

This is a record of interview with David Ingersoll, Airframe and Power plant mechanic at Tennessee Valley Authority (TVA) on 3 Aug 2016 at 2:25 pm at TVA Aviation facility (530 airport rd. Muscle Shoals AL 35662). The interview was conducted by Federal Aviation Administration, Aviation Safety Inspector Karlton R. White II at the request of National Transportation and Safety Board Investigator Ralph Hicks. The interview was conducted in regard to the accident involving helicopter N427TV, a Bell 407 sn.54106 that occurred on 11 July 2016 at 1123 CDT, at Hickory KY (NTSB # ERA16FA248) . The helicopter was operated by the TVA under public use but maintained to CFR part 91 standards. Bell Helicopter Illustrated parts breakdown (BHT-407-IPB) 67-99-00 p.77 figure 67-19 Rev.8 dated 30 Jan 2015 was used for reference during the interview, and was provided to Mr. Ingersoll.

- 1) Was the pivot sleeve removed? (item 42, 67-99-00 p.77)
Mr. Ingersoll stated, "No, it was not for this inspection."
- 2) Does anyone remember removing the pivot pin on the collective lever assembly? (item 38, 67-99-00 p.77)
Mr. Ingersoll stated, "No."
- 3) Is there any reason why anyone would have removed Collective lever pivot pin? (item 38, 67-99-00 p.77)
Mr. Ingersoll stated, "No, I don't remember doing it. If anyone would have done it, it would have been me, but I don't remember doing it."
Mr. Ingersoll further stated he doesn't remember ever doing it on a 24 month flight control inspection or tilt friction check.
- 4) Were there any issues or problems with performing:
 - a) 24 month flight control bolt inspection -(Item 71, 67-99-00 p.77) Mr. Ingersoll stated "The teflon was worn on the anti drive lever."
 - b) Swashplate tilt friction check- Mr. Ingersoll stated, "Don't think so"
 - c) Anti drive link removal/reinstallation- Mr. Ingersoll stated, "I pulled it off, but Jose (Arrriola) put it on, I was off doing something else."
- 5) How many times have you performed Main rotor flight control bolt/Swashplate maintenance?
Mr. Ingersoll stated, "Maybe 10 times in the last 6 years"

- 6) Are you trained /qualified on this (Main rotor flight control) system?

Mr. Ingersoll stated, "Yes", and that he is factory trained.

- 7) What was your state of being during the maintenance performed on Work order 1302 (6/20/16)? (Human factors, Well rested/tired, Stress at home/ work, distracted)

Mr. Ingersoll stated, "Nothing out of normal, but rushed as usual. I was pulled off twice to work on other aircraft and several times stopped work to help Jose. "

(with Training/Questions)

- 8) How long had you been on shift when this work was performed? (Flight control bolt inspection)

Mr. Ingersoll stated, "Took two days ,but no more than 8 hours."

- 9) How many days elapsed over the course of this inspection?

Mr. Ingersoll stated , "The aircraft was down 2-3 weeks."

- 10) Describe the quality assurance process of the work performed.

Mr. Ingersoll stated, "The mechanic who did work will have another mechanic look at it, then Gordon will look at it."

- 11) In your own words, now that you've had time to mentally review the event, what do you believe happened that lead up to the incident?

Mr. Ingersoll stated, He does not remember removing pins (item 38, 67-99-00 p.77), but says that, if anyone would have removed them it would have been him. After much review, he still has no recollection of doing it, or why it would have been done. He further stated he does not believe it was someone else. He says he was the only mechanic for 6 months prior to Jose's (Arriola) arrival.

Mr. Ingersoll was cooperative and willing to answer questions. It appeared to me that he had been emotionally and physically affected.

After completing these questions Mr. Ingersoll reviewed the questions and answers. He made no changes or revisions. He initialed them individually and signed the front page under his name.

3 Aug 2016

12:25

David Ingersoll

1) Was the pivot sleeve removed?

Item 42

NO, it was not for this inspection.

8/3/16

2) Does anyone remember removing the pivot pin on the collective lever assembly?

NO

Item 38

3) Is there any reason why anyone could have removed Collective lever pivot pin?

NO "I don't remember doing it" "If anyone would have done it it would have been me, But I don't remember doing it." He doesn't remember ever doing it on a 24 month FC insp. or Tilt friction check.

4) Were there any issues or problems with performing:

- Item 21
- a) 24 month flight control bolt inspection
 - b) Swashplate tilt friction check
 - c) Anti drive link removal/reinstallation

Heften was worn on Anti drive lever.
don't think so

"I pulled it off, but Jose put it on, I was off doing something else"

5) How many times have you performed Main rotor flight control bolt/Swashplate maintenance?

"Maybe 10 times in the last 6 years"

6) Are you trained /qualified on this (Main rotor flight control) system?

"yes"

factory trained

- 7) What was your state of being during the maintenance performed on Work order 1302 (6/20/16)? (Human factors, Well rested/tired, Stress at home/ work, distracted)

"Nothing out of normal", but pushed as usual. Was pulled off twice to work on other aircraft. Several times stopped work to help Jose (training/questions)

- 8) How long had you been on shift when this work was performed?

(FC Beltiusp) took 2 days, but no more than 8 hours.

- 9) How many days elapsed over the course of this inspection?

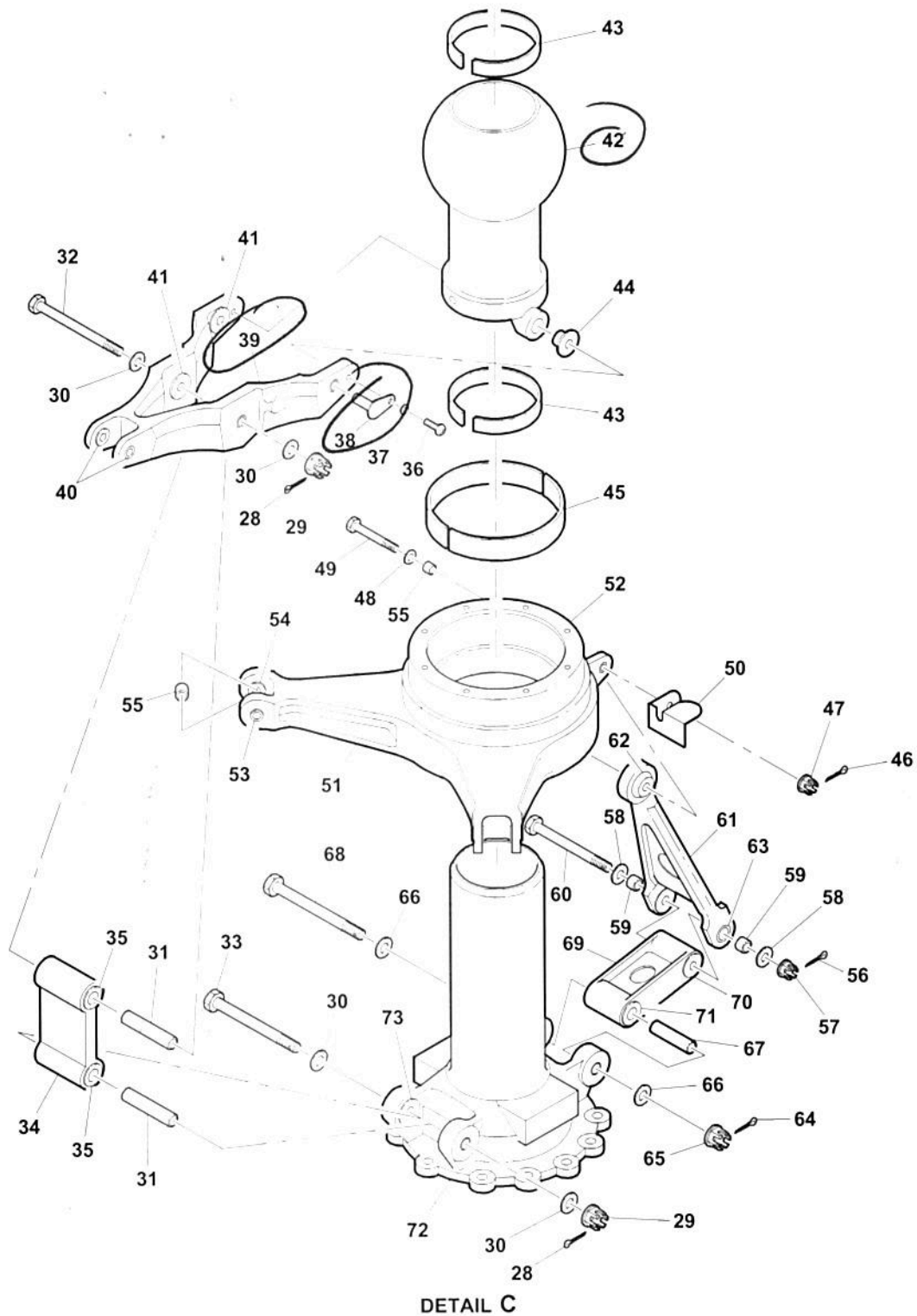
Aircraft was down 2-3 weeks

- 10) Describe the quality assurance process of the work performed.

"Mec. who did work will have another mec look at it, then Gordon will look at it."

- 11) In your own words, now that you've had time to mentally review the event, what do you believe happened that lead up to the crash?

Does not remember removing pins (IIM 38)
But, says that if anyone would have removed them it would have been him. After much review, still has no recollection of doing it, or why it would have been done. Does not believe it was someone else, he had been the only mechanic for 6 months prior to Jose's arrival



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Figure 67-19. Swashplate and Support Assembly (S/N 53000 Thru 54299, 54300 and Subsequent)
(Sheet 2 of 2)

We started the 427TV inspection by taking it off the trailer. It was a 100 hour, 300 hour annual with the 24 month flight control bolt and fuel cell inspection. I started with the flight controls and Jose worked on the tail rotor gearbox leak. I started by pulling the cotter pins of the bolts that were to be inspected and then pulled the bolts one by one starting at the servos. I did one section at a time. When I pulled the anti-drive link I noticed the Teflon was worn so Gordon ordered the part, and I continued on. The control bolt inspection took two or three days. I couldn't finish because of the Teflon link needing replacement, so I moved on to the transmission inspection. The oil and filter were changed in the transmission and the hydraulic system. I also greased the swashplate and pitch links and did the tilt friction check. That is what I remember.


David Ingersoll