

CHAPTER 10 – FIRE PROTECTION

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1. INTRODUCTION

The aircraft fire protection system consists of the following separate subsystems:

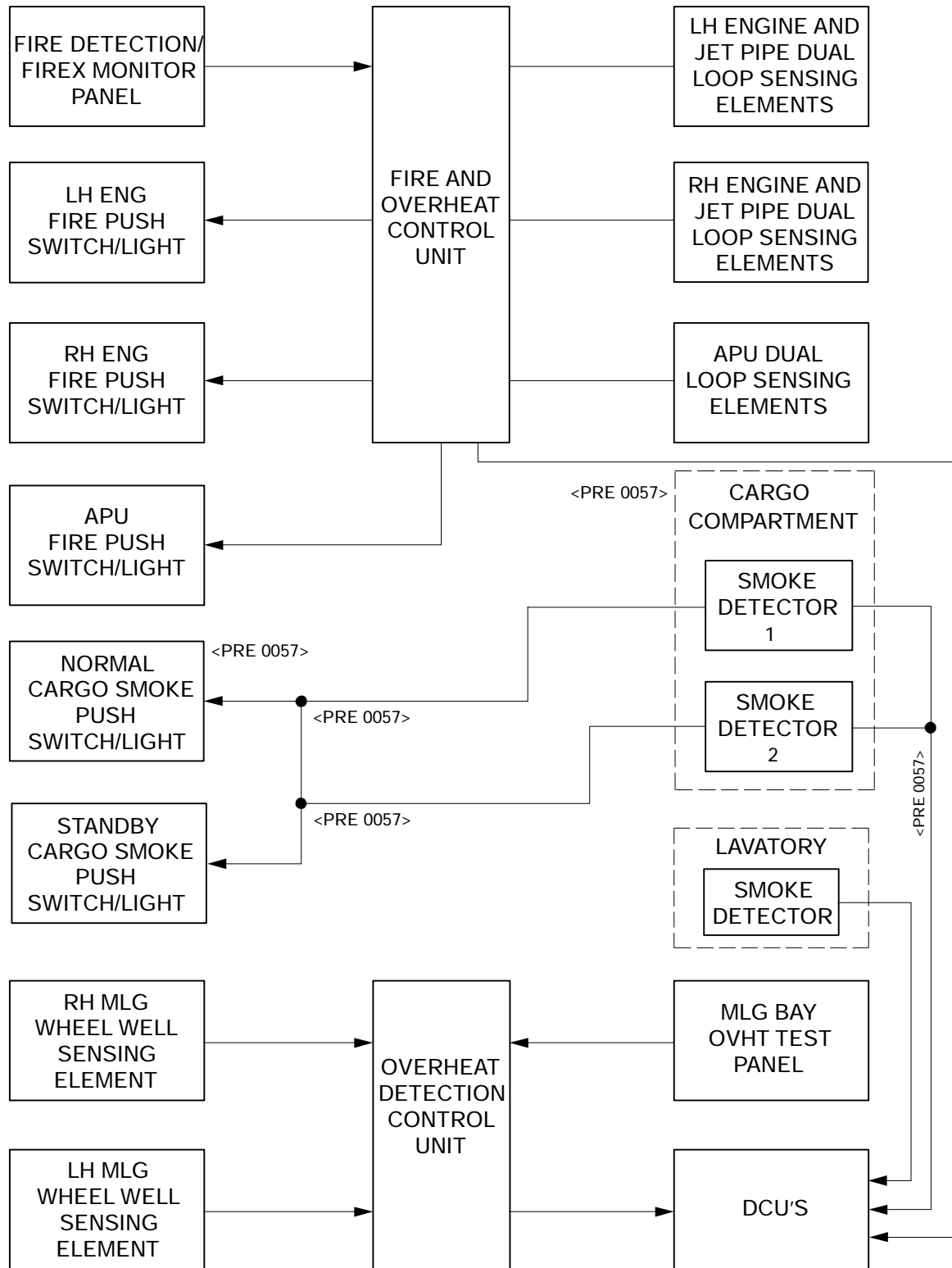
- Fire and overheat detection
- Fire extinguishing.

The fire protection system provides detection and extinguishing of a fire in the engine nacelles, the auxiliary power unit (APU) compartment and the cargo compartment. An independent system is provided for fire detection and extinguishing in the lavatory. A detection system is also provided for the main landing gear wheel wells.

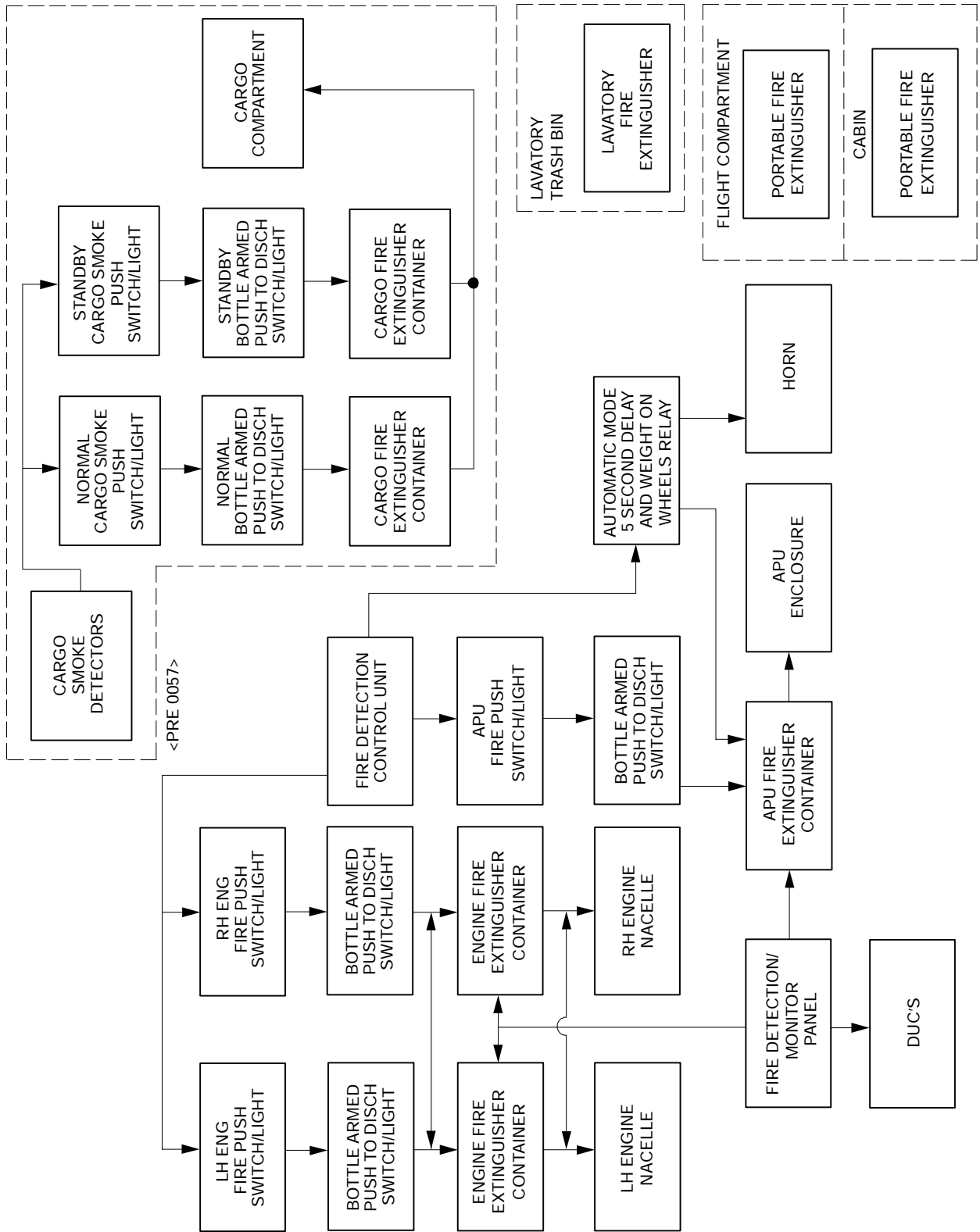
The fire protection system provides detection and extinguishing of a fire in the engine nacelles and the auxiliary power unit (APU) compartment. The main landing gear wheel wells are provided with fire detection only. An independent system is provided for fire detection and extinguishing in the lavatory. <0057>

Indications to alert the crew to fire, smoke and overheat conditions as well as fire protection system health are provided by the EICAS displays and panel lights.

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Detection System Block Diagram <MST>
Figure 10-10-1



Extinguishing System Block Diagram <MST>
Figure 10-10-2



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MASTER

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1. FIRE DETECTION AND EXTINGUISHING

A. Engine

Each engine detection system is divided into two zones (A and B):

- Zone A covers the core section of the engine and is provided with fire detection and extinguishing
- Zone B covers the exhaust pipe and pylon area which contains the 10th and 14th stage bleed air ducting. No fire extinguishing protection is provided for this zone.

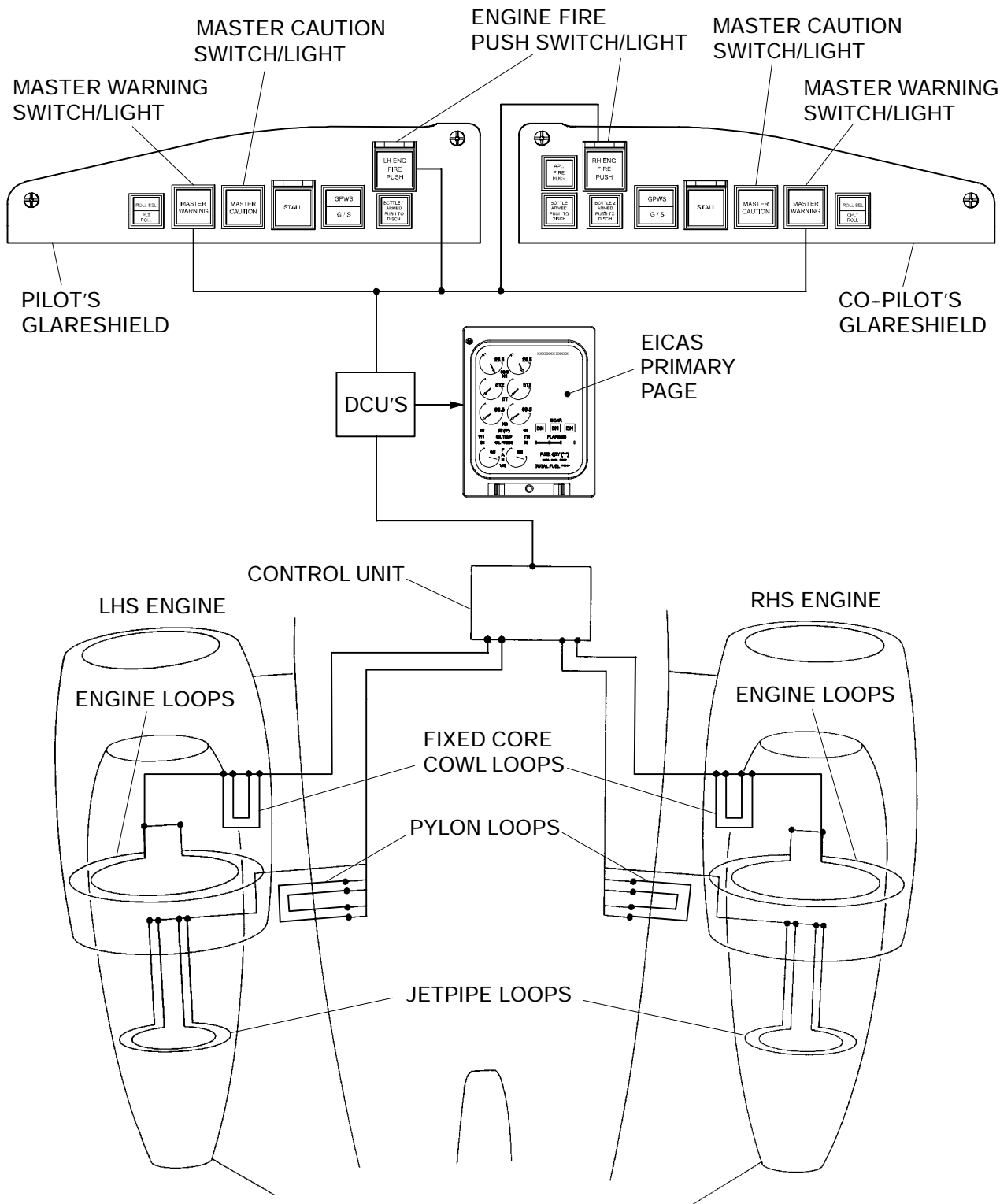
Engine fire detection is provided by dual heat sensitive detection loops (designated loop A and B) arranged in parallel around the engine, exhaust pipe and pylon areas. Each loop is connected to the control unit and is monitored continuously for fire or overheat conditions. In normal operation, both detection loops must detect a fire or overheat condition before a fire warning is generated.

Control unit loop detection is controlled through LH/RH, ENG and JET switches on the FIRE DETECTION panel. The switch is used to select A, BOTH or B loop detection.

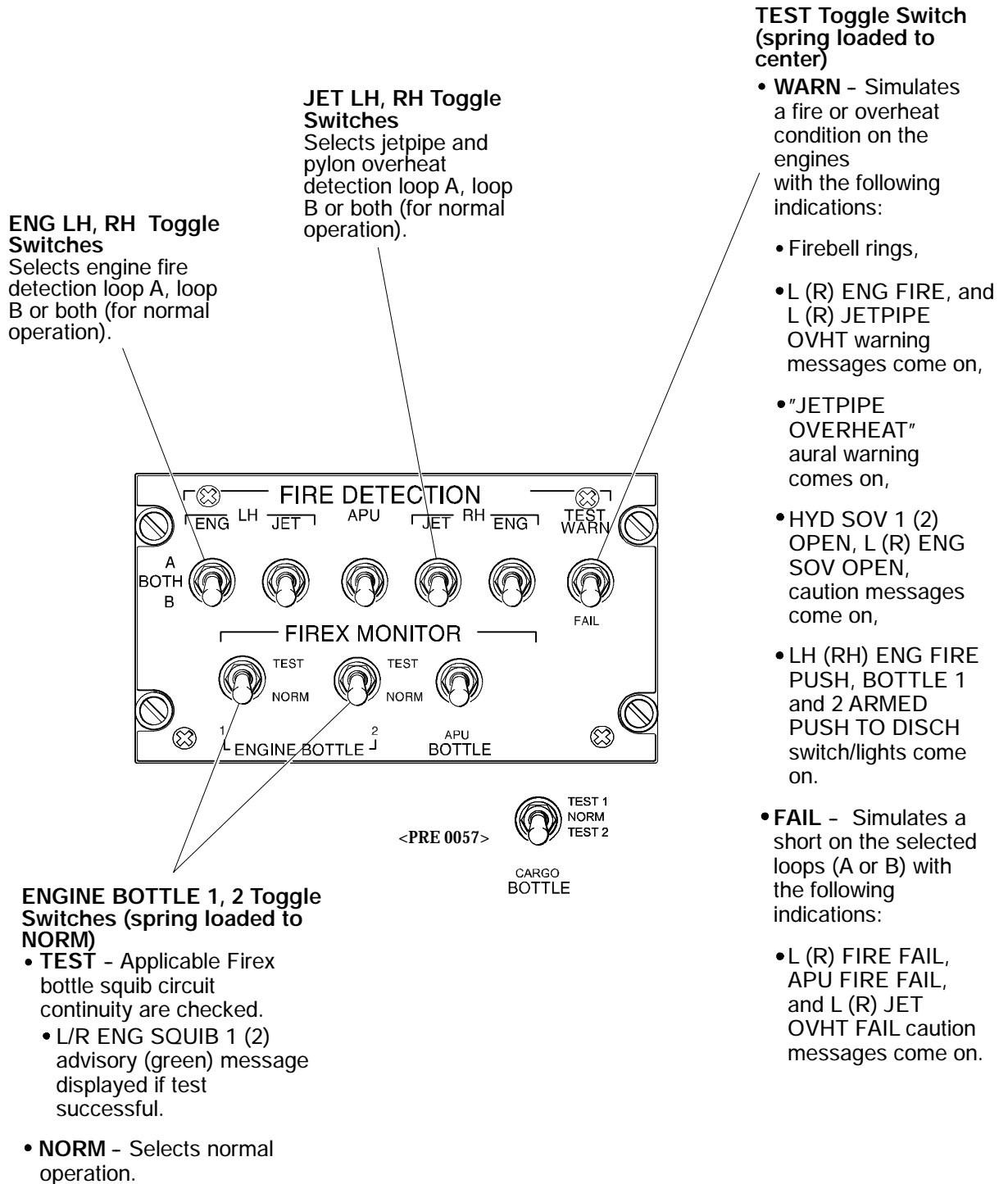
If one loop detects a fire, when both loops are selected, this is considered a False Fire and a L/R FIRE FAIL caution message will be displayed on the EICAS primary page.

During normal operations with both loops selected, the tables in this section lists the indications that are displayed if a fire, failure, or power loss is detected:

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Engine Fire/Overheat Detection System – Schematic
Figure 10-20-1



Fire Detection/Firex Monitor Panel <MST>
Figure 10-20-2

Pilot's Glareshield Panel



Copilot's Glareshield Panel

LH/RH ENG FIRE PUSH Switch/Light (guarded)

Comes on (red) when fire is detected in respective engine.

Pressed in - Affected:

- Squibs on both firex bottles are armed.
- Fuel feed SOV closes.
- Bleed air SOV closes.
- Hydraulic SOV closes.
- Engine-driven generator shuts down.

Pressed out - Affected:

- Squibs of both firex bottles are disarmed.
- Fuel feed SOV open.
- Bleed air SOV opens.
- Hydraulic SOV opens.
- Engine-driven generator becomes available.

During FIRE WARN TEST:

Comes on (red) during test of respective engine fire detector loop.

BOTTLE 1/2 ARMED PUSH TO DISCH Switch/Lights

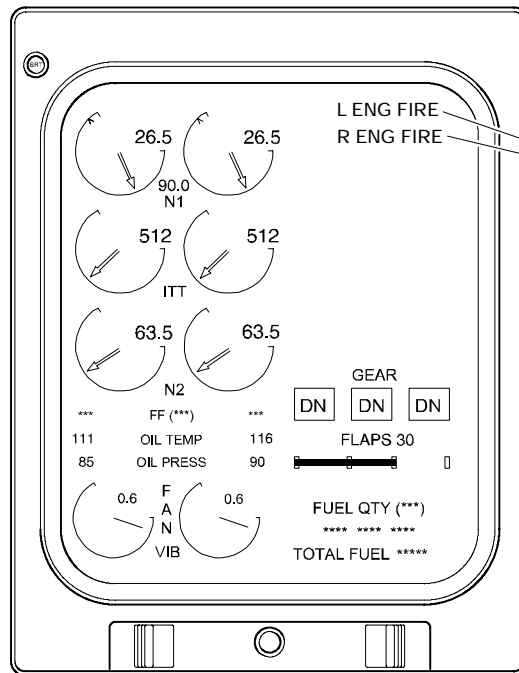
Comes on (green) to indicate that:

- Applicable firex bottle squib armed.
- **During FIRE WARN TEST:**
- Applicable squib confirmed operational.

Pressed in -

Fires squib to discharge applicable engine bottle.

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N1
TO



L/R ENG FIRE Warning (red)

Comes on to indicate that a fire exists in the respective engine.



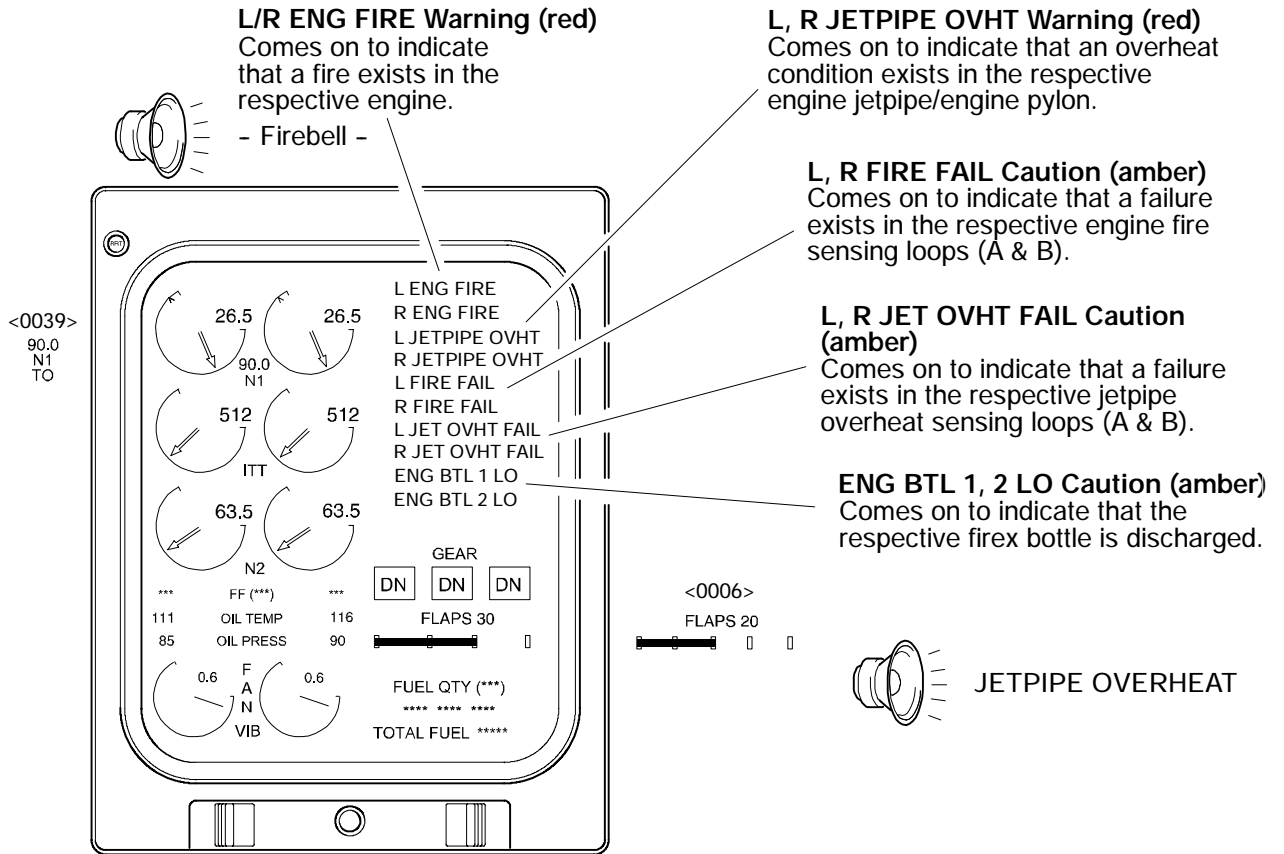
- Firebell -

<0006>

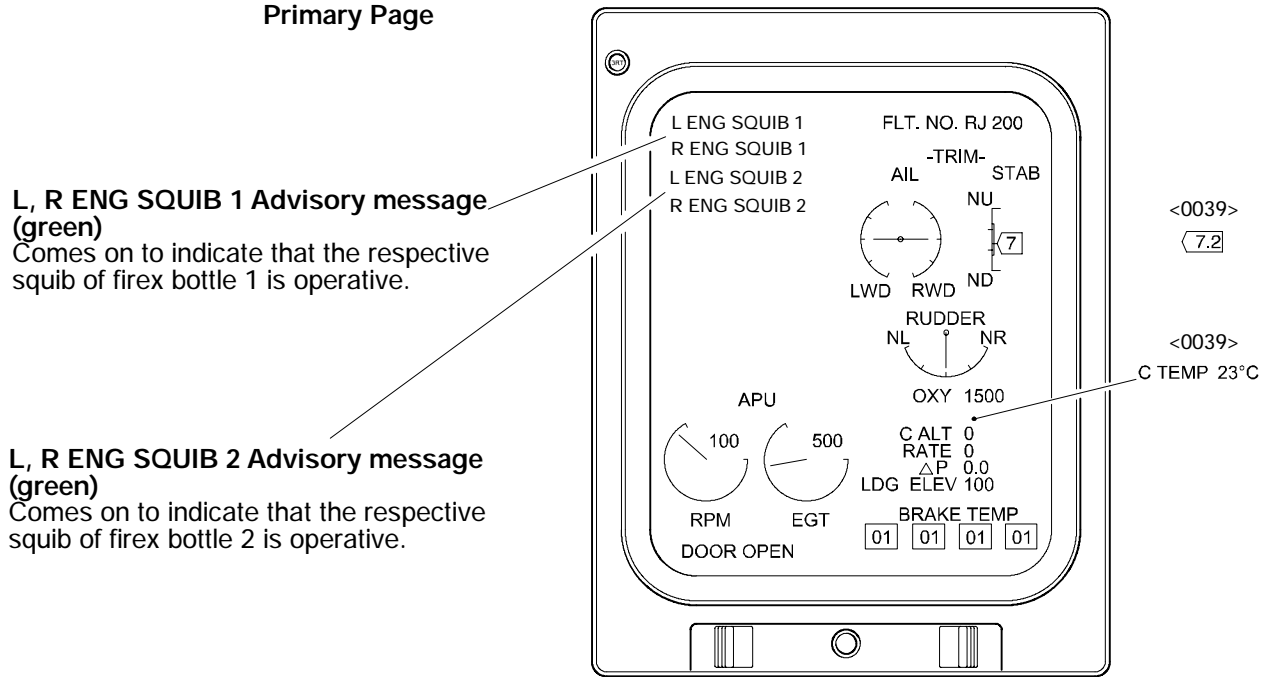
FLAPS 20

Primary Page

Engine Fire Indications <MST>
Figure 10-20-3

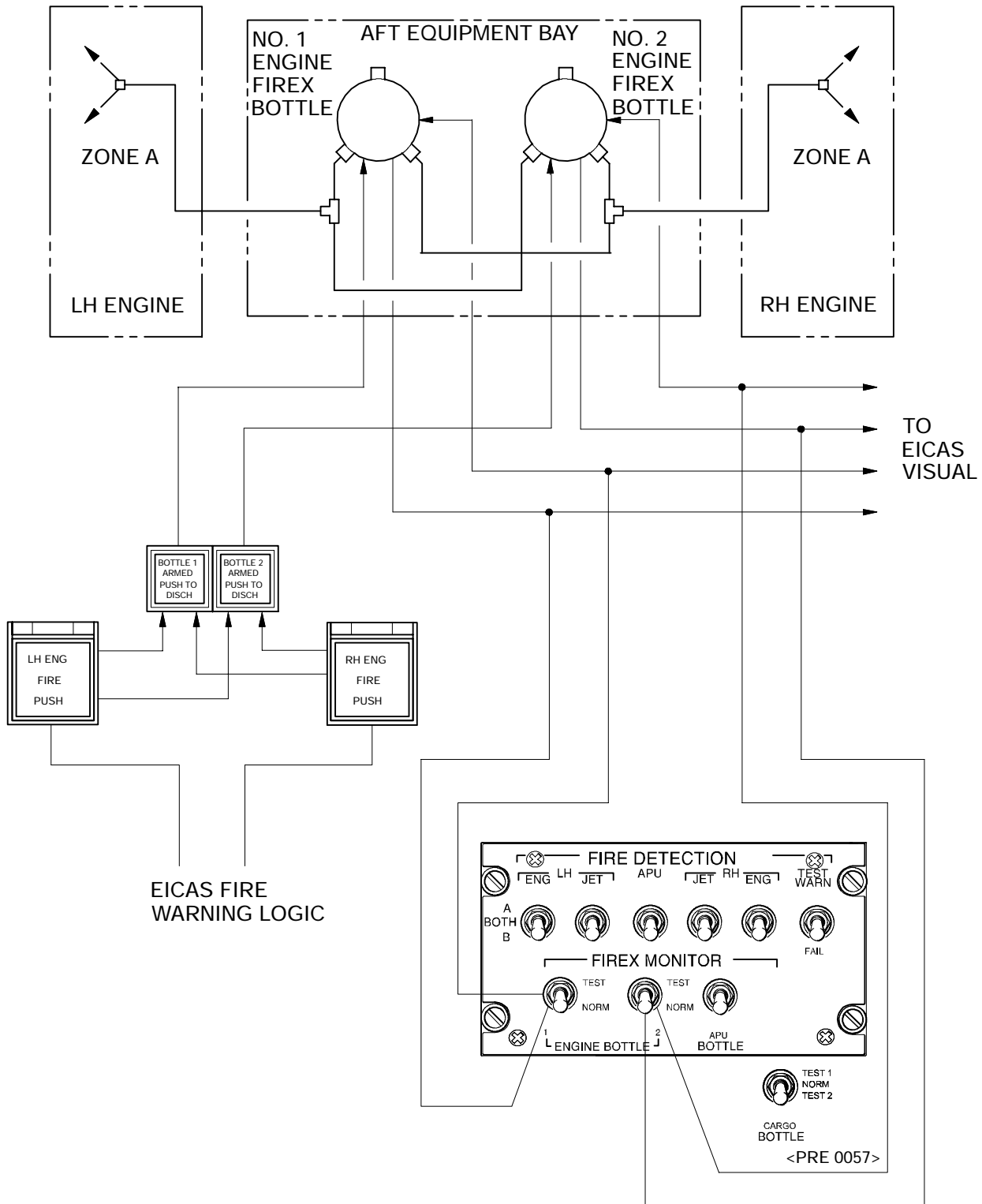


Primary Page



Status Page

Fire Protection Warnings and Caution Messages <MST>
Figure 10-20-4



Engine Firex Monitoring System <MST>
Figure 10-20-5



B. Control Unit Failure Detection

When the control unit detects a failure in one loop, due to a short or power loss, there is no indication of the failure until the WARN test is performed. The control unit will automatically switch to single loop detection. Single loop operation can also be selected by placing the defective loop switch on the FIRE DETECTION panel from BOTH to the good loop (A or B). During normal operations with one loop selected, the following table lists the indications that are displayed if a fire, failure, or power loss is detected:

LOOP CONDITION (Dual Loops)		INDICATIONS	
LOOP A	LOOP B	FAIL MESSAGE (Caution)	FIRE WARNINGS
Normal	Normal		
Detecting Fire	Detecting Fire		ON
Short or Power Failure	Short or Power Failure	ON	
Normal	Detecting False Fire	ON	
Normal	Short or Power Failure		
Detecting Fire	Short or Power Failure		ON
Detecting False Fire	Normal	ON	
Open	Normal		
Short or Power Failure	Open		
Open	Open		
Open detecting fire	Detecting Fire		ON
NOTE:	<ol style="list-style-type: none"> 1. Normal, means a serviceable loop with no fire or short detected. 2. False Fire, means one loop detects a fire and the other loop is normal. 3. When a jet pipe overheat is detected, the ENG FIRE switchlight does not illuminate with the EICAS and aural warnings. 		

LOOP CONDITION (single loop)	INDICATIONS	
	FAIL MESSAGE	FIRE WARNINGS
LOOP A or LOOP B		
Normal		
Detecting Fire		ON
Short or Power Failure	ON	
Open		
Open with fire		ON

C. Testing

The control unit provides a means of testing the detection system by selectively simulating fire/overheat and fail conditions on the selected loops (A or B). The following table lists the possible loop conditions when the WARN test is performed:

LOOP CONDITION (Both Loops selected)		INDICATIONS	
LOOP A	LOOP B	FAIL MESSAGE (Caution)	FIRE WARNINGS
Normal	Normal		ON
Open loop	Open loop		
Short or Power Failure	Short or Power Failure	ON	
Normal	Open loop		
Normal	Short or Power Failure	ON	ON
Short or Power Failure	Open loop	ON	
Open loop	Normal		
Short or Power Failure	Normal	ON	ON
Open loop	Short or Power Failure	ON	

LOOP CONDITION (Single loop selected)	INDICATIONS		
	LOOP A or LOOP B	FAIL MESSAGE	FIRE WARNINGS
Normal			ON
Detecting Fire			ON
Open loop			
Short or Power Failure		ON	

The following table lists the possible loop conditions when the fail test is performed:

LOOP A	LOOP B	FAIL MESSAGE (Caution)
Normal	Normal	ON

LOOP A or LOOP B (Single Loop)	FAIL MESSAGE (Caution)
Loop A Selected	ON
Loop B Selected	ON

The engine fire extinguishing system provides a means to extinguish fires in the left and right engines. The system consists of two FIREX bottles, located in the aft equipment compartment, a low pressure switch, a bottle pressure gauge and discharge lines. The bottles contain Halon and are pressurized to 600 psi. Each bottle has two firing cartridges (squibs) to permit discharge of the fire extinguishing agent into either engine nacelle. The pressure switches are connected to the FIDEEX, and if the bottle pressure decrease to a preset point, an ENG BTL 1 (2) LO caution message will be displayed on the EICAS primary page.

ENGINE FIRE EXTINGUISHING						
EVENT (Left engine fire procedure is described, the right engine fire procedure is similar)	RESULT	GLARESHIELD INDICATIONS				
		LH ENG FIRE PUSH	BOTTLE 1 ARMED PUSH TO DISCH	BOTTLE 2 ARMED PUSH TO DISCH	MASTER WARNING	
1 Fire condition occurs in the left engine fire zone.	<ul style="list-style-type: none"> - Firebell sounds. - MASTER WARNING and LH FIRE PUSH switchlights come on. 	ON	OUT	OUT	ON	

ENGINE FIRE EXTINGUISHING						
2	MASTER WARNING switchlight is pressed in.	<ul style="list-style-type: none"> - Firebell is silenced. - MASTER WARNING switchlight goes out and the system is reset. 	ON	OUT	OUT	OUT
3	Left thrust lever is set to the SHUTOFF position.	<ul style="list-style-type: none"> - LH ENG FIRE PUSH switchlight remains on. 	ON	OUT	OUT	OUT
4	LH ENG FIRE PUSH switchlight is pressed in.	<ul style="list-style-type: none"> - BOTTLE 1 ARMED PUSH TO DISCH switchlight comes on. - BOTTLE 2 ARMED PUSH TO DISCH switchlight comes on. - Left squibs of bottles 1 and 2 are armed. - Left engine fuel SOV closes. - Left bleed air SOV closes. - Left hydraulic SOV closes. - Left IDG shuts down. 	ON	ON	ON	OUT
5	BOTTLE 1 ARMED PUSH TO DISCH switchlight is pressed in.	<ul style="list-style-type: none"> - Left squib on bottle 1 fires. - FIREX agent from bottle 1 discharges into left power plant fire zone A. 	ON	ON	ON	OUT
6	Bottle 1 fully discharges	<ul style="list-style-type: none"> - The pressure switch on bottle 1 opens as pressure drops below 225 to 275 psi. - ENG BTL 1 LO is displayed on the EICAS. 	ON	OUT	ON	OUT
7	If fire condition in left engine persists.	<ul style="list-style-type: none"> - LH ENG FIRE PUSH switchlight remains on. 	ON	OUT	ON	OUT

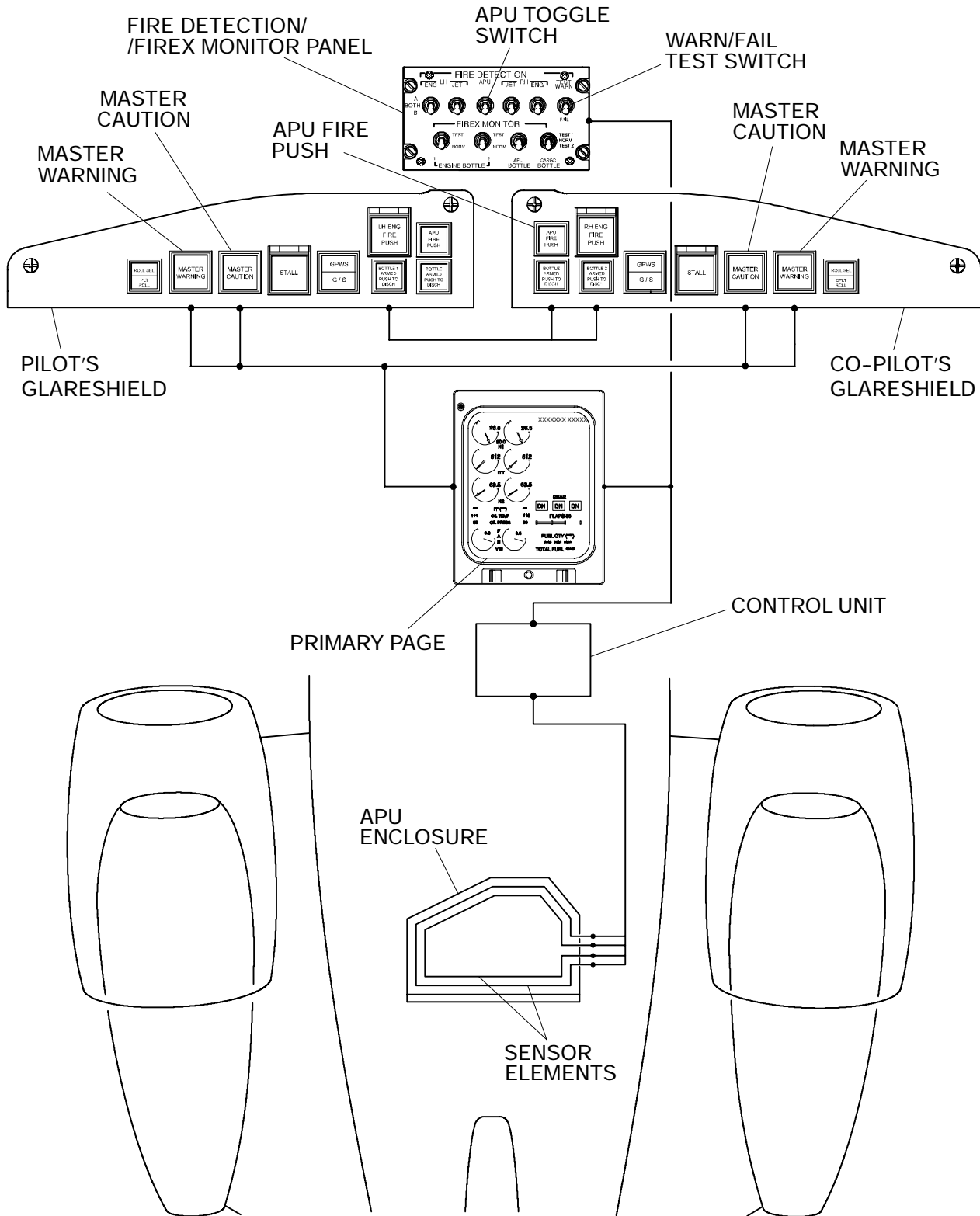
ENGINE FIRE EXTINGUISHING						
8	BOTTLE 2 ARMED PUSH TO DISCH switchlight is pressed in.	<ul style="list-style-type: none"> - Left squib on bottle 2 fires. - FIREX agent from bottle 2 discharges into left engine engine fire zone A. 	ON	OUT	ON	OUT
9	Bottle 2 fully discharges	<ul style="list-style-type: none"> - The pressure switch on bottle 2 opens as pressure drops below 225 to 275 psi. - ENG BTL 2 LO is displayed on EICAS. 	OUT	OUT	OUT	OUT

D. APU

The APU fire detection system is used to detect a fire or overheat condition in the APU enclosure. The detection system consists of dual heat sensitive detection loops arranged in parallel around the inside of the APU enclosure. Each loop is connected to the control unit and is monitored continuously for fire or overheat conditions. In normal operation, both detection loops must detect a fire or overheat condition before a fire warning alarm is issued. If a short or open circuit fault is detected in one loop, the control unit will automatically switch to single loop detection and the EICAS will display an APU FIRE FAIL caution message on the primary page.

APU fire protection has two modes of operation:

- Ground Mode - When a fire is detected, the control unit closes the fuel and bleed air shutoff valves and the APU shuts down. Five seconds later the fire bottle automatically discharges and the external horn sounds.
- Flight Mode - When a fire is detected, the control unit closes the fuel and bleed air shutoff valves and the APU shuts down, but the fire bottle must be discharged manually using the APU BOTTLE ARMED PUSH TO DISCH switchlight on the copilots glareshield.

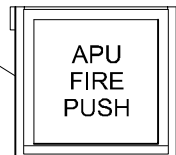


APU Fire Detection System – Schematic
Figure 10-20-6

APU FIRE PUSH

Used to arm the APU bottle squib.
Closes the APU bleed air load control valve and turns off the APU fuel pump.

- APU FIRE PUSH (red) light indicates that a fire is detected in the APU enclosure.

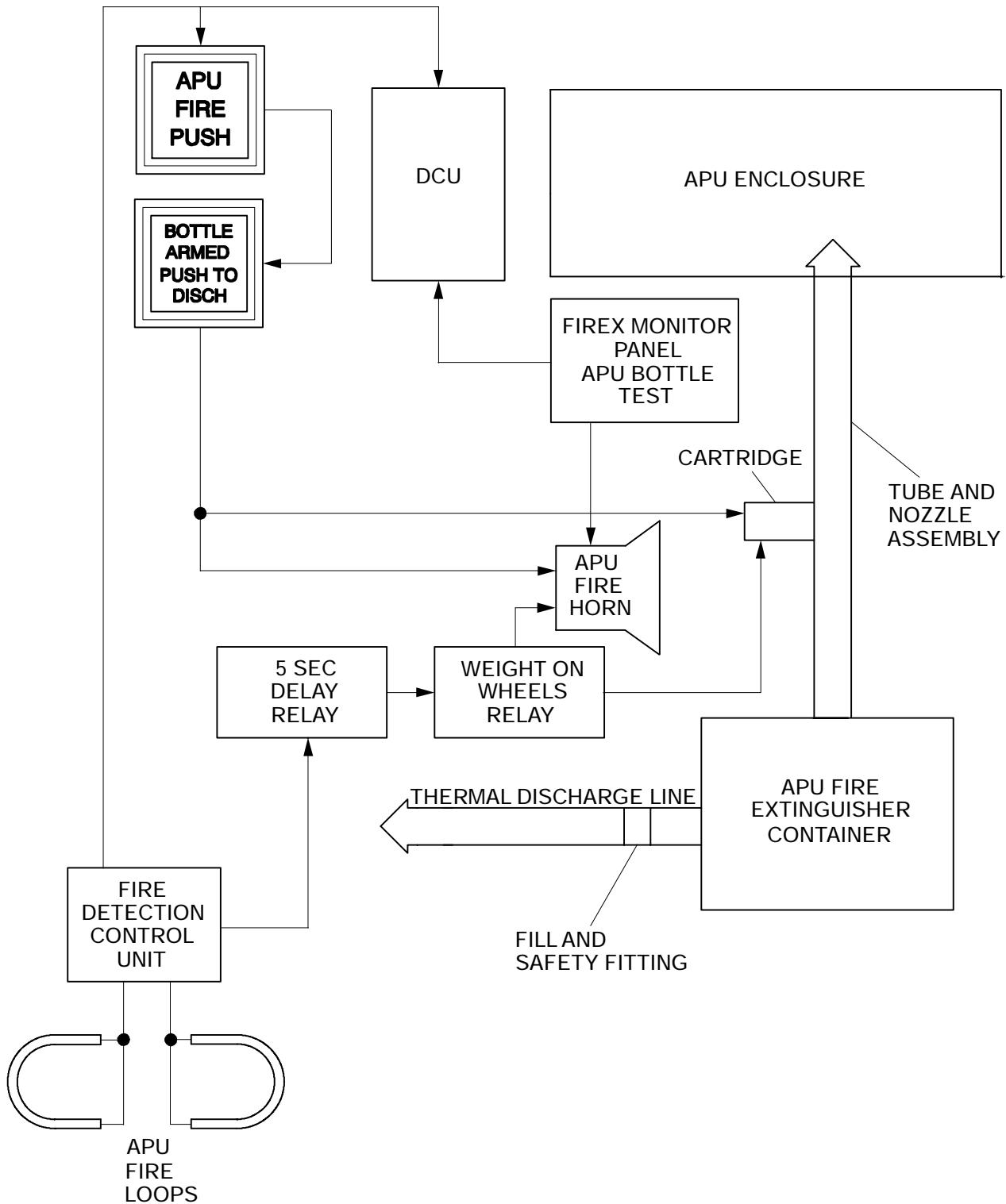


Right Glareshield

BOTTLE ARMED PUSH TO DISCH
Used to discharge the APU bottle.

- BOTTLE ARMED PUSH TO DISCH (green) light indicates that the bottle squib is armed and the bottles is charged.

Fire Detection and Extinguishing – APU PushButtons
Figure 10-20-7



APU Fire Extinguishing System
Figure 10-20-8

APU FIRE Warning (red)

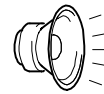
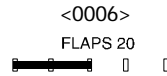
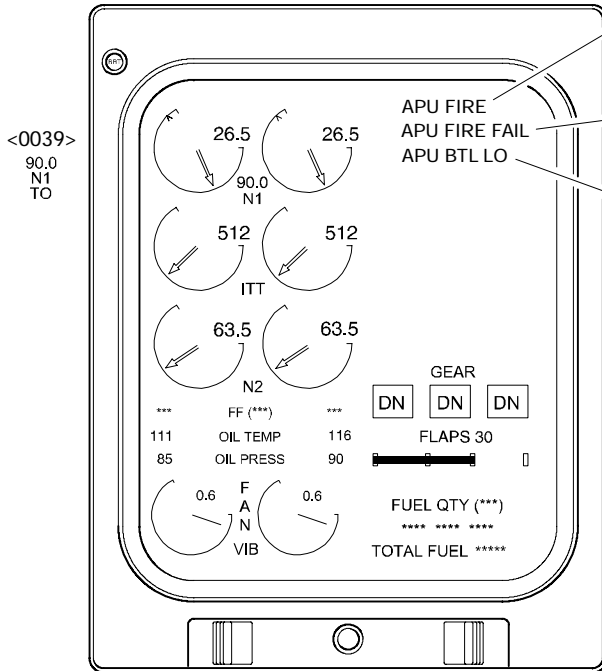
Comes on to indicate that a fire exists in the APU.

APU FIRE FAIL Caution (amber)

Comes on to indicate that a failure exists in the APU fire sensing loops (A&B).

APU BTL LO Caution (amber)

Comes on to indicate that the APU fire bottle discharged.

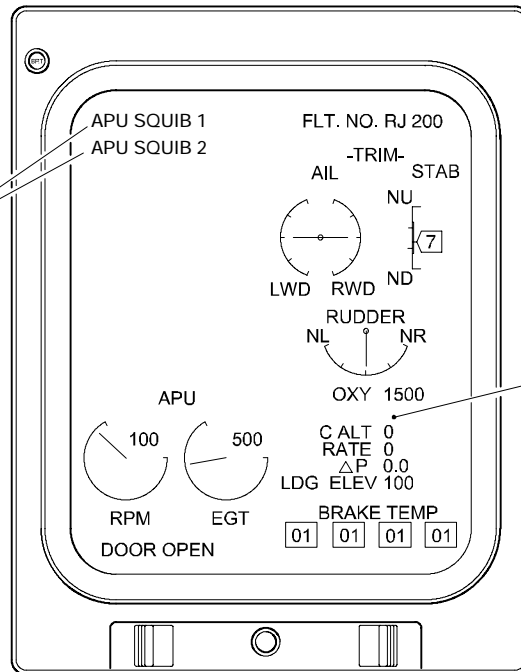


-Firebell
-Exterior Horn
(Sounds on ground and system will automatically discharge after 5 seconds).

Primary Page

APU SQUIB 1, 2 Advisory message (green)

Comes on to indicate that the respective element on the squib is operative.



<0039>
7.2

<0039>
C TEMP 23°C

Status Page

APU EICAS Indications <MST>
Figure 10-20-9

APU FIRE EXTINGUISHING					
EVENT	RESULT	GLARESHIELD INDICATIONS			
		APU FIRE PUSH	BOTTLE ARMED PUSH TO DISCH	MASTER WARN- ING	
1	Fire condition occurs in APU fire zone.	<ul style="list-style-type: none"> - Firebell sounds. - MASTER WARNING and APU FIRE PUSH lights come on. - APU shuts down automatically. If the aircraft is on the ground: <ul style="list-style-type: none"> - The APU bottle automatically discharges after 5 seconds. 	ON	OUT	ON
2	MASTER WARNING is pressed in.	<ul style="list-style-type: none"> - Firebell is silenced. - MASTER WARNING light goes out and system is reset. 	ON	OUT	OUT
3	APU FIRE PUSH switchlight is pressed in.	<ul style="list-style-type: none"> - BOTTLE ARMED PUSH TO DISCH light comes on. - If airborne, the APU fire shutoff relay is energized to shut down the APU. - APU squibs are armed. - APU fuel SOV closes. - APU bleed air LCV closes. 	ON	ON	OUT
4	BOTTLE ARMED PUSH TO DISCH is pressed in.	<ul style="list-style-type: none"> - APU squib fires. - FIREX agent discharges into the APU enclosure. 	ON	ON	OUT
5	APU bottle fully discharges.	<ul style="list-style-type: none"> - Pressure switch on bottle opens as pressure drops below 225 to 275 psi. - APU BTL LO is displayed on EICAS. 	OUT	OUT	OUT

E. Cargo Compartment

The cargo smoke detection system consists of two optical type smoke detectors (NORMAL and STANDBY) located in the ceiling of the cargo compartment. Both smoke detectors are protected from damage by a steel cage. Each detector is capable of producing an alarm signal within an established time frame and smoke concentration level. The detectors are positioned to avoid false alarms with overlapping coverage to guard against the failure of one detector. When smoke is detected by one or both detectors, air flow into and out of the cargo compartment is shut off to isolate the compartment. A SMOKE CARGO warning message is displayed on the EICAS primary page, a SMOKE aural warning is generated and both CARGO SMOKE PUSH (cover-guarded) switchlights illuminate on the CARGO FIREX panel.

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NOTE

Operation of mobile transceivers in close proximity to the smoke detectors or exhaust fumes from ground handling equipment may cause a false alarm.

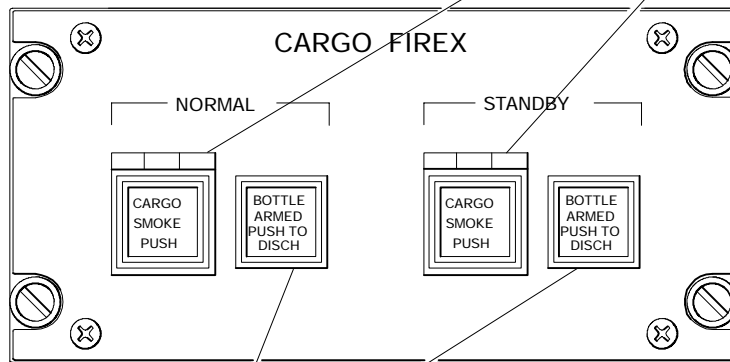
Fire extinguishing for the cargo compartment is provided by two FIREX bottles, a high rate discharge bottle and a low rate discharge bottle. Both bottles are located in the aft equipment compartment, and are pressurized with extinguishing agent (Halon). Each bottle has a firing cartridge with two squibs, used to discharge the Halon into the cargo compartment. Each bottle has a low pressure switch and a pressure gauge. When either BOTTLE ARMED PUSH TO DISCHARGE DISCH switchlight is pushed, both bottles will discharge simultaneously. The high rate discharge bottle is designed to quickly deliver extinguishing agent into the cargo compartment for initial fire suppression. The low rate discharge bottle discharges slowly, maintaining a flow of extinguishing agent into the cargo compartment (over a 30 minute period) to prevent re-ignition and allow for aircraft diversion. If either bottle pressure decrease to a preset point, the pressure switch opens, and a CARGO BTL LO caution message will be displayed on the EICAS primary page.

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**NORMAL (STANDBY)
CARGO SMOKE
(coverguard)**

PUSH Switch/Lights
Come on (red) when a smoke condition is detected in the cargo compartment.

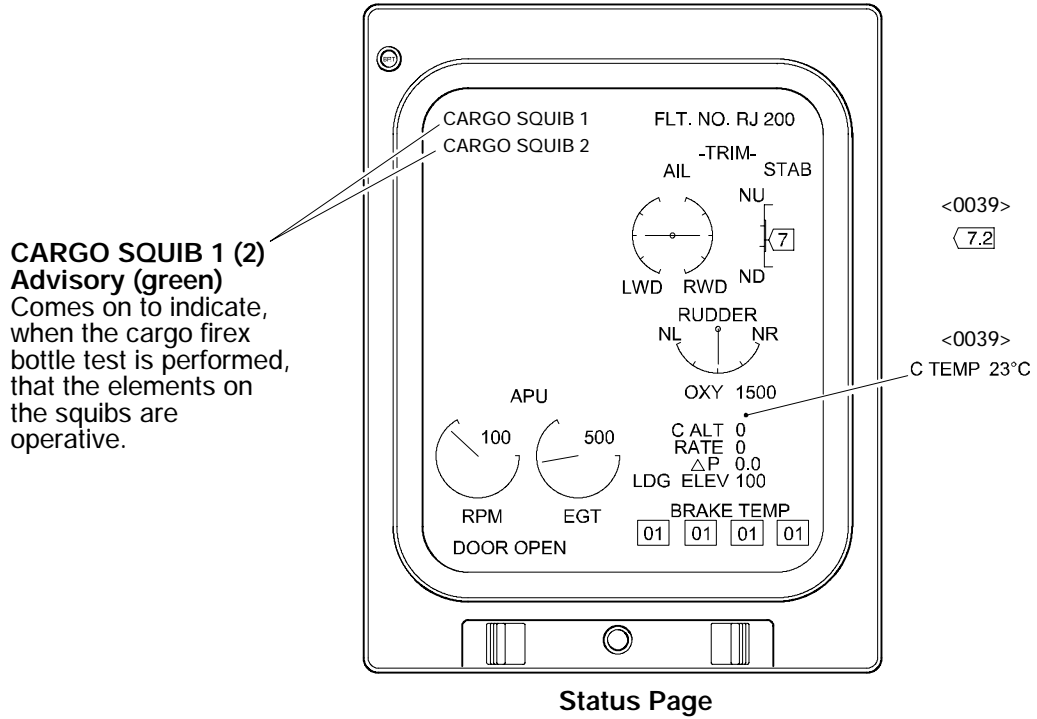
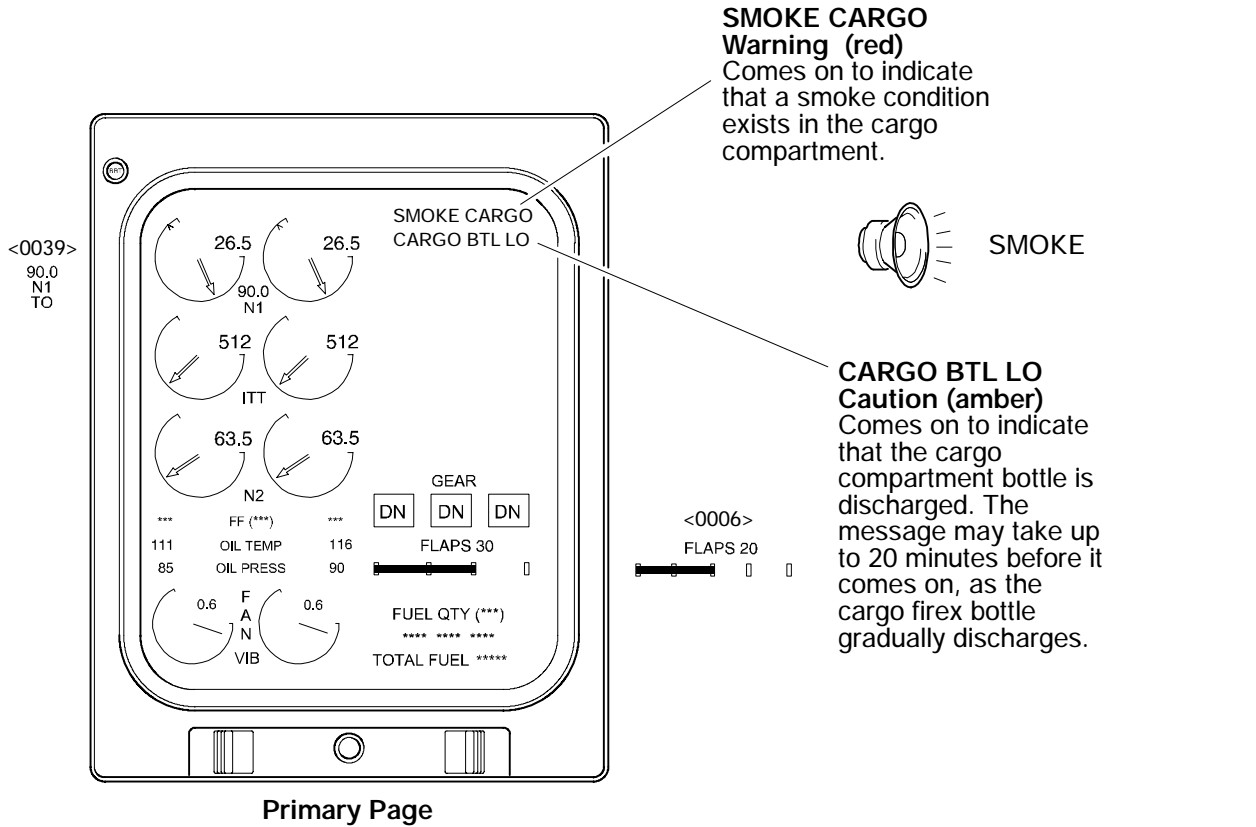
- **Pressed in -**
Respective squib of cargo compartment firex bottle is armed.
- **Pressed out -**
Respective squib of cargo compartment firex bottle is disarmed.



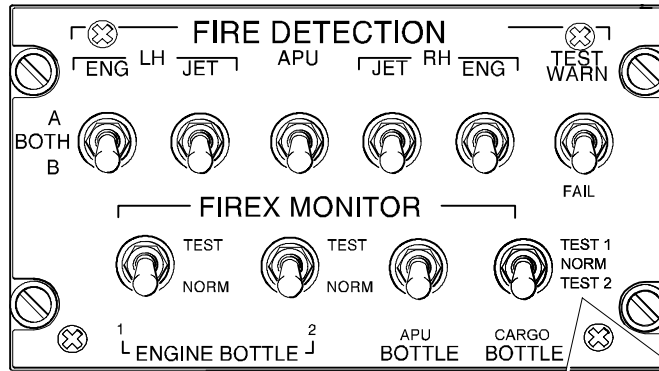
**NORMAL (STANDBY),
BOTTLE ARMED PUSH TO DISCH Switch/Lights**
Come on (green) when the respective CARGO SMOKE PUSH switch/light is pressed in, to indicate that the cargo compartment firex bottle is charged and the respective squib is armed.
Pressed in -Squibs in both bottles fire.

NOTE
BOTTLE ARMED - PUSH TO DISCH
Green light goes out once the firex bottle is discharged (goes out when **CARGO BTL LO** caution message comes on).

Cargo Compartment Fire Protection
Figure 10-20-10



Cargo Compartment Smoke – EICAS Indications <MST>
Figure 10-20-12



Fire Detection/Firex Monitor Panel

NOTE
If a CARGO BOTTLE test is conducted with the CARGO switch selected to FAN or COND AIR, a CARGO FAN FAIL status message will come on.

CARGO BOTTLE Toggle Switch (spring loaded to center)

- **TEST 1** - Simulates a smoke condition on detector 1.
The following come on:
 - "SMOKE" aural comes on,
 - SMOKE CARGO warning message comes on,
 - CARGO SQUIB 1 advisory message comes on (continuity check of squib 1),
 - CARGO FIREX panel: NORMAL CARGO SMOKE PUSH (red)
 - NORMAL BOTTLE ARMED PUSH TO DISCH (green), and
 - STANDBY CARGO SMOKE PUSH (green) lights on.

- **TEST 2** - Simulates a smoke condition on detector 2.

The following come on:

- "SMOKE" aural comes on,
- SMOKE CARGO warning message comes on,
- CARGO SQUIB 2 advisory message comes on (continuity check of squib 2),
- CARGO FIREX panel: NORMAL CARGO SMOKE PUSH, (red)
- STANDBY CARGO SMOKE PUSH (red), and
- STANDBY BOTTLE ARMED PUSH TO DISCH (green) lights on.
- **NORMAL** - Selected for normal operation.

Cargo Compartment Firex Test
Figure 10-20-13

F. Testing

Testing is initiated using the TEST 1 / NORM / TEST 2 switch located on the FIRE DETECTION/ FIREX Monitor Panel. TEST 1 tests the NORMAL smoke detector and the bottle 1 squibs. TEST 2 tests the STANDBY smoke detector and the bottle 2 squibs. Test results are displayed on the EICAS.

CARGO COMPARTMENT FIRE EXTINGUISHING					
EVENT	RESULT	INDICATIONS			
		CARGO SMOKE PUSH	BOTTLE ARMED PUSH TO DISCH	MASTER WARNING	
1 Smoke condition occurs in the cargo compartment.	<ul style="list-style-type: none"> - "Smoke" aural warning is annunciated. - MASTER WARNING and SMOKE CARGO warning messages comes on. - SMOKE CARGO PUSH switchlights come on. 	ON	OUT	ON	
2 MASTER WARNING switchlight is pressed in.	<ul style="list-style-type: none"> - "Smoke" aural warning is silenced. - MASTER WARNING light goes out and the system is reset. 	ON	OUT	OUT	
3 SMOKE CARGO PUSH is pressed in.	<ul style="list-style-type: none"> - BOTTLE ARMED PUSH TO DISCH light comes on. - Cargo bottle squibs are armed. 	ON	ON	OUT	
4 BOTTLE ARMED PUSH TO DISCH is pressed in.	<ul style="list-style-type: none"> - Squibs of both bottles fire. - Extinguishing agent discharges into the cargo compartment. 	ON	ON	OUT	
5 One bottle fully discharges.	<ul style="list-style-type: none"> - Pressure switch on one bottle opens as pressure drops below set level. - CARGO BTL LO caution message is displayed on the EICAS primary page. - Remaining bottle continues to discharge for a minimum of 30 minutes. 	OUT	OUT	OUT	

G. System Circuit Breakers

SYSTEM	SUB-SYSTEM	CB NAME	BUS BAR	CB PANEL	CB LOCATION	NOTES
Fire Protection Systems	Fire Detector loops	FIRE DET LOOP A	DC BATT	1	N1	
		FIRE DET LOOP B			N2	
		FIRE DET TEST			N3	
	Engine Bottles	FIRE EXT 1 R ENG	DC EMER		R1	
		FIRE EXT 1 L ENG			R2	
		FIRE EXT 2 R ENG			R3	
		FIRE EXT 2 L ENG			R4	
	APU Bottle	APU FIRE EXT A			R5	
		APU FIRE EXT B			R6	
	Cargo Smoke Detection	CARGO FIREX 1	DC BATT BUS		P1	
		CARGO FIREX 2	DC BUS 1		G1	



FIRE PROTECTION
Fire Detection and Extinguishing (FIDEEX)

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1. LAVATORY FIRE PROTECTION

Lavatory fire detection and protection consists of a ceiling mounted smoke detector and a waste compartment fire extinguisher.

A. Detection

The smoke detector monitors the lavatory for the presence of smoke. When the smoke density exceeds a preset level, the detector sounds an aural alarm and a SMOKE TOILET caution message is displayed on the EICAS primary page.

The smoke detector monitors the lavatory for the presence of smoke. When the smoke density exceeds a preset level, the detector sounds an aural alarm and a SMOKE TOILET warning message is displayed on the EICAS primary page. <0037>

The smoke detector can be tested by pressing the test button on the detector. During the test, an aural alarm sounds in the lavatory, the red alarm light on the detector comes on and a SMOKE TOILET caution message is displayed on the EICAS primary page. The system is reset by pressing the interrupt button on the detector.

The smoke detector can be tested by pressing the test button on the detector. During the test, an aural alarm sounds in the lavatory, the red alarm light on the detector comes on and a SMOKE TOILET warning message is displayed on the EICAS primary page. The system is reset by pressing the interrupt button on the detector. <0037>

NOTE

Operation of mobile transceivers in close proximity to the smoke detectors or exhaust fumes from ground equipment may cause a false alarm.

	Flight Crew Operating Manual CSP A-013	MASTER
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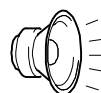
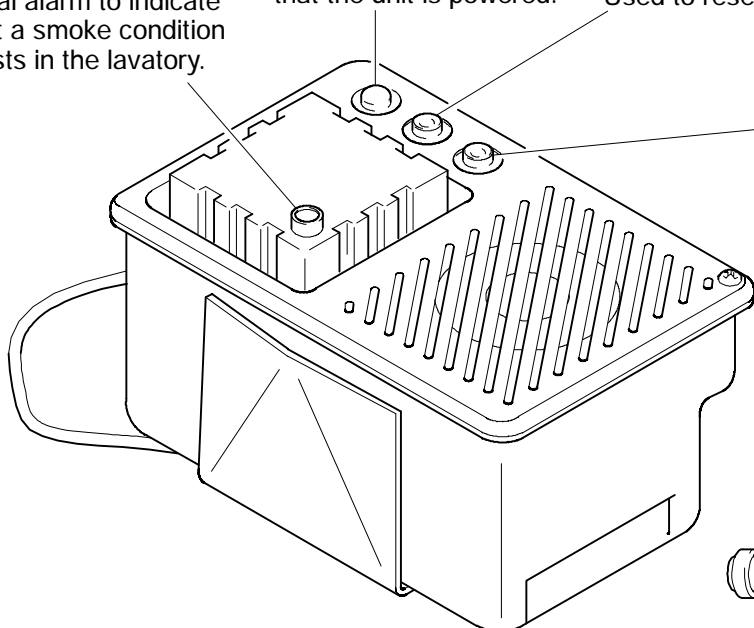
Alarm Light (red)
Comes on with the aural alarm to indicate that a smoke condition exists in the lavatory.

Power Light (green)
Comes on to indicate that the unit is powered.

Interrupt Pushbutton
Used to reset smoke detector.

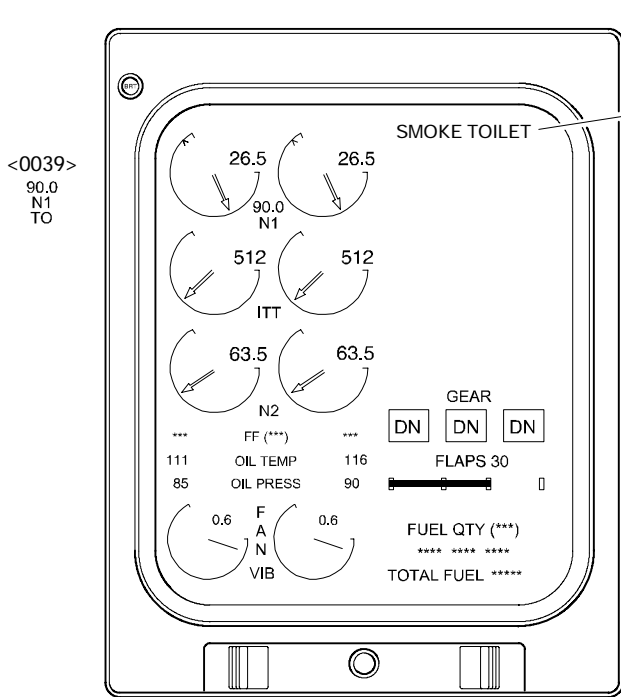
Test Pushbutton
Used to test smoke detector. When pressed in:

- Aural alarm comes on.
- Alarm light comes on.
- EICAS warning message is displayed.



700 and 2000 Hz tone

**Smoke Detector
Lavatory Ceiling**



**SMOKE TOILET
Caution (amber)**
Comes on with the aural alarm to indicate that a smoke condition exists in the lavatory.

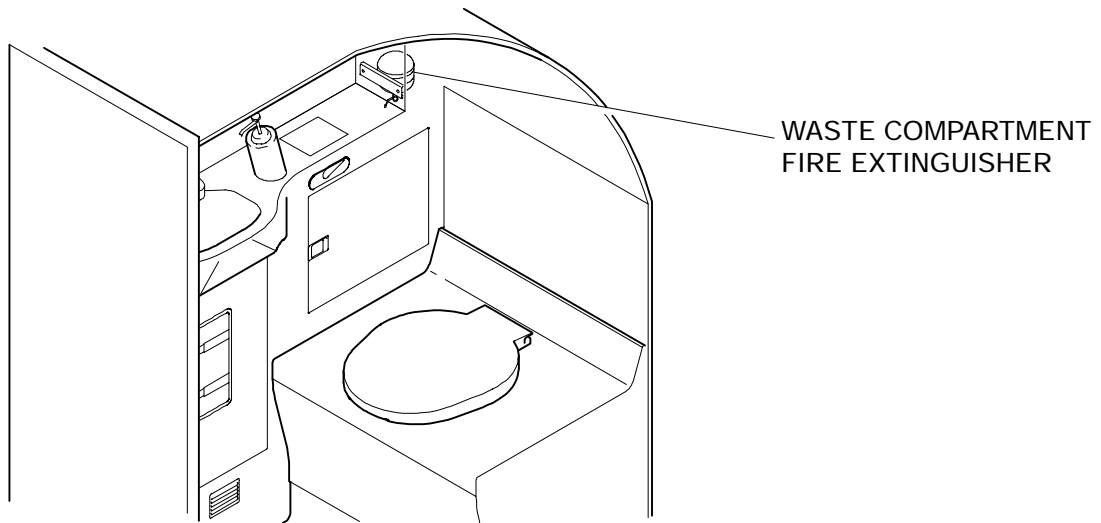
**SMOKE TOILET <0037>
Warning (red)**
Comes on with the aural alarm to indicate that a smoke condition exists in the lavatory.

Primary Page

**Lavatory Smoke – EICAS Indications <MST>
Figure 10-30-1**

B. Extinguishing

Fire extinguishing in the lavatory waste paper towel container is initiated automatically. The system consists of a disposable Halon fire extinguisher bottle with dual discharge nozzles. The bottle is mounted near the waste container with the nozzles extending into the waste container. The end of each discharge nozzle is sealed with a heat sensitive capsule which, when subjected to heat, melts to release the extinguishing agent into the waste container. A temperature indicating strip sensor is located on the inside of the waste compartment door. The sensor is used to provide an indication that high temperature has been sensed in the compartment and that the bottle may have discharged.



Lavatory Waste Compartment Extinguisher
Figure 10-30-2

C. System Circuit Breakers

SYSTEM	SUB-SYSTEM	CB NAME	BUS BAR	CB PANEL	CB LOCATION	NOTES
Lavatory	Smoke Detection	SMOKE DET	DC BUS 1	1	K1	



**FIRE PROTECTION
Lavatory**

Vol. 1

10-30-4

REV 56, Jan 31/03

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	FIRE PROTECTION Main Landing Gear Overheat Detection	Vol. 1	10-40-1
		REV 56, Jan 31/03	

1. MAIN LANDING GEAR OVERHEAT DETECTION

The main landing gear overheat detection system provides indication of an overheat condition in the main landing gear wheel well bins. An overheat condition can be caused by overheated brakes or brake fires. The system consists of two overheat detection sensor loops and an overheat detection unit.

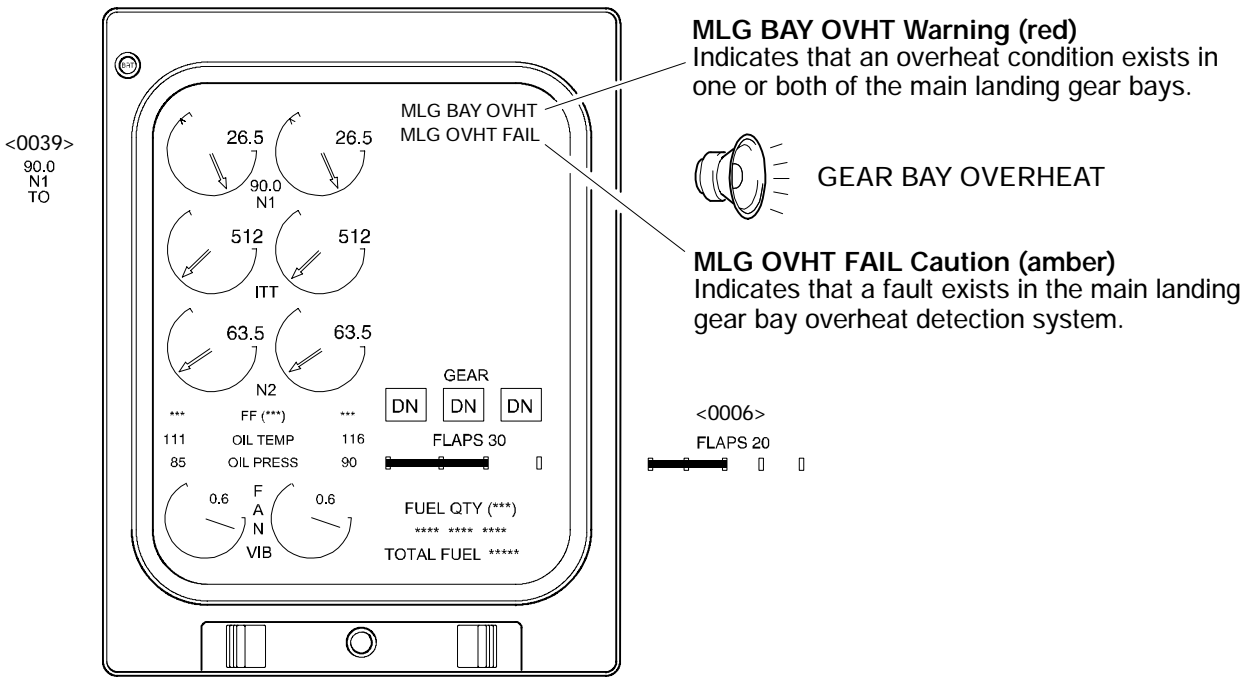
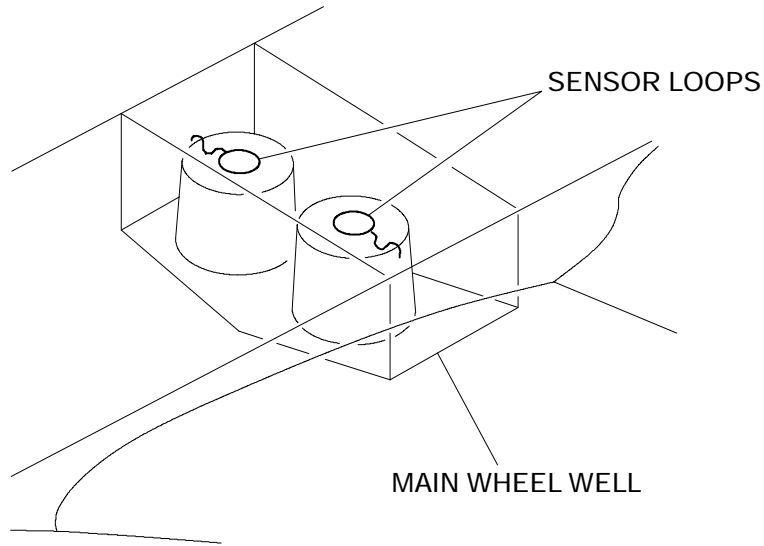
The sensor loops are installed around the top inner surface of each main wheel well bin and are connected to the detection unit which is installed in the forward avionics compartment.

The overheat detection unit continuously monitors the loops for overtemperature conditions and system faults (short circuits). If an overheat condition is detected by the unit, in either wheel well bin, a signal is sent to the EICAS to display a MLG BAY OVHT warning message on the primary page. If a system fault is detected by the unit, a signal is sent to the EICAS to display a MLG OVHT FAIL caution message on the primary page.

The warning of an overheat condition, alerts the pilot to immediately lower the landing gear to reduce the landing gear temperature. The warning message will persist until the temperature in the wheel well bin returns to normal limits.

The main landing gear overheat detection system may be tested, from the landing gear control panel, by simulating an overheat condition or a system fault condition. The EICAS will display the applicable warning or caution message during the test.

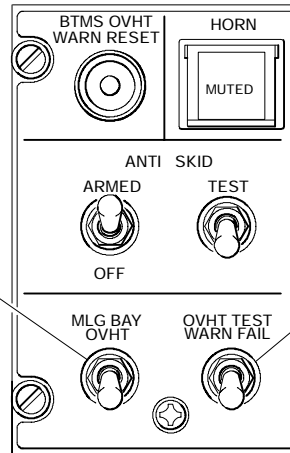
	Flight Crew Operating Manual CSP A-013	MASTER
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Primary Page

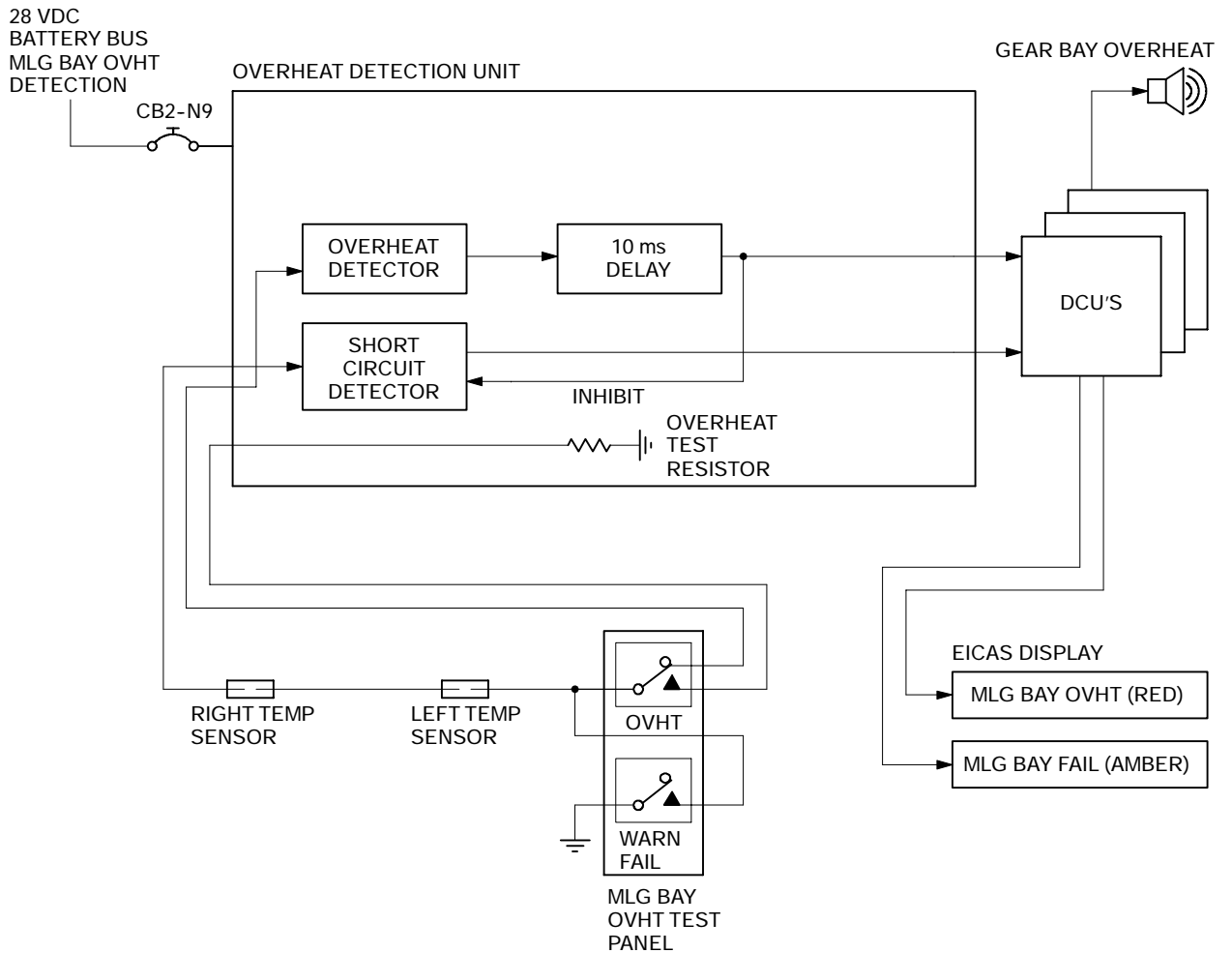
**Main Landing Gear Overheat – EICAS Indications <MST>
Figure 10-40-1**

MAIN LANDING GEAR BAY OVERHEAT TEST Switch
(Spring-loaded to normal position)
• **OVHT**- Simulates an overheat condition in the main landing gear bay. An aural and visual message is annunciated on EICAS.



MAIN LANDING GEAR BAY OVERHEAT WARNING FAIL TEST Switch
(Spring-loaded to normal position)
• **WARN FAIL**- Simulates a failure in the main landing gear bay overheat detection system. Message is annunciated on EICAS.

Landing Gear Control Panel
Center Instrument Panel



Main Landing Gear Overheat – System Test
Figure 10-40-2



FIRE PROTECTION
Main Landing Gear Overheat Detection

Vol. 1 10-40-4

REV 56, Jan 31/03

A. System Circuit Breakers

SYSTEM	SUB-SYSTEM	CB NAME	BUS BAR	CB PANEL	CB LOCATION	NOTES
Main Landing Gear	Overheat Detection	MLG BAY OVHT DET	DC BATT	2	N9	