European Union Aviation Safety Agency

COMMENT RESPONSE DOCUMENT

EASA PAD No. 24-044

[Published on 15 April 2024 and officially closed for comments on 13 May 2024]

Commenter 1: Eric Munk – 15/04/2024

Comment #1

One observation on PAD 24-044: in 'Required action(s) and compliance time(s)' under Action 2 (Part(s) Replacement) it is stated that the affected parts need to be replaced for Group 1 aircraft before the next flight after the operational check (Action 1). This could encourage delaying the operational check until the latest possible moment of the three-month allowed timeframe of Action 1, as the aircraft is effectively grounded after that operational check as it needs parts exchanged before the next flight. Amending the text for Action 2 to *'For Group 1 (powered) sailplanes: After the operational check as required by paragraph (1) of this AD, and within 3 months after the effective date of this AD: replace the elevator rod end with a new one (never installed on any aircraft).'* would encourage Action 1 to be done at an earlier moment in the three-month timeframe, therefore offering greater chances of catching any problems in an earlier moment. This would also require Action 3 to be adapted to include replacement of the rod-end before the next flight should any problems be found during the operational check in Action 1.

EASA response:

Comment #1 agreed.

Part(s) Replacement – paragraph (2) of the final AD has been modified, to allow performance of the inspection in any moment (within 3 months compliance time) and in case of no finding, continue to operate (powered) sailplane within that 3 months compliance time for mandatory rod-end replacement.

Commenter 2: Dr. Helmut Zimmermann – 15/04/2024

Comment #2

The above PAD demands as action No.1 an "Operational Check" of the elevator push-rod connection. The correspondent TN of DG-Aviation says the upper part (screwed) push-rod with roller needs to be dismounted for measurement.

The TN also states that the measurement can be performed by the aircraft p/o. In case the measurement reveals no damage, everything can be re-installed. The TN gives no information to the question if the p/o can issue a release-to-service (RTS) for this action, especially as the elevator control system has been dismounted!!!

In case the measurement reveals a damage and parts need to be exchanged (push-rod and roller), the TN states that this work may not be done by the aircraft p/o. So, re-installment of new parts may not be performed by the p/o, but what if measurement (action #1) shows no damage and parts need to be re-installed? Who is responsible for RTS of this AD?

With regard to my upcoming ARC inspections I therefore kindly ask EASA for clarification wrt RTS responsibilities referring to this AD.

EASA response:

Comment #2 not agreed. In the applicable Technical Note(s), in the Remarks chapter it is clarified, which part of the required actions can be done by a pilot-owner and which by approved repair station or by an approved mechanic.

No changes have been made to the final AD in response to this comment.

Commenter 3: Radoslav Pur – 15/04/2024

Comment #3

While I understand the safety rationale behind this AD, I am concerned that DG Aviation GmbH may use this incident to unfairly coerce owners into purchasing expensive service contracts (https://www.dg-aviation.de/en/maintenance-service-aircraft/reasons-details-service). As a pilot who flies a small club airplane, I am already burdened by the high costs of aircraft maintenance. The additional cost of a mandatory replacement part, coupled with the requirement to purchase a service contract, would be financially prohibitive for many club owners and pilots.

I urge EASA to require DG Aviation to make the replacement part available for purchase without a service contract. This would ensure that all affected aircraft can be maintained in an airworthy condition without placing an undue financial burden on small club owners and pilots.

I believe that EASA has a responsibility to protect the interests of all general aviation users, not just those who can afford expensive service contracts. I implore you to carefully consider the impact of this AD on small club aviation and take action to ensure that it does not lead to the unfair devaluation of our aircraft.

EASA response:

Comment #3 noted. This AD is issed because of an identified unsafe condition. EASA, however, has no influence on commercial decisions taken by the type certificate holders.

No changes have been made to the final AD in response to this comment.

Commenter 4: Stefan Jaudas – 22/03/2024

Comment #4

As my soaring club operates both a DG-100G ELAN and a DG-300 ELAN I would like to offer my comments to this PAD. My comments are based on these (powered) sailplane types but not necessarily limited to them.

Private owners in my club also operate DG-600, DG-600M and DG-800S.

1. First I want to point out that the likely effectiveness of this AD, if adopted, would fall into the middle of the soaring season. Therefore, great care should be given to not unnecessarily ground perfectly airworthy (powered) sailplanes or overburden licensed inspectors with the inspection and release of critical maintenance tasks.
2. Both the PAD and the TN call for a replacement of the rod ends of the DG-100G through DG-400 regardless of the outcome of the inspection. The replacement part is the exact same part as the one that is called out to be replaced.

2.a. What is the rationale and justification for replacing parts which have been shown by inspection to have been installed and operated within specification and type design? I.e. parts which have been shown to be perfectly OK?

2.b. What is the rationale and justification to require this part exchange regardless of the outcome of the inspection for all DG-100G through DG-400 but not for DG-600? After all, the TN calls out specifically that all DG single seaters share the same design. This appears to be arbitrary and not based on a technical rationale and justification.

2.c. Likewise the TNs covering the DG-500, DG-800 and DG-1000 models also reference the same event on a DG-300 as reason for those TNs. They also share the same design principle. But these models also do not require a blanket replacement of the rod ends either. This appears to be arbitrary and not based on a technical rationale and justification.

3. The operational check mandated by (1) of the PAD and 2.1 of the TN DG-SS-09 is called out as a critical maintenance task which needs to be inspected and released by a licensed inspector. However, the number of such inspectors is limited. Considering the number of (powered) sailplanes affected this could overburden the available inspectors, regardless of the number of (powered) sailplanes actually showing unacceptable free play.

3.a. It is not quite clear whether a determination of an incorrect free play will immediately lead to a grounding of the affected (powered) sailplane (*). Or whether the (powered) sailplane may be reassembled, the work inspected and released by a licensed inspector, and the (powered) sailplane to be operated until the replacement parts are available and/or until the due date given in the PAD and the TN, whatever happens first (**). This needs to be clarified (see my point 1).

(*) In this case the affected (powered) sailplanes might be grounded for a significant amount of time until parts and licenced inspectors are available. This appears to be unreasonable and an inappropriate burden on owner and operators.

(**) Although this would lead to additional workload for the licensed inspectors it would at least leave as many (powered) sailplanes operational as possible while achieving the goals of the AD.

3.b. In order to keep (powered) sailplanes flying and to lessen the burden on licensed inspectors I would like to suggest methods of inspection which can actually be effected by pilot-owners, i.e. without dis- and reassembly of push-rods or rollers. TN DG-SS-09 calls out that the roller has a tolerance of f7-H8. This implies that this roller is manufactured to industrial standards. Therefore this inspection could be achieved by using standard industrial (DIN EN ISO) commercially available roller bearings as a go/no-go gauge instead of disassembling part of the elevator pushrod. The point is a proper DIN EN ISO designation and/or identification of make and models of a variety of suitable roller bearings.

EASA response:

Comment #4.1. noted. The risk assessment does not support extension of the compliance time, even if "it falls into the middle of the soaring season".

No changes have been made to the Final AD in response to this comment.

Comment #4.2.a. noted. Fleet sampling showed that problem of play adjustment screw being screwed-in too far is not a single case, but occurs very often (14 of 15 sailplanes inspected showed signs of screw maladjustmen). Taking into account fleet age (only DG-300 production ceased in 2006, the other types over 30 years ago), it cannot be excluded that maladjustment occurred in the past and was corrected (records about numbers of related spare parts orders from the type certificate holder also supports that hypothesis), however fatigue crack initiation already occurred. Visual, dye penetrant inspection, or magnetic particles inspection, beyond obvious cases, does not allow for identification of the fatigue crack.

Note, that also applicable AMMs have been updated, to provide more detailed instructions about correct free play adjustment. That, after part(s) replacement, assures safe operation, without complex and costly design change.

The Reason chapter of the final AD has been modified to present more rationale behind this AD requirements.

Comment #4.2.b. not agreed. Design is similar but not identical. Risk assessment showed that design of DG-100G through DG-400 (powered) sailpanes is more susceptible to fatigue cracking.

No changes have been made to the final AD in response to this comment.

Comment #4.2.c. not agreed – see reply to comment #4.2.b.

No changes have been made to the final AD in response to this comment.

Comment #4.3.a. noted. Once a discrepancy has been identified during an inspection, the (powered) sailpane must not be operated until applicable corrective action has been taken.

Please note, however, that if no discrepancies detected during inspection, new final AD wording, allows to operate that (powered) sailplane until the end of 3 months compliance time for mandatory rod-end replacement. See answer to Comment #1.

Comment #4.3.a. noted. In order to lessen the burden on licenced inspectors, DG Aviation offers inspectors a tool (W75) to check the free play in the elevator system. This tool is suitable for all variants of the DG automatic elevator connection. Please note, however, that this is not a tool meant to be used by the pilot-owners.

No changes have been made to the final AD in response to this comment.

Commenter 5: James Alexander – 16/04/2024

Comment #5

1. The proposed directive does not indicate a flaw with the part, but possible failure arising from misuse. If no evidence of misuse is found, is it excessive to mandate a replacement regardless?
2. Group 2 (powered) sailplanes have different rod end parts, but they are extremely similar. If these parts are not also mandatory for replacement, why should the parts for Group 1 be? Again, there is no evidence that the rod end parts for either Group 1 or Group 2 are defective without misuse.
3. This is an expensive requirement, especially because DG Flugzeugbau GmbH requires a subscription payment even before the replacement part can be purchased.

EASA response:

Comment #5.1 – see reply to Comment #4.2.a.

Comment #5.2 – see reply to Comment #4.2.b.

Comment #5.3 – see reply to Comment #3.

No changes have been made to the final AD in response to these comments.

Commenter 6: Anglia Sailplanes – Stu Hoy – 16/04/2024

Comment #6

Can I suggest that the timescales for Action are revised thus:

(1) For Group 1 and 2 (powered) sailplanes: Within 30 days after the effective date of this AD, accomplish an operational check of the free play adjustment of the automatic elevator hook-up in accordance with the instructions of the applicable TN.

Part(s) Replacement:

(2) For Group 1 (powered) sailplanes: Unless replaced as required under Corrective Action Paragraphs (3) and (4) the elevator rod end is to be replaced with a new one (never installed on any aircraft) before the 1 September 2024.

Corrective Action(s):

(3) For Group 1 (powered) sailplanes: If, during the operational check as required by paragraph (1) of this AD any discrepancies, as described in the TN, are detected, before next flight, replace the elevator rod with a new one and if necessary the elevator roller, and adjust free play in accordance with the instructions of the TN.

(4) For Group 2 (powered) sailplanes: If, during the operational check as required by paragraph (1) of this AD any discrepancies, as described in the TN, are detected, before next flight, replace the elevator rod and/or elevator roller with new ones, as applicable, and adjust free play in accordance with the instructions of the TN.

I think such a revision would allow a full and complete inspection of the glider fleet sooner rather than later and find any defective components. Gliders with defective components would not fly pending replacement of those parts. Gliders found serviceable will not be grounded immediately and will not be flying in an unsafe condition. The compliance date of 1 September 2024 is not far away from the 3 Months currently proposed following the Effective Date of the AD.

EASA response:

Comment #6 noted - see reply to Comment #1.

No changes have been made to the final AD in response to this comment.

Commenter 7: Paweł Barczyński – 21/04/2024

Comment #7

According to the TN DG-SS-09 and EASA PAD 24-024 my glider needs to have rod end 2L 19/1 replaced .

After I have checked the connection the roller is perfectly round, and the freeplay is perfectly adjusted (almost 0 free play and no resistance during roller insertion into the funnel).

The rod end shows no signs of any wear or visible damage (even the smallest cracks or scratches) in the roller mounting area - AT ALL.

Therefore I'm very much surprised and disappointed that technical issues caused by wrong adjustment (particular owner or mechanic responsibility), and originally by wrong part design and manufacturing (DG responsibility), now generates the costs that ALL actual owners have to bear.

Can you please share publicly the information: in how many gliders anything really happened, and in how many gliders any signs of wear/damage of the rod end was even detected?

I know SAFETY IS FIRST, and I ensure you - I want to be safe! But I deeply claim that the replacement of the rod end should depend on the part evaluation done by a qualified mechanic and not being automatically mandatory.

In my opinion, an aircraft mechanic's decision should be a sufficient guarantee of safety in this case.

EASA response:

Comment #7 noted – see answer to Comment #4.2.a.

No changes have been made to the final AD in response to this comment.

Commenter 8: Michael Liebau – 22/04/2024

Comment #8

If really necessary (any signs of wear/damage), we should instantly replace the rod end!

This is in our interest.

But IF THERE ARE NO SIGNS of wear/damage AT ALL - replacement should depend on the opinion and decision of a FPB (certified staff) after the operatinal check.

Also for all (powered) glider in Group 1, i'm sure, it is not nessesary to change a part, when it is not broken, against a part with the same technical dimensions.

EASA response:

Comment #8 not agreed - see answer to Comment #4.2.a.

No changes have been made to the final AD in response to this comment.

Commenter 9: British Gliding Association Limited – Gordon MacDonald – 23/04/2024

Comment #9

The proposed AD mandates all DG100, 200, 300 and 400 have the elevator drive inspected and then replaced within 3 months. So the elevator could be defective for 3 months before the inspection to see if it is safe, and if it then passes the inspection, it is then deemed unsafe 1 day later. There does not appear to be any logic in this. If after 3 months the elevator drive is inspected and found to be in compliance with the technical instruction inspection criteria it is no less airworthy one day later when it must be replaced.

A more logical approach would be to inspect the elevator drive before next flight, then if the part is not in compliance, mandate instant replacement of the parts before next flight. If the elevator drive passes the inspection and is airworthy, then give it a further 12 months (or 50 hours, whichever happens first) after the effective date of the AD to be replaced with a DG supplied part.

This way all unsafe parts/aircraft are grounded instantly, and all the yet to be made parts can be sold to the grounded gliders first. Then new parts made and fitted to the airworthy sailplanes within 12 months (or 50 hours whichever is first). This means all unairworthy aircraft are grounded from the effective date and all airworthy aircraft do not use up parts to get grounded aircraft flying.

Many owners have contacted me to pass on their thoughts on the the fact, that most of the aircraft this proposed AD effects, will need to pay the DG service contract fees DG of 583 euros, before they are allowed to order and pay for the parts (the parts are a lot cheaper than the service contract fee). A lot of owners, believe DG are abusing their monopoly of being the sole supplier of parts, by taking excessive profit with the service contract fee.

Airworthiness Directives are about airworthiness and not windfall profits. see link Service-Contract › DG Aviation EN (dg-aviation.de)

EASA response:

Comment #9 noted – see answer to Comment #1 and Comment #3.

No changes have been made to the final AD in response to this comment.

Commenter 10: Flugwissenschaftliche Vereinigung Aachen – Leonard von Hagen – 24/04/2024

Comment #10

This AD calls for replacement of the elevator rod end on DG-300 sailplanes.

Our association is operating the DG-300 (s/n 3E159, current reg D-0996) which first had this issue / accident and caused the AD. Soon after the accident, we already replaced the part with a new one i. a. w. the DAH and adjusted the free play in the elevator control system to not cause a bending moment anymore.

From my point of view, we have already dealt with the issue by a) replacing the affected part and b) adjusting the free play. I am asking whether it would be possible to get an exemption of the AD for this one s/n.

EASA response:

Comment #10 noted. The statement: "Required as indicated by this AD, unless the action(s) required by this AD have been already accomplished" gives credit to actions accomplished before issuance of this AD.

No changes have been made to the final AD in response to this comment.

Commenter 11: Radoslav Pur – 25/04/2024

Comment #11

This email serves as a follow-up to my previous correspondence regarding Airworthiness Directive (AD) 24-044. I am writing to express my deep concern that DG Aviation GmbH may exploit this situation to unfairly leverage its manufacturing error into mandatory service contracts for DG aircraft owners.

In the automotive industry, a similar scenario would undoubtedly result in the manufacturer bearing the full cost of rectifying their mistake, with no financial burden placed on the customer. Unfortunately, in this case, my attempts to contact DG Aviation via email and phone have been unsuccessful, leaving me even more apprehensive about their lack of communication and potential lack of accountability.

The current situation is causing undue stress and hardship for DG aircraft owners. We face the prospect of not only financially prohibitive mandatory replacements but also the potential devaluation of our aircraft due to coerced service contracts. I strongly urge EASA to intervene and ensure a solution that prioritizes the safety of all aviators without unfairly penalizing small club owners and pilots.

EASA has a responsibility to ensure the wellbeing of the entire general aviation community, and that includes protecting us from predatory practices by manufacturers. I implore you to take decisive action to prevent AD 24-044 from causing the devaluation of our aircraft and hindering our ability to safely enjoy them.

EASA response:

Comment #11 disagreed – see reply to Comment #3.

No changes have been made to the final AD in response to this comment.

Commenter 12: Stefan Thoma – 25/04/2024

Comment #12

I hereby protest against the provisions of PAD 24-044 - based on TM DG-SS-09 of the Design Approval Holder - regarding the compulsory replacement of the bumper head and also roller on the automatic elevator connection of the DG 100 - DG 400 series even in the case that the named head and roller are in perfect technical condition.

I request that the Design Approval Holder is required to describe a test procedure (if necessary under the supervision and approval of a certified inspection staff) that enables the continued use of technically flawless parts that have already been installed in the past (see the published maintenance manual pages that describe this for the future).

I also request that the Design Approval Holder be obliged to sell such spare parts at a reasonable price even to aircraft owners without a support contract.

Reasons:

- the exchange of technically perfect parts (for a fee) is disproportionate to the achieved (small, if any) increase in operational safety when using new parts (which may fail also);
- the exchange obligation primarily serves the Design Approval Holder to force all owners into fee-based support contracts since aircraft owners without contract are excluded from the purchase of such spare parts by the Design Approval Holder as the only source of supply .

EASA response:

Comment #12 noted – see answers to Comment #4.2.a. and Comment #3.

No changes have been made to the final AD in response to this comment.

Commenter 13: BGA Inspector - Craig Lowrie – 25/04/2024

Comment #13

The TN calls for the owner to validate if the elevator pushrod Roller passed freely to the from of the Funnel on the elevator connection.

If this is the case, it indicates that the system is set up correctly, so there (in my opinon) should be no further action.

However, on the DG100, 200, 300 & 400 gliders even if the system is set up correctly, there seems to be a requirement to replace the Rod-end and roller with a new identical part. It is unclear what this is hoping to achieve.

- It does not make sense why a Rod-end and roller needs to be changed on a glider which is tested and is set up correctly, especially when being replaced with identical good parts.
- Surely the AD should focus on identifying gliders where the system is NOT set up correctly which could have resulted in undue force being transfered to the Rod-end during rigging and operation. There is no question that these glider should have their parts changed.
- For the gliders which ARE already setup correctly as tested by verification the most appropriate course of action should be

a) No further action

b) That the parts be replaced, but on a more realistic timescale (ie within 12 months)...

Option b) only makes sense if an improved design were produced by DG Aviation.

The current proposal is unacceptable as it will result in many hundreds of gliders being grounded when only a small percentage have any issues. It is clear that DG and its supply chains will be unable to respond to the (unnecessary) demand created by this TN.

Please can the TN be adjusted to focus on correcting the gliders which have a problem, as determined by the defined test procedure.

EASA response:

Comment #13 not agreed – see answer to Comment #4.2.a.

No changes have been made to the final AD in response to this comment.

Commenter 14: Adrian Noble – 26/04/2024

Comment #14

The proposed change (Mandatory) for the DG 100,200,300 & 400 does not make sense! If the system has been set up correctly and tested as per the TN, with no force put on the rod end, then why change a good part with identical parts?

Any owner who has a system not set up correctly, and the rod end has been damaged would not at all have a problem in changing these parts.

However, forcing an owner to change serviceable parts make no sense at all! Also with the proposed time scale, DG supply chain would not be able to respond, and it would force many gliders to be grounded for no good reason.

The Proposed AD should be modified to eliminate the need to change the part on a glider which is set up correctly as validated by the TN test procedure. Worst case, extend the time to change those gliders to a longer period, say 12 months, this will allow DG to update there supply chain and have the necessary parts in stock.

EASA response:

Comment #14 not agreed – see answer to Comment #4.2.a.

No changes have been made to the final AD in response to this comment.

Commenter 15: H.A.W. Keetels – 28/04/2024

Comment #15

In reference to the EASA P-AD 24-044 regarding the inspection/replacement of the automatic elevator connection of DG (powered) sailplanes:

Technical Note DG-SS-09 (section 2.2) released by DG Aviation Gmbh states that “the rod end must be replaced by a new part (2L19/1)” This applies, regardless the result of the inspection.

If -after inspection- the adjustment of the free play adjustment screw proves to be correct, and no bending force has (ever) been applied to the rod end, there seems to be no valid reason to replace this part.

Therefore I urge you to reconsider the proposal for this AD regarding required action no. 2 parts replacement.

EASA response:

Comment #15 not agreed – see answer to Comment #4.2.a.

No changes have been made to the final AD in response to this comment.

Commenter 16: Wim Venema – 28/04/2024

Comment #16

In EASA PAD No.: 24-044 it is mandatory to always replace the elevator rod end of Group 1 sailplanes, even when the result of the inspection is that the roller can be moved without force:

Part(s) Replacement:

(2) For Group 1 (powered) sailplanes: Before next flight after the operational check as required by paragraph (1) of this AD, replace the elevator rod end with a new one (never installed on any aircraft).

I do not see the need to always replace the rod end, irrespective of the result of the inspection: only if the inspection reveals that force was needed to move the roller completely to the front, the rod end could be affected.

The roller is removed every few years anyway, to clean and lubricate it; the rod end is then inspected for wear etc., and a new self-locking nut is used of course.

The updated DG300 Maintenance Manual December 2023 also only requires that the rod end is to be replaced if it was operated with the adjustment screw turned in too far (below in red):

To accomplish this, remove the compete rod end with the roller or remove the roller from the rod end and stick it on an 8 mm f7 pin and move the roller in the funnel. Prior to removal of the rod end mark it´s position.
If the roller can´t be moved without force completely to the front you must turn back the adjustment screw and bend back the sheet metal which was bent by the adjustment screw. Then adjust the free play again.
In case the roller has too much free play on the rod end or if the roller is no more round you must replace the roller by a new one 2L24.
In case the glider was operated for a longer time with the adjustment screw turned in too far the rod end must be replaced by a new one 2L19/1.
After completion of this work check the elevator displacements and adjust if necessary.
I would like to ask you to **change** EASA PAD No.: 24-044, so that it avoids unnecessary logistics and costs, and so that it is consistent with the updated DG Maintenance Manual December 2023, for instance
(2) For Group 1 (powered) sailplanes: Before next flight after the operational check as required by paragraph (1) of this AD, replace the elevator rod end with a new one (never installed on any aircraft) ***in case the glider was operated with the adjustment screw turned in too far.***

EASA response:

Comment #16 not agreed – see answer to Comment #4.2.a.

No changes have been made to the final AD in response to this comment.

Commenter 17: Gerard Hanstede – 28/04/2024

Comment #17

Technical Note DG-SS-09 (section 2.2) released by DG Aviation Gmbh states that “the rod end must be replaced by a new part (2L19/1)” This applies, regardless the result of the inspection.

If -after inspection- the adjustment of the free play adjustment screw proves to be correct, and no bending force has (ever) been applied to the rod end, there seems to be no valid reason to replace this part.

Therefore I urge you to reconsider the proposal for this AD regarding required action no. 2 parts replacement.

EASA response:

Comment #17 not agreed – see answer to Comment #4.2.a.

No changes have been made to the final AD in response to this comment.

Commenter 18: Wim Daanen – 28/04/2024

Comment #18

My DG sailplane has few flying hours, the fitting of the elevator has always been easy and smooth. The inspection of the free play was correct. Still I should, according to DG, replace the rod-end part. In my opinion of no use.

I would plea for a check on the bending of the rod-end part in combination with the free-play-check, as an indicator to replace that particular part.

EASA response:

Comment #18 not agreed – see answer to Comment #4.2.a.

No changes have been made to the final AD in response to this comment.

Commenter 19: H.A.W. Keetels – 28/04/2024

Comment #19

Technical Note DG-SS-09 released by DG Aviation Gmbh states that “the rod end must be replaced by a new part (2L19/1)” This applies, regardless the result of the inspection.

If -after inspection- the adjustment of the free play adjustment screw proves to be correct, and no bending force has (ever) been applied to the rod end, there seems to be no valid reason to replace this part.

Therefore I urge you to reconsider the proposal for this AD.

EASA response:

Comment #19 not agreed – see answer to Comment #4.2.a.

No changes have been made to the final AD in response to this comment.

Commenter 20: Geoff Burtenshaw – 29/04/2024

Comment #20

As the owner and operator of a DG Aviation DG-303 Elan sailplane, I would like to comment on the EASA Proposed Airworthiness Directive (PAD) No. 24-044 relating to the failure of elevator pushrod end - DG Aviation (powered) sailplane models and referenced by DG Aviation Technical Notes (TN) DG-SS-09.

The reason given in the PAD clearly states that the failure of the rod end of the elevator pushrod in the fin was found to be due to misadjustment of the elevator play screw. If adjusted correctly, the roller clearly can move to the front of the funnel – as per the intended design. I fully support the statement in the PAD that if not adjusted properly, this could lead to an unsafe condition and therefore the need to conduct a one-time operational check as per the TN and replace the rod end if found to be distorted or if not set up correctly. Where I disagree is in requiring mandatory replacement of the rod end for Group 1 (powered) sailplanes, including the DG-303 Elan, where the adjustment is found to be in accordance with the AMM.

In my view, it makes no sense replacing the rod end with an identical part if the system is tested as per the TN and it is set up correctly with no force being placed on the parts in question. To replace a serviceable part with an identical part makes little sense as the problem is not the part itself, but the manner in which the elevator system is adjusted. Indeed, if the rod end is replaced, misadjustment could still occur if the AMM is not adhered to correctly.

I would also request that consideration be given to the impact that this PAD could have on the DG Aviation sailplane fleet and the ability of the OEM to furnish replacement rod ends to all Group 1 owners and operators. With none of the Group 1 (powered) sailplanes in current production, the potential exists for considerable delay in meeting demand for replacement rod ends. This will inevitably lead to the unnecessary grounding of perfectly serviceable sailplanes with no safety benefit.

In respect of the EASA action, I kindly request that where the elevator is set up correctly, as per the DG Aviation TN, the PAD be modified to remove the requirement for the mandatory replacement of the rod end for Group 1 (powered) sailplanes. In my view this is disproportionate action for the problem in question and Group 1 (powered) sailplanes should be treated the same as Group 2 (powered) sailplane models.

EASA response:

Comment #20 not agreed – see answer to Comment #4.2.a.

No changes have been made to the final AD in response to this comment.

Commenter 21: Marc Teugels – 29/04/2024

Comment #21

This AD is nonsense.

I am very much aware of the need of flight safety having 26000hrs of flight time.

However, aircraft that are being maintained in a certified LTB , should not be affected by this AD before the next SCHEDULED inspection.

LTB's are supposed to check the elevator at the yearly inspection.

Having found 1 failure on a fleet of about 900 gliders is statistically non-representative.

Clearly, lots of people find this an over-reaction and should be replaced by, specially for the DG800 series, by an inspection at the latest at the next C of A.

EASA response:

Comment #20 not agreed – see reply to Comment #4.2.a.

No changes have been made to the final AD in response to this comment.

Commenter 22: Ian Smith – 30/04/2024

Comment #22

The (English) version states in Paragraph 2 that for Group 1 Sailplanes the rod end must be replaced following the operational check, whereas Paragraph 3 states that the rod end should be replaced for Group 1 Sailplanes only if a discrepancy is found.

In other words, is replacement of the Rod end for Group 1 Sailplanes mandatory regardless of the result of the inspection?

EASA response:

Comment #22 agreed – Replacement of the Rod end for Group 1 Sailplanes is mandatory regardless of the result of the inspection.

Commenter 23: Grzegorz Gajoch – 05/05/2024

Comment #23

As the pilot-owner of the DG-101G ELAN, reg D-3062, I am writing to express some concerns regarding the proposed issuance of Airworthiness Directive Nr. 24-044, particularly in relation to the justification for the forced component exchange. While I acknowledge the safety imperative behind the proposed directive, I believe there are certain aspects that warrant further consideration before its implementation.

Firstly, regarding the necessity of part replacement, it is important to note that the occurrence reported of a broken rod end in the elevator pushrod of a DG-300 sailplane appears to be an isolated incident resulting from a specific configuration issue. The root cause, identified as the improper adjustment of the elevator play adjustment screw, suggests a maintenance oversight rather than an inherent flaw in the component itself. Whether this is the case, can be verified by measurement of the roller, rod and sliding mechanism in the elevator.

Given this context, I propose that a comprehensive inspection protocol be established to assess the condition of the affected parts across all DG sailplanes listed in the applicability of the AD. This would allow for a more targeted approach, minimizing the undue burden of wholesale part replacement where it may not be warranted.

Secondly, with regard to the proposed timeline for compliance, the directive stipulates a three-month window for operational checks and part replacements. While I appreciate the urgency of addressing potential safety concerns, it is important to consider the practical implications, particularly for glider operators during peak flying season in Europe.

EASA response:

Comment #23 not agreed – see answers to Comment #4.2.a and #4.1.

No changes have been made to the final AD in response to this comment.

Commenter 24: Hua Gao – 05/05/2024

Comment # 24

The TN does not contain any justification for why the rod needs to be replaced (only for some types, Group 1) even if the elevator play adjustment screw was not screwed in too far. Following the arguments in the technical notification a broken rod was caused by the stress that results from a wrong

play adjustment. If an inspections reveals that the play adjustment is correct, from the TN it does not become clear why the rod should be replaced anyway (and that only for some types).

EASA response:

Comment #23 noted – see answer to Comment #4.2.a.

No changes have been made to the final AD in response to this comment.

Commenter 25: Sam Miller/Stefan Keppler – 06/05/2024

Comment #25

The referenced TM and PAD, DG does not specify any alternative method, not even if the initial investigation shows a perfectly, free acting, non sticking, intact and serviceable elevator roller.

After investigations on two DG300 gliders carried out following the TM here, none of the two rollers was conspicuous or did stick; the play was tight and perfect for both.

In addition, out of academic interest, we carried out a crack test (magnetic powder) with both rod end parts by a FAA/EASA approved (145-) company, with negative, unconspicuos results at the spots "affected."

My question: Why to replace non-affected, proved parts by just new but identical, cost intensive parts mandatorily? Parts with the same design and P/N, without any technical (shape/construction/material…) improvement?

I request for adding a qualified crack test (e.g. magnetic powder method) for a release to service clearance as an alternative, acceptable method to the "Required Actions", if a serviceable, “non sticking roller” has been identified before.

EASA response:

Comment #23 not agreed – see answer to Comment #4.2.a.

No changes have been made to the final AD in response to this comment.

Commenter 26: Geoff Stilgoe – 12/05/2024

Comment #26

Replacement of elevator rod ends in Group 1 aircraft:
There is no concern identified or evidence presented to support this action. In particular, there is no evidence of a rational risk assessment having been carried out.
If an undisclosed issue is being addressed, this must be explained. If such exists, inspections should be mandated (physical measurement or non-destructive testing, as appropriate). Satisfactory results would be an acceptable means of compliance with the AD.
Mass replacement of likely serviceable parts is an unacceptable regulatory and economic burden. In any case the approval holder would be unable to support this process in an equable time frame.
It has been suggested that there could be an element of commercial opportunism at play. A regulator has no mandate to facilitate or condone any such behaviour.

EASA response:

Comment #23 not agreed – see answer to Comment #4.2.a.

No changes have been made to the final AD in response to this comment.

Commenter 27: Mateusz Różański – 12/05/2024

Comment #27

As the pilot-owner of the DG-300, reg SP-3993, I am writing to express some concerns regarding the proposed issuance of Airworthiness Directive Nr. 24-044, particularly in relation to the justification for the forced component exchange. While I acknowledge the safety imperative behind the proposed directive, I believe there are certain aspects that warrant further consideration before its implementation.

Firstly, regarding the necessity of part replacement, it is important to note that the occurrence reported of a broken rod end in the elevator pushrod of a DG-300 sailplane appears to be an isolated incident resulting from a specific configuration issue. The root cause, identified as the improper adjustment of the elevator play adjustment screw, suggests a maintenance oversight rather than an inherent flaw in the component itself. Whether this is the case, can be verified by measurement of the roller, rod and sliding mechanism in the elevator.

Given this context, I propose that a comprehensive inspection protocol be established to assess the condition of the affected parts across all DG sailplanes listed in the applicability of the AD. This would allow for a more targeted approach, minimizing the undue burden of wholesale part replacement where it may not be warranted.

Secondly, with regard to the proposed timeline for compliance, the directive stipulates a three-month window for operational checks and part replacements. While I appreciate the urgency of addressing potential safety concerns, it is important to consider the practical implications, particularly for glider operators during peak flying season in Europe.

EASA response:

Comment #27 not agreed – see answers to Comment #4.2.a and #4.1.

No changes have been made to the final AD in response to this comment.

Commenter 28: Sven Richter – 12/05/2024

Comment #28

In the pre-examination of DG Aviation GmbH, a number of (powered) sailplanes in Group 1 was found with the elevator play adjustment screw screwed in too far.

But there were also (powered) sailplanes in Group 1 that were inspected without indications, i.e. the free play of the roller on the rod end was adequate and the roller was still round (measured with outside micrometer like with Rotule L'Hotellier). For those sailplanes it is not necessary to replace the elevator rod end with a new one.

Therefore I recommend to revise the EASA PAD No.: 24-044:

Treat all (powered) sailplanes of Group 1 as suggested for Group 2:

„For Group 2 (powered) sailplanes: If, during the operational check as required by paragraph (1) of this AD any discrepancies, as described in the TN, are detected, before next flight, replace the elevator rod and/or elevator roller with new ones, as applicable, and adjust free play in accordance with the instructions of the TN.“

EASA response:

Comment #28 not agreed – see answer to Comment #4.2.a.

No changes have been made to the final AD in response to this comment.

Commenter 29: Paweł Budzyński – 13/05/2024

Comment #29

As the pilot-owner of the DG-101G ELAN, reg D-3062, I am writing to express some concerns regarding the proposed issuance of Airworthiness Directive Nr. 24-044, particularly in relation to the justification for the forced component exchange. While I acknowledge the safety imperative behind the proposed directive, I believe there are certain aspects that warrant further consideration before its implementation.

Firstly, regarding the necessity of part replacement, it is important to note that the occurrence reported of a broken rod end in the elevator pushrod of a DG-300 sailplane appears to be an isolated incident resulting from a specific configuration issue. The root cause, identified as the improper adjustment of the elevator play adjustment screw, suggests a maintenance oversight rather than an inherent flaw in the component itself. Whether this is the case, can be verified by measurement of the roller, rod and sliding mechanism in the elevator.

Given this context, I propose that a comprehensive inspection protocol be established to assess the condition of the affected parts across all DG sailplanes listed in the applicability of the AD. This would allow for a more targeted approach, minimizing the undue burden of wholesale part replacement where it may not be warranted.

Secondly, with regard to the proposed timeline for compliance, the directive stipulates a three-month window for operational checks and part replacements. While I appreciate the urgency of addressing potential safety concerns, it is important to consider the practical implications, particularly for glider operators during peak flying season in Europe.

EASA response:

Comment #29 not agreed – see answers to Comment #4.1. and Comment #4.2.a.

No changes have been made to the final AD in response to this comment.