

SERVICE BULLETIN 008: XT-912/582 REAR HUB AXLE INSPECTION

Identification	SB-008
Status	Mandatory
Issue	2
Issue Date	October 2011
Applicability	All XT Aircraft
Compliance	At or before 100 hours of operation.

Issued by: Simon Ross
Approved by: The technical content of this service bulletin has been approved by the Australian Civil Aviation Safety Authority, up to issue 1.

Summary of Changes: Clarify the applicability of this service bulletin, and introduce type 4 axle for issue 2.
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Introduction

It has been brought to the attention of Airborne that a rear axle - Airborne part # 108452 - HUB AXLE EDGE XT TYPE 2, has been found to be significantly cracked at the tapped locking bolthole. The aircraft involved was a XT 912 tourer edition with approximately 250 service hours.

The hollow axle has already been replaced with a solid axle with significantly higher yield strength in trike serial numbers above XT-912-0245 for the 912 XT series and XT-582-0043 for the 582 XT series. This was as part of the tundra model approval process.

It is noted that no cracking has been observed in the solid type of Axle to this date (part # 109012).

The aircraft in which the cracked component was found is a training aircraft, subject to "circuit" flying and would experience more landings than a recreational machine.

This service bulletin introduces a mandatory axle inspection regime in addition to existing maintenance checks outlined in the aircrafts maintenance schedule.

A maintenance manual page is provided with the updated schedule.

A further improvement has been made to completely remove the drilled hole from the axle with the introduction of the type 4 axle in January 2010.

Applicability

The inspection element of this service bulletin extends to all XT aircraft. All axles with any sign of cracks must be replaced immediately.

Type one aircraft replace their axles with type one axles. Serial number XT-912-0245 and above, and XT-582-0043 and above replace their axles with Type 4 axles.

Please carefully read the parts identification section and compare the images and descriptions to your aircraft to ensure the correct parts are ordered.

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Photograph of the crack in the component

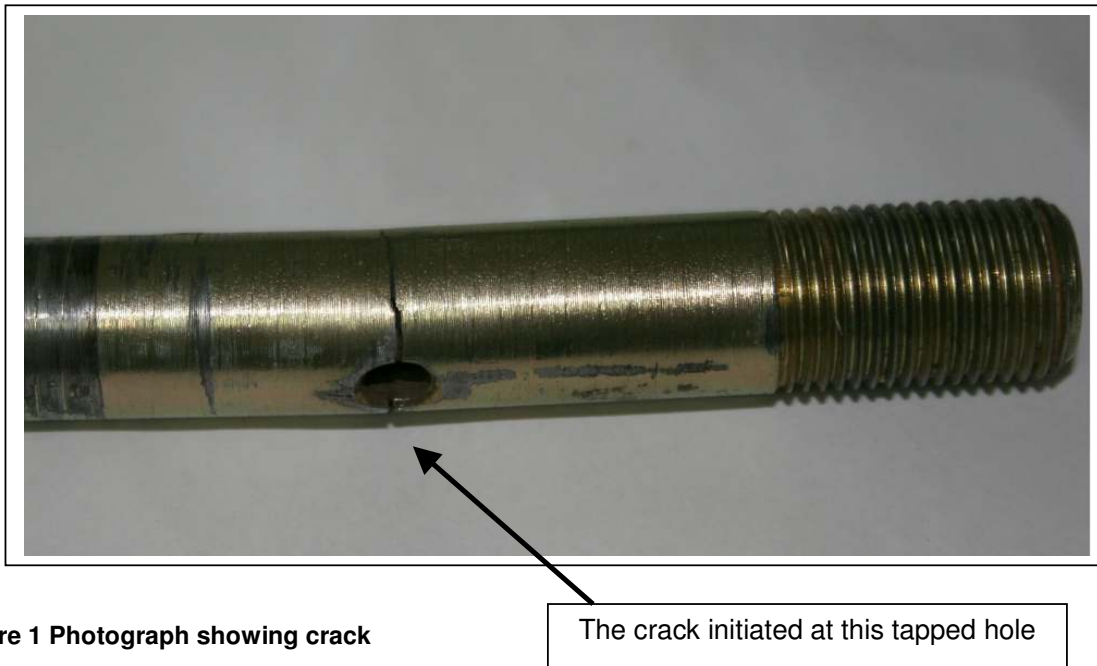


Figure 1 Photograph showing crack

The crack initiated at this tapped hole

Action

- Remove, clean and inspect the axles after each 100 hours, and during tyre changing.
- A 10 x magnifying glass should be used to aid this inspection.
- Any cracks however small are reason for replacement of the component.
- Repeat this process each 100 hours, as well as each time tyres are replaced.
- Any cracked components should be reported to Airborne Windsports to aid service history.
- Conduct an inspection according to the checklist (Chapter 20 – Standard Practices Airframe).
- Complete a service note in the aircraft logbook.
- It is suggested that if a crack is found in one axle then both should be replaced at the same time.

Skills

Where allowable by the applicable national airworthiness authority according to the category of registration, the owner / maintainer can incorporate this service bulletin with care.

Weight and Balance

Insignificant or negligible change.

Parts Identification

There are four axle possibilities for XT aircraft.
Types 1-4 are identified below.

Type 1 is a **hollow** axle prevented from rotating by a bolt through the axle. The axle is 169mm long.

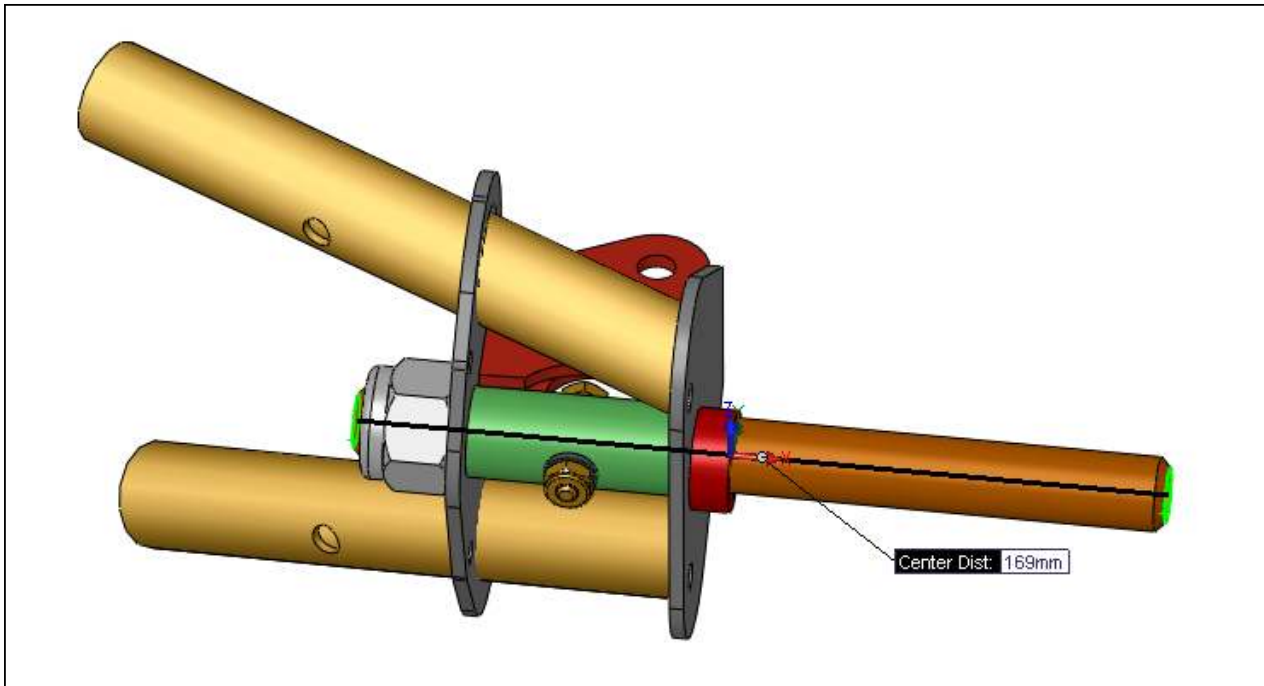


Figure 2 Type 1 axle image (From 5422). To be replaced by 104938 - HUB AXLE EDGE XT TYPE 1

Type 2 axle is a **hollow** axle prevented from rotating by a tapped hole and blind bolt into the axle. The axle is 190mm long.

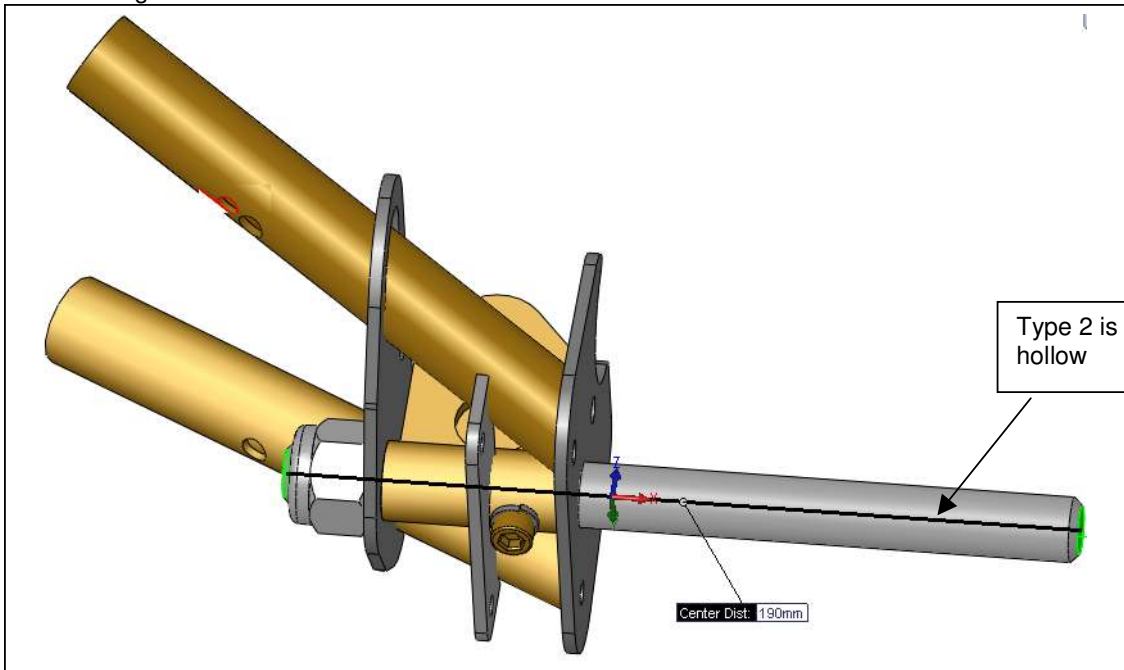


Figure 3 Type 2 axle image (From 7392). To be replaced by the type 4 axle using the retrofit kit 110030 - HUB AXLE EDGE XT TYPE 4 RETRO KIT

Type 3 axle is a **solid** axle prevented from rotating by a tapped hole and blind bolt into the axle. The axle is 190mm long.

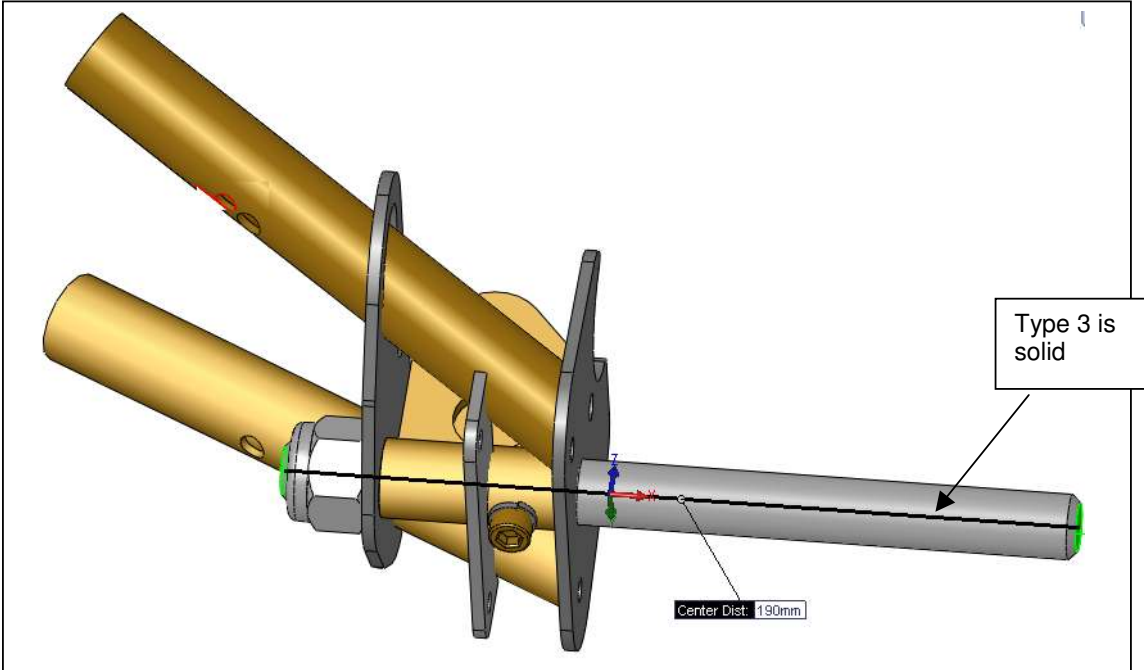


Figure 4 Type 3 axle image (From 7392). To be replaced by the type 4 axle using the retrofit kit 110030 - HUB AXLE EDGE XT TYPE 4 RETRO KIT

Type 4 axle is a solid axle prevented from rotating by a milled face which keys into a plate. The axle is 190mm long.

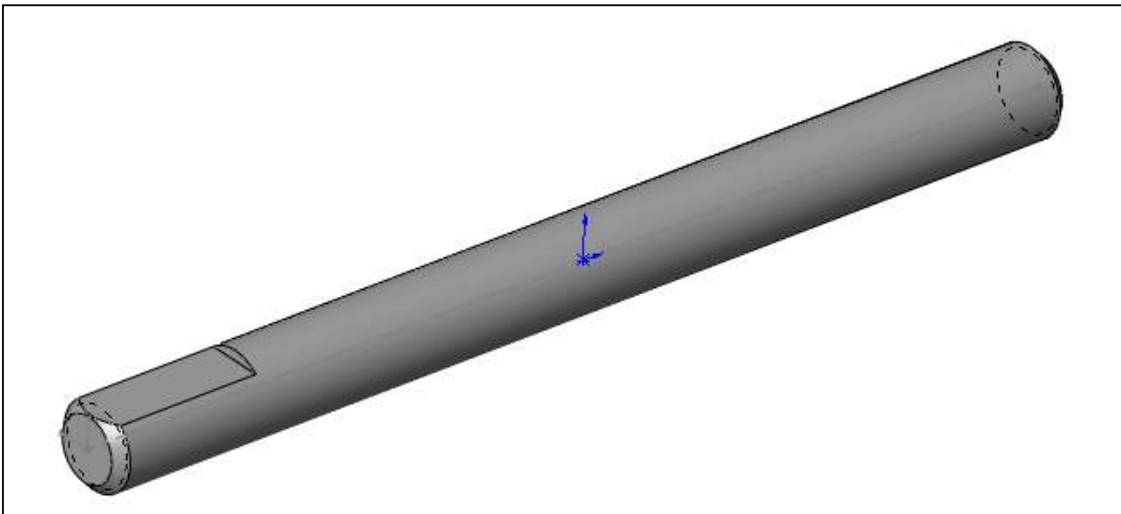


Figure 5 Type 4 axle image

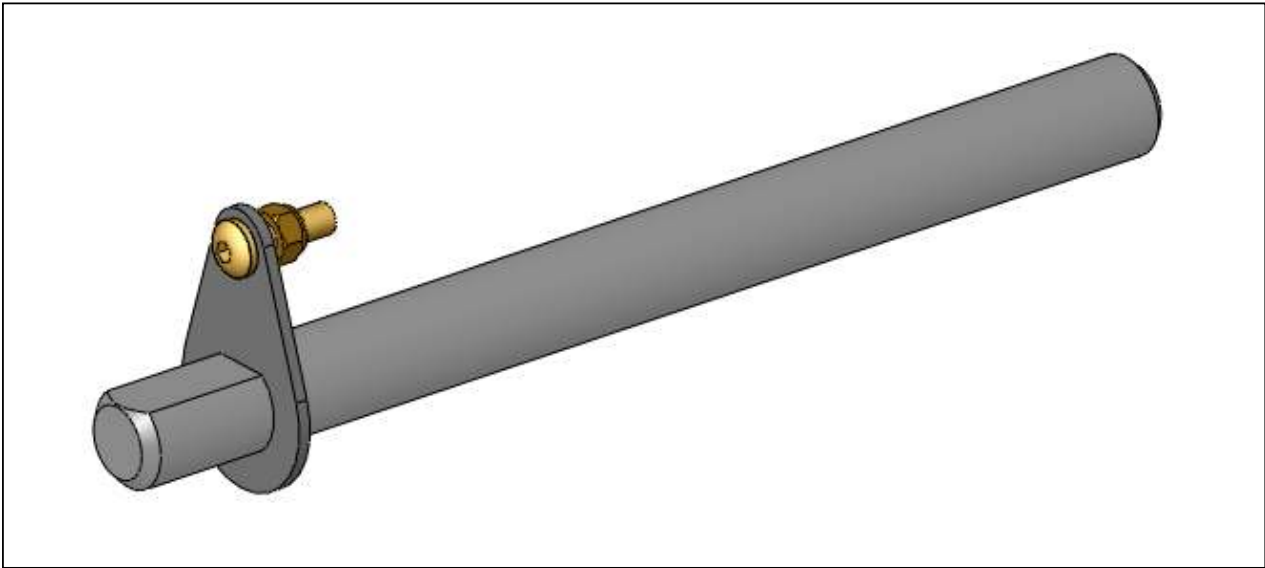


Figure 6 Type 4 axle retrofit kit used to stop the axle rotating for Type 2 hubs, order part # 110030 - HUB AXLE EDGE XT TYPE 4 RETRO KIT

The newest hub design integrates the flat faced hole into the hub. And therefore does not require the retrofit kit, only the Type 4 axle itself.

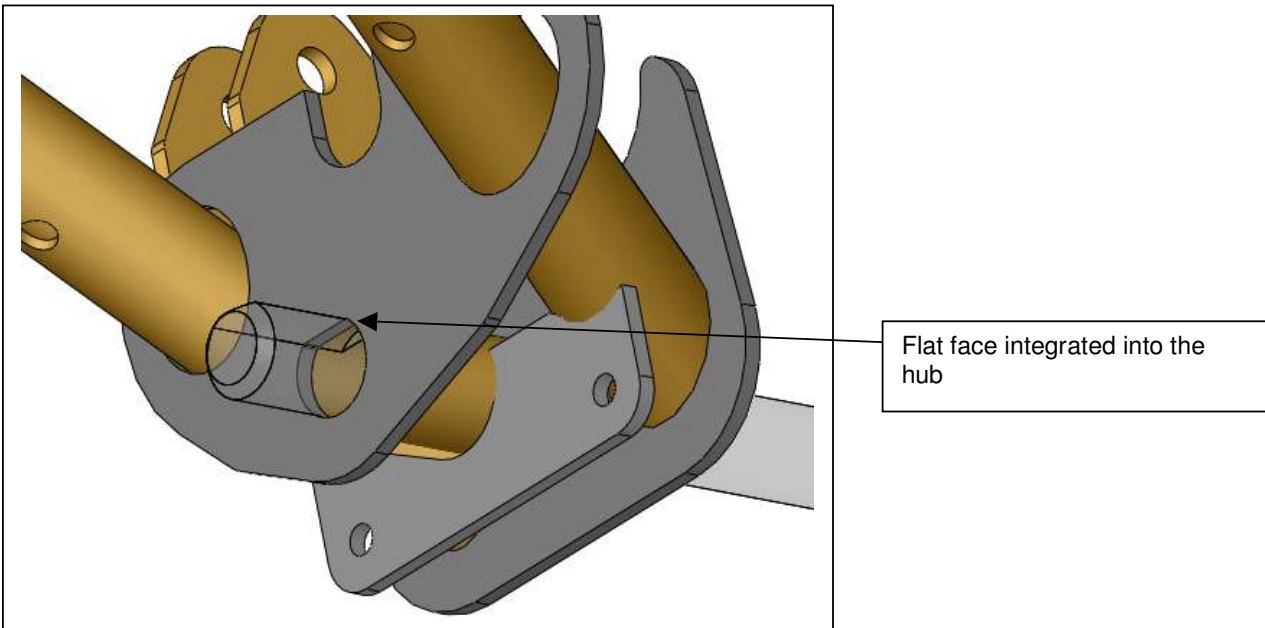


Figure 7 Latest type 3 HUB integrates the flat face into the hub, and does not require the retrofit kit.

Parts Replacement

Any cracking observed during inspection is reason for replacement of the axle:
Serial number XT-912-0245 and below, and XT-582-0043 and below were fitted with hollow axles.
Use the parts identification section to identify which axle is to be used as a replacement, if necessary. Note that the design of Type 1 axles has not changed.

Serial number XT-912-0245 and above, and XT-582-0043 and above

- The original part # 108452 - HUB AXLE EDGE XT TYPE 2, (Hollow Axle)
- New part # 110023 - HUB AXLE EDGE XT TYPE 4 ZINC PLATED, (Solid Axle)

Note that type 3 and type 2 are superceded by type 4. Replace before further use where cracking is observed.

Tooling

- See the aircraft maintenance manual.

Documentation

Any cracked component should be replaced, and noted in the aircraft logbook by the person who performed the maintenance.

Safety Bulletin Compliance

SB-008 XT Series Axle Periodic Inspection / Replacement

This template is to be completed by a person with appropriate maintenance authority as determined by the National Airworthiness Authority in the country of registration, for the category of registration of the aircraft.

Base Serial Number

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Please fill the following table after each inspection:

Aircraft hours	Inspection result LHS	Inspection result RHS	Action taken	Print name and sign
example	OK	Small crack	Replaced LHS and RHS part 108452 with 110023	
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

Please advise the factory if any axles are found to have cracking.

Part Number		Part Name	Action
104938	Hollow	HUB AXLE EDGE XT TYPE 1	Replace with 104938 - HUB AXLE EDGE XT TYPE 1 If cracking is observed.
108452	Hollow	HUB AXLE EDGE XT TYPE 2	Replace with 110023 - HUB AXLE EDGE XT TYPE 4 ZINC PLATED If cracking is observed.
109012	Solid	HUB AXLE EDGE XT TYPE 3 ZINC PLATED	Replace with 110023 - HUB AXLE EDGE XT TYPE 4 ZINC PLATED If cracking is observed.
110023	Solid	HUB AXLE EDGE XT TYPE 4 ZINC PLATED	Replace with 110023 - HUB AXLE EDGE XT TYPE 4 ZINC PLATED If cracking is observed.

I/we have incorporated Service Bulletin SB – 008, for the above aircraft component

Signed	
Print Name	

Insert sheet in rear of applicable maintenance manual.