		RAT Handle installed
Center Pedestal Panel Layout	Parking Brake Handle	Pull and turn handle 90º		Pull and turn handle 90º **Same as G450**		Different Parking Brake Handle (Lever type)
Center Pedestal Panel Layout	RAAS Inhibit Switch	Option		Option		RAAS Inhibit Switch Installed Left side of center console.
Center Pedestal Panel Layout	FLT CTRL RESET Switch installed	NA		NA		FLT CTRL RESET Switch installed Left side of center console.
Center Pedestal Panel Layout	Electric FCS Trim Panel installed	Electric Pitch Trim Manual Rudder Trim Manual Aileron Trim		Electric Pitch Trim Manual Rudder Trim Manual Aileron Trim **Same as G450**		Electric FCS Trim Panel installed Split Aileron trim switch Split Rudder trim switch Split Pitch trim switch Auto Center Rudder Trim button
Center Pedestal Panel Layout	Emergency STAB switch	Emergency STAB switch installed		Emergency STAB switch installed **Same as G450**		**No Emergency STAB switch**
Center Pedestal Panel Layout	No Alternate Flap switch	Alternate Flap switch Installed		**No Alternate Flap switch**		**No Alternate Flap switch** **Same as G550**
Center Pedestal Panel Layout	Ground Spoiler Test Switch	Installed		Installed **Same as G450**		**No Installed**

G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
Center Pedestal Panel Layout	Lateral Control Switch Spoiler Control switch	Lateral Control switch		Spoiler Control Switch		**Neither** Switch Installed
Center Pedestal Panel Layout	CPCS SEMI Panel	CPCS SEMI Panel Installed On Center Console		CPCS SEMI Panel Installed On Center Console **Same as G450**		SMC Utilities – CPCS SEMI
Center Pedestal Panel Layout	Weather Radar Panel	2 Weather Radar Panels Installed On Center Console		2 Weather Radar Panels Installed On Center Console **Same as G450**		No Weather Radar Panels Pilot & Copilot SMC - WXR
Cockpit Side Panel	Oxygen Mask different model	Scott ATO MC 10-15-157 / -158 crew masks		Scott ATO MC 10-15-157/-158 crew masks **Same as G450**		EROS MLD20-564 With Comfort style masks with removable smoke goggles
Cockpit Side Panel	60 Hz Outlet Or 50 Hz Outlet	Option		Option		Pilot and copilot 60 Hz Outlet installed - Standard
Cockpit Side Panel	EVAS	Option		Option		EVAS installed –Standard **ASC 15 & ASC 54**
Cockpit Side Panel	Security System	Option		Option		Security System installed

G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
Fuel	Heated Fuel Return System	No Heated Fuel Return System installed		HFR lines on Fuel synoptic page are visible only when operational or supposed to be operational and inoperative:		HFR lines on Fuel synoptic page are **always visible:**
					when not operational	**White** when not operational
				Blue	when operational	**Green** when operational
				Amber	when inoperative	**Amber** when inoperative
Fuel	Pressurized Fuel servicing requires DC Electric Power	NA		NA		Pressurized Fuel Servicing requires GSB DC Electric Power
Fuel	Refueling Panel	Refueling Panel located behind pilots seat		Refueling Panel located behind pilots seat **Same as G450**		Refueling Panel located on right body fairing and function incorporated into both SMCs
Fuel	Refueling operations	Can be performed without electrical power		Can be performed without electrical power **Same as G450**		Can be performed over the wing **ONLY** without electrical power (approximately 43,650 lbs). Electrical power is required to refuel using the single point connection

G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
Fuel	Fuel Imbalance	IAW AFM Limitations Figure 1-4 55,000 lbs or less ≤ 2000 lbs 60,500 ≥ 400 lbs		1000 lbs for takeoff 2000 lbs inflight		1000 lbs for takeoff 2000 lbs inflight **Same as G550**
Fuel	Fuel Display on Standby Engine of MCDU #1	E-Batts ONLY Displays fuel quantity Only		E-Batts ONLY Displays fuel quantity Only **Same as G450**		**Does not display fuel quantity on MCDU 1** **Standby Engine** **E-Batts ONLY**
Fuel	Fuel System Test	Press the Fuel Test switch on the Annunciator Test Panel You will see 7000 14000 7000 in all locations where fuel is displayed You will get a amber "**FUEL LEVEL LOW**" CAS message		**Same as G450**		Press the Fuel Test switch on the Annunciator Test Panel You will see 7000 14000 7000 in all locations where fuel is displayed Fuel tank temperature will display -10° C If the engines are running, you will see HFRS valves cycle OPEN and turn **GREEN** Lines will turn **GREEN**

G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
Ice & Rain Protection	Ice Detector system	Advisory		Advisory **Same as G450**		Ice Detector system classified primary vs. advisory
Ice & Rain Protection	Anti-Ice Wing & Cowl	Anti-Ice automatically inhibited below 1500ft AGL & ≥ FL350		Anti-Ice automatically inhibited below 1500ft AGL & ≥ FL350 **Same as G450**		Anti-Ice **Not** automatically inhibited below 1500ft AGL but is ≥ FL350
Ice & Rain Protection	Cowl Anti-Ice	Closing Bleed Air Pressure Regulating Shutoff Valve **inhibits** Cowl Anti-Ice		Closing Bleed Air Pressure Regulating Shutoff Valve **does not inhibit** Cowl Anti-Ice Tapped off the 5th Stage		Closing Bleed Air Pressure Regulating Shutoff Valve **does not inhibit** Cowl Anti-Ice Tapped off the 5th Stage **Same as G550**
Ice & Rain Protection	Cabin Window Heat On the ground	Selecting "**CABIN WDO HT**" to "ON" while on the ground will still indicate "OFF" until the "**CABIN WDO HTRS GND BYPASS**" switch on the Systems Monitor Test Panel is selected to "**ON"**. If the windows are heated longer than 10 minutes **damage can occur to the windows.**		Selecting "**CABIN WDO HT"** to "ON" while on the ground will still indicate "OFF" until the "**CABIN WDO HTRS GROUND BYPASS"** switch on the Systems Monitor Test Panel is selected to "**ON**". If the windows are heated longer than 10 minutes **damage can occur to the windows.** **Same as G450**		Selecting "**CABIN WDO HT**" to "ON" while on the ground will still indicate "OFF" until the "**WDO HT GND BYP**" selection on the 5L LSK on page 4/4 of the CABIN SSPC is selected "**ON**" The windows are heated for 10 minutes and then turn "OFF" automatically until weight OFF wheels.

G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
Ice & Rain Protection	EVS Window Heat Switchlight	Manually selected **ON** Indicates **ON** for 2 minutes The EVS Window Heat Switchlight **does not** indicate **ON** with the cowl anti ice **ON**		**Same as G450** **Same as G450**		**Same as G450** With cowl anti ice **ON**, manually or auto **ON** and landing gear **UP**, EVS Window Heat Switchlight indicates **ON** for 1 minute and **OFF** for 7 minutes while heat is applied to the EVS window. With the landing gear **DOWN** and cowl anti ice **ON**, The EVS Window Heat Switchlight indicates **ON** Continuously.

G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
APU	Different APUs installed both supplied by Honeywell.	Honeywell 36-150 Different APU installed both supplied by Honeywell Start to 37,000 Feet		Honeywell RE 220 Different Limitations Start to 39,000 Feet May start up to 43,000 feet		Honeywell RE 220 **Same as G550 but Different** Start to **39,000** Feet – AFM Limit Start to **30,000** Feet - MOL
APU	Maximum Operating Altitude	37,000 Feet		45,000 Feet		45,000 Feet **Same as G550**
APU	Bleed Air Augmentation Valve (BAAV)	No BAAV installed		BAAV installed		No BAAV installed **Same as G450**
APU	APU Panel R Engine Cowl Open Light	NA		Installed		Installed **Same as G550**
APU	Start using External DC Cart	**DC cart can be used to start the APU** with different starting limitation APU start attempts when powered by an external DC cart are limited to a maximum of three (3) attempts. A fifteen (15) minute cool down is required between start attempts to protect airplane wiring. A one (1) hour cool down period must be observed before the next full starter cycle is commenced.		**Same as G450**		DC Cart **cannot** be used to start APU

G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
APU	APU Stop	The APU is shut down by selecting the APU STOP switch to OFF, triggering the following sequence of events: The ECU shuts down the APU by generating an overspeed signal in order to test the overspeed protection circuit. The overspeed circuit shuts off fuel to the APU at the fuel control unit mounted on the APU.		APU loads are shed within two (2) seconds after depressing the STOP switch. If the aircraft is on the ground or in flight below twenty thousand feet (20,000 ft), the ECU decreases APU rpm at a rate of one half degree (½°) per second for sixty (60) seconds from one hundred percent (100%) down to seventy percent (70%), and then shuts down the APU. If the aircraft is in flight above twenty thousand feet (20,000 ft), the ECU maintains one hundred percent (100%) rpm for sixty (60) seconds, and then shuts down the APU.		APU loads are shed and the APU enters a 60-second cool down period in which the RPM decreases ½% per second until the APU reaches 70% speed. If A/C is above 20,000 ft, all loads are shed and the APU cool down period is 100% APU for 60 seconds.
APU	APU Bleed Air	APU has reached an operating speed of at least one hundred percent (100%) rpm for at least 90 seconds.		APU has reached an operating speed of at least one hundred percent (100%) rpm for at least 60 seconds.		**Same as G550**
APU	APU Generator	When the APU has reached an operating rpm of 95% for at least 4 seconds, the APU is capable of driving the generator.		When the APU has reached an operating rpm of 95% for at least 2 seconds, the APU is capable of driving the generator.		**Same as G550**

G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
Electrical	Ship Batteries	2 Lead Acid except for 1 aircraft which is NICAD		2 NICAD Batteries		2 NICAD Batteries or 65 Amp Hour
Electrical	Back up AC Power	5 KVA HMG		10 KVA HMG		**15 KVA RAT** No HMG
Electrical	RAT Power	**NA**		**NA**		Powers the Left and Right ESS TRU which powers the Left and Right ESS DC Bus
Electrical	Circuit Breakers	LEER and REER		LEER and REER **Same as G450**		Many LEER and REER CBs replaced by Virtual Circuit Breakers in the MCDU - SSPC
Electrical	AC BUS	**Ess AC BUS** Powered by L or R Main AC Bus Or E-Inverter – Phase A ONLY		**Ess AC BUS** Powered by L or R Main AC Bus Or E-Inverter – Phase A ONLY **Same as G450**		**Emergency AC BUS** Powered by L Main AC Bus or RAT
Electrical	Static Inverter	**NA**		**NA**		Powers the CPCS Channel 1 **ONLY.** Channel 2 is powered by **Right Main AC bus ONLY**
Electrical	DC BUS	**No** EBHA BUS UPS BUS		**No** EBHA BUS UPS BUS		EBHA BUS UPS BUS
Electrical	Flight Control EBHA Battery Switch	NA		NA		Installed
Electrical	UPS Battery Switch	NA		NA		Installed

G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
Electrical	RAT Generator Switch	NA		NA		Installed
Electrical	Pilot & Copilot 60 Hz Outlet Or 50 Hz Outlet	Option Additional option is for 2 Converters		Option Additional option for 2 Converters		Standard 2 Each Converters Standard Active / Standby
Electrical	AUX TRU	Standby		Standby		**Powers L & R Aux DC Bus**
		Ready to power L or R Ess DC Bus or L or R Main DC Bus		Ready to power L or R Ess DC Bus or L or R Main DC Bus **Same as G450**		Ready to power L or R Ess DC Bus or L or R Main DC Bus **Same as G450**
		Power distribution – ESS before MAIN & Left before Right				
Electrical	AC Power	E-Inverter Phase A ONLY Powered by L **or** R ESS DC Bus		E-Inverter Phase A ONLY Powered by L **or** R ESS DC Bus **Same as G450**		**Static Inverter** For Channel 1 Cabin Pressurization ONLY Located in REER Powered by **L ESS DC Bus ONLY**
Electrical	AC Buses	Left Main Right Main Essential AC Bus		Left Main Right Main Essential AC Bus **Same as G450**		Left Main Right Main **Emergency AC Bus**
Electrical	DC Buses	L& R Main NA L& R Essential Ground Service Bus L & R Battery Bus NA NA		L& R Main NA L& R Essential Ground Service Bus L & R Battery Bus NA NA **Same as G450**		L& R Main **L& R Auxiliary** L& R Essential Ground Service Bus L & R Battery Bus **EBHA DC Bus** **UPS DC Bus**

G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
Electrical	Battery Tie Bus	Split		**Not Split**		Split **Same as G450**
Electrical	SPDS	Traditional thermal CBs and Relays in LEER & REER		Traditional thermal CBs and Relays in LEER & REER **Same as G450**		**Secondary Power Distribution System (SPDS)** Access through 2 of the 3 FMS 2 – Dual Channel RIUs 4 – AC Modular Power Tiles 4 – DC Modular Power Tiles
Electrical	Selecting the Ground Service Bus to ON without any other power.	Does not power the Display Controllers or MCDU #2		Does not power the Display Controllers or MCDU #2 **Same as G450**		Powers MCDU #2 so pilots or maintenance personnel can access the Secondary Power Distribution System (SPDS) SSPC PRI or SEC It also powers both SMCs so that aircraft servicing can be conducted
Electrical	Ground Service Bus Switch Location	Forward External Switch Panel Ground Service Control Panel Electrical Ground Service Panel		Forward External Switch Panel Ground Service Control Panel Electrical Ground Service Panel **Same as G450**		Security / Gnd Svc Panel Refuel Panel Gnd Svc Control Panel – Tail System Monitor Test Panel

G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
Power Plant	Type	Rolls-Royce Tay-611–8C		Rolls-Royce BR700-725C4-11		Rolls-Royce BR700-725A1-12
Power Plant	Thrust	**13,850 Lbs** @ ISA + 15° C	**- 3,050 lbs**	**15,385 Lbs** @ ISA + 15° C	**- 1,515 lbs**	**16,900 Lbs** @ ISA + 15° C
Power Plant	Maximum Thrust Reverse	65.0 LP		70.0 LP		78.1 LP
Power Plant	Rotor Bow Start	NA		Two Manual procedures		**FADEC Automatic** **L – R Engine Start Protect**
Power Plant	Thrust Reverser Emergency Stow Switch	Not Installed		One installed for each engine		Not Installed **Same as G450**
Power Plant	LP % RPM Indication	During engine start: Can indicate backward / reverse LP % RPM until enough HP RPM get the LP in a positive rotation		**Same as G450**		During engine start: LP % RPM indicates 0% until positive rotation is achieved.
Power Plant	Engine cool down	It is recommended to operate the engine(s) at idle for **one (1) minute** before shutting down. Taxi time may be credited.		It is recommended to operate the engine(s) at idle for **three (3) minutes** before shutting down. Taxi time may be credited.		It is recommended to operate the engine(s) at idle for **three (3) minutes** before shutting down. Taxi time may be credited. **Same as G550**
Power Plant	Critical Engine	Right Engine		Right Engine **Same as G450**		**Left Engine**

G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
Power Plant	Selecting the Ground Service Bus to ON with the ships batteries ON while on the ground	NA For Oil Quantity Check		NA For Oil Quantity Check **Same as G450**		Will allow you to check the Oil Quantity for the APU and Engines from the SMC, UTILITY, ENGINE OIL Engines and APU – Current Qty Engines – 5 Minute Snapshot
Oxygen	O2 Bottles	2 each 115 Cubic Feet		2 each 115 Cubic Feet **Same as G450**		**2 each 123.5 Cubic Feet**
Oxygen	O2 Masks	Scott ATO MC 10-15-157 / -158 crew masks		Scott ATO MC 10-15-157/-158 crew masks **Same as G450**		**EROS -MLD20** With Comfort style masks with removable smoke goggles
Waste & Water	Water	Single tank 30 or 40 Gals		Single tank 30 or 40 Gals **Same as G450**		**Dual tanks** 20 Gals each
Waste & Water	Galley control panel	Same as G550		Same as G450		Different control panel
Waste & Water	Water Service Fill fitting	Not heated Single fitting		Not Heated Single fitting **Same as G450**		Heated from GSB **2 fittings** One for each 20 gallon tank
Waste & Water	Waste tank	Located in Tail Compartment		Located in Tail Compartment **Same as G450**		Right side aft of the WTBF Located in body fairing

G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
Lighting	Lights	Some lights are LED Navigation – Wing & Tail Some cockpit lights		Some lights are LED Navigation – Wing & Tail Some cockpit lights		**ALL** lights are LED except Landing Lights
Lighting	Landing Lights During Ground Operation	Limited to 5 Minutes		No Restriction		Limited to 10 Minutes

G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
Flight Controls	Control	Mechanical with Hydraulic boost		Mechanical with Hydraulic boost		**3-Axis Fly-by-Wire with Hydraulics**
Flight Controls	Ailerons	Hydro mechanical with HOPS		Hydro mechanical with HOPS		3-Axis Fly-by-Wire
Flight Controls	Elevators	Hydro mechanical with HOPS		Hydro mechanical with HOPS		3-Axis Fly-by-Wire
Flight Controls	Rudders	Hydro mechanical with HOPS		Hydro mechanical with HOPS		3-Axis Fly-by-Wire
Flight Controls	Split Flight Controls	NA		Elevators Ailerons This feature will be removed by ASC on SN **5390 and Subs**		Override bungees for Elevators and Ailerons
Flight Controls	Trim Tabs for Ailerons & Elevators	Yes		Yes **Same as G450**		No
Flight Controls	Flight Control Reset Switch	NA		NA		**Left Side Center Pedestal**
Flight Controls	Speed Brakes	Manual extend / retract		Manual extend / retract **Same as G450**		Manual extend / retract **Auto Retraction** – TLA >95% & Speedbrake handle >5%
Flight Controls	Spoiler Test	1. GND SPLR .....OFF 2. Power Levers.....IDLE 3. GND SPLR .....ARMED 4. L Eng Power Lever..ADV ABOVE IDLE 5. R Eng Power Lever..ADV ABOVE IDLE 7. GND SPLR .....OFF 8. GND SPLR TEST...PRESS AND HOLD 9. GND SPLR TEST....RELEASE 10. R Eng Power Lever .RTD TO IDLE		**Same as G450**		1. GND SPLR .....OFF 2. Power Levers.....IDLE 3. GND SPLR .....ARMED 4. L Eng Power Lever....ADV ABOVE IDLE 5. R Eng Power Lever ...ADV ABOVE IDLE 6. L Eng Power Lever....RTD TO IDLE 7. R Eng Power Lever ...RTD TO IDLE 8. GND SPLR.....OFF
Flight Controls	Gust Lock	Manual engaged Ailerons Elevators Rudder		Manual engaged Ailerons Elevators Rudder **Same as G450**		**Control surfaces Damped**
Flight Controls	Pilots Yoke	12” Diameter		12” Diameter **Same as G450**		**11” Diameter**
Flight Controls	Pilots Yoke	90º Rotation		90º Rotation **Same as G450**		**60º Rotation**

G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
Flight Controls	Stall Protection	Stick Pusher		Stick Pusher **Same as G450**		**Alpha (AOA) Limiting** **Normal Control Law ONLY** **Stick Shaker** **Available in NORMAL and ALTERNATE with valid AOA**
Flight Controls	Rudder Trim	Manual hand turn wheel		Manual hand turn wheel **Same as G450**		**Electric split trim switch**
Flight Controls	Aileron (Roll) Trim	Manual hand turn wheel		Manual hand turn wheel **Same as G450**		**Electric split trim switch**
Flight Controls	Rudder pedal adjustment	Manual Lever Lift up then push or pull to desired position		Manual Lever Lift up then push or pull to desired position **Same as G450**		Manual **Crank Handle** Push and rotate **CCW** to adjust closer **CW** adjust further away
Flight Controls	Un-commanded Flap movement	Flaps can be stopped by pressing and holding the Auto Pilot Disconnect button on the yoke		Flaps can be stopped by pressing and holding the Auto Pilot Disconnect button on the yoke **Same as G450**		Auto pilot disconnect **will not** stop un-commanded flap movement. FECU will immediately detect un-commanded movement of the flaps and de-energize the HCM SOV stopping flap movement
Flight Controls	Stall Barrier Test	Display Controller Test Page **Press and hold** Stall 1 or Stall 2 until Shaker and Pusher initialize Press and Hold A/P Disconnect To verify you can override Pusher		**Same as G450**		SMC Test Page **Press and hold the <u>Stall</u> LSK** Pilots stick shaker will initialize for 3 seconds followed by a 3 second pause then the Co-Pilot shaker will initialize for 3 seconds **There is no Pusher**

G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
Flight Controls	Landing Flaps 39º Maximum Speed	180 Knots / 0.60		170 Knots / 0.60		190 Knots / 0.60
Flight Controls	Flap Setting & Minimum Holding Speed in icing Conditions	No Restriction		0º Flaps		0º Flaps **180 Knots**
Flight Controls	Ailerons With ASC 37	**NA**		**NA**		Deploy upward full deflection with the Ground Spoilers deployed. Full roll authority is still available for crosswinds
Flight Controls	Speed Brakes	Inflight or Weight on Wheels Deploy upward 30º		Inflight or Weight on Wheels Deploy upward 30º		**Weight on Wheels** Deploy upward 55º If the flap handle is > 0º (10º, 20º, or 39º) **Inflight** Deploy upward 30º **Weight on Wheels** Deploy upward 30º If the flap handle is up

G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
Pneumatics	Bleed Air	7th and 12th Stage Bleed Air		5th and 8th Stage Bleed Air		5th and 8th Stage Bleed Air **Same as G550**
Pneumatics	APU & External Bleed Air	APU air flow into the Right Side External air flow into the Left Side manifold		APU & External air flow into the Right Side manifold		APU & External air flow into the Right Side manifold **Same as G550**
Pneumatics	Selecting APU Air ON	**Does not** turn OFF the Engine Bleed Air		Will turn OFF the Engine Bleed Air		**Does not** turn OFF the Engine Bleed Air **Same as G450**
Pneumatics	Cowl Anti Ice	Bleed Air Is from the Manifold 7th and 12th Stage Bleed Air		5th or Mid Stage Only		**5th or Mid Stage Only Same as G550**
Pneumatics	Cow Anti Ice	Not available for that engine with the Bleed Air selected OFF		Is still available for that engine with the Bleed Air selected OFF		Is still available for that engine with the Bleed Air selected OFF **Same as G550**
AC & Press	TEMP Control Panel	No Cockpit Airflow Switch		Cockpit Airflow Switch		**No Cockpit Airflow Switch Same as G450**
AC & Press	Baggage Compartment	**No Restriction**		Time limited (5 Minute) access above 40,000 Feet		**Access not authorized above 40,000**
Fire	Smoke Evacuation	Smoke evacuation valve allows baggage door seal to deflate		Smoke evacuation valve allows baggage door seal to deflate **Same as G450**		**Baggage door seal is passive** Smoke evacuation valve vents smoke on the bottom right side of the aircraft and ported into the wing to body fairing.

G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
Hydraulic Power	Left System	Aileron		Aileron		Left OB Aileron Actuator
						Right IB Aileron Actuator
		Elevator		Elevator		Left OB Elevator Actuator
						Right IB Elevator Actuator
		Flight Spoilers OB - MID Ground Spoilers – All Speed Brakes – All		Flight Spoilers OB – MID Ground Spoilers – All Speed Brakes – All		**Left Mid Spoiler Actuator**
						Right Mid Spoiler Actuator
		Rudder / Yaw Damper		Rudder / Yaw Damper		Upper Rudder Actuator
		Left Thrust Reverser		**Left Thrust Reverser**		**Left Thrust Reverser**
		Sick Pusher		Sick Pusher		NA
		Brakes		Brakes		Inboard Brakes
		Nose Wheel Steering		Nose Wheel Steering		Nose Wheel Steering
		Landing Gear		Landing Gear		Landing Gear
		NA		NA		Cabin Door
Hydraulic Power	Right System	Aileron		Aileron		Left IB Aileron Actuator
						Right OB Aileron Actuator
		Elevator		Elevator		Right OB Elevator Actuator
						Left IB Elevator Actuator
		Flight Spoilers OB - MID *Ground Spoilers - All Speed Brakes - All		Flight Spoilers OB - MID **Ground Spoilers - All Speed Brakes - All		Left OB Spoiler Actuator
						Right OB Spoiler Actuator
						Right IB Spoiler Actuator
						Left IB Spoiler Actuator
		Rudder / Yaw Damper		Rudder / Yaw Damper		Lower Rudder Actuator
		Right Thrust Reverser		**Right Thrust Reverser**		**Right Thrust Reverser**
		Sick Pusher		Sick Pusher		NA
		NA		NA		Outboard Brakes
		PTU		**PTU**		**PTU**
		* Requires servo pressure from **PTU**		** Requires servo pressure from **PTU or AUX**		NA

G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
Hydraulic Power	PTU	Flaps		Flaps		Flaps
Hydraulic Power	PTU	NA		NA		**Cabin Door**
Hydraulic Power	PTU	Wheel Brakes		Wheel Brakes		**IB Brakes**
Hydraulic Power	PTU	Ground Spoiler Servo Press		Ground Spoiler Servo Press		**NA**
Hydraulic Power	PTU	Landing Gear		Landing Gear		Landing Gear
Hydraulic Power	PTU	Nose Wheel Steering		Nose Wheel Steering		Nose Wheel Steering
Hydraulic Power	PTU Operation	Selecting the PTU to ARM Causes the PTU to indicate **ON** until the Right Engine is running and it powers up as soon as the right hydraulic pressure is available		**Same as G450**		Selecting the PTU to ARM Causes the PTU **NOT** to indicate ON until the Right Engine is running and the right hydraulic pressure is 2850 PSI + 7 Seconds
Hydraulic Power	AUX	Flaps		Flaps		Flaps
Hydraulic Power	AUX	Cabin Door		Cabin Door		Cabin Door
Hydraulic Power	AUX	Wheel Brakes		Wheel Brakes		IB Brakes
Hydraulic Power	AUX	NA		Ground Spoiler Servo Press		NA
Hydraulic Power	AUX	Landing Gear – Ground Servo Valve		Landing Gear – Ground Servo Valve		**Landing Gear**
Hydraulic Power	AUX	NA		Nose Wheel Steering With Standby Rudder **Selected**		Nose Wheel Steering **Similar to G550** **No Standby Rudder switch**
Hydraulic Power	Excessive Hydraulic Fluid Temperature	Excessive Hydraulic Fluid Temperature **does NOT** activate the Engine Hot Warning CAS		Excessive Hydraulic Fluid Temperature **does NOT** activate the Engine Hot Warning CAS **Same as G450**		Excessive Hydraulic Fluid Temperature (135° C) does activate the **Engine Hot Warning CAS**
Hydraulic Power	Auxiliary Hydraulic Fluid Reservoir	Left Hydraulic tank has separate compartment for Auxiliary Fluid		Left Hydraulic tank has separate compartment for Auxiliary Fluid **Same as G450**		**No separate compartment for Auxiliary Fluid**

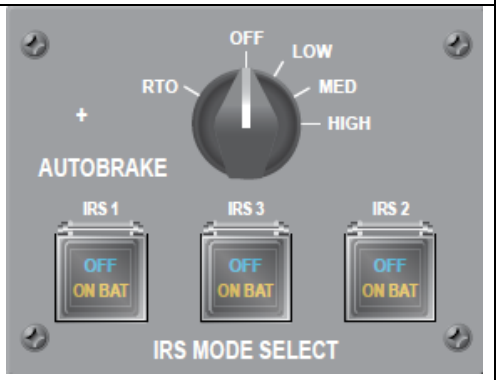
G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
Hydraulic Power	Hydraulic Heat Exchanger	On side fuel hopper tank		Cross side fuel hopper tank Left heat exchanger in right hopper Right heat exchanger in left hopper		**On side fuel hopper tank** **Same as G450**
Hydraulic Power	Automatic operation of Auxiliary Hydraulic pump	Armed + Left or PTU < 1500 PSI + Brake pedal application Close the MED Activation of the Ground Service Valve		Armed + Left or PTU < 1500 PSI + Brake pedal application Close the MED Activation of the Ground Service Valve **Same as G450**		**In Flight** with speed > 100 kts + ARMED + Left hydraulic pressure < 2400 PSI + Flap Handle disagreement or Landing Gear Handle disagreement + Left fluid quantity > 0.36 Gal + Left fluid temperature < 107°C Or Gear Doors OPEN or CLOSED from LGCP Or If the Aircraft is on Jacks Landing Gear retract or extend from LGCP Or Main Entrance Door close switch activated from any one of the positions

G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
Hydraulic Power	Auxiliary Hydraulic pump operation	If selected ON – Continuous operation or until Overload or Overheat		If selected ON – Continuous operation or until Overload or Overheat **Same as G450**		WOW (Air) NORM/ON – ON IAS > 100 knots 2 minutes maximum or until Overload or Overheat
Landing Gear & Brakes	Alternate Gear Extension Handle	Right Side Lower side console		Right Side Lower side console **Same as G450**		Repositioned: Lower right side Flight Panel Below DU2
Landing Gear & Brakes	Alternate Gear Extension bottle	Single 412 Ft^3 Bottle		Single 150 Ft^3 Bottle Single 412 Ft^3 Bottle		2 each 412 Ft^3 Bottle
Landing Gear & Brakes	Brake application	Hydro Mechanical Analog Brakes (HMAB)		Hydro Mechanical Analog Brakes (HMAB)		**Brake by Wire** **With "Soft Failure Modes"** Which results in all 4 brakes functioning with most single point failures **Auto Brakes – Pending ASC**
Landing Gear & Brakes	Brake application	Dispatch with Anti-Skid failure **Approved provide:** Flaps 20 are used and the Ground Spoilers are operative		**Same as G450**		Dispatch with Anti Skid failure **Not authorized IAW MMEL**
Landing Gear & Brakes	Brake application	Brake application can be made using the toe brakes if the landing gear is UP inflight. Or Landing gear is extended and the Anti-Skid switch is selected OFF		**Same as G450**		Brake application inflight **cannot be applied** using the toe brakes with the gear up or down. Parking brake application can be made inflight.

G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
Landing Gear & Brakes	IRS input to the Anti-Skid system	Wheel spin ONLY		Wheel spin & IRS inputs		Wheel spin ONLY **Same as G450**
Landing Gear & Brakes	Parking Brake application	Pull handle and turn 90º		Pull handle and turn 90º **Same as G450**		**Lever-type control handle**
Landing Gear & Brakes	Parking Brake application	400 PSI MAX with Anti-Skid **OFF** or Inoperative Brake scale changes to 800 PSI with a line at 400 PSI		**Same as G450**		**600 PSI MAX** with Anti-Skid Inoperative Brake scale changes to 800 PSI with a **line at 600 PSI**
Landing Gear & Brakes	Anti Skid	Switch on center console to turn OFF the Anti-Skid		**Same as G450**		**No Switch to turn OFF the Anti-Skid**
Landing Gear & Brakes	Auto Brakes With ASC 055	**NA**		**NA**		 **RTO** – Rejected Takeoff can only be selected on the ground. **LOW, MED, & HIGH** can only be selected weight off wheels. **OFF** – Autobrakes are not available

G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
Landing Gear & Brakes	Parking Brake pressure indicator	Round indicator on the lower right side of instrument panel		Round indicator on the lower right side of instrument panel **Same as G450**		**Duel indicator Displays Inboard and Outboard brake pressures** **BAPI** **Brake Accumulator Pressure Indicator**
Landing Gear & Brakes	Parking Brake Accumulator ASC055	**NA**		**NA**		**Added 3rd** Brake Accumulator on outboard brakes
Landing Gear & Brakes	Landing Gear Indications	Landing gear operation fully functional except for landing gear horn down to E-Batts		Landing gear operation fully functional except for landing gear horn down to E-Batts **Same as G450**		Control and indication **inoperative on Emergency Batteries** Essential buses must be powered to extend and retract the landing gear and have indications of status
Landing Gear & Brakes	Controlled Wheel Spin Down – Retraction	**500 PSI**		**500 PSI Same as G450**		**500 to 800 PSI limited to 4.5 seconds Stop wheel rotation**
Landing Gear & Brakes	Gear Extension	**NA**		**NA**		**Brake pressure applied for 2 seconds 1500 PSI ± 400 To confirm valve operation**

G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
Landing Gear & Brakes	Landing Gear Red Light (White Light – JAA Aircraft) in the Handle	Red light in (White Light – JAA Aircraft) Landing Gear handle indicates a disagreement in the gear down lock(s) when the handle is down and a disagreement in the gear door(s) being closed when the gear handle is up. Gear handle up – Red light remains ON until the gear doors are closed		**Same as G450**		**Red (White for JAA) light in the landing gear handle indicates a disagreement in the gear handle and the gear up lock(s) or gear down lock(s)** **Red or white indication in the landing gear handle does not respond to gear door position**
Nose Wheel Steering	Pedal Disconnect Switch	Pilot side console Label – PEDAL DISC Pedal Steering ON – Switchlight Dark Selected – DISC illuminated Pedal Steering OFF		**Same as G450**		Label – PEDAL STEERING Pedal Steering "ON" – Switchlight is Dark Selected – "OFF" illuminated Pedal Steering is "OFF"
Gear Doors	Opening gear doors for inspection	Ground Service Valve In nose wheel area.		Ground Service Valve In nose wheel area. **Same as G450**		**Landing Gear Control Maintenance Panel** **LG MODE switch** MAINT / NORM = MAINT NLG DR switch = Select OPEN MLG DR switch = Select OPEN Holding the switch in the OPEN or CLOSE position until the gear door repositions

G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
Tire Pressure	Automatic monitoring system	Not Installed		Not Installed		Monitors all six tires and is displayed on: Ground Service System page SMC – Weight on wheels ≥ 186 PSI = **White digits** ≥ 100 - ≤ 185 = **Cyan + CAS** < 100 = **Amber + CAS**
Tire Pressure	Selecting the Ground Service Bus to ON with the ships batteries ON while on the ground	**NA** For tire pressure monitoring		**NA** For tire pressure monitoring **Same as G450**		Will allow you to check the tire pressures of all six tires from the SMC, UTILITY, TIRE PRESS Must have the ships batteries ON and the GND SVC Bus ON

External Battery Panel	Security System	Option	Option	Standard
Panel Name		Forward External Battery Panel	Forward External Battery Panel **Same as G450**	Security / GND SVC Panel

System Monitor Test Panel Located on REER	Switches	APU Rig switch installed Flap Rig switch installed	APU Rig switch **not** installed Flap Rig switch **not** installed	APU Rig switch **not installed** Flap Rig switch **not installed** **Same as G550**

G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
Main Entrance Door	Opening & Closing	Mechanical Free Fall Open Hydraulically Close using the Aux Hydraulic system Mechanical Lock with Primary and Secondary Lock **Not Installed**		Mechanical Free Fall Open Hydraulically Close using the Aux Hydraulic system Mechanical Lock with Primary and Secondary Lock **Same as G450** **Not Installed**		Electrical Unlock Free Fall Open Ships batteries or FWD E-Batt Hydraulically Close using the Left / PTU / Aux Hydraulic system Electrical lock Emergency Door Open Switch Panel on the Door
Main Entrance Door	Opening & Closing	Selecting the door close switch to CLOSE with no power on the aircraft will cause the ships batteries to come ON and the Auxiliary Hydraulic pump to come ON and close the door. The door will have to be manually locked		**Same as G450**		The ships batteries **must be** selected **ON** in the cockpit or External Battery switch in the Security / GND Service Bus Panel Then Selecting the MED door to **CLOSE** without any hydraulic pressure on the LEFT side will cause the Auxiliary Hydraulic pump to come **ON** and close the MED door and Electrically LOCK it.

G450 – G550 to G650 Differences

DESIGN	Remarks	G450	Difference	G550	Difference	G650
Main Entrance Door	Emergency Panel on door for rescue personnel Opening Main Entrance Door	**No Panel**		**Same as G450**		Using this panel. MED Switch selected to OPEN will use the forward emergency battery to unlock the MED and allow it to free fall OPEN
Door Control Valve	Closing the MED manually	The Door Control Valve can be manually operated to close the MED		The Door Control Valve can be manually operated to close the MED **Same as G450**		The Door Control Valve can be manually operated to close the MED **This is a maintenance function.** **It requires a wrench to lock the door since it is normally electrically locked.**
Main Entrance Door	Door Seal	Passively inflated bulb type seal Seal mounted to the door		Passively inflated bulb type seal Seal mounted to the door **Same as the G450**		Passively inflated bulb type seal Seal mounted to the fuselage