DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

A53EU
Revision 23
ATR
ATR42-200
ATR42-300
ATR42-320
ATR42-500
ATR72-101
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August 21, 2015

TYPE CERTIFICATE DATA SHEET No. A53EU

This data sheet which is a part of Type Certificate No. A53EU prescribes conditions and limitations under which the product for which the Type Certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder. ATR – GIE Avions de Transport Régional
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I. ATR42-200 (Transport Category Airplane) approved October 25, 1985.

Engines. Two Pratt and Whitney Aircraft of Canada, Ltd., PW120 turboprops.

Fuel. (a) The following fuels are eligible for engines

MIL-T-5624	Grade JP5
AST-MD-1655	Grades JET A, JET A1

(PWC Service Bulletin No. 20 004 details approval conditions)

(b) The following type of additives may be used in approved fuels:
- oxidation inhibitors,
- corrosion inhibitors,
- thermal stability additives,
- metal deactivators,
- anti icing additives,
- anti stating additives,
- biocide additives.

List of approved additives, approved concentrations and conditions of use are identified in PWC Service Bulletin n^{O} 20.004.

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I. ATR42-200 (cont'd)

Oil. The following oils are eligible for engines:
- Synthetic type conforming to PWC specification PWA 521, Type II.
PWC Service Bulletin 20 001 lists approved brand oils.

Engine Limits. (PW-120) Operating limits with no unscheduled maintenance action required.
Beyond these limits refer to maintenance manual.

POWER SETTING	TIME LIMIT	TO	ITT	NH	NP	OIL PRESS	OIL TEMP
		(%)	(ºC)	(%)	(%)	(PSI)	(ºC)
RESERVE TAKE OFF	5 minutes	105	816	100	101	55 to 65	0 to 125 (1)
TAKE OFF	5 minutes	92	785	(4)	101	55 to 65	0 to 125 (1)
MAXIMUM CONTINUOUS	NONE	90	785	100	101	55 to 65	0 to 125 (1)
GROUND IDLE				62 min		40 min	-40 to 125 (1)
HOTEL MODE			785			40 min (2)	0 to 125 (1)
STARTING	5 seconds		950				-40 min (3)
TRANSIENT	10 mn 20 S 20 S	105 125 145.6 (5)	850 850	102 102	110 110	40 to 100 40 to 100	

(1) Temperature up to 115ºC (120ºC in Hotel mode) is authorized without time limitation. 20 mn are authorized between 115ºC (120ºC in Hotel mode) and 125ºC.
(2) For NH below 75%. NH above 75% requires 55 to 65 psi.
(3) It may be assumed that before the first start of the day the oil temperature is the minimum temperature observed during the night.
(4) Refer to AFM 2.04 p1A for NH limitation at take off.
(5) If gearboxes incorporate SB 20316 or 20380.

NOTE: Oil temperature must be maintained above 45ºC to ensure intake strut de-icing. Oil temperature must be maintained above 71ºC to ensure fuel anti-icing protection in absence of the low fuel temperature indication.

Propellers. 2 Hamilton Standard, four-bladed, 14 SF 5 (FAA TCDS P7NE).
Blade: SFA 13( ) (see FAA TCDS P7NE)

Propeller Limits. Diameter: 13 Ft. (+ 1/4 in., -3/16 in. manufacturing tolerance permissible)
Pitch Setting at 42. in. of the axis:
Feather: 86 degrees
Flight Fine: 20 degrees
Ground Fine: 7 degrees
Full Reverse: -10 degrees
Propeller (N_p) - Takeoff 1200 R.P.M.
Max. Continuous 1200 R.P.M.

I. ATR42-200 (cont'd)

Airspeed Limits (IAS).

Maximum operating speed V_{mo} : 250 KIAS
Maximum operating mach M_{mo} : 0.55
V_A manoeuvering speed : 160 KIAS
V_{FE} Flaps 15^o : 160 KIAS (170 KIAS with MOD. 1790)
Flaps 30^o : 145 KIAS (150 KIAS with MOD. 1790)
Flaps 45^o : 130 KIAS (Emergency only)
V_{LO} Gear extension : 160 KIAS
Gear retraction : 160 KIAS
V_{LE} Landing gear extended : 160 KIAS (170 KIAS with MOD. 1790)
V_{MC} (Minimum control speed with the critical engine inoperative)
- In flight - V_{MCA} : 88.5 KIAS
- Take-Off - V_{MCG} : 83 KIAS
Tire speed limit (ground speed limit) 165 KIAS

Center of Gravity (C.G.) Range.
(Gear Extended)

	Forward Limit (% MAC)	AFT Limit (% MAC)
Take off and landing	15	36
Flight	12	38

Gear retraction has negligible effect on C.G. range.

Maximum Weights.

	kg	lb
Taxi weight	15,770	34,770
Take Off weight	15,750	34,725
Landing weight	15,500	34,170
Zero Fuel weight	14,500	31,965

For aircraft incorporating ATR Modification 0863, weight limitations are modified as follows:

	kg	lb
Taxi weight	15,770	34,770
Take Off weight	15,750	34,725
Landing weight	15,500	34,170
Zero Fuel weight	15,200	33,510

Minimum Crew.

2 (pilot and co-pilot).

Maximum Passengers.

46: 48 passenger capacity is approved with incorporation of modification 0481.

34: in COMBI configuration, with modification 0244 and with modification 0755 associated with the application of modifications 1073 and 1044.

Maximum Baggage.

Forward compartment - Maximum load 960 kg (2116 lb)
508 kg (1119 lb) with Mod 0481
Rear compartment - Maximum load 384 kg (846 lb)
768 kg (1693 lb) with Mod 0639

Fuel Capacity.

Density 6,55 lb/US Gallon

	Usable	
Unusable	lb	US Gal
46.7 lb	2 x 4,960	2 x 757

I. ATR42-200 (cont'd)

Fuel Unbalance. Maximum fuel unbalance: 1,212 lb

Oil Capacity. Engine oil capacity
Usable 1,0 US Gallon/engine
Total 4,7 US Gallon/engine

Maximum Operating Altitude. 25,000 ft.

II. ATR42-300 (Transport Category Airplane) approved October 25, 1985.

Engines. Two Pratt and Whitney Aircraft of Canada, Ltd, PW120 turboprops.

Fuel. (a) The following fuels are eligible for engines
MIL-T-5624 Grade JP5
AST-MD-1655 Grades JET A, JET A1

(PWC Service Bulletin n° 20 004 details approval conditions)

(b) The following types of additives may be used in approved fuels:
- oxidation inhibitors,
- corrosion inhibitors,
- thermal stability additives,
- metal deactivators,
- anti icing additives,
- anti stating additives,
- biocide additives.

List of approved additives, approved concentrations and conditions of use are identified in PWC Service Bulletin n° 20.004.

Oil. The following oils are eligible for engines:
- Synthetic type conforming to PWC specification PWA 521, Type II.
PWC Service Bulletin 20 001 lists approved brand oils.

Engine Limits. (PW-120) Operating limits with no unscheduled maintenance action required. Beyond these limits refer to maintenance manual.

POWER SETTING	TIME LIMIT	TO	ITT	NH	NP	OIL PRESS	OIL TEMP
		(%)	(ºC)	(%)	(%)	(PSI)	(ºC)
RESERVE TAKE OFF	5 minutes	105	816	100	101	55 to 65	0 to 125 (1)
TAKE OFF	5 minutes	92	785	(4)	101	55 to 65	0 to 125 (1)
MAXIMUM CONTINUOUS	NONE	90	785	100	101	55 to 65	0 to 125 (1)
GROUND IDLE				62 min		40 min	-40 to 125 (1)
HOTEL MODE			785			40 min (2)	0 to 125 (1)
STARTING	5 seconds		950				-40 min (3)
TRANSIENT	10 mn 20 S 20 S	105 125 145.6 (5)	850 850	102 102	110 110	40 to 100 40 to 100	

II. ATR42-300 (cont'd)

(1) Temperature up to 115ºC (120ºC in Hotel mode) is authorized without time limitation. 20 mn are authorized between 115ºC (120ºC in Hotel mode) and 125ºC.
(2) For NH below 75%. NH above 75% requires 55 to 65 psi.
(3) It may be assumed that before the first start of the day the oil temperature is the minimum temperature observed during the night.
(4) Refer to AFM 2.04 p1A for NH limitation at take off.
(5) If gearboxes incorporate SB 20316 or 20380.

NOTE: Oil temperature must be maintained above 45ºC to ensure intake strut de-icing. Oil temperature must be maintained above 71ºC to ensure fuel anti-icing protection in absence of the low fuel temperature indication.

Propellers.

2 Hamilton Standard, four-bladed, 14 SF 5 (FAA TCDS P7NE).
Blade: SFA 13( ) (see FAA TCDS P7NE)

Propeller Limits.

Diameter: 13 FT. (+ 1/4 in., -3/16 in. manufacturing tolerance permissible.)
Pitch Setting at 42 in. of the axis:
Feather : 86 degrees
Flight Fine: 20 degrees
Ground Fine: 7 degrees
Full Reverse:-10 degrees

Propeller (N_p) - Takeoff	1200 R.P.M.
Max. Continuous	1200 R.P.M.

Airspeed Limits (IAS).

Maximum operating speed V_{MO}	: 250 KIAS
Maximum operating mach V_{MO}	: 0.55
V_A manoeuvering speed	: 160 KIAS
V_{FE} Flaps 15^o	: 160 KIAS (170 KIAS with MOD.1790)
Flaps 30^o	: 145 KIAS (150 KIAS with MOD.1790)
Flaps 45^o	: 130 KIAS (Emergency only)
V_{LO} Gear extension	: 160 KIAS
Gear retraction	: 160 KIAS
V_{LE} Landing gear extended	: 160 KIAS (170 KIAS with MOD.1790)

V_{MC} (Minimum control speed with the critical engine inoperative)

- In flight - V_{MCA}	: 88.5 KIAS
- Take-Off - V_{MCG}	: 83 KIAS
Tire speed limit (ground speed limit)	:165 KIAS

Center of Gravity (C.G.) Range.
(Gear Extended)

	Forward Limit (% MAC)	AFT Limit (% MAC)
Take off and landing	15	36
Flight	12	38

For aircraft incorporating ATR Modification 0951 (Service Bulletin No. ATR42-08-0001), C.G. range is modified as follows:

	Forward Limit (% MAC)	AFT Limit (% MAC)
Take off:		
16,150 Kg. G.W.	15	36
16,700 Kg. G.W	17	32
Landing:		
16,000 Kg. G.W.	15	36
16,400 Kg. G.W.	17	32
Flight:	12	38

(Straight line variation between points).
Gear retraction has negligible effect on C.G. range.

II. ATR42-300 (cont'd)

Maximum Weights.

	kg	lb
Taxi weight	16,170	35,645
Take Off weight	16,150	35,605
Landing weight	16,000	35,270
Zero Fuel weight	14,800	32,625

For aircraft incorporating ATR Modification 0863, weight limitations are modified as follows:

Taxi weight	16,170	35,645
Take Off weight	16,150	35,605
Landing weight	16,000	35,270
Zero Fuel weight	15,200	33,510

For aircraft incorporating ATR Modification 0951 (ATR Service Bulletin No. ATR42-08-0001), weight limitations are modified as follows:

Taxi weight	16,720	36,870
Take Off weight	16,700	36,825
Landing weight	16,400	36,160
Zero Fuel weight	15,200	33,510

Minimum Crew. 2 (pilot and co-pilot).

Maximum Passengers.

46: 48 passenger capacity is approved with incorporation of modification 0481.

34: in COMBI configuration, with modification 0244 and with modification 0755 associated with the application of modifications 1073 and 1044.

Maximum Baggage. Forward compartment - Maximum load 2,045 lb
Rear compartment - Maximum load 952 lb.

Fuel Capacity. Density 6.55 lb/US Gallon

	Usable	
Unusable	lb	US Gal
46.7 lb	2 x 4,960	2 x 757

Fuel Unbalance. Maximum fuel unbalance: 1,212 lb

Oil Capacity. Engine oil capacity
Usable 1.0 US Gallon/engine
Total 4.7 US Gallon/engine

Maximum Operating Altitude. 25,000 ft.

III. ATR42-320 (Transport Category Airplane) approved August 25, 1988.

Engines. Two Pratt and Whitney Aircraft of Canada, Ltd, PW121 turboprops.

Fuel. (a) The following fuels are eligible for engines
MIL-T-5624 Grade JP5
AST-MD-1655 Grades JET A, JET A1
(PWC Service Bulletin n^{o} 20 004 details approved conditions).

III. ATR42-320 (cont'd)

Fuel. (cont'd)

(b) The following types of additives may be used in approved fuels:
- oxidation inhibitors,
- corrosion inhibitors,
- thermal stability additives,
- metal deactivators,
- anti icing additives,
- anti stating additives,
- biocide additives.

List of approved additives, approved concentrations and conditions of use are identified in PWC Service Bulletin n° 20.004.

Oil.

The following oils are eligible for engines:
- Synthetic type conforming to PWC specification PWA 521, Type II.
  PWC Service Bulletin 20 001 lists approved brand oils.

Engine Limits. (PW-121)

Operating limits with no unscheduled maintenance action required. Beyond these limits refer to maintenance manual.

POWER SETTING	TIME LIMIT	TO	ITT	NH	NP	OIL PRESS	OIL TEMP
		(%)	(ºC)	(%)	(%)	(PSI)	(ºC)
RESERVE TAKE OFF	5 minutes	107,2	816	100	101	55 to 65	0 to 125 (1)
TAKE OFF	5 minutes	92,9	(5)	(4)	101	55 to 65	0 to 125 (1)
MAXIMUM CONTINUOUS	NONE	92,9	800	100	101	55 to 65	0 to 125 (1)
GROUND IDLE				62 min		40 min	-40 to 125 (1)
HOTEL MODE			785			40 min (2)	-40 to 125 (1)
STARTING	5 seconds		950				-40 min (3)
TRANSIENT	10 mn	107,2					
	20 S	119.7	850	102	110	40 to 100	
	20 S	138,7 (6)	850	102	110	40 to 100	

(1) Temperature up to 115ºC (120ºC in Hotel mode) is authorized without time limitation. 20 mn are authorized between 115ºC (120ºC in Hotel mode) and 125ºC.
(2) For NH below 75%. NH above 75% requires 55 to 65 psi.
(3) It may be assumed that before the first start of the day the oil temperature is the minimum temperature observed during the night.
(4) Refer to AFM 2.04 p1A for NH limitation at take off.
(5) If gearboxes incorporate SB 20316 or 20380.

NOTE: Oil temperature must be maintained above 45ºC to ensure intake strut de-icing. Oil temperature must be maintained above 71ºC to ensure fuel anti-icing protection in absence of the low fuel temperature indication.

Propellers.

2 Hamilton Standard, four-bladed, 14 SF 5 (FAA TCDS P7NE).
Blade: SFA 13( ) (see FAA TCDS P7NE)

Propeller Limits.

Diameter: 13 FT. (+ 1/4 in., -3/16 in. manufacturing tolerance permissible)
Pitch Setting at 42. in. of the axis:
- Feather: 86 degrees
- Flight Fine: 20 degrees
- Ground Fine: 7 degrees
- Full Reverse:-10 degrees

Propeller (N_p) - Takeoff 1200 R.P.M.
Max Continuous 1200 R.P.M.

III. ATR42-320 (cont'd)

Airspeed Limits (IAS).

Maximum operating speed V_{MO} : 250 KIAS
Maximum operating mach V_{MO} : 0.55
V_A manoeuvering speed : 160 KIAS
V_{FE} Flaps 15^o : 160 KIAS (170 KIAS with MOD.1790)
Flaps 30^o : 145 KIAS (150 KIAS with MOD.1790)
Flaps 45^o : 130 KIAS (Emergency only)
V_{LO} Gear extension : 160 KIAS
Gear retraction : 160 KIAS
V_{LE} Landing gear extended : 160 KIAS (170 KIAS with MOD.1790)
V_{MC} (Minimum control speed with the critical engine inoperative)
- In flight - V_{MCA} : 90.5 KIAS
- Take-Off - V_{MCG} : 84.5 KIAS
Tire speed limit (ground speed limit):165 KIAS

Center of Gravity (C.G.) Range.
(Gear Extended)

	Forward Limit (% MAC)	AFT Limit (% MAC)
Take off and landing	15	36
Flight	12	38

For aircraft incorporating ATR Modification 0951 (Service Bulletin No. ATR42-08-0001), C.G. range is modified as follows:

	Forward Limit (% MAC)	AFT Limit (% MAC)
Take off:		
16,150 Kg. G.W.	15	36
16,700 Kg. G.W	17	32
Landing:		
16,000 Kg. G.W.	15	36
16,400 Kg. G.W.	17	32
Flight:	12	38

(Straight line variation between points).
Gear retraction has negligible effect on C.G. range.

Maximum Weights.

	kg	lb
Taxi weight	16,170	35,645
Take Off weight	16,150	35,605
Landing weight	16,000	35,270
Zero Fuel weight	14,800	32,625

For aircraft incorporating ATR Modification 0863, weight limitations are modified as follows:

	kg	lb
Taxi weight	16,170	35,645
Take Off weight	16,150	35,605
Landing weight	16,000	35,270
Zero Fuel weight	15,200	33,510

For aircraft incorporating ATR Modification 0951 (ATR Service Bulletin No. ATR42-08-0001), weight limitations are modified as follows:

	kg	lb
Taxi weight	16,720	36,870
Take Off weight	16,700	36,825
Landing weight	16,400	36,160
Zero Fuel weight	15,200	33,510

III. ATR42-320 (cont'd)

Minimum Crew. 2 (pilot and co-pilot).

Maximum Passengers. 46: 48 passenger capacity is approved with incorporation of modification 0481.

34: in COMBI configuration, with modification 0244 and with modification 0755 associated with the application of modifications 1073 and 1044.

Maximum Baggage. Forward compartment - Maximum load 2,045 lb.
Rear compartment - Maximum load 952 lb.

Fuel Capacity. Density 6.55 lb/US Gallon

	Usable	
Unusable	lb	US Gal
46.7 lb	2 x 4,960	2 x 757

Fuel Unbalance. Maximum fuel unbalance: 1,212 lb

Oil Capacity. Engine oil capacity
Usable 1.0 US Gallon/engine
Total 4.7 US Gallon/engine

Maximum operating altitude. 25,000 ft.

IV. ATR42-500 (Transport Category Airplane) approved May 13, 1996.

Engines. Two Pratt and Whitney Aircraft of Canada, Ltd, PW127E turboprops or PW127F by SB ATR42-72-0008 or PW127M by SB ATR42-72-0010 or in production line from aircraft serial number 675 (inclusive).

Fuel. (a) The following fuels are eligible for engines

MIL-T-5624	Grade JP5
AST-MD-1655	Grades JET A, JET A1

(PWC Service Bulletin No. 20 004 details approved conditions).

(b) The following types of additives may be used in approved fuels:
- oxidation inhibitors,
- corrosion inhibitors,
- thermal stability additives,
- metal deactivators,
- anti icing additives,
- anti stating additives,
- biocide additives.

List of approved additives, approved concentrations and conditions of use are identified in PWC Service Bulletin No. 20.004.

Oil. The following oils are eligible for engines:

- Synthetic type conforming to PWC specification PWA 521, Type II. PWC Service Bulletin 20 001 lists approved brand oils.

IV. ATR42-500 (cont'd)

Engine Limits. (PW-127E) Operating limits with no unscheduled maintenance action required. Beyond these limits refer to maintenance manual.

Engine rating	Time limit	Torque %	ITT (°C)	NH %	NL %	NP %	Oil Pressure (Psi)	Oil temperature (1) (°C)
Reserve take-off	10 mn*	100**	800	103.2	104.2	101	55 to 65	0 to 125
Take-off	5 mn	90**	740 to 765	101.9	101.4	101	55 to 65	0 to 125
Maximum Continuous	-	100**	800	103.2	104.2	101	55 to 65	0 to 125
Ground idle				66 mini			40 mini ***	-40 to 125
Hotel mode			715				55 to 65	0 to 125
Starting	5 sec.		950					-54 mini
Transient	20 sec. 5 sec. 20 mn	137.5	840	104.3	106.5	106 **** 120	40 to 100	 140

* Time beyond 5 mn is linked to actual single engine operations only.

** Value linked 100% NP.

*** Associated with NH ratings lower than 75 %.

**** Permissible for completion of flight provided torque does not exceed 85% during climb and 84 % during cruise

(1) Oil temperature must be maintained above 45°C to ensure protection for the engine air inlet against ice accumulation.

Propellers. 2 Hamilton Standard, six-bladed, 568 F -1 (FAA TCDS P8BO).
Blade: R 815 505( ) (see FAA TCDS P8BO)

Propeller Limits. Diameter: 13 FT. (+ 1/4 in., -3/16 in. manufacturing tolerance permissible)
Pitch Setting at 58 in. of the axis:

Feather :	78.5 degrees
Flight Fine:	14 degrees
Ground Fine:	0 degrees
Full Reverse:	-14 degrees

Propeller (N_p) - Takeoff 1200 R.P.M.
Max Continuous 1200 R.P.M.

Airspeed Limits (IAS).

Maximum operating speed V_{MO}	:	250 KIAS
Maximum operating mach V_{MO}	:	0.55
V_A manoeuvering speed	:	160 KIAS
V_{FE} Flaps 15°	:	170 KIAS/180 KIAS (*)
Flaps 25°	:	160 KIAS
Flaps 35°	:	150 KIAS
V_{LO} Gear extension	:	170 KIAS
Gear retraction	:	160 KIAS
V_{LE} Landing gear extended	:	180 KIAS
V_{MC} (Minimum control speed with the critical engine inoperative)		
- In flight - V_{MCA}	:	98.5 KIAS (SL, ISA)
- Take-Off - V_{MCG} :		95 KIAS (SL, ISA)
Tire speed limit (ground speed limit)	:	165 KIAS

(*) with embodiment of modification 4462

IV. ATR42-500 (cont'd)

Center of Gravity (C.G.) Range.
(Gear Extended)

	Forward Limit (% MAC)	AFT Limit (% MAC)
Take off		
16,150 Kg. G.W.	15	34
18,600 Kg. G.W.	21	34
Landing:		
16,150 Kg. G.W.	15	34
18,300 Kg. G.W.	20.3	34
Flight:		
16,150 Kg. G.W.	12	36
18,600 Kg. G.W.	18	36

(Straight line variation between points).
Gear retraction has negligible effect on C.G. range.

Maximum Weights.

	kg	lb
Taxi weight	18,770	41,380
Take Off weight	18,600	41,005
Landing weight	18,300	40,344
Zero Fuel weight	16,700	36,817

Minimum Crew. 2 (pilot and co-pilot).

Maximum Passengers. 60 as limited by emergency exits configuration.

Maximum Baggage. Forward compartment - Maximum load 928 kg (2,046 lb)
Rear compartment - Maximum load 768 kg (1,693 lb)

Fuel Capacity. Density 6.55 lb/US Gallon

	Usable	
Unusable	lb	US Gal
46.7 lb	2 x 4,960	2 x 757

Fuel Unbalance. Maximum fuel unbalance: 550 kg (1,212 lb)

Oil Capacity. Engine oil capacity
Usable 1.0 US Gallon/engine
Total 4.7 US Gallon/engine

Maximum Operating Altitude. 25,000 ft.

(a) ATR42-500 "600 version"Definition (Approved April 4, 2013)

The ATR42-500 "600 version" designation does not correspond to a model designation. This is only a commercial designation for an ATR42-500 on which Major modifications 5948, 6521, 6230, and 6233 have been embodied during production.

Modification 5948 design change consist of the installation of a New Avionics Suite (NAS) and contains the following modifications:

- **Integrated Avionics Display – 5 IADs including FMS and RMS functions**
- **Core Avionics Cabinet – CAC (including AFCS, DCA, FWS & CMA functions) (x2)**
- **AFCS servo motors + Power Trim Box**
- **AHRS (x2)**
- **ADC (x2)**
- **GPS (x1), a 2nd GPS is optional**
- **Radio Altimeter (x1)**
- **T²CAS (ACAS + TAWS) (x1)**
- **Transponders (x2)**

- **Control panels**
- **MCDU (x2)**
- **Integrated Electronic Stand-by Instrument (x1)**
- **Radio Com (VHF, HF wiring provision) (x2)**
- **Radio Nav (VOR, ILS, MKR, ADF, DME) (x2) (2nd ADF and 2nd DME are optional)**
- **Clocks (x2)**
- **Ambient Pressure Sensor (x1)**

Modification 6521 adds NAS software version L2B2

Modification 6230 adapts the NAS on the ATR42-500

Modification 6233 installs a new fuel gauging system in kilograms

DATA PERTINENT TO ATR42-200, -300, -320, -500 MODELS

Datum. Station 0 (93 inches forward of fuselage nose).

MAC. 90 inches (leading edge of MAC: STA 450)

Leveling Means. Inclinometer on the cabin seat track rails.

Maximum Control Surface Deflections.

	ATR 42-200/-300/-320		ATR 42-500	
	UP	DOWN	UP	DOWN
Aileron	14° ± 0.5°	14° ± 0.5°	14° ± 0.5° 14° ± 0.25° ***	14° ± 0.5° 14° ± 0.25° ***
Aileron trim	13.75° ± 0.7°	10.15° ± 0.5°	4.5° ± 0.4° 6.7° ± 0.4° ***	4.5° ± 0.4° 6.7° ± 0.4° ***
Elevator	+ 1° 25° + 0°	+ 1° 15° - 0.6°	+ 1° 23° + 0°	+ 1° 13° - 0.6°
Elevator trim	5.2° ± 0.3°	8.4° ± 0.4°	4° ± 0.3°	9° ± 0.4°

Rudder : + 1.5°
structural stops (damper removed) ± 31.5°
- 0°

stop included in damper ± 30° ± 1°

Rudder trim: + 3.4
on either side of the tab ± 18° (-200/-300/-320): ±16.7°+0° (-500)
-3.4°
- 2.9°

Spoilers : mini: spoiler deflection as from 2.5° ± 0.5° aileron/2.5° +1° aileron ***
-0°

maxi: 57° ± 2° for 14° aileron

Flaps :	ATR 42-200/-300/-320	ATR 42-500
	0°; 15°; 30°; 45°** deflections	0°; 15°; 25°; 35°*
	manoeuvre time from 0° to 45° : 13s	from 0° to 35° : 10s
	45° to 0° : 23s	from 35° to 0° : 18s

* Flaps 35 configuration corresponds to an effective flap deflection of 33°.
** Flaps 45 configuration is authorized for emergency only.
*** ATR42-500 model with modification 4372 (aileron spring tab)

Serial Numbers Eligible. A French "Certificat de Navigabilite pour Exportation" endorsed as noted under "Import Requirement" must be submitted for each individual aircraft for which application for US certification is made.

Certification Basis. (ATR42-200/-300/-320 models)
FAR 25, effective February 1, 1965, including amendments 25-1 through 25-54, which the FAA considers equivalent to 1, 2 and 3 below:

1 - JAR 25 change 8 and amendment 81-2 including French national variants in effect on February 2, 1982, and
2 - French ATR-42 Special Conditions, and
3 - 14 CFR Section 21.29 and the following sections of Part 25 of the FAR as amended by amendments 25-1 through 25-54:

FAR 25.2	FAR 25.777(g)	FAR 25.1309(a),(b)
FAR 25.107(d)(e)	FAR 25.781	FAR 25.1331(a)(3)
FAR 25.125	FAR 25.785(g)	FAR 25.1353(c)(6)
FAR 25.201(d)	FAR 25.787(a)	FAR 25.1401(b)
FAR 25.331(c)	FAR 25.803(c)(7)	FAR 25.1401(f)
FAR 25.351(a)(1)	FAR 25.809(j)	FAR 25.1411(a)(2)
FAR 25.361	FAR 25.903(a)	FAR 25.1415
FAR 25.491	FAR 25.901	FAR 25.1438
FAR 25.511(b)(c)	FAR 25.905(a)	FAR 25.1501
FAR 25.571(b)(6),(e)(2)	FAR 25.994	FAR 25.1513
FAR 25.613	FAR 25.1013	FAR 25.1521(b)(c)
FAR 25.615	FAR 25.1015	FAR 25.1547(c)
FAR 25.621	FAR 25.1019	FAR 25.1549
FAR 25.631	FAR 25.1093(b)(1),(b)(2)	FAR 25.1583
FAR 25.671(c)(1)	FAR 25.1141(f)(2)	FAR 25.1585(a)
FAR 25.693	FAR 25.1303(b)(4)	FAR 25.1587(a)
FAR 25.773(b)(2)	FAR 25.1305(c)(6)(7)	
FAR 25.777(e)		

Item (1), (2), and (3) above have been examined and found to be equivalent to Part 25 of the FAR through Amendment 25-54.

4 - FAA Special Conditions for ATCPS dated July 11, 1985 (FAR 25.904, Amendment 25-62 for the ATR42-320)

5 - SFAR 27, Amendments 1 thru 5

6 - FAR 36, Amendments 1 thru 12 for the ATR42-200 and -300 (Amendments 1 thru 15 for the ATR42-320)

7 - FAA Exemption No. NM 104 regarding 25.571 (e) (2), granted April 19, 1984 (Propeller debris)

8 - In addition voluntary compliance with FAR 25.832, Amendment 25-56 has been demonstrated.

9 - A finding of regulatory adequacy pursuant to the "Noise Control Act of 1972"

10 - FAA findings of Equivalent safety for the following rules:
FAR 25.773(b)(2)
FAR 25.807 (c) and (d)
FAR 25.865

11 - Compliance with the following optional requirements has been established
. Ice protection provisions JAR 25.1419.
. Structural Provisions for ditching: JAR 25.801 (a)(b)(c)(d)(e)

12 - Compliance with the following optional requirements has been established:
Ditching Provisions JAR 25.1411 (a)(b)(d)(e)(f)(g)(1) and JAR 25.1415 (a)(b)(c)(d)(e)
When requested by the operational rules, the life rafts must be installed in accordance with the locations defined in document 421.054/92, issue 5.

13 - For precision approach and landing, the applicable technical requirements are complemented by JAR AWO - Subpart 2
Type Certificate No. A53EU, issued October 25, 1985, amended August 25, 1988.
Date of application for Type Certificate: February 26, 1982.

Certification Basis. (ATR42-200/-300/-320 models) (Continued)

14 Compliance with the requirement of FAR 25.856 at amendment 25-111 for thermal/acoustic insulation has been demonstrated to meet operational requirements

Based on 14 CFR § 21.29(a) for new import TCs, (or § 21.101(g) for changes to TCs), applicable provisions of 14 CFR part 26 are included in the certification basis. For any future 14 CFR part 26 amendments, the holder of this TC must demonstrate compliance with the applicable sections.

Certification Basis. (ATR42-500 Model)

No later regulations or special conditions are recognized at this time as being necessary to provide an adequate TC basis for this amendment of TC project. The V_{SIG} project will involve an equivalent safety finding to a number of sections and/or paragraphs in Part 1 and Part 25 of the FAR's. Issue Paper F-2, applicable to the V_{SIG} project, addresses this equivalent safety finding issue. The equivalent safety finding approach has been used on previously accomplished 1-G stall speed (V_{SIG}) projects. Therefore, the certification basis established at the time of the original type certification of the ATR42 and ATR72 series airplanes shown on TCDS A53EU, with an additional equivalent safety finding for the V_{SIG} project, will provide an acceptable TC basis for this Amendment of TC project. Modification 4626 is required for ditching approval.

The Direction Générale de l'Aviation Civile (DGAC) of France originally type certificated this aircraft under its type certificate Number 176. The FAA validated this product under U.S. Type Certificate Number A53EU. Effective September 28, 2003, the European Aviation Safety Agency (EASA) began oversight of this product on behalf of the Direction Générale de l'Aviation Civile (DGAC) of France.

Based on 14 CFR § 21.29(a) for new import TCs, (or § 21.101(g) for changes to TCs), applicable provisions of 14 CFR part 26 are included in the certification basis. For any future 14 CFR part 26 amendments, the holder of this TC must demonstrate compliance with the applicable sections.

Compliance with the requirements of FAR 25.856 at amendment 25-111 for thermal/acoustic insulation has been demonstrated to meet operational requirements.

Certification Basis. (ATR42-500 "600 version" Model)

The final FAA type certification basis, for the ATR-GIE ATR 42-500 incorporating modification 5948 (commercially called the ATR 42-500 "600 version") is as follows:

Airworthiness & Environmental Standards for components and areas not affected by the change

Unchanged from the basic ATR 42-500 certification basis.

Airworthiness and Environmental Standards for components and areas affected by the change

14 CFR part 25, effective February 1, 1965, including Amendments 25-1 through 25-123. The following sections are applicable:

SUBPART B – Flight
25.255(a)(2)

SUBPART C – STRUCTURE
25.581

SUBPART D – DESIGN AND CONSTRUCTION
25.671(b),(c), 25.672(a), 25.677(b), 25.679(a)(2), 25.685, 25.699(a),(b), 25.703, 25.729(e),(f)(3), 25.735(d), 25.771(a),(c),(e), 25.773(a), 25.777(f), 25.783(e), 25.841(b)(5),(b)(6),(b)(8), 25.843(b)(3), 25.853(a),(d),(e), 25.854(a), 25.855(h), 25.857(b)(3), 25.69(a), 25.899

SUBPART E - POWERPLANT
25.1141(f), 25.1165(g), 25.1203(a),(b)(2),(b)(3)

SUBPART F - EQUIPMENT
25.1301, 25.1303, 25.1305, 25.1307(c),(d),(e), 25.1309, 25.1316, 25.1317, 25.1321, 25.1322, 25.1323, 25.1325(a),(d),(e),(f), 25.1326(a), 25.1327, 25.1329, 25.1331, 25.1333, 25.1337, 25.1351(a),(b)(6),(c),(d), 25.1353(a),(b),(c)(6),(d),(e), 25.1355, 25.1357, 25.1360, 25.1381, 25.1419(c), 25.1431, 25.1435(b)(1), 25.1459

SUBPART G – OPERATING LIMITATIONS AND OPERATIONS
25.1501, 25.1523, 25.1525, 25.1527, 25.1529, 25.1541, 25.1543, 25.1545, 25.1547, 25.1549, 25.1555, 25.1563, 25.1581, 25.1583, 25.1585, 25.1587

SUBPART H – ELECTRICAL WIRING INTERCONNECTION SYSTEMS
25.1701, 25.1703, 25.1705, 25.1707, 25.1709, 25.1711, 25.1713, 25.1715, 25.1717, 25.1719, 25.1721, 25.1729

FAA Special Condition 25-473-SC “Aircraft Electronic System Security Protection from Unauthorized External Access”

Service Information.

Each of the documents listed below that contain a statement that it is approved by the European Aviation Safety Agency (EASA) - or for approvals made before September 28, 2003 - by the Direction Générale de l'Aviation Civile (DGAC) of France, are accepted by the FAA and are considered FAA approved. Additionally, approvals issued by ATR under the authority of EASA approved Design Organization EASA.21J.044 - or for approvals made before September 28, 2003 - under the authority of DGAC Design Organization Approval No. F.JA.12 are considered FAA approved. These approvals pertain to the type design only.

- ATR Service Bulletins, except as noted below,
- Structural repair manuals,
- Vendor manuals referenced in ATR service bulletins
- Aircraft flight manuals,
- Repair Instructions.

Note: Design changes that are contained in ATR Service Bulletins and that are classified as Level 1 Major in accordance with either the US/France or US/EASA Bilateral Aviation Safety Agreement Implementation Procedures for Airworthiness must be approved by the FAA.

Equipment.

The basic required equipment as prescribed in the applicable Federal Aviation Regulations must be installed in the aircraft. ATR equipment list, document GATR/C N^{O} 422.204/85 (ATR42-200/-300/-320 models) or A/RT/C No. 425.0469/95 (ATR42-500 model) identifies all required equipment and all optional equipment approved by the Direction Generale de l'Aviation Civil (DGAC) of France. In addition, the following is required:

(1) DGAC/EASA approved FAA Airplane Flight Manual -

Import Information.

The FAA can issue a U.S. airworthiness certificate based on an NAA Export Certificate of Airworthiness (Export C of A) signed by a representative of the Direction Générale de l'Aviation Civile (DGAC) of France on behalf of the European Community. The Export C of A should contain the following statement: ‘The aircraft covered by this certificate has been examined, tested, and found to conform with Type Design approved under U.S. Type Certificate No**.** A53EU and to be in a condition for safe operation.’

NOTES

NOTE 1 - Weight and Balance

(a) Current weight and balance report including list of equipment, entitled "Aircraft Inspection Report", included in certificated empty weight, and loading instructions, must be in each aircraft at the time of original certification and at all times thereafter except in the case of operators having an approved weight control systems. ATR Report, "Weight and Balance Manual", contains loading information for each airplane and interior arrangement configuration as delivered. This report contains, or refers to, information relative to location and capacity of all cargo and

baggage compartments, buffets, storage spaces and coat rooms, location and capacity of lounges, lavatories, and the required placards in the passenger compartment.

(b) The airplane must be loaded so that the C.G. is within specified limits at all times, considering fuel loading and usage, gear retraction and movement of crew and passengers from their assigned positions.

(c) The weights of system fuel and oil, as defined below, and hydraulic fluid, all of which must be included in the airplane empty weight, are listed for each airplane in the Weight and Balance Manual specified in paragraph (a) above.

(d) System fuel is the weight of all fuel required to fill all lines and tanks up to zero-fuel point on the fuel gages in the most critical flight attitude, including the unusable tank fuel as defined by FAR Part 25.959. (The usable fuel in the crossfeed manifold lines, manifolds, and engine that is not part of the system, fuel must be included in the total usable fuel to obtain correct weight and C.G. for take-off).

(e) The unusable fuel is that amount of fuel in the tanks which is unavailable to the engines under critical flight conditions as defined in FAR Part 25.959. This "unusable" fuel is included in System Fuel as indicated in (d) above and need not be accounted for separately.

(f) System oil is the weight of oil remaining in the engine, lines and tanks after subtracting the oil in the tanks which is above the standpipe (zero gauge) levels. The engine oil capacities shown elsewhere in this data sheet include only the useable oil for which the tanks must be placarded.

NOTE 2

The aircraft must be operated in accordance with the DGAC-Approved FAA Airplane Flight Manual. ("DGAC approved" is considered equivalent to "FAA Approved").

NOTE 3

The required Airworthiness limitations including structural inspections and retirements times for safe life parts are covered by the "Time Limits" document, approved by EASA, included in appendix A of the Maintenance Review Board Report

NOTE 4 Cabin Equipment

Seats and galleys must be designed in accordance with ATR Specifications 419.282/82 and 419.464/82 for ATR 42-200/-300/-320 models, with ATR Specifications 419.0008/95 issue 4 and 421.614/94 for ATR 42-500 model.

NOTE 5

The list of modifications permitting use of the ATR42 for Category II approach is contained in Service Letter ATR42-22-5001 for ATR42-200/-300/-320 models. The modification permitting use of the ATR 42-500 model for Category II approach is 1112.

NOTE 6

The basic definition for US import certification is contained in Document GATR/C 422.627/85 (ATR42-200/-300/-320 models) or A/RT/C 425.0985/95 (ATR42-500 model)..

NOTE 7

ATR Modification 0885 (ATR 42 Service Bulletin ATR42-30-0005) is a required part of the United States approved Type Design A53EU and must be incorporated on all U.S. registered aircraft.

V. ATR72-101/-201 (Transport Category Airplane) approved November 15, 1989
ATR72-102/-202 (Transport Category Airplane) approved January 18, 1991.

Engines. Two Pratt and Whitney Aircraft of Canada, Ltd., 124B PW turboprops.

Fuel. (a) The following fuels are eligible for engines

MIL-T-5624	Grade JP5
AST-MD-1655	Grades JET A, JET A1

Conforming to PWC Specification PN A204.
(PWC Service Bulletin No. 20.004 details approval conditions).

V. ATR72-101/-201, ATR72-102/-202 (Continued)

(b) The following types of additives may be used in approved fuels:
- oxidation inhibitors,
- corrosion inhibitors,
- thermal stability additives,
- metal deactivators,
- anti icing additives,
- anti stating additives,
- biocide additives.

List of approved additives, approved concentrations and conditions of use are identified in PWC Service Bulletin No. 20.004

Oil. The following oils are eligible for engines:
- Synthetic type conforming to PWC specification PWA 521, Type II. PWC Service Bulletin 20.001 lists approved brand oils.

Engine Limit. Operating limits with no unscheduled maintenance action required. Beyond these limits refer to maintenance manual.

ENGINE RATINGS	DURATION	TORQUE %	ITT (C)	NH %	NL %	NP %	OIL PRESS (PSI)	OIL TEMP (C)
Take-off with reserve	5 mn	106,3	800	102.7	104	101	55 to 65	0 to 125 (3)
Take-off	5 mn	90	(1)	101	101.7	101	55 to 65	0 to 125 (3)
Maximum Continuous	--------	89.6 102,5*	800	102 102.7*	102.9 104*	101 101	55 to 65 55 to 65	0 to 125 (3)
Ground Idle				66 min			40 min	-40 to 125 (3)
Hotel mode			715				55 to 65	-40 to 125 (3)
Starting	5 s		950					-54 min
Other		102,3 (2)	800					
Transient	20 s 10 mn	124.5 106.3	840	103.7	104.3	115	40 to 100	

* Limitation for engine fitted with mod. 2735

(1) ITT limits depend on outside air temperature.

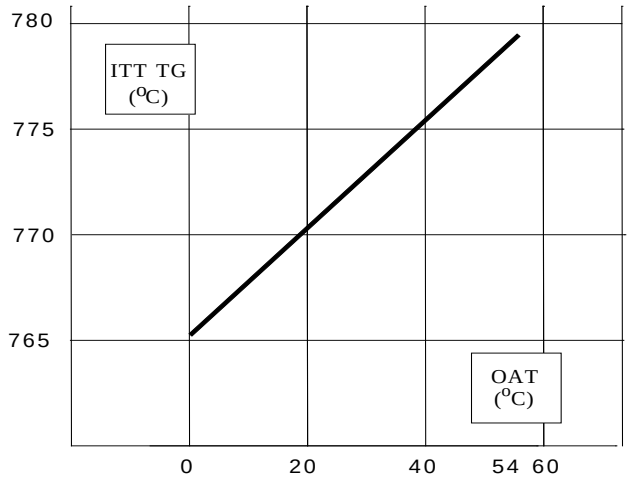
(2) When NP is below 86%

NOTE: Using a reduced NP, TQ may exceed 100% but not 102.3%

(3) Temperature up to 115ºC (120ºC in hotel mode) is authorized without time limitation. 20 mn are authorized between 115ºC (120ºC in hotel mode) and 125ºC.

NOTE: Oil temperature must be maintained above 45ºC to ensure intake strut de-icing. Oil temperature must be maintained above 71ºC to ensure fuel anti-icing protection in absence of the low fuel temperature indication.

V. ATR72-101/-201, ATR72-102/-202 (Continued)



Propellers. 2 Hamilton Standard, four-bladed, 14 SF 11 (FAA TCDS P7NE)
Blade: SFA 13( ) (see FAA TCDS P7NE)

Propeller Limits. Diameter: 13 Ft. (+ 1/4 in., -3/6 in. manufacturing tolerance permissible)
Pitch Setting at 42. in. of the axis:
Feather: 86 degrees
Flight Fine: 20 degrees
Ground Fine: 7 degrees
Full Reserve:-10 degrees
Propeller (Np) - Takeoff 1200 R.P.M.
Max Continuous 1200 R.P.M.

Airspeed Limits (IAS).

VMO	Maximum operating speed	250 kt
MMO	Maximum operating speed	0.55
VA	Design manoeuvering speed	175 kt
VFE	15º flaps	185 kt
	30º flaps	150 kt
VLO	L/G extension	170 kt
VLO	L/G extension	160 kt
VLE	Landing gear extension speed	185 kt
Tyre limit speeds (ground speed)		165 kt

Center of Gravity (CG) Range. (Gear extended) **

Models 101/102

	Forward Limit % MAC	AFT Limit % MAC
Takeoff and Landing		
up to 18000 Kg (39690 LBS)	13.7	37
19990 Kg (44078 LBS)	17.1	37
Flight		
up to 18000 Kg (39690 LBS)	10	39
19990 Kg (44078 LBS)	13.7	39

V. ATR72-101/-201, ATR72-102/-202 (Continued)

Models 201/202

	Forward Limit % MAC	AFT Limit % MAC
Takeoff and Landing up to 18000 Kg (39690 LBS)	14	37
21500 Kg (47408 LBS)	19	37
Flight		
up to 18000 Kg (39690 LBS)	10	39
21500 Kg (47408 LBS)	16	39

* (Straight line variation between points).
** Gear Extension has negligible effect on CG Range.

Maximum Weights (kg).

	ATR 72-101/-102	ATR 72-201/-202	ATR 72-201/202*
At taxiing	20020 (44136 LBS)	21530 (47465 LBS)	22030 (48667 LBS)
At take-off	19990 (44070 LBS)	21500 (47400 LBS)	22000 (48501 LBS)
At Landing	19900 (43871 LBS)	21350 (47068 LBS)	21350 (47068 LBS)
With no fuel Mod 3849	19350 (42659 LBS)	19700 (43430 LBS) 20000 (44071 LBS)	19700 (43430 LBS)

* Mod. 3651

Minimum Crew. 2 (pilot and co-pilot)

Maximum Passengers. 74 passengers

Maximum Baggage.
-101/-201: - Forward compartment - Maximum load 624 Kg. (1376 lb)
-102/-202: - Forward compartment - Maximum load 928 Kg. (2046 lb)
- Rear compartment - Maximum load 768 Kg. (1693 lb)
- Mod. 2059: - RH Rear compartment - Maximum load 512 Kg. (1129 lb)

Fuel Capacity. Density 6.55 lb/US Gallon

UNUSABLE FUEL (KG)	USABLE FUEL		
	Normal refueling	Refueling with high level cut-off	
30	5000 Kg	5050 Kg	6360 l.

Fuel Unbalance. Maximum fuel unbalance: 750 Kg

Oil Capacity. Engine oil capacity
Usable 1.0 US Gallon/engine
Total 4.7 US Gallon/engine

Maximum Operating Altitude. 25,000 ft.

VI. ATR72-211/-212 (Transport Category Airplane) approved December 15, 1992.

Engines. Two Pratt and Whitney Aircraft of Canada, Ltd., PW127 or PW127F turboprops. through SB ATR72-72-1004

VI. ATR72-211/-212 (Continued)

Fuel.

(a) The following fuels are eligible for engines
MIL-T-5624 Grade JP5
AST-MD-1655 Grades JET A, JET A1
Conforming to PWC Specification PN A204.
(PWC Service Bulletin No. 20.004 details approval conditions).

(b) The following types of additives may be used in approved fuels:
- oxidation inhibitors,
- corrosion inhibitors,
- thermal stability additives,
- metal deactivators,
- anti icing additives,
- anti stating additives,
- biocide additives.

List of approved additives, approved concentrations and conditions of use are identified in PWC Service Bulletin No. 20.004 R3.

Oil.

The following oils are eligible for engines:
- Synthetic type conforming to PWC specification PWA 521, Type II.
PWC Service Bulletin 20.001 R3 lists approved brand oils.

Engine Limit.

Operating limits with no unscheduled maintenance action required.
Beyond these limits refer to maintenance manual.

ENGINE RATINGS	DURATION	TORQUE %	ITT (C)	NH %	NL %	NP %	OIL PRESS (PSI)	OIL TEMP (C)
Take-off with reserve	5 mn	106,3	800	103.2	104.2	101	55 to 65	0 to 140 (3)
Take-off	5 mn	90	(1)	101.9	101.4	101	55 to 65	0 to 140 (3)
Maximum Continuous	-------	90.9	800	103.2	104.2	101	55 to 65	0 to 140 (3)
Ground Idle				66 min			40 min	-40 to 140 (3)
Hotel mode			715				55 to 65	-40 to 140 (3)
Starting	5 s		950					-54 min.
Other			800			106 (2)		
Transient	20 s 5 s 10 mn	109.6 106.3	840	104.3	106.5	120		

(1) ITT limits depend on outside air temperature
(2) TQ not to exeed 75%
(3) Temperature up to 125º is authorized without time limitation.
20 mn are authorized between 125ºC and 140º C.

NOTE: Oil temperature must be maintained above 45ºC to ensure intake strut de-icing.
Oil temperature must be maintained above 71ºC to ensure fuel anti-icing protection in absence of the low fuel temperature indication.

VI. ATR72-211/-212 (Continued)

LIMITATION IN APPROACH

During final approach, if SAT is greater than ISA, do not maintain NH under 78%.

(1) The ITT Limits depend on the exterior temperture.

Propellers.

a) Basic Installation
2 Hamilton Standard, four-bladed, 247F-1 (FAA TCDS P1BO)
Blade: R810640( ) or R817370( ) (see FAA TCDS P1BO)

Propeller Limits.

Diameter: 13 FT. (+ 1/4 in., -3/6 in. manufacturing tolerance permissible)
Pitch Setting at 60. in. of the axis:
Feather: 78.5 degrees
Flight Fine: 12.6 degrees
Ground Fine: -3 degrees
Full Reserve: -15.2 degrees
Propeller (N_p) - Takeoff 1200 R.P.M.
Max Continuous 1200 R.P.M.

Propellers.

b) Second Source (embodiment of modification 3560).
2 Hamilton Standard, four-bladed, 14 SFL-11 (FAA TCDS P7NE)
Blade: SFA 13( ) (see FAA TCDS P7NE)

VI. ATR72-211/-212 (Continued)

Propeller Limits.

Diameter: 13 Ft. (+ 1/4 in., -3/6 in. manufacturing tolerance permissible).
Pitch Setting at 42. in . of the axis:
Feather: 86 degrees
Flight Fine: 20 degrees
Ground Fine: 7 degrees
Full Reserve: -10 degrees
Propeller (Np) - Takeoff 1200 R.P.M.
Max Continuous 1200 R.P.M.

Airspeed Limits (IAS).

VMO	Maximum operating speed	250 kt
MMO	Maximum operating speed	0.55
VA	Design manoeuvering speed	175 kt
VFE	15º flaps	185 kt
	30º flaps	150 kt
VLO	L/G extension	170 kt
VLO	L/G extension	160 kt
VLE	Landing gear extension speed	185 kt
Tyre limit speeds (ground speed)		165 kt

Center of Gravity (CG) Range. (Gear extended) **

Models 211/212

	Forward Limit % MAC	AFT Limit % MAC
Takeoff and Landing up to 18000 Kg (39690 LBS)	14	37
21500 Kg (47408 LBS)	19	37
Flight up to 18000 Kg (39690 LBS)	10	39
21500 Kg (47408 LBS)	16	39

* (Straight line variation between points).
** Gear Extension has negligible effect on CG Range.

Maximum Weights (kg).

	ATR 72-211/-212	ATR 72-211/-212*
At taxiing	21530 (47465 LBS)	22030 (48567 lb)
At take-off	21500 (47400 LBS)	22000 (48501 lb)
At Landing	21350 (47068 LBS)	21350 (47068 lb)
With no fuel Mod 3849	19700 (43430 LBS) 20000 (44091 LBS)	19700 (43430 lb)

* Mod. 3651

Minimum Crew. 2 (pilot and co-pilot).

Maximum Passengers. 74 passengers.

Maximum Baggage.

-211 : - Forward compartment - Maximum load 624 Kg. (1376 lb)
-212 : - Forward compartment - Maximum load 928 Kg. (2046 lb)
- Rear compartment - Maximum load 768 Kg. (1693 lb)
-Mod.2059:- LH Rear compartment - Maximum load 512 Kg. (1129 lb)

VI. ATR72-211/-212 (Continued)

Fuel Capacity. Density 6.55 lb/US Gallon

UNUSABLE FUEL (KG)	USABLE FUEL		
	Normal refueling	Refueling with high level cut-off	
30	5000 Kg	5050 Kg	6360 l.

Fuel Unbalance. Maximum fuel unbalance: 750 Kg

Oil Capacity. Engine oil capacity
Usable 1.0 US Gallon/engine
Total 4.7 US Gallon/engine

Maximum operating altitude. 25,000 ft.

VII. ATR72-212A (Transport Category Airplane) approved June 19, 1997.

Engines. Two Pratt and Whitney Aircraft of Canada, Ltd, PW127F turboprops or PW127M by SB ATR72-72-1006 or from production line from aircraft serial number 779 (inclusive).

Fuel. (a) The following fuels are eligible for engines
MIL-T-5624 Grade JP5
AST-MD-1655 Grades JET A, JET A1
(PWC Service Bulletin No. 20 004 details approved conditions).

(b) The following types of additives may be used in approved fuels:
- oxidation inhibitors,
- corrosion inhibitors,
- thermal stability additives,
- metal deactivators,
- anti icing additives,
- anti stating additives,
- biocide additives.

List of approved additives, approved concentrations and conditions of use are identified in PWC Service Bulletin No. 20.004.

The following oils are eligible for engines:
- Synthetic type conforming to PWC specification PWA 521, Type II.
PWC Service Bulletin 20 001 lists approved brand oils.

VI. ATR72-211/-212 (Continued)

Engine Limits. (PW-127F) Operating limits with no unscheduled maintenance action required. Beyond these limits refer to maintenance manual.

Engine Rating	Time limit	Torque %	ITT (°C)	NH %	NL %	NP %	Oil Pressure (Psi)	Oil Temperature (1) (°C)
Reserve take-off	10 mn*	100**	800	103.2	104.2	101	55 to 65	0 to 125
Take-off	5 mn	90**	740 to 765	101.9	101.4	101	55 to 65	0 to 125
Maximum Continuous	-	90.9**	800	103.2	104.2	101	55 to 65	0 to 125
Ground idle				66 mini			40 mini ***	-40 to 125
Hotel mode			715				55 to 65	0 to 125
Starting	5 sec.		950					-54 mini
Transient	20 sec. 5 sec. 20 mn	120	840	106.4	106.8	106 **** 120	40 to 100	140

* Time beyond 5 mn is linked to actual single engine operations only.
** Value linked 100% NP.
*** Associated with NH ratings lower than 75%.
**** Permissible for completion of flight provided torque does not exceed 75.2 % during climb and 73.13 % during cruise.
(1) Oil temperature must be maintained above 45°C to ensure protection for the engine air inlet against ice accumulation.

Propellers. 2 Hamilton Standard, six-bladed, 568 F-1 (FAA TCDS P8BO).
Blade: R 815 505( ) (see FAA TCDS P8BO)

Propeller Limits. Diameter: 13 FT. (+ ¼ in., -3/16 in. manufacturing tolerance permissible)
Pitch Setting at 58 in. of the axis:

Feather:	78.5 degrees
Flight Fine:	14 degrees
Ground Fine:	0 degrees
Full Reverse:	-14 degrees

Propeller (N_p) - Takeoff 1200 R.P.M.
Max Continuous 1200 R.P.M.

Airspeed Limits.

VMO	Maximum operating speed	250 kt
MMO	Maximum operating speed	0.55
VA	Design manoeuvering speed	175 kt
VFE	15° flaps	185 kt
	30° flaps	150 kt
VLO	L/G extension	170 kt
VLO	L/G extension	160 kt
VLE	Landing gear extension speed	185 kt
Tire limit speeds (ground speed)		165 kt

VI. ATR72-211/-212 (Continued)

Center of Gravity (CG) Range. (Gear extended) **

	Forward Limit % MAC	AFT Limit % MAC
Takeoff and Landing	14	37
up to 18000 Kg (39690 LBS)		
22000 Kg (48501 LBS)	19.5	37
*** 22500 Kg (49603 LBS)	20.2	37
Flight		
up to 18000 Kg (39690 LBS)	10	39
22000 Kg (48501 LBS)	16.6	39
*** 22500 Kg (49603 LBS)	17.4	39

* (Straight line variation between points).
** Gear Extension has negligible effect on CG Range.
*** With embodiment of modification 4671

Maximum Weight (kg).

	basic	with mod. 4671
At taxiing	22180 (48898 LBS)	22670 (49978 lb)
At take-off	22000 (48501 LBS)	22500 (49603 lb)
At landing	21850 (48170 LBS)	22350 (49273 lb)
With no fuel Mod 3849	20000 (44092 LBS)	20300 (44753 lb)

Minimum Crew. 2 (pilot and co-pilot).

Maximum Passengers. 74 passengers.

Maximum Baggage. - Forward compartment - Maximum load 928 Kg. (2046 lb)
- Rear compartment - Maximum load 768 Kg. (1693 lb)

Fuel Capacity. Density 6.55 lb/US Gallon

UNUSABLE FUEL (KG)	USABLE FUEL		
	Normal refueling	Refueling with high level cut-off	
30	5000 Kg	5050 Kg	6360 l.

Fuel Unbalance. Maximum fuel unbalance: 750 Kg

Oil Capacity. Engine oil capacity
Usable 1.0 US Gallon/engine
Total 4.7 US Gallon/engine

Maximum Operating Altitude. 25,000 ft.

(a) ATR72-212A "600 version" Definition (Approved April 4, 2013)

The ATR72-212A "600 version" designation does not correspond to a model designation. This is only a commercial designation for an ATR72-212A on which Major modifications 5948, 6521, and 5977 have been embodied during production.

Modification 5948 design change consist of the installation of a New Avionics Suite (NAS) and contains the following modifications:

- **Integrated Avionics Display – 5 IADs including FMS and RMS functions**

- **Core Avionics Cabinet – CAC (including AFCS, DCA, FWS & CMA functions) (x2)**
- **AFCS servo motors + Power Trim Box**
- **AHRS (x2)**
- **ADC (x2)**
- **GPS (x1)**
- **Radio Altimeter (x1)**
- **T²CAS (ACAS + TAWS) (x1)**
- **Transponders (x2)**
- **Control panels**
- **MCDU (x2)**
- **Integrated Electronic Stand-by Instrument (x1)**
- **Radio Com (VHF, HF wiring provision) (x2)**
- **Radio Nav (VOR, ILS, MKR, ADF, DME) (x2) (1 ADF and 1 DME are optional)**
- **Clocks (x2)**
- **Ambient Pressure Sensor (x1)**

Modification 6521 adds NAS software version L2B2

Modification 5977 installs a new fuel gauging system in kilograms

DATA PERTINENT TO ATR72-101/-201, -102/-202, -211/-212 AND -212A MODELS.

Datum. Station 0 (93 inches forward of fuselage nose).

MAC. 93,5 inches (leading edge of MAC: STA 535,6).

Leveling Means. Clinometer on the main landing gear fairing.

Maximum Control Surface Deflection.

	UP	DWN
Aileron	14º ± 0.5º + 14° ± 0.25°*	14º ± 0.5º + 14° ± 0.25°*
Aileron Trim	4º ± 0.35º 6.7° ± 0.4°*	4º ± 0.35º 6.7° ± 0.4°*
Pitch	23° +1° +0°	13° +1° -0.6°
Pitch Trim	+ 5º ± 0.25°	- 1.5º ± 0.1°

* ATR 72-212A model

Rudder : Structural stops (damper removed) $\pm 28.5^{o} + 1.5^{o} - 0^{o}$
Stops included in damper $\pm 27^{o} \pm 1^{o}$

Rudder Trim : On either side of the tab $\pm 16.7^{o} + 0^{o} - 3.4^{o}$

Spoilers : Min. spoiler actuation for $-2.5^{o} \pm 0.25^{o}$ aileron
: Max.: 57^{o}m$\pm 2^{o}$ for -14^{o} aileron

Flaps : Deflection 0^{o}; 15^{o}; 28^{o} (-101/-201 and -102/-202 models)
: Deflection 0^{o}; 15^{o}; 33^{o} (-211/-212/-212A models)

Operating time from 0^{o} to 28^{o}

Extension 0^{o} to 15^{o} : 4s
15^{o} to 28^{o} : 4s
Retraction 28^{o} to 15^{o}: 7s
15^{o} to 0^{o}: 6s

Operating time from 0^{o} to 33^{o}

Extension 0^{o} to 15^{o} : 4s
15^{o} to 33^{o} : 5s
Retraction 33^{o} to 15^{o}: 8s
15^{o} to 0^{o}: 6s

Serial Number Eligible. A French "Certificat de Navigabilitee pour Exportation" endorsed as noted under "Import Requirements" must be submitted for each individual aircraft for which application for US certification is made.

Certification Basis. (ATR 72-101/-102, -201/-202, -211/-212 models)

1. - JAR 25 Change 8 and Amendment 81-2 including French national variants in effect on February 2, 1982.

2. - French ATR-42 Special Conditions.

3. - French ATR-72 Special Condition B6 and B7.

4. - The following Sections of Part 25 of the FAR, as amended by Amendments 25-1 through 25-54:

25.2	25.777(g)	25.1309(a),(b)
25.107(d)(e)	25.781	25.1331(a)(3)
25.125	25.785(g)	25.1353(c)(6)
25.201(d)	25.787(a)	25.1401(b)
25.331(c)	25.803(c)(7)	25.1401(f)
25.351(a)(1)	25.809(j)	25.1411(a)(2)
25.361	25.903(a)	25.1415
25.491	25.901	25.1438
25.511(b)(c)	25.905(a)	25.1501
25.571(b)(6),(e)(2)	25.994	25.1513
25.613	25.1013	25.1521(b)(c)
25.615	25.1015	25.1547(c)
25.621	25.1019	25.1549
25.631	25.1093(b)(1),(b)(2)	25.1583
25.671(c)(1)	25.1141(f)(2)	25.1585(a)
25.693	25.1303(b)(4)	25.1587(a)
25.773(b)(2)	25.1305(c)(6)(7)	
25.777(e)		

5. - The applicant has volunteered to comply with the following Sections:
   25.832 as amended by Amendment 25-56.
   25.812 as amended by Amendment 25-58.
   25.851 as amended by Amendment 25-61.
   25.853 as amended by Amendment 25-59.

The combined requirements shown in 1, 2, 3, and 4 above have been determined to provide a certification basis equivalent to FAR Part 25, effective February 1, 1965, as amended by Amendments 25-1 through 25-54.

6. - Section 25.904, as amended by Amendment 25-1 through 25-62, in place of FAA Special Conditions dated July 11, 1985, for the ATPCS.

7. - SFAR 27, including all amendments, effective on or before the ATR-72 TC date. This is expected to be SFAR 27-6.

8. - Part 36 of the FAR, including all amendments effective on or before the ATR-72 TC date. These are Amendments 36-1 through 36-14.

9. - FAA Exemption 4385 (NM104) regarding Section 25.571(e)(2), granted April 19, 1984, (propeller debris).

10. - A finding of regulatory adequacy pursuant to the "Noise Control Act of 1972."

11. - FAA findings of equivalent safety for Section 25.773(b)(2).

12. - Compliance with the following optional requirements has been established:
    Ice protection provisions JAR 25.1419.

13. - Compliance with the following optional requirements has been established:
Ditching provisions JAR 25.1411(a)(b)(c)(d)(e)(f)(g)(1) and JAR 25.1415(b)(c)(d)(e).
JAR 25.801(a)(b)(c)(d)(e). When requested by the operational rules, the life rafts must be installed in accordance with the locations defined in document 421.0178/96 issue 2.

14. - For precision approach and landing, the applicable technical requirements are complemented by the following FAA Advisory Circulars (AC):
AC 25-1329-1A for the autopilot.
AC 20-57A for autoland.
AC 120-29 for Category II.
AC 120-28C with applicable Appendices for Category III.

Based on 14 CFR § 21.29(a) for new import TCs, (or § 21.101(g) for changes to TCs), applicable provisions of 14 CFR part 26 are included in the certification basis. For any future 14 CFR part 26 amendments, the holder of this TC must demonstrate compliance with the applicable sections.

Compliance with the requirements of FAR 25.856 at amendment 25-111 for thermal/acoustic insulation has been demonstrated to meet operational requirements.

Certification Basis (ATR 72-212A model).

The TC basis for the baseline airplane is Part 25 of the Federal Aviation Regulations dated February 1, 1965 as amended by Amendments 25-1 through and including Amendment 25-54 plus specified Special Conditions, Exemptions, and Equivalent Level of Safety Findings. The design changes introduced by ATR 72-212A model are not considered extensive enough to require evaluation in accordance with the derivative procedures discussed in FAA Order 8110.4A. Therefore, no later regulations or special conditions are recognized at this time as being necessary to provide an adquate TC basis for this amendment of TC project, except as noted below.

While installation of a new-look interior may not require re-substantiation of interior components or compliance to later airworthiness standards under the guidance FAA Order 8110.4A, it has been shown that installation of seats meeting Amendment 25-64 significantly enhances safety. In accordance with agreements reached between FAA, DGAC, and Aerospatiale during certification of the Model ATR-42-500, Aerospatiale has agreed to comply with FAR 25 Amendment 25-64. A discussion of this issue as it relates to this airplane is contained in Issue Paper C-1.

Occasionally, Part 121 is amended to require compliance with newly adopted standards of Part 25 on a retroactive basis. In order to facilitate US operator compliance with Part 121 and to provide a consistent certification basis with the latest operating rules, any Part 121 requirement for which the Aerospatiale ATR72-212A complies and which has a corresponding Part 25 requirement, should be included in the certification basis. Additional Part 121 requirements, with a corresponding Part 25 requirement, published after closure of this issue paper will not be required to be included in the certification basis.

The FAA has raised the issue of Structural Design Stall Speeds, and a discussion of this issue as it applies to this airplane is contained in Issue Paper A-1.

The FAA has raised the issue of Supercooled Large Droplets (SLD) Icing Effects on ATR-42/72 New Ailerons, and a discussion of this issue as it applies to this airplane is contained in Issue Paper F-1.

In accordance with § 21.16 of the FAR the special conditions listed on TCDS A53EU are part of the Aerospatiale ATR72-211/-212 certification basis and will also be part of the Aerospatiale ATR72-2 (Reference Type Certificate Data Sheet No. A53EU).

Part 34 of the FAR as amended at the time of certification will apply to this airplane.

Part 36 of the FAR as amended at the time of certification will apply to this airplane.

Exemptions granted in accordance with Part 11 of the FAR will apply to this airplane.

Equivalent Safety Findings as applicable in accordance with Part 21 of the FAR will apply to this airplane.

Certification Basis. (ATR72-212A "600 version" Model)

The final FAA type certification basis, for the ATR 72-212A incorporating modification 5948 (commercially called the ATR 72-212A "600 version") is as follows:

Airworthiness & Environmental Standards for components and areas not affected by the change

Unchanged from the basic ATR 72-212A certification basis.

Airworthiness and Environmental Standards for components and areas affected by the change

14 CFR part 25, effective February 1, 1965, including Amendments 25-1 through 25-123. The following sections are applicable:

SUBPART B – Flight
25.255(a)(2)
SUBPART C – STRUCTURE

25.581
SUBPART D – DESIGN AND CONSTRUCTION
25.671(b),(c), 25.672(a), 25.677(b), 25.679(a)(2), 25.685, 25.699(a),(b), 25.703, 25.729(e),(f)(3), 25.735(d), 25.771(a),(c),(e), 25.773(a), 25.777(f), 25.783(e), 25.841(b)(5),(b)(6),(b)(8), 25.843(b)(3), 25.853(a),(d),(e), 25.854(a), 25.855(h), 25.857(b)(3), 25.69(a), 25.899
SUBPART E - POWERPLANT
25.1141(f), 25.1165(g), 25.1203(a),(b)(2),(b)(3)
SUBPART F - EQUIPMENT
25.1301, 25.1303, 25.1305, 25.1307(c),(d),(e), 25.1309, 25.1316, 25.1317, 25.1321, 25.1322, 25.1323, 25.1325(a),(d),(e),(f), 25.1326(a), 25.1327, 25.1329, 25.1331, 25.1333, 25.1337, 25.1351(a),(b)(6),(c),(d), 25.1353(a),(b),(c)(6),(d),(e), 25.1355, 25.1357, 25.1360, 25.1381, 25.1419(c), 25.1431, 25.1435(b)(1), 25.1459
SUBPART G – OPERATING LIMITATIONS AND OPERATIONS
25.1501, 25.1523, 25.1525, 25.1527, 25.1529, 25.1541, 25.1543, 25.1545, 25.1547, 25.1549, 25.1555, 25.1563, 25.1581, 25.1583, 25.1585, 25.1587
SUBPART H – ELECTRICAL WIRING INTERCONNECTION SYSTEMS
25.1701, 25.1703, 25.1705, 25.1707, 25.1709, 25.1711, 25.1713, 25.1715, 25.1717, 25.1719, 25.1721, 25.1729

FAA Special Condition 25-473-SC "Aircraft Electronic System Security Protection from Unauthorized External Access"

The Direction Générale de l'Aviation Civile (DGAC) of France originally type certificated this aircraft under its type certificate Number 176. The FAA validated this product under U.S. Type Certificate Number A53EU. Effective September 28, 2003, the European Aviation Safety Agency (EASA) began oversight of this product on behalf of the Direction Générale de l'Aviation Civile (DGAC) of France.

Based on 14 CFR § 21.29(a) for new import TCs, (or § 21.101(g) for changes to TCs), applicable provisions of 14 CFR part 26 are included in the certification basis. For any future 14 CFR part 26 amendments, the holder of this TC must demonstrate compliance with the applicable sections.

Compliance with the requirements of FAR 25.856 at amendment 25-111 for thermal/acoustic insulation has been demonstrated to meet operational requirements.

Service Information.

Each of the documents listed below that contain a statement that it is approved by the European Aviation Safety Agency (EASA) - or for approvals made before September 28, 2003 - by the Direction Générale de l'Aviation Civile (DGAC) of France, are accepted by the FAA and are considered FAA approved. Additionally, approvals issued by ATR under the authority of EASA approved Design Organization EASA.21J.044 - or for approvals made before September 28, 2003 - under the authority of DGAC Design Organization Approval No. F.JA.12 are considered FAA approved. These approvals pertain to the type design only.

- ATR Service Bulletins, except as noted below,
- Structural repair manuals,
- Vendor manuals referenced in ATR service bulletins
- Aircraft flight manuals,
- Repair Instructions.

Note: Design changes that are contained in ATR Service Bulletins and that are classified as Level 1 Major in accordance with either the US/France or US/EASA Bilateral Aviation Safety Agreement Implementation Procedures for Airworthiness must be approved by the FAA.

Equipment. The basic required equipment as prescribed in the applicable Federal Aviation Regulations must be installed in the aircraft. ATR equipment list, document GATR/C No. 425.892/89 identifies all required equipment and all optional equipment approved by the Direction Generale de l'Aviation Civile (DGAC) of France. In addition, the following is required:

(1) DGAC/EASA Approved FAA Airplane Flight Manual -

Import Requirements. The FAA can issue a U.S. airworthiness certificate based on an NAA Export Certificate of Airworthiness (Export C of A) signed by a representative of the Direction Générale de l'Aviation Civile (DGAC) of France on behalf of the European Community. The Export C of A should contain the following statement: 'The aircraft covered by this certificate has been examined, tested, and found to conform with Type Design approved under U.S. Type Certificate No**.** A53EU and to be in a condition for safe operation.'

NOTE 1 - Weight and Balance

(a) Current weight and balance report including list of equipment, entitled "Aircraft Inspection "Report", included in certificated empty weight, and loading instructions, must be in each aircraft at the time of original certification and at all times thereafter except in the case of operators having an approved weight control system. ATR Report, "Weight and Balance Manual", contains loading information for each airplane and interior arrangement configuration as delivered. This report contains, or refers to, information relative to location and capacity of all cargo and baggage compartments, buffets, storage spaces and coat rooms, location and capacity of lounges, lavatories, and the required placards in the passenger compartment.

(b) The airplane must be loaded so that the C.G. is within specified limits at all times, considering fuel loading and usage, gear retraction and movement of crew and passengers from their assigned positions.

(c) The weights of system fuel and oil, as defined below, and hydraulic fluid, all of which must be included in the airplane empty weight, are listed for each airplane in the Weight and Balance Manual specified in paragraph (a) above.

(d) System fuel is the weight of all fuel required to fill all lines and tanks up to zero-fuel point on the fuel pages in the most critical flight attitude, including the unusable tank fuel as defined by FAR Part 25.959. (The usable fuel in the crossfeed manifold lines, manifolds, and engine that is not part of the system, fuel must be included in total usable fuel to obtain correct weight and C.G. for take-off).

(e) The unusable fuel is that amount of fuel in the tanks which is unavailable to the engines under critical flight conditions as defined in FAR Part 25.959. This "unusable" fuel is included in System Fuel as indicated in (d) above and need not be accounted for separately.

(f) System oil is the weight of oil remaining in the engine, lines and tanks after subtracting the oil in the tanks which is above the standpipe (zero gauge) levels. The engine oil capacities shown elsewhere in this data sheet include only the useable oil for which the tanks must be placarded.

NOTE 2. The aircraft must be operated in accordance with the DGAC/EASA-Approved FAA Airplane Flight Manual. ("DGAC/EASA approved" is considered equivalent to "FAA Approved").

NOTE 3. The required Airworthiness limitations including structural inspections and retirements times for safe life parts are covered by the "Time Limits" document, approved by EASA, included in appendix A of the Maintenance Review Board Report.

NOTE 4. Cabin Equipment

Galleys and seats must be designed in accordance with ATR Specifications 419.464/82 and 419.282/82 (ATR72-101/-102, -201/-202, -211/-212 models) or 421.614/94 and 419.0008/95, issue 4 (ATR 72-212A model).

NOTE 5. The modification permitting use of the ATR-72 for Category II approach is: 1112.

NOTE 6. The basic definition for US import certification is contained in Documents:

* GATR/C 422.174/89 for ATR72-101/-201 models
* GATR/C 425.731/90 for ATR72-102/-202 models

* GATR/C 425.839/92 for ATR72-211 model
* GATR/C 425.840/92 for ATR72-212 model
* A/RT/C 540.0410/97 for ATR72-212A model

NOTE 7. Modification whose retrofit is mandatory.

1) Modification included in the type definition.

2334 - Engine debris deflectors to be retrofitted before 10,000 flight hours on the following A/C: 108 - 126 - 140 - 145 - 147 - 150 - 154 - 157 - 162 - 164 - 167 - 171 - 174 - 177 - 180 - 183 - 186 - 189 - 192 - 195 - 198 - 201 - 204 - 207 - 210 - 212 - 215

2) Modification 1931 or 8019 related to the center wing box must be embodied on A/C: 108 - 126 - 140 - 145 - 147 - 150 before 10000 flight hours.

NOTE 8. For Interior arrangement limitations, see Aerospatiale Document GATR/C 425.776/89, Substantiation Report.

.....END.....