the configuration used to show compliance with § 25.121(b) with the take-off ice accretion used to show compliance with § 25.111(c)(5)(i):

(i) The V_{FTO} (final take-off speed) scheduled in non-icing conditions does not provide the maneuvering capability, specified in § 25.143(h), for the en-route configuration.

Note: This requirement does not apply if the $V_{min}1g$ is increased in icing conditions, with the ''Final Take-off Ice'' accretion defined in 14 CFR part 25, amendment 121, appendix C, by less than 2.5 knots or 2.5 percent, whichever is greater.

(ii) The degradation of the gradient of climb, determined in accordance with § 25.121(b), with the take-off ice accretion used in showing compliance with § 25.111(c)(5)(i), is greater than one-half of the applicable actual-to-net take-off flight path gradient reduction defined in § 25.115(b);

In lieu of compliance with 25.121(d)(2)(ii), the following special conditions apply:

(a) In icing conditions, with the most critical of the approach ice accretion(s) defined in 14 CFR part 25, amendment 121, appendix C, as applicable, in a configuration corresponding to the normal all-engines-operating procedure, the $V_{min}1g$ for this configuration does not exceed 110 percent of the $V_{min}1g$ for the related all-engines-operating landing configuration in icing conditions, with a climb speed established with normal landing procedures, but not more than 1.4 V_{SR} (V_{SR} determined in non-icing conditions).

(3) En-route flight paths.

In lieu of compliance with 25.123(b)(2)(i), the following special conditions apply:

(a) In icing conditions with the most critical of the en-route ice accretion(s) defined in 14 CFR part 25, amendment 121, appendix C, if:

(i) The V_{FTO} speed scheduled in non-icing conditions does not provide the maneuvering capability, specified in § 25.143(h), for the en-route configuration.

Issued in in Kansas City, Missouri, on October 27, 2023.

Patrick R. Mullen,

Manager, Technical Policy Branch, Policy and Standards Division, Aircraft Certification Service.

[FR Doc. 2023–24311 Filed 11–2–23; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 25

[Docket No. FAA–2021–1034; Notice No. 25–23–02–SC]

Special Conditions: Airbus Model A321neo XLR Airplane; Electronic Flight-Control System: Lateral-Directional and Longitudinal Stability, and Low-Energy Awareness.

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed special conditions.

SUMMARY: This action proposes special conditions for the Airbus Model A321neo XLR airplane. The airplane will have a novel or unusual design feature when compared to the state of technology envisioned in the airworthiness standards for transport-category airplanes. This design feature is an electronic flight-control system (EFCS) associated with lateral-directional and longitudinal stability, and low-energy awareness. The applicable airworthiness regulations do not contain adequate or appropriate safety standards for this design feature. These special conditions contain the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to that established by the existing airworthiness standards.

DATES: Send comments on or before December 4, 2023.

ADDRESSES: Send comments identified by Docket No. FAA–2021–1034 using any of the following methods:

Federal eRegulations Portal: Go to *https://www.regulations.gov/* and follow the online instructions for sending your comments electronically.

Mail: Send comments to Docket Operations, M–30, U.S. Department of Transportation (DOT), 1200 New Jersey Avenue SE, Room W12–140, West Building Ground Floor, Washington, DC 20590–0001.

Hand Delivery or Courier: Take comments to Docket Operations in Room W12–140 of the West Building Ground Floor at 1200 New Jersey Avenue SE, Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

Fax: Fax comments to Docket Operations at 202–493–2251.

Docket: Background documents or comments received may be read at *https://www.regulations.gov/* at any time. Follow the online instructions for accessing the docket or go to Docket Operations in Room W12–140 of the West Building Ground Floor at 1200 New Jersey Avenue SE, Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: Troy Brown, Performance and Environment Unit, AIR–621A, Technical Policy Branch, Policy and Standards Division, Aircraft Certification Service, Federal Aviation Administration, 1801 S Airport Rd., Wichita, KS 67209–2190; telephone and fax 405–666–1050; email *troy.a.brown@faa.gov.*

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites interested people to take part in this rulemaking by sending written comments, data, or views. The most helpful comments reference a specific portion of the proposed special conditions, explain the reason for any recommended change, and include supporting data.

Certification of the Airbus Model A321neo XLR airplane is currently scheduled for December 2023. The substance of these special conditions, in all material respects, has been subject to the notice and public-comment procedure in several prior instances. Therefore, because a delay would significantly affect the applicant's installation of the new or unusual feature, and delay certification of the airplane, the FAA is reducing the public-comment period to 30 days.

The FAA will consider all comments received by the closing date for comments, and will consider comments filed late if it is possible to do so without incurring delay. The FAA may change these special conditions based on the comments received.

Privacy

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in title 14, Code of Federal Regulations (14 CFR) 11.35, the FAA will post all comments received without change to *https://www.regulations.gov/,* including any personal information you provide. The FAA will also post a report summarizing each substantive verbal contact received about these special conditions.

Confidential Business Information

Confidential Business Information (CBI) is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your

comments responsive to these special conditions contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to these special conditions, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as ''PROPIN.'' The FAA will treat such marked submissions as confidential under the FOIA, and the indicated comments will not be placed in the public docket of these special conditions. Send submissions containing CBI to the individual listed in the For Further Information Contact section below. Comments the FAA receives, which are not specifically designated as CBI, will be placed in the public docket for these special conditions.

Background

On September 16, 2019, Airbus applied for an amendment to Type Certificate No. A28NM to include the new Model A321neo XLR airplane. These airplanes are twin-engine, transport-category airplanes with seating for 244 passengers and a maximum takeoff weight of 222,000 pounds.

Static Lateral-Directional Stability

The EFCS on the Airbus Model A321neo XLR airplane contains fly-by-wire control laws that can result in neutral static lateral-directional stability. Therefore, the airplane does not meet the conventional requirements in the regulations which require positive static lateral-directional stability.

Positive static directional stability is defined as the tendency to recover from a skid with the rudder free. Positive static lateral stability is defined as the tendency to raise the low wing in a sideslip with the aileron controls free. These control criteria are intended to accomplish the following:

(a) Provide additional cues of inadvertent sideslips and skids through control-force changes.

(b) Ensure that short periods of unattended operation do not result in any significant changes in yaw or bank angle.

(c) Provide predictable roll and yaw response.

(d) Provide an acceptable level of pilot attention (workload) to attain and maintain a coordinated turn.

Neutral static lateral-directional stability, conversely, means that the airplane will stay in its new attitude when disturbed by an external force (*e.g.,* crosswind). Therefore, the regulations under 14 CFR 25.171 for the Airbus Model A321neo XLR airplane are inadequate.

Static Longitudinal Stability

Static longitudinal stability on airplanes with mechanical links to the pitch-control surface means that a pull force on the controller results in a reduction in speed relative to the trim speed, and a push force results in higher than trim speed. Longitudinal stability is required by the regulations for the following reasons:

(a) Speed-change cues are provided to the pilot through increased and decreased forces on the controller.

(b) Short periods of unattended control of the airplane do not result in significant changes in attitude, airspeed, or load factor.

(c) A predictable pitch response is provided to the pilot.

(d) An acceptable level of pilot attention (workload) to attain and maintain trim speed and altitude is provided to the pilot.

(e) Longitudinal stability provides gust stability.

The pitch-control movement of the side stick on the Airbus Model A321neo XLR airplane is designed to be a normal load factor, or ''g'' command, that results in an initial movement of the elevator surface to attain the commanded load factor that is then followed by integrated movement of the stabilizer and elevator to automatically trim the airplane to a neutral, 1g, stick-free stability. The flight path commanded by the initial side-stick input will remain stick-free until the pilot provides another command. This control function is applied during ''normal'' control law within the speed range, from initiation of the angle-of-attack protection limit, $V\alpha_{prot}$, to V_{MO}/M_{MO}. Once outside this speed range, the control laws introduce the conventional longitudinal static stability as described above.

As a result of neutral static stability, the Airbus Model A321neo XLR airplane does not meet the regulatory requirements for static longitudinal stability during normal operations.

Low Energy Awareness

Past experience on airplanes fitted with a flight-control system providing neutral longitudinal stability reveals insufficient feedback cues to the pilot of excursion below normal operational speeds. The maximum angle-of-attack protection system limits the airplane angle of attack and prevents stall during normal operating speeds, but this EFCS is not sufficient to prevent stall at low-speed excursions below normal operational speeds. Until intervention, there are no stability cues because the aircraft remains trimmed. Additionally, feedback from the pitching moment due to thrust variation is reduced by the flight-control laws. Low-speed excursions may become more hazardous without the typical longitudinal stability, and recovery is more difficult when the low-speed situation is associated with a low altitude, and with the engines at low thrust or with performance-limiting conditions.

Type Certification Basis

Under the provisions of 14 CFR 21.101, Airbus must show that the Model A321neo XLR airplane meets the applicable provisions of the regulations listed in Type Certificate No. A28NM, or the applicable regulations in effect on the date of application for the change, except for earlier amendments as agreed upon by the FAA.

If the Administrator finds that the applicable airworthiness regulations (*e.g.,* 14 CFR part 25) do not contain adequate or appropriate safety standards for the Airbus Model A321neo XLR airplane because of a novel or unusual design feature, special conditions are prescribed under the provisions of § 21.16.

Special conditions are initially applicable to the model for which they are issued. Should the type certificate for that model be amended later to include any other model that incorporates the same novel or unusual design feature, or should any other model already included on the same type certificate be modified to incorporate the same novel or unusual design feature, these special conditions would also apply to the other model under § 21.101.

In addition to the applicable airworthiness regulations and special conditions, the Airbus Model A321neo XLR airplane must comply with the fuel-vent and exhaust-emission requirements of 14 CFR part 34, and the noise-certification requirements of 14 CFR part 36.

The FAA issues special conditions, as defined in § 11.19, in accordance with § 11.38, and they become part of the type certification basis under § 21.101.

Novel or Unusual Design Features

The Airbus Model A321neo XLR airplane will incorporate the following novel or unusual design feature:

An electronic flight-control system (EFCS) associated with lateral-directional and longitudinal stability, and low-energy awareness.

Discussion

In the absence of positive lateral stability, the curve of lateral control-surface deflections against sideslip angle should be, in a conventional sense and reasonably in harmony with, rudder deflection during steady-heading sideslip maneuvers.

Because conventional relationships between stick forces and control-surface displacements do not apply to the ''load-factor command'' flight-control system on the Airbus Model A321neo XLR airplane, longitudinal stability characteristics should be evaluated by assessing the airplane's handling qualities during simulator and flight-test maneuvers appropriate to operation of the airplane. Additionally, there is recognition that under icing and non-icing conditions, there may be a difference in full pedal deflection. This difference may result in changes to testing before reaching full pedal and the special conditions account for these differences.

The airplane must provide adequate awareness cues to the pilot of a low-energy (low-speed/low-thrust/low-height) state to ensure that the airplane retains sufficient energy to recover when flight-control laws provide neutral longitudinal stability significantly below the normal operating speeds. ''Adequate awareness'' means that information must be provided to alert the crew of unsafe operating conditions and to enable them to take appropriate corrective action. Testing of these awareness cues should occur by simulator and flight test in the operational flight envelope for which certification is requested. Testing should include a sufficient number of tests to allow the level of energy awareness, and the effects of energy-management errors, to be assessed.

These special conditions contain the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to that established by the existing airworthiness standards.

Applicability

As discussed above, these special conditions apply to Airbus Model A321neo XLR airplane. Should Airbus apply later for a change to the type certificate to include another model incorporating the same novel or unusual design feature, the special conditions would apply to that model as well.

Conclusion

This action affects only certain novel or unusual design features on one model series of airplanes. It is not a rule of general applicability.

List of Subjects in 14 CFR Part 25

Aircraft, Aviation safety, Reporting and recordkeeping requirements.

Authority Citation

The authority citation for these special conditions is as follows:

Authority: 49 U.S.C. 106(f), 106(g), 40113, 44701, 44702, and 44704.

The Proposed Special Conditions

Accordingly, the Federal Aviation Administration (FAA) proposes the following special conditions as part of the type certification basis for Airbus Model A321neo XLR airplane. These special conditions are issued in lieu of the paragraphs of 14 CFR part 25 referenced below.

Static Lateral-Directional Stability

(a) In lieu of compliance with § 25.171, the airplane must have lateral and directional stability characteristics in accordance with § 25.177. In addition, both suitable stability and suitable control feel are required in any condition normally encountered in service.

(b) In lieu of compliance with § 25.177(c), the following requirement must be met for the configurations and speed specified in § 25.177(a).

(1) In straight, steady sideslips over the range of sideslip angles appropriate to the operation of the airplane, the directional control movements and forces must be substantially proportional to the angle of sideslip in a stable sense. The factor of proportionality must lie between limits found necessary for safe operation. During these straight, steady sideslips, necessary lateral control movements and forces must not be in the unstable sense with the exception of speeds above V_{mo}/M_{mo} per § 25.177(b)(2). The range of sideslip angles evaluated must include those sideslip angles resulting from the lesser of:

(i) One-half of the available directional (pedal) control input; and

(ii) A directional (pedal) control force of 180 pounds.

(c) In lieu of compliance with § 25.177(d), the following requirements must be met:

(2) In non-icing conditions, for sideslip angles greater than those prescribed by § 25.177(a), up to the angle at which full rudder control is used or a rudder control force of 180 pounds is obtained, the rudder control forces may not reverse, and increased rudder deflection must be needed for increased angles of sideslip. Compliance with this requirement must be shown using straight, steady sideslips, unless full lateral control input is achieved before reaching either full rudder control input or a rudder control force of 180 pounds; a straight, steady sideslip need not be maintained after achieving full lateral control input. This requirement must be met at all approved landing gear and flap positions for the range of operating speeds and power conditions appropriate to each landing gear and flap position with all engines operating.

(3) In icing conditions, in the configurations listed below, trim the airplane at the specified speed and conduct steady heading sideslips over the range of sideslip angles appropriate to the operation of the airplane but not less than those obtained with one-half of available rudder control input.

(i) High lift devices retracted configuration: trim at best rate of climb speed but not less than minimum all engines operating climb speed defined for icing conditions.

(ii) Lowest lift take-off configuration: trim at the all engines operating initial climb speed defined for icing conditions.

(iii) Landing configurations: trim at minimum landing speed defined for icing conditions.

Longitudinal Stability

In lieu of compliance with the requirements of §§ 25.171, 25.173, and 25.175, the airplane must be shown to have longitudinal stability characteristics in accordance with the following conditions. In addition, both suitable stability and suitable control feel are required in any condition normally encountered in service, including the effects of atmospheric disturbance.

(a) Strong positive static longitudinal stability (1 pound per 6 knots applied through the sidestick) must be present which provides adequate awareness cues to the crew that the speed is above V_{mo}/M_{mo} or below the minimum speed for hands-free stabilized flight. Static longitudinal characteristics must be shown to be suitable based on the airplane handling qualities, including an evaluation of pilot workload and pilot compensation, for specific test procedures during the flight-test evaluations. These characteristics must be shown for appropriate combinations of airplane configuration (*i.e.,* flaps extended or retracted, gear deployed or stowed) and thrust for climb, cruise, approach, landing and go-around.

(1) Release of the controller at speeds above V_{mo}/M_{mo}, or below the minimum speed for hands-free stabilized flight, must produce a prompt recovery towards normal operating speeds

without resulting in a hazardous condition.

(2) The design must not allow a pilot to re-trim the controller forces resulting from this stability.

Low Energy Awareness

The airplane must provide adequate awareness cues to the pilot of a low-energy (low-speed/low-thrust/low-height) state to ensure that the airplane retains sufficient energy to recover when flight-control laws provide neutral longitudinal stability significantly below the normal operating speeds. This should be accomplished as follows:

(a) Adequate low speed/low thrust cues at low altitude should be provided by a strong positive static stability force gradient (1 pound per 6 knots applied through the sidestick), or

(b) The low energy awareness should be provided by an appropriate warning with the following characteristics. The low-energy awareness should:

(1) Be unique, unambiguous, and unmistakable.

(2) Be active at appropriate altitudes and in appropriate configurations (*i.e.,* at low altitude, in the approach and landing configurations).

(3) Be sufficiently timely to allow recovery to a stabilized flight condition inside the normal flight envelope while maintaining the desired flight path and without entering the flight controls angle-of-attack protection mode.

(4) Not be triggered during normal operation, including operation in moderate turbulence for recommended maneuvers at recommended speeds.

(5) Not be cancelable by the pilot other than by achieving a higher energy state.

(6) Have an adequate hierarchy among the various warnings so that the pilot is not confused and led to take inappropriate recovery action if multiple warnings occur.

Global energy awareness and non-nuisance on low-energy cues must be evaluated by simulator and flight tests in the whole take-off and landing altitude range for which certification is requested. This includes all relevant combinations of weight, center-of-gravity position, configuration, airbrakes position, and available thrust, including reduced and derated take-off thrust operations and engine-failure cases. The tests must assess the level of energy awareness, and the effects of energy-management errors.

Issued in in Kansas City, Missouri, on October 27, 2023.

Patrick R. Mullen,

Manager, Technical Policy Branch, Policy and Standards Division, Aircraft Certification Service.

[FR Doc. 2023–24312 Filed 11–2–23; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA–2023–2141; Project Identifier MCAI–2023–00689–T]

RIN 2120–AA64

Airworthiness Directives; Airbus SAS Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to adopt a new airworthiness directive (AD) for all Airbus SAS Model A350–941 and –1041 airplanes. This proposed AD was prompted by reports of corrosion on lavatory floor fittings at various locations. This proposed AD would require repetitive general visual inspections of the affected parts, applicable corrective actions, and reporting of the inspection results, as specified in a European Union Aviation Safety Agency (EASA) AD, which is proposed for incorporation by reference (IBR). The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this proposed AD by December 18, 2023.

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- *Federal eRulemaking Portal:* Go to *regulations.gov*. Follow the instructions for submitting comments.
- *Fax:* 202–493–2251.
- *Mail:* U.S. Department of Transportation, Docket Operations, M–30, West Building Ground Floor, Room W12–140, 1200 New Jersey Avenue SE, Washington, DC 20590.
- *Hand Delivery:* Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

AD Docket: You may examine the AD docket at *regulations.gov* under Docket No. FAA–2023–2141; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, the mandatory continuing airworthiness information (MCAI), any comments received, and other information. The street address for Docket Operations is listed above.

Material Incorporated by Reference:

- For material that is proposed for IBR in this AD, contact EASA, Konrad-Adenauer-Ufer 3, 50668 Cologne, Germany; telephone +49 221 8999 000; email *ADs@easa.europa.eu;* website *easa.europa.eu.* You may find this material on the EASA website at *ad.easa.europa.eu.* It is also available at *regulations.gov* under Docket No. FAA–2023–2141.
- You may view this material at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206–231–3195.

FOR FURTHER INFORMATION CONTACT: Dat Le, Aviation Safety Engineer, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; phone: (516) 228–7300; email: *9-avs-nyaco-cos@faa.gov.*

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under **ADDRESSES**. Include ''Docket No. FAA–2023–2141; Project Identifier MCAI–2023–00689–T'' at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend this proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to *regulations.gov*, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this NPRM.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial