



A330/A340
FLIGHT CREW
OPERATING MANUAL

PROCEDURES

ABNORMAL AND EMERGENCY PROCEDURES

FUEL

[QRH] FUEL IMBALANCE

Ident.: PRO-ABN-FUEL-00011329.0001001 / 17 MAR 17

Applicable to: ALL

FOB..... CHECK

Compare the FOB + FU, with the FOB at departure.

If the difference is significant, or if the FOB + FU decreases, suspect a fuel leak.

CAUTION

1. A fuel imbalance may indicate a fuel leak. Do not apply this procedure, if a fuel leak is suspected. *Refer to PRO-ABN-FUEL [QRH] FUEL LEAK.*
2. In case of FUEL ENG FEEDLINE BURST alert followed by an engine shutdown, if fuel of the tank associated to the affected engine is required, DO NOT set the WING X FEED to ON.

WING X FEED..... ON

■ If WING X FEED valve open:

● On lighter side:

FUEL STBY PUMP..... OFF

FUEL MAIN PUMP 1..... OFF

FUEL MAIN PUMP 2..... OFF

Note: While pumps are OFF, disregard the corresponding FUEL WING PUMPS LO PR ECAM caution.

● When fuel balanced:

FUEL MAIN PUMP 1..... ON

FUEL MAIN PUMP 2..... ON

FUEL STBY PUMP..... ON

WING X FEED..... AUTO

■ If WING X FEED valve failed closed or in case of FUEL ENG FEEDLINE BURST:

OUTR TK XFR..... ON

This will connect the inner fuel tanks via the refuelling gallery.

STRAIGHT FLIGHT..... MAINTAIN

AP..... OFF

Disconnect the Auto Pilot to reach the targeted bank angle and the appropriate rudder position during the maneuver.

BANK ANGLE..... 3 DEG WING DOWN ON LIGHTER SIDE

Fuel transfer only occurs if the bank angle is at, or above, 2 ° to 3 °.

USE RUDDER TO KEEP HDG AND NEUTRAL STICK

Continued on the following page



A330/A340
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[QRH] FUEL IMBALANCE (Cont'd)

Adjust rudder position to keep heading and neutral stick.

USE RUDDER TRIM

● **When transfer completed:**

OUTR TK XFR..... AUTO

RESUME NORM BANK ANGLE

RESUME NORM RUDDER TRIM

AP..... AS RQRD



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[QRH] FUEL LEAK

Ident.: PRO-ABN-FUEL-00011327.0011001 / 28 MAY 20

1 Applicable to: MSN 1552-1832

A fuel leak may be detected by:

- The sum of FOB and FU is significantly less than FOB at engine start, or is decreasing, or
- A passenger observes a fuel spray from an engine/pylon, or a wing tip, or
- The total fuel quantity is decreasing at an abnormal rate, or
- A fuel imbalance is developing, or
- Fuel quantity of a tank is decreasing too fast (leak from engine/pylon, or hole in a tank), or
- A tank is overflowing (due to pipe rupture in a tank), or
- The Fuel Flow is excessive, N1 is low (leak from engine), or
- Fuel is smelt in the cabin, or
- The destination EFOB turns to amber on the F-PLN (or on the FUEL PRED page), or
- "DEST EFOB BELOW MIN" appears on the MCDU scratchpad.

If visibility permits, leak source may be identified by a visual check from the cabin.

WHEN A LEAK IS CONFIRMED

LAND ASAP

■ Leak from engine/pylon confirmed by excessive fuel flow, low N1 or visual check:

THR LEVER (affected engine).....IDLE
ENG MASTER (affected engine).....OFF
WING X FEED..... AS RQRD
DO NOT RESTART AFFECTED ENGINE

■ Leak from engine/pylon not confirmed or leak not located:

Stop any fuel transfer, and then monitor the depletion rate of each inner tank, to determine if the leak is from an engine or a wing, or from the Trim tank, or the APU/Trim feeding line.

WING X FEED..... MAINTAIN CLOSED

The crossfeed valve must remain closed to prevent the leak from affecting both sides.

T TANK FEED..... ISOL
INNER TANKS FUEL QUANTITIES..... MONITOR

Monitor the depletion rate of each inner tank.

■ If one inner tank depletes faster than other by at least 500 kg (1 100 lb) in less than 30 min:

An engine leak may still be suspected. Therefore:

Continued on the following page

PROCEDURES
ABNORMAL AND EMERGENCY PROCEDURES
FUEL

[QRH] FUEL LEAK (Cont'd)

THR LEVER (engine on leaking side)..... IDLE
ENG MASTER (engine on leaking side)..... OFF
FUEL LEAK..... MONITOR

■ **If leak stops:**

ENGINE LEAK CONFIRMED

T TANK FEED..... AUTO
WING X FEED..... AS RQRD

DO NOT RESTART AFFECTED ENGINE

■ **If leak continues (after engine shutdown):**

WING LEAK SUSPECTED

ENGINE RESTART..... CONSIDER
FUEL LOSS REDUCTION..... CONSIDER

Refer to PRO-ABN-FUEL [QRH] FUEL LOSS REDUCTION.

CAUTION	Do not apply the FUEL IMBALANCE procedure. Approach and landing can be done, even with one full wing/one empty wing.
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■ **If both inner tanks deplete at a similar rate:**

LEAK FROM TRIM TANK OR APU/TRIM FEEDING LINE SUSPECTED

■ **If fuel smell in cabin:**

APU..... OFF
T TANK FEED..... MAINTAIN ISOL

This prevents additional fuel loss through the APU/Trim feeding line.

■ **If no fuel smell in cabin:**

LEAK FROM TRIM TANK SUSPECTED

FUEL LOSS REDUCTION..... CONSIDER

Refer to PRO-ABN-FUEL [QRH] FUEL LOSS REDUCTION.

● **For landing: DO NOT USE REVERSERS**



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[QRH] FUEL LEAK

Ident.: PRO-ABN-FUEL-00011327.0016001 / 28 MAY 20

Applicable to: MSN 1926-1987

A fuel leak may be detected by:

- The sum of FOB and FU is significantly less than FOB at engine start, or is decreasing, or
- A passenger observes a fuel spray from an engine/pylon, or a wing tip, or
- The total fuel quantity is decreasing at an abnormal rate, or
- A fuel imbalance is developing, or
- Fuel quantity of a tank is decreasing too fast (leak from engine/pylon, or hole in a tank), or
- A tank is overflowing (due to pipe rupture in a tank), or
- The Fuel Flow is excessive, N1 is low (leak from engine), or
- Fuel is smelt in the cabin, or
- The destination EFOB turns to amber on the F-PLN (or on the FUEL PRED page), or
- "DEST EFOB BELOW MIN" appears on the MCDU scratchpad.

If visibility permits, leak source may be identified by a visual check from the cabin.

WHEN A LEAK IS CONFIRMED

LAND ASAP

■ **Leak from engine/pylon confirmed by excessive fuel flow, low N1 or visual check:**

THR LEVER (affected engine).....IDLE
ENG MASTER (affected engine).....OFF
WING X FEED..... AS RQRD
DO NOT RESTART AFFECTED ENGINE

■ **Leak from engine/pylon not confirmed or leak not located:**

Stop any fuel transfer, and then monitor the depletion rate of each inner tank, to determine if the leak is from an engine or a wing, or from the Center tank, the Trim tank, or the APU/Trim feeding line.

WING X FEED..... MAINTAIN CLOSED

The crossfeed valve must remain closed to prevent the leak from affecting both sides.

L CTR PUMP.....OFF

R CTR PUMP.....OFF

T TANK FEED..... ISOL

INNER TANKS FUEL QUANTITIES..... MONITOR

Monitor the depletion rate of each inner tank.

Continued on the following page

[QRH] FUEL LEAK (Cont'd)

- **If one inner tank depletes faster than other by at least 500 kg (1 100 lb) in less than 30 min:**

An engine leak may still be suspected. Therefore:

THR LEVER (engine on leaking side)..... IDLE
ENG MASTER (engine on leaking side)..... OFF
FUEL LEAK..... MONITOR

- **If leak stops:**

ENGINE LEAK CONFIRMED

L CTR PUMP..... ON
R CTR PUMP..... ON
T TANK FEED..... AUTO
WING X FEED..... AS RQRD

DO NOT RESTART AFFECTED ENGINE

- **If leak continues (after engine shutdown):**

WING LEAK SUSPECTED

ENGINE RESTART..... CONSIDER
FUEL LOSS REDUCTION..... CONSIDER

Refer to PRO-ABN-FUEL [QRH] FUEL LOSS REDUCTION.

CAUTION

Do not apply the FUEL IMBALANCE procedure. Approach and landing can be done, even with one full wing/one empty wing.

- **If both inner tanks deplete at a similar rate:**

LEAK FROM CENTER TANK, TRIM TANK OR APU/TRIM FEEDING LINE
SUSPECTED

L CTR PUMP..... ON
R CTR PUMP..... ON

- **If fuel smell in cabin:**


APU..... OFF
T TANK FEED..... MAINTAIN ISOL

This prevents additional fuel loss through the APU/Trim feeding line.

- **If no fuel smell in cabin:**

LEAK FROM CENTER TANK OR TRIM TANK SUSPECTED

Continued on the following page

 <p>A330/A340 FLIGHT CREW OPERATING MANUAL</p>	<p style="text-align: center;">PROCEDURES</p> <p style="text-align: center;">ABNORMAL AND EMERGENCY PROCEDURES</p> <p style="text-align: center;">FUEL</p>
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[QRH] FUEL LEAK (Cont'd)
<p style="text-align: center;">FUEL LOSS REDUCTION..... CONSIDER</p> <p style="text-align: center;"><i>Refer to PRO-ABN-FUEL [QRH] FUEL LOSS REDUCTION.</i></p> <p>● For landing: DO NOT USE REVERSERS</p>

[QRH] FUEL LOSS REDUCTION
Ident.: PRO-ABN-FUEL-00019480.0001001 / 17 MAR 17
<div style="display: flex; align-items: center;"> <div style="width: 10px; height: 10px; background-color: blue; margin-right: 5px;"></div> <div>Applicable to: MSN 1552-1832</div> </div>
<p>Apply this procedure only if suggested by the FUEL LEAK procedure, and if the flight crew needs to minimize the fuel loss. It covers two types of leak:</p> <ul style="list-style-type: none"> - A leak from wing: a manual Trim tank transfer can be done, to symmetrically transfer the fuel to both inner tanks, and avoid an automatic fuel transfer to only the least full inner tank, or - A leak from the Trim tank: a manual Trim tank transfer to both inner tanks can be done to save some Trim tank fuel. <p>● If Trim Tank not empty:</p> <p style="margin-left: 40px;">T TANK FEED..... AUTO</p> <p style="margin-left: 40px;">T TANK MODE..... FWD</p> <p>● When Trim Tank empty:</p> <p style="margin-left: 40px;">T TANK MODE.....AUTO</p> <p style="margin-left: 40px;">T TANK FEED.....ISOL</p>



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[QRH] FUEL LOSS REDUCTION

Ident.: PRO-ABN-FUEL-00019480.0002001 / 17 MAR 17

Applicable to: MSN 1926-1987

Apply this procedure only if suggested by the FUEL LEAK procedure, and if the flight crew needs to minimize the fuel loss. It covers two types of leak:

- A leak from wing: a manual Trim tank transfer (via the Center tank) and/or manual Center tank transfer can be done, to symmetrically transfer fuel to both inner tanks, and avoid automatic transfer to only the least full inner tank, or
- A leak from the Center tank, or the Trim tank: a manual Trim and/or Center tank transfer to both inner tanks can be done to save some Trim or Center tank fuel.

● **If Center Tank or Trim Tank not empty:**

L CTR PUMP.....ON
R CTR PUMP.....ON
CTR TK XFR.....MAN
T TANK FEED (if not empty).....AUTO
T TANK MODE (if not empty).....FWD

● **When Trim Tank empty:**

T TANK MODE.....AUTO
T TANK FEED.....ISOL

● **When Center Tank empty:**

CTR TK XFR.....AUTO