

# Advisory Wire

REFERENCE NO:	AW700-56-0663 Rev 01	INFORMATION TYPE:	Maintenance
ATA:	56-10	EFFECTIVITY:	Global Express / XRS (9002 - 9312, 9314 - 9380, 9384 - 9429)
SUBJECT:	<b>Windshield Delamination Criteria for a Pro-Active Replacement</b>		Global 5000 (9127 to 9383, 9389 to 9400, 9404 to 9431 and 9998) Global 5000 feat. Vision Flight Deck (9386, 9401, 9445 - 9997) Global 6000 (9381, 9432 -9997)

## 1. REFERENCES:

- 1.1. CMM 56-10-01
- 1.2. AMM 56-10-01
- 1.3. Advisory Top Item 56-34-M-985

## 2. INTRODUCTION:

In the past months, some cases of main ply delamination have been reported to Bombardier. This has led to an in depth production process investigation with the vendor, in order to identify the root cause and implement the corrective actions required. It was concluded that a certain range of windshields can potentially show signs of main ply delamination. If this is the case on your aircraft, the criteria to identify the delamination and the steps forward to replace the windshield are communicated through this Advisory Wire. Safety of flight is not affected by this condition.

## 3. DESCRIPTION:

The latest model of windshields, Part No GC331-0001-13 and GC331-0001-14 were introduced in July of 2014 and 60% of the fleet is now equipped with this latest configuration. As of February 2017, we have seen an increase in removal due to main ply delamination.

PPG and Bombardier worked together on the Root Cause Analysis, extensive testing was conducted at PPG's facilities on 6 returned units. All the units tested confirmed main ply delamination and the tests results have been provided to Bombardier.

An inconsistency in the primer application during a specific manufacturing time period has been identified as the root cause. PPG narrowed this manufacturing period around Q4 of 2016. The majority of failures occurred in less than 300 flight hours and 100 cycles. At least 80% of the parts identified in the following tables are well over this threshold, we are therefore confident that these parts will not be affected by this condition.

Following the conclusion of the root cause analysis, a new process was introduced in production to ensure consistent primer application.

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The following Serial No have been manufactured in the time period identified by PPG:

Part No GC331-0001-13 (PPG # 178500-17)											
3425	3427	3429	3431	3433	3435	3439	3441	3443	3447	3451	3453
3457	3461	3465	3467	3469	3471	3473	3475	3479	3481	3483	3485
3487	3489	3491	3495	3497	3501	3503	3505	3509	3513	3515	3517
3519	3523	3525	3527	3529	3531	3535	3537	3539	3543	3545	3547
3549	3551	3553	3555	3559	3563	3565	3567	3569	3571	3575	3581
3587	3589	3593	3595	3599	3603	3605	3607	3611	3613	3615	3619
3621	3623	3627	3629	3631	3633	3635	3637	3641	3643	3645	3647
3651	3655	3661	3665	3667	3669	3671	3673	3675	3677	3679	3681
3685	3687	3689	3691	3693	3695	3697	3699	3705	3709	3713	3715
3717	3719	3721	3723	3727	3729	3733	3735	3739	3741	3743	3745
3749	3751	3753	3757	3759	3761	3763	3765	3767	3769	3771	3773
3775	3777	3781	3783	3785	3787	3789	3791	3793	3795	3799	3801
3803	3805	3807	3809	3813	3815	3819	3821	3825	3829	3833	3835
3841	3843	3845	3847	3851	3853	3855	3857	3861	3863	3865	-

Part No GC331-0001-14 (PPG # 178500-18)											
3396	3398	3400	3406	3412	3414	3418	3420	3424	3426	3430	3432
3434	3436	3442	3444	3448	3450	3452	3454	3456	3458	3460	3462
3464	3466	3468	3470	3474	3478	3480	3482	3484	3488	3492	3494
3496	3498	3502	3504	3506	3508	3510	3514	3516	3518	3520	3522
3524	3526	3530	3532	3538	3540	3542	3544	3546	3548	3552	3554
3556	3558	3560	3562	3564	3566	3570	3572	3574	3576	3578	3580
3582	3586	3588	3590	3596	3598	3604	3606	3608	3610	3612	3616
3618	3630	3632	3634	3636	3640	3642	3652	3660	3662	3664	3674
3676	3678	3680	3682	3684	3686	3692	3694	3696	3698	3700	3702
3704	3708	3710	3714	3722	3724	3726	3734	3736	3740	3742	3744
3746	3748	3750	3752	3754	3756	3758	3762	3766	3768	3770	3772
3776	3778	3780	3786	3796	-	-	-	-	-	-	-

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Main ply delamination occurs between a main ply and the vinyl interlayer, as shown in Figure 1. This type of delamination is located at the center of the windshield as opposed to face ply delamination, which is very close to the exterior surface. Delamination between main plies is typically located on 3 sides (Figure 2): the upper and lower edges, and along the center post and denoted by jagged edges as opposed to face ply delamination which typically shows in smooth beach mark pattern (Figure 3).

The main ply delamination can be confirmed by using other elements of the windshield as references (i.e. frame, heating element, etc). If in doubt, a prism inspection as per AMM 56-10-01-210-802 will allow a better view of the windshield's stack-up and identify precisely where the delamination is located.

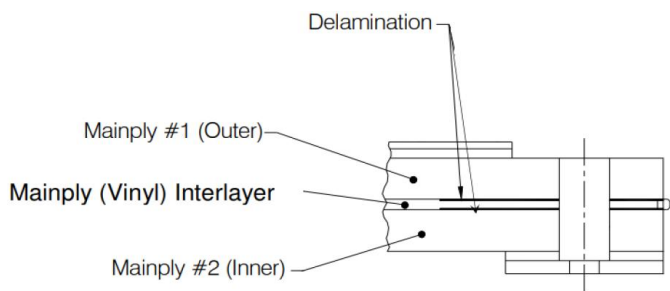


Figure 1: Main ply delamination location

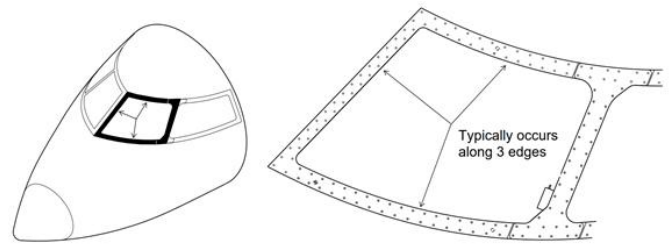


Figure 2: Edges of occurrence

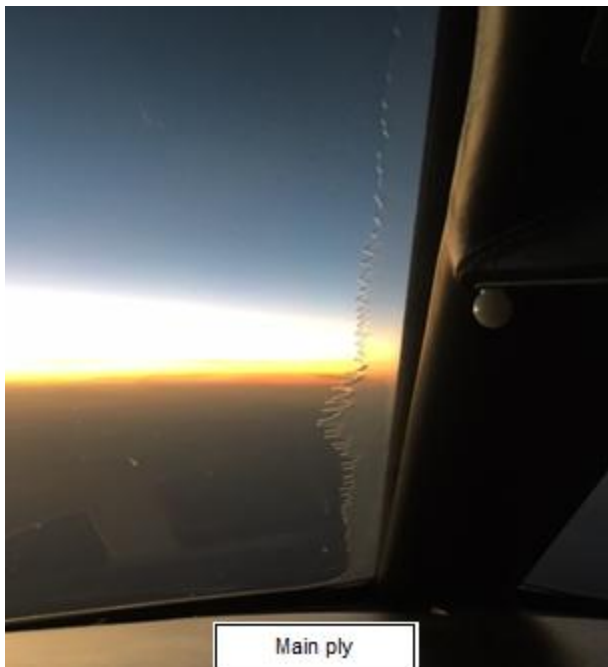


Figure 3: Main ply VS face ply delamination

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## 4. ACTION:

For windshield Part No GC331-0001-13 and GC331-0001-14 showing signs of main ply delamination, perform the following:

- Confirm the windshield Serial No is listed in above Paragraph 3
- Inspect the windshield as per AMM (ref 1.2) and guidance provided on page 3 of the AW.
- Inform your Field Service Representative (FSR) of the condition of the windshield or raise an SRPSA if immediate assistance is required.

Once the main ply delamination has been confirmed by Bombardier, instructions to have the windshield sent back to our facilities will be provided. This AW (as well as any SRPSA or Case) reference should be added on the Material Return Authorization form (MRA), in order to clarify the return reason and facilitate the warranty adjudication process. Replacement of the discrepant part will then be at no cost to the operator.

This is a proactive replacement in order to avoid AOG. The delamination does not need to reach 2 inches as described in the CMM (ref 1.1).

Please note that the replacement is in regards to the main ply delamination only and does not apply to face ply delamination or any other faults that could occur. Refer to CMM (ref 1.1) for general limitations and repairs.

Should you have any query pertaining to this AW or require additional information, please contact your FSR or the Customer Response Center (CRC).