Title (en)

SYSTEMS, ARRANGEMENTS, STRUCTURES AND METHODS FOR AIRCRAFT

Title (de)

SYSTEME, ANORDNUNGEN, STRUKTUREN UND VERFAHREN FÜR FLUGZEUGE

Title (fr)

SYSTÈMES, AGENCEMENTS, STRUCTURES ET PROCÉDÉS POUR AÉRONEF

Publication

EP 4058359 A2 20220921 (EN)

Application

EP 20864294 A 20201001

Priority

- GB 201914227 A 20191002
- GB 201914219 A 20191002
- GB 201914225 A 20191002
- GB 201914224 A 20191002
- GB 201914223 A 20191002
- GB 201914220 A 20191002
- GB 201916137 A 20191106
- GB 201916139 A 20191106
- GB 201916138 A 20191106
- GB 201916136 A 20191106
- GB 201917074 A 20191122
- GB 202003500 A 20200311
- GB 202003503 A 20200311
- GB 202003504 A 20200311
- GB 202003513 A 20200311
- GB 202003496 A 20200311
- GB 202003497 A 20200311
- GB 202003505 A 20200311
- GB 202003511 A 20200311
- GB 202003498 A 20200311
- GB 202003501 A 20200311
- GB 202003502 A 20200311
- GB 202003509 A 20200311
- GB 202003512 A 20200311
- GB 2020052377 W 20201001

Abstract (en)

[origin: GB2587668A] A thermal management system has a rotating hub 60 of an aircraft propulsion system with an aperture 64 suitable for facilitating airflow into a nacelle 20 to manage the temperature of components. The hub may have a duct extending through it with the aperture opening into the duct. The propulsion system preferably has propellers 12 and the hub is a propeller hub; the nacelle being part of an aircraft wing. An airflow generator (fig.6,50), such as a fan (fig.6,52) driven by the propeller drive shaft (fig.6,54), may be provided to draw air into the nacelle through the aperture. A fairing or nose cone 62 may be provided over the hub, also provided with an aperture and duct. The fairing may be 3D printed and/or cast with channels 66 formed in the fairing duct; when the fairing is rotated the channels, in the form of an axial compressor, draw air into the nacelle, increasing the pressure of the airflow. The components may be an electric motor 14 and/or power electronics. The system may provide cooling when the propellers are rotating but the aircraft is not in flight or in motion.

IPC 8 full level

B64D 31/06 (2006.01); **B64D 37/30** (2006.01)

CPC (source: EP GB)

B60L 1/02 (2013.01 - EP); **B60L 1/20** (2013.01 - EP); **B60L 50/60** (2019.01 - EP); **B60L 50/61** (2019.01 - GB); **B60L 58/15** (2019.01 - EP); **B64C 1/12** (2013.01 - EP); **B64C 3/185** (2013.01 - GB); **B64C 3/34** (2013.01 - GB); **B64C 7/02** (2013.01 - GB); **B64C 11/00** (2013.01 - GB); **B64C 11/002** (2013.01 - GB); **B64C 11/14** (2013.01 - EP GB); **B64C 11/30** (2013.01 - GB); **B64C 13/504** (2017.12 - GB); **B64C 19/00** (2013.01 - GB); **B64C 25/04** (2013.01 - EP); **B64C 25/34** (2013.01 - EP); **B64C 25/405** (2013.01 - EP); **B64C 25/42** (2013.01 - EP); **B64D 13/006** (2013.01 - EP); **B64D 15/00** (2013.01 - GB); **B64D 15/04** (2013.01 - EP); **B64D 27/02** (2013.01 - GB); **B64D 27/026** (2024.01 - EP GB); **B64D 27/12** (2013.01 - EP); **B64D 27/24** (2013.01 - EP GB); **B64D 29/00** (2013.01 - EP GB); **B64D 31/00** (2013.01 - GB); **B64D 31/06** (2013.01 - EP); **B64D 33/08** (2013.01 - EP GB); **B64D 35/02** (2013.01 - EP); **B64D 37/00** (2013.01 - GB); **B64D 37/30** (2013.01 - EP GB); **B64D 37/32** (2013.01 - GB); **B64D 41/00** (2013.01 - EP GB); **B64D 41/007** (2013.01 - EP); **B64D 47/00** (2013.01 - GB); **F01D 15/10** (2013.01 - EP GB); **F02C 7/04** (2013.01 - EP); **F02C 7/047** (2013.01 - GB); **F02C 7/12** (2013.01 - GB); **F02C 7/18** (2013.01 - GB); **F02C 7/22** (2013.01 - GB); **F02C 7/32** (2013.01 - GB); **F02C 7/36** (2013.01 - GB); **F02C 9/40** (2013.01 - GB); **F02D 19/0626** (2013.01 - GB); **F02D 19/0634** (2013.01 - GB); **F02D 19/0652** (2013.01 - GB); **F02D 19/0665** (2013.01 - GB); **F02D 19/085** (2013.01 - GB); **F02D 19/087** (2013.01 - GB); **H01M 10/613** (2015.04 - EP); **H01M 10/615** (2015.04 - EP); **H01M 10/62** (2015.04 - EP); **H01M 10/65** (2015.04 - EP); **H01M 10/6561** (2015.04 - EP); **H01M 10/66** (2015.04 - EP); **H02J 3/14** (2013.01 - GB); **H02J 4/00** (2013.01 - GB); **H02K 7/1823** (2013.01 - GB); B60L 2200/10 (2013.01 - EP GB); B60L 2240/36 (2013.01 - EP); B64D 2013/0648 (2013.01 - EP); B64D 2221/00 (2013.01 - EP GB); F02D 2200/0611 (2013.01 - GB); F05D 2220/76 (2013.01 - EP GB); H01M 2220/20 (2013.01 - EP); H02J 2310/44 (2020.01 - GB); Y02E 60/10 (2013.01 - EP); Y02T 10/62 (2013.01 - EP); Y02T 10/70 (2013.01 - EP); Y02T 10/72 (2013.01 - EP); Y02T 50/40 (2013.01 - EP); Y02T 50/50 (2013.01 - EP); Y02T 50/60 (2013.01 - EP); Y02T 50/80 (2013.01 - EP)

Citation (search report)

See references of WO 2021064378A2

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

GB 201916136 D0 20191218; **GB 2587668 A 20210407**; EP 4058347 A2 20220921; EP 4058348 A2 20220921; EP 4058349 A2 20220921; EP 4058352 A2 20220921; EP 4058355 A2 20220921; EP 4058356 A2 20220921; EP 4058358 A2 20220921; EP 4058359 A2 20220921; EP 4058360 A2 20220921; EP 4058361 A2 20220921; EP 4059004 A2 20220921; EP 4061705 A2 20220928; EP 4061706 A2 20220928; EP 4061707 A2 20220928; EP 4061714 A2 20220928; EP 4061715 A2 20220928; EP 4061717 A2 20220928; EP 4061719 A2 20220928; EP 4061720 A2 20220928; EP 4061721 A2 20220928; EP 4061722 A2 20220928; EP 4061724 A1 20220928; EP 4061725 A2 20220928; EP 4066225 A2 20221005; GB 201916137 D0 20191218; GB 201916138 D0 20191218; GB 201916139 D0 20191218; GB 201917074 D0 20200108; GB 202003496 D0 20200429; GB 202003497 D0 20200429; GB 202003498 D0 20200429; GB 202003500 D0 20200429; GB 202003501 D0 20200429; GB 202003502 D0 20200429; GB 202003503 D0 20200429; GB 202003504 D0 20200429; GB 202003505 D0 20200429; GB 202003509 D0 20200429; GB 202003511 D0 20200429; GB 202003512 D0 20200429; GB 202003513 D0 20200429; GB 2587669 A 20210407; GB 2587670 A 20210407; GB 2587671 A 20210407; GB 2587674 A 20210407; GB 2587678 A 20210407; GB 2587679 A 20210407; GB 2587680 A 20210407; GB 2587681 A 20210407; GB 2587682 A 20210407; GB 2587683 A 20210407; GB 2587684 A 20210407; GB 2587685 A 20210407; GB 2587686 A 20210407; GB 2587687 A 20210407; GB 2587823 A 20210414; GB 2587824 A 20210414; GB 2593445 A 20210929; WO 2021064374 A2 20210408; WO 2021064374 A3 20210715; WO 2021064374 A9 20210610; WO 2021064375 A2 20210408; WO 2021064375 A3 20210701; WO 2021064376 A2 20210408; WO 2021064376 A3 20210624; WO 2021064377 A2 20210408; WO 2021064377 A3 20210701; WO 2021064378 A2 20210408; WO 2021064378 A3 20210701; WO 2021064379 A2 20210408; WO 2021064379 A3 20210701; WO 2021064380 A2 20210408; WO 2021064380 A3 20210624; WO 2021064381 A2 20210408; WO 2021064381 A3 20210708; WO 2021064382 A2 20210408; WO 2021064382 A3 20210722; WO 2021064383 A2 20210408; WO 2021064383 A3 20210708; WO 2021064384 A2 20210408; WO 2021064384 A3 20210701; WO 2021064385 A2 20210408; WO 2021064385 A3 20210722; WO 2021064385 A9 20210603; WO 2021064386 A2 20210408; WO 2021064386 A3 20210805; WO 2021064387 A2 20210408; WO 2021064387 A3 20210708; WO 2021064388 A2 20210408; WO 2021064388 A3 20210624; WO 2021064388 A9 20210520; WO 2021064389 A2 20210408; WO 2021064389 A3 20210708; WO 2021064390 A2 20210408; WO 2021064390 A3 20210715; WO 2021064390 A9 20210610; WO 2021064391 A2 20210408; WO 2021064391 A3 20210722; WO 2021064391 A9 20210603; WO 2021064392 A2 20210408; WO 2021064392 A3 20210708; WO 2021064392 A9 20210603; WO 2021064393 A2 20210408; WO 2021064393 A3 20210701; WO 2021064394 A2 20210408; WO 2021064394 A3 20210708; WO 2021064394 A9 20210603; WO 2021064395 A2 20210408; WO 2021064395 A3 20210715; WO 2021064396 A1 20210408; WO 2021064397 A2 20210408; WO 2021064397 A3 20210715

DOCDB simple family (application)

GB 201916136 A 20191106; EP 20786032 A 20201001; EP 20864291 A 20201001; EP 20864292 A 20201001; EP 20864293 A 20201001; EP 20864294 A 20201001; EP 20864295 A 20201001; EP 20864296 A 20201001; EP 20864297 A 20201001; EP 20864298 A 20201001; EP 20864299 A 20201001; EP 20864300 A 20201001; EP 20866953 A 20201001; EP 20866954 A 20201001; EP 20866955 A 20201001; EP 20866956 A 20201001; EP 20866957 A 20201001; EP 20866958 A 20201001; EP 20866959 A 20201001; EP 20866960 A 20201001; EP 20866961 A 20201001; EP 20866962 A 20201001; EP 20866963 A 20201001; EP 20866964 A 20201001; EP 20866982 A 20201001; GB 201916137 A 20191106; GB 201916138 A 20191106; GB 201916139 A 20191106; GB 201917074 A 20191122; GB 202003496 A 20200311; GB 202003497 A 20200311; GB 202003498 A 20200311; GB 202003500 A 20200311; GB 202003501 A 20200311; GB 202003502 A 20200311; GB 202003503 A 20200311; GB 202003504 A 20200311; GB 202003505 A 20200311; GB 202003509 A 20200311; GB 202003511 A 20200311; GB 202003512 A 20200311; GB 202003513 A 20200311; GB 2020052373 W 20201001; GB 2020052374 W 20201001; GB 2020052375 W 20201001; GB 2020052376 W 20201001; GB 2020052377 W 20201001; GB 2020052378 W 20201001; GB 2020052379 W 20201001; GB 2020052380 W 20201001; GB 2020052381 W 20201001; GB 2020052382 W 20201001; GB 2020052383 W 20201001; GB 2020052384 W 20201001; GB 2020052385 W 20201001; GB 2020052386 W 20201001; GB 2020052387 W 20201001; GB 2020052388 W 20201001; GB 2020052389 W 20201001; GB 2020052390 W 20201001; GB 2020052391 W 20201001; GB 2020052392 W 20201001; GB 2020052393 W 20201001; GB 2020052394 W 20201001; GB 2020052395 W 20201001; GB 2020052396 W 20201001