

Timothy W. Monville
Sr. Air Safety Investigator
OAS-Eastern Region Aviation

Date: August 8, 2023

Subject: ERA23LA286, Record of Conversation/Interview

Contact: Howard N. Masco, Owner of N26387

Mr. Howard N. Masco was contacted on August 7, 2023, at 1819 EDT. He was called at [REDACTED]
[REDACTED] He provided an e-mail address of [REDACTED]

At the beginning of the interview he was advised that the NTSB is a federal agency mandated by Congress to investigate aircraft accidents, and NTSB has no authority to take any action against any individual. He was also informed that the purpose of an NTSB investigation is for safety only, and any person NTSB talks with has the right to representation; he agreed to the interview without representation.

He was advised by e-mail when sending this document for review that it will not be released to the public until the investigation is finished and when published, any personal identifiable information (PII) such as cell phone number, e-mail address, address, pilot certificate number, etc., will be redacted and not viewable in the released document.

His home address is [REDACTED] Huntsville, Alabama [REDACTED] He holds a private pilot certificate with airplane single engine land and instrument airplane ratings, certificate number [REDACTED] His date of birth is [REDACTED] He has Basic Med issued February 25, 2022. He was not injured.

He was asked by NTSB the following –

Who was the passenger?

Eric Bale. He is a pilot but never took the controls. He was not injured. His contact is [REDACTED]
[REDACTED]

For the accident flight there was no flight plan filed but they did have VFR flight following.

NTSB Questions Continued –

He was asked to provide further details concerning the accident flight that were not provided in the initial statement provided by the Federal Aviation Administration and listed below.

“On July 4th, pilot and passenger were departing Huntsville International airport (KHSV) towards Guntersville, Alabama(8A1). When adjusting the power settings, the engine went to low power and was not responding to throttle cable inputs. At this time an emergency was declared, and an attempt was made for Redstone Arsenal (believed to be the nearest airfield). When it was apparent we were unable to make it to the runway, a nearby field with a paved road was selected for landing. This field turned out to be part of Redstone Arsenal designated as training area 1 (TA-1). After landing on the road, maximum braking was applied but not enough to stop short of the gate post which stopped the airplane. The airplane did sustain damage but pilot and passenger were uninjured. Recent service did include replacement of the throttle cable.”

He indicated the flight climbed to 3,500 ft mean sea level, and when he was making power changes the engine decreased to a low power setting.

Describe what you mean by low power?
A high idle.

What was the speed when you impacted the gate post?
A low speed.

Is the airplane insured.
Yes. The insurance adjuster is Chris Dannecker.

Was the airplane test flown after maintenance?
Yes. It was an owner-assisted annual inspection. It had been operated about 9 hours since the annual inspection was completed.

Did you participate in the installation of the throttle control cable?
Yes.

What was your role?
A lot of work was done to the airplane. He probably installed the throttle but was not sure. The airplane was down between May 2022 and November 2022. During that time a panel upgrade occurred.

Are you an airframe and powerplant (A&P) mechanic?
No.

NTSB Questions Continued –

Is the airplane solely owned by you?

Yes.

Do you recall installing the throttle control cable?

I believe I did. It would have been a 2 person job. The other person was Eric Bale who is an A&P and his flight instructor on the accident flight.

Do you recall him checking the throttle control cable after installation?

I don't recall. I'm sure he did as he is pretty compulsive about his work.

Do you recall how the cable was saftied?

I do not recall.

What was the purpose of the accident flight?

He was getting familiarized with the new panel and was also getting instrument training. He indicated that he performed an RNAV approach to KHSV, then was climbing up to altitude en route to Guntersville Municipal Airport – Joe Starnes Field (8A1), Guntersville, Alabama, where he planned to also do an RNAV approach.

Where is the airplane based?

At Hazel Green Airport (M38), Hazel Green, Alabama.

What was his departure time from M38?

I don't recall.-roughly 1:30pm.

What was your route of flight that day?

He departed M38 with full fuel tanks, flew to HSV, then planned to fly to 8A1.

What emergency procedures did you follow in an attempt to restore engine power?

He had a pretty good idea that the cable had come loose. He was familiar with that failure mode. He changed the fuel selector, turned on the auxiliary fuel pump, but that did not restore power.

Did the panel upgrade help in identifying the nearest airport?

Yes it did help.

What was the Best Glide Speed for your airplane?

72 knots.

What speed did you maintain after losing power?

I don't recall the exact speed but was slightly more. This was done to get the lowest descent rate.

NTSB Questions Continued –

What restraint were you wearing?

Both of them were wearing the lapbelt and shoulder harness.

Did the emergency locator transmitter activate?

No it didn't. It wasn't a hard landing or impact.

What is the status of your airplane?

It is in Texas being repaired. He has a rare Supplemental Type Certificate (STC) which firewall forward is a Piper Arrow, with a 200-horsepower engine and constant speed propeller.

Was it an instructional flight?

Proficiency flight.

Did the instructor sign your pilot logbook?

No he didn't.

Were you under the hood at the time?

No.

Do you have the latitude and longitude where the accident occurred?

Using iPhone map APP it was slightly west of the intersection of 34.61007° north latitude and - 86.66769° west longitude.

Do you have any questions for me?

No.

The call ended at 1858 EDT.

The digest was e-mailed to him for review on August 8, 2023. He replied on August 14, 2023, at 1135 EDT with comments that were incorporated into the narrative. The FINAL digest was e-mailed to him on October 25, 2023.

Timothy W. Monville
Sr. Air Safety Investigator
OAS-Eastern Region Aviation

Date: November 1, 2023

Subject: ERA23LA286, Record of Conversation/Interview

Contact: FAA Inspector Richard Hudgins

FAA inspector Hudgins contacted NTSB by phone on August 8, 2023. He called from [REDACTED]
[REDACTED] He provided an e-mail address of [REDACTED]

He was advised by e-mail when sending this document for review that it will not be released to the public until the investigation is finished and when published, any personal identifiable information (PII) such as cell phone number, e-mail address, address, pilot certificate number, etc., will be redacted and not viewable in the released document.

Inspector Hudgins reported that during his inspection of the engine compartment of N26387, he found the throttle cable outer housing unsecured in the engine compartment (Figure 1) which allowed the entire cable assembly to “shift fore and aft.” Movement of the throttle control in the cockpit did not result in movement of the throttle control lever at the fuel servo which rendered throttle control “ineffective.” The clamp was not located during the inspection.

He noted that the airplane Illustrated Parts Catalog (IPC) specified that the throttle cable outer housing was specified to be clamped to a “shim” part number (P/N) MT-969 near the carburetor by a stamped steel design “clamp” P/N 160-A2, and secured by two (2) MS35207-264 screws (Attachment 1). The inspector did note one loose washer on top of the airbox (Figure 2).

As part of his inspection of the maintenance records, the throttle cable had been replaced about 15 flight hours and 8 months prior.

The phone call ended at 1112 EDT.

The digest was e-mailed to him for review on November 1, 2023. He replied the same day at 1740 EDT with, “Investigator Monville, Good afternoon. I concur with your interview notes and don’t see anything else to add or edit. I hope you have a great week, and thanks for the help!” The FINAL digest was e-mailed to him on November 1, 2023.

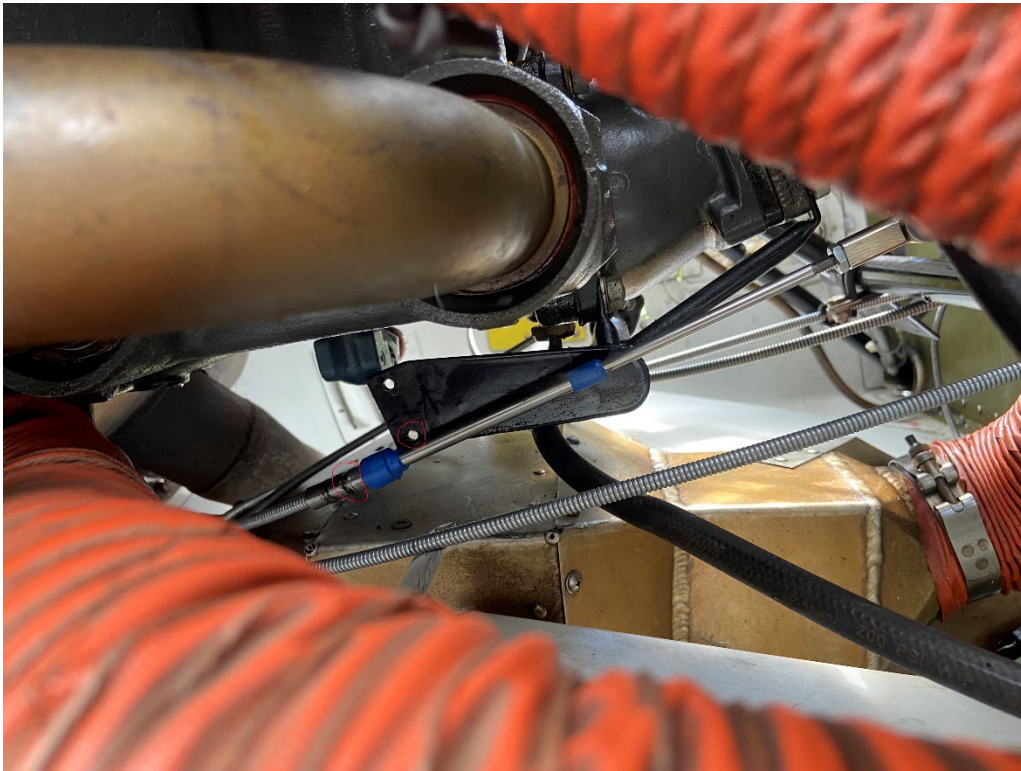


Figure 1: FAA Annotated Digital Photograph. View of the engine compartment showing the unsecured throttle control cable outer housing. The red circles denote where the cable outer housing is required to be clamped.

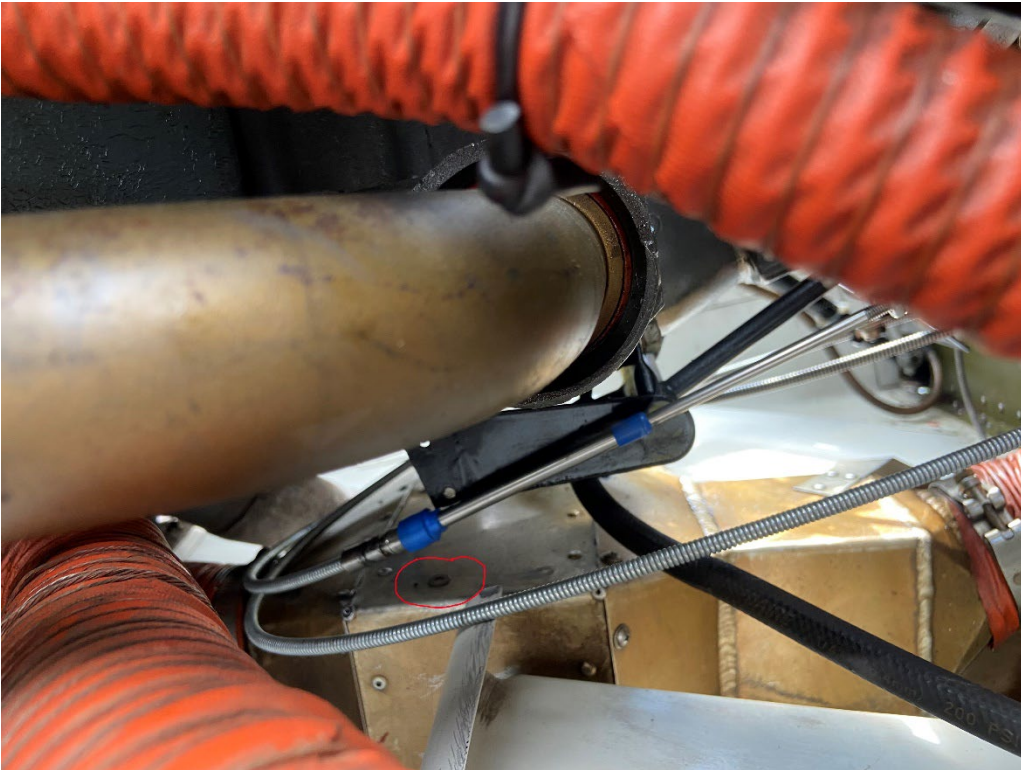
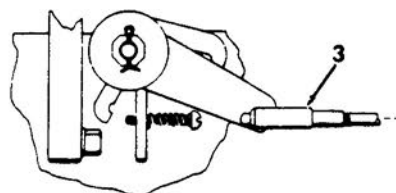
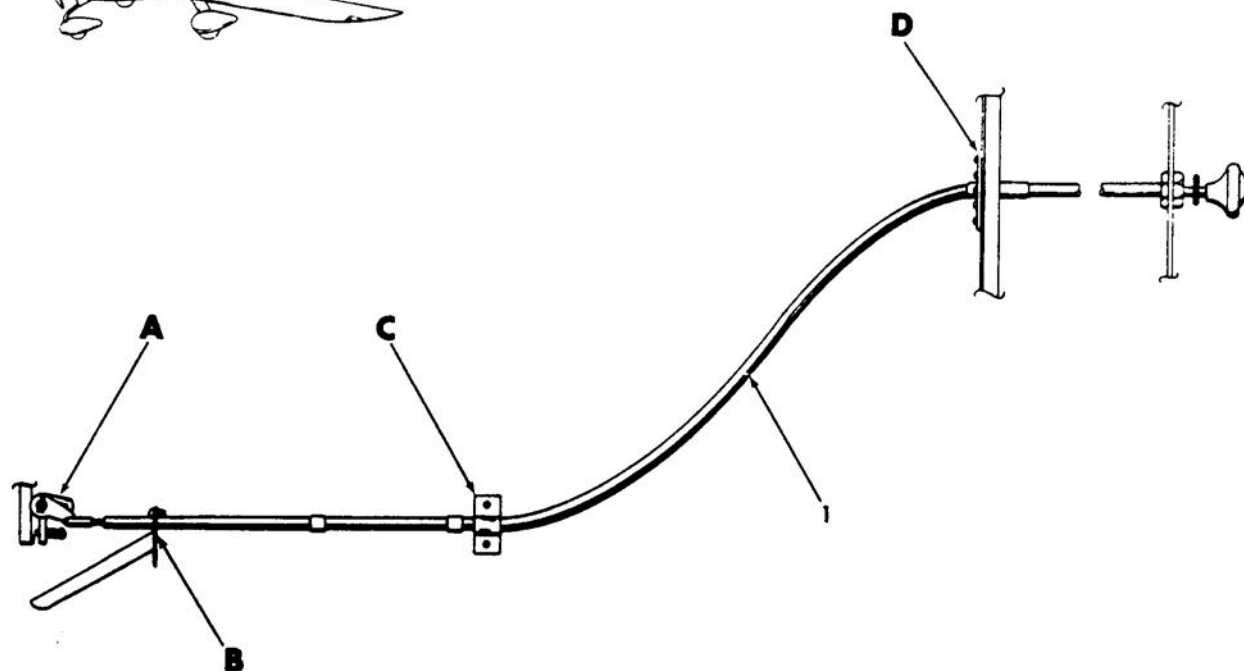
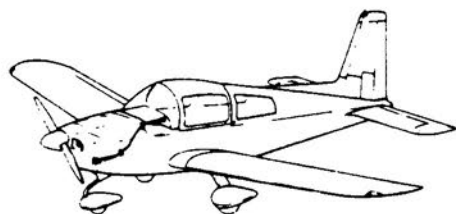
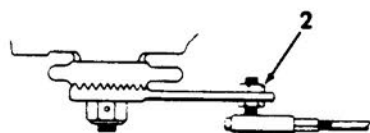


Figure 2: FAA Annotated Digital Photograph. View of the engine compartment showing the unsecured throttle control cable outer housing. The red circle denote the recovered single flat washer.

AA-5 SERIES
ILLUSTRATED PARTS CATALOG

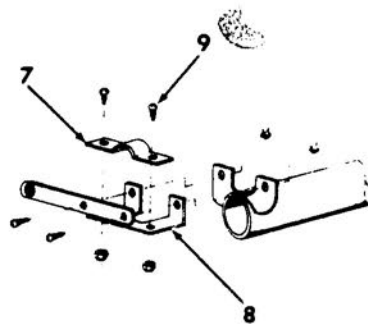


SIDE VIEW



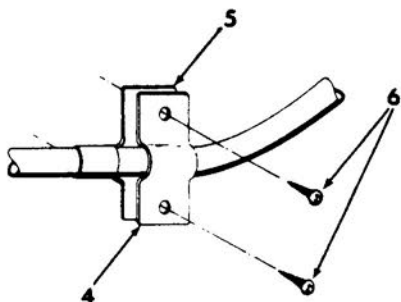
TOP VIEW

A

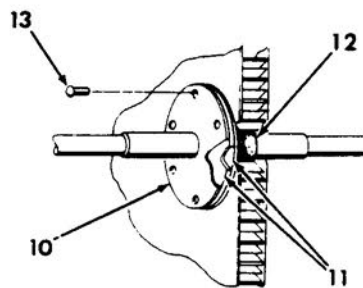


ROTATED 180°

B



C



D

Throttle Control Installation
Figure 73-1

73G54-1

AA-5 SERIES
ILLUSTRATED PARTS CATALOG

Figure & Index No.		Part Number	Nomenclature							Units Per Assy	Usable On Code
			1	2	3	4	5	6	7		
73-	1	-	THROTTLE CONTROL INSTALLATION							NP	
		- 1	THROTTLE CONTROL (V70436)							1	A
			THROTTLE CONTROL (V70436)							1	B
			(ATTACHING PARTS)								
		- 2	NUT							1	
		- 3	BALLJOINT (V70436)							1	
		- 4	CLAMP (V70436)							1	B
		- 5	SHIM (V70436)							1	B
		- 6	SCREW							2	B
		- 7	CLAMP							1	A
		- 8	RETAINER							1	A
		- 9	SCREW							2	A
			NUT							2	A
		-10	COVER - FIREWALL							1	
		-11	SEAL							2	
		-12	BUSHING (V28520)							1	
		-13	RIVET (V05693)							6	

A = AA5A-0283 AND SUBSEQUENT											
B = AA5B-0400 AND SUBSEQUENT											

Timothy W. Monville
Sr. Air Safety Investigator
OAS-Eastern Region Aviation

Date: July 20, 2023

Subject: ERA23LA286, Record of Conversation/Interview

Contact: Eric H. Bale

Mr. Eric H. Bale contacted NTSB by phone on August 8, 2023, at 1300 EDT. He called from [REDACTED]
[REDACTED] He provided an e-mail address of [REDACTED]

At the beginning of the interview he was advised that the NTSB is a federal agency mandated by Congress to investigate aircraft accidents, and NTSB has no authority to take any action against any individual. He was also informed that the purpose of an NTSB investigation is for safety only, and any person NTSB talks with has the right to representation; he agreed to the interview without representation.

He was asked the following questions –

Have you prepared a written statement?

No. He informed NTSB that the Federal Aviation Administration (FAA) inspector and local law enforcement considered him a passenger. As such he was not asked to make a written statement.

At this stage of the conversation he was advised that I would be sending the NTSB Pilot/Operator Aircraft Accident/Incident Report to the owner for completion. And as a pilot seated at a seat with access to the flight controls he was asked to fill in the data fields on page 6 of the report. Making sure to indicate “no” to the question whether he was flying.

He asked whether it was considered an accident or incident and he was advised it was an accident. He also asked whether he would be able to say no to being in an accident as a pilot and he was advised he could since the pilot-in-command said Mr. Bale never took access to the flight controls.

He holds a commercial pilot certificate, flight instructor certificate, and airframe and powerplant (A&P) certificates with inspection authorization. All certificates had certificate number [REDACTED]

NTSB Questions Continued –

How long have you been an A&P?
Since 1989.

How long have you been an IA?
Since 1997.

Have you performed scheduled and unscheduled inspections on the airplane?
Yes, except for 14 CFR Part 91.413 and 91.411.

Explain your observation on the accident flight beginning with the RNAV Approach to KHSV and ending when the airplane came to rest?

After the RNAV approach at HSV, HSV ATCT issued the departure clearance to climb on runway heading (180°). The HSV ATCT controller directed them to fly 150° to remain clear of the Redstone R-2104 restricted airspace while climbing to 3,500 ft mean sea level to remain. They were talking with Huntsville ATCT and when east of HSV near the top of the climb the pilot pulled the throttle back from the climb power setting to cruise power. At that moment he was looking outside, and noted a sudden loss of thrust and the engine monitor showed 13-17% power, which would be close to idle power. The pilot pushed the throttle in and out and he (Mr. Bale) reminded him to fly the airplane. He (Mr. Bale) looked at Skyview which indicated the closest airport was Redstone, followed by HSV. Based on the distance rings on Skyview, Redstone was the closest to their position. He informed the pilot to maintain wings level and best glide speed. The pilot turned towards Redstone while he (Mr. Bale) called HSV ATCT and advised them of the loss of engine power and that they would attempt to land at Redstone. During his communication with the facility a controller stated that the Redstone Airfield was closed due to a holiday. While that was occurring they were still trying to diagnose the reason for the loss of engine power. About that time the pilot asked to pitch for Best Glide speed and he (Mr. Bale) said out loud that the Best Glide speed was for stopped propeller and to pitch for least sink rate. He reminded the pilot to fly the airplane while they checked the oil and fuel pressure were good, the magneto switch was in both, they had 44 gallons of fuel on-board. The fuel boost pump was turned on and the fuel selector was moved to the opposite tank but that did not restore control of engine power. At no time did the engine quit producing power. It was "stuck" at idle power with no ability for us to increase power or make adjustments. There were no engine faults, the magnetos, fuel system and the engine itself were all working perfectly. To determine the airspeed for the least descent rate the pilot was adjusting his airspeed. At that time he (Mr. Bale) cautiously moved the throttle control in and out to try to determine what was going on and to him at that time, it felt like it was disconnected from the fuel servo. To him it was very obvious. They flew direct towards Redstone which was north of their position and the airfield was 10 miles away. They divided duties in the cockpit meaning while the pilot flew the airplane he handled the radios and communications. As determined by looking at the Dynon Skyview wind vector indicator there was a headwind from the North, and noting the flight data and their sink rate of

700 to 800 feet-per-minute (FPM), they realized they would be unable to reach Redstone. Below their position was Test Area 1, and he recommended the pilot land on the road. The pilot agreed to that and made the ultimate decision to land on the road. The pilot made a left turn, picked the road in the area which had a north/south road and multiple east/west roads. The pilot turned base to final and he (Mr. Bale) advised the pilot that he may have to slip to lose altitude but do not lower flaps until the landing was made. On final approach to the road at 50 ft, the pilot lowered flaps and pulled the mixture control to idle cut off, and made a brief touchdown (bounce) on the road, when he (Mr. Bale) advised the pilot that there were posts ahead. The pilot used the remaining energy to climb and clear the posts then touched down past them. While on the ground he informed the pilot of another post 200 meters ahead. The pilot applied heavy braking while keeping the airplane on the 7 ft wide road. He (Mr. Bale) informed the pilot that they would hit the fence pole ahead and the left wing collided with the fence post while travelling between 15 and 20 mph and yawed to the left a little more than 90° and came to rest. Both were wearing the seatbelts and shoulder harnesses and after coming to rest he tried to contact HSV ATCT via the aircraft radios but was unable. They noted there was no fuel leaking and both of them were ok. The master switch was turned off, and he then tried HSV ATCT via cellular phone but could not get anyone to answer. He called a friend of his and asked him to reach out to HSV ATCT and inform them they were both safe. HSV ATCT then contacted Redstone Emergency Operations Center, who along with first responders arrived at the site. They were required to disconnect the battery. He and the pilot were taken off the post, and the airplane was moved from where it came to rest before the FAA inspector could examine the airplane.

NTSB Questions Continued –

When did you meet with the FAA inspector?
He believed it was Thursday July 6th.

How could you tell the throttle cable was disconnected from the throttle control lever at the servo fuel injector?

He began with background indicating that the pilot moved the airplane from California and hangared it at M38 airport with his own airplane. Several months later when the annual was due, the owner asked him if he could do the annual inspection. He checked the maintenance records upon starting the annual inspection several months after the owner had moved the airplane to M38¹. During his review of the maintenance records, he saw an engine modification Supplemental Type Certificate (STC). He checked all records and asked the owner where the Instructions for Continued Airworthiness (ICA), Flight Manual Supplement, and Parts Catalog for the engine, propeller, and airframe modifications were located. After this research he contacted his principal maintenance inspector (PMI) George Castleberry. For the annual inspection he used the inspection checklists for the AA5A, Lycoming IO-360, Hartzell Propeller, Slick magnetos, etc. He also called Dave Fletcher of FletchAir, Inc., or FletchAir, Inc., numerous times while maintaining the airplane

¹ He added that he is, "...not a maintenance shop or 'for hire mechanic', people do not bring aircraft to me for maintenance."

looking for technical insight, advising him that he was trying to maintain an aircraft with no traceability of some hardware. FAA inspector Castleberry and Mr. Fletcher advised him that, at his discretion, if traceability of hardware, hoses, clamps, etc., could not be traced back to ICS for the STC, either use the same item as was found or ensure that the replacement hardware was a suitable replacement. The aircraft's battery which was usually in the engine compartment area was moved to the back of the airplane. Due to the engine modification STC, he asked what the Best Glide Speed was for their configuration². "Due to incomplete ICA and POH supplement for the engine modification, the original AA5A 'Best Glide Speed' was suspect." During the accident flight flying the published best glide speed produced a sink rate of about 900 FPM, but increasing the speed to 87 KIAS along with residual thrust from the engine reduced the rate of descent to between 600 and 650 FPM.

With respect to the throttle cable that was replaced, due to incomplete ICA data for the engine modification, the replacement cable was manufactured as a duplicate assembly, using criteria from Advisory Circular (AC) 20-62E, to determine applicability/suitability of the replacement part. Once in the engine compartment the throttle control made a 180° turn ahead of the engine, then was clamped to a bracket and then the inner cable connected to the throttle control lever. When he was moving the throttle control in-flight it felt like the cable was catching and slipping and the changes he made resulted in very minor rpm change. For example, he noted the engine monitor indicated the engine was at 13% but when he moved the throttle it advanced to 17%.

NTSB Questions Continued –

What was done with the propeller control in-flight?

They didn't touch it. He and the pilot talked in-flight about the propeller and because there was some power / thrust from the engine, we decided not to shut the engine down or make a change to the prop RPM because we had no idea if it would help or hurt the existing flight conditions.

Explain throttle cable replacement at the annual inspection?

The 1st project was the avionics upgrade, and during that time the airplane went out of annual. The avionics upgrade required them to remove the entire panel, thus the throttle, propeller, and mixture controls were removed. Because the throttle cable had wear spots, and the blue colored boot was deteriorated, it was decided to replace the throttle and propeller control cables. Since the throttle and mixture control cables were unique to that airplane they went to Aircraft Spruce and Specialties, who in turn went to a FAA Parts Manufacturer Approval who manufactured an identical throttle control cable.

² The AA5A Pilot's Operating Handbook (POH) indicated that 72 knots indicated airspeed (KIAS) is the maximum glide speed. The POH does not elaborate under what conditions the best glide speed was determined. "During the emergency, we found that pitching for 72 KIAS produced a high sink rate of approximately 900 [feet-per-minute]. We found that with residual thrust, 87 KIAS produced the lowest sink rate."

Due to the engine modification, the engine control cables were unique to that airplane. All hardware for the installation was new or serviceable. All self-locking nuts were new of their tare or run-on torque was checked. It was an owner assisted annual and a punch list was developed. The owner installed the engine control cables from the firewall to the engine controls while he helped inside the airplane. The cables were rigged and a “disturbed system” inspection was performed. They were checked and re-checked for security and proper cushion. Although he could not recall what screw was used to secure the throttle cable and clamp, it likely was secured with two #8 screws that were either 1/2 inch or 9/16 inch long, equipped with a metal self-locking nut with serrated flange. Between the nut and the bracket was a thin washer. All connections were checked by him. He verified that there were 2 threads of the screws extended beyond the end of the nut, and nothing was loose. He also did a “tug” test and range of movement of the throttle control at full throttle and idle, and range of movement for the mixture and propeller controls.

After maintenance was completed he did 3 ground engine runs with the engine cowling off. The idle rpm was adjusted per Lycoming instructions, and the propeller and mixture controls required no adjustment.

NTSB Questions Continued –

Clarify who installed the throttle control cable?

To feed the cable thru the firewall and instrument panel it took 2 people. The engine control cables were routed to the front side of the firewall and the airplane owner said since he had pictures of how they were before being removed, it was in the best position to install them. The cables were clamped into position, rigged, and the hardware was torqued.

Do you recall reusing the metal self locking nuts clamping the throttle control cable to the bracket? Yes. He verified each had drag torque, adding that every nut had “significant tare torque on all nuts including the throttle.” He tried to order new nuts, but because of supply chain issues, the original clamp and hardware which were serviceable were reused as allowed by tech data. He further added, “AC 43.13 IB does not list the minimum drag torque for 8/32 metal self-licking nuts nor does it prohibit the re-use of them. The ‘Aviation Mechanics Handbook, 5th Edition’ states – ‘Low Temperature nuts (MS20365 / AN365 - MS203364 / AN 364) item #5. ‘A self-locking nut can be re-used as long as a wrench is required to turn it on the bolt’. [I]n our case a screw.”

Were the nuts on the original throttle cable bagged, tagged and labeled when they were removed? Yes.

Do you recall the tare or run-on torque values for the metal self-locking nuts?

He ran a screw into the nut and if it took a socket to hold the nut from turning then it was ok.

Did you verify with a torque wrench the tare or run-on torque for the metal selflocking nuts that secured the throttle control cable to the bracket?

No, no, there is no tare or run-on torque specification for the 8/32 metal self-locking nut. He checked to make sure he could not run the nut on the screw by hand. If it required mechanical force to hold the nut from rotating when attempting to thread the screw then it was ok. They put the airplane back to original condition with serviceable hardware.

NTSB Questions Continued –

What do you think happened?

He thought that if both nuts had come loose he thinks the throttle control would have been sloppy and that would have been detected.

Do you have any questions for NTSB?

No.

The call ended at 1427 EDT.

The digest was e-mailed to him for review on August 8, 2023. He replied on August 9, 2023, at 0950 EDT with comments that were incorporated into the narrative. The DRAFT digest in Track Changes mode was e-mailed to him for review on October 25, 2023. He called the same day with comments that were incorporated into the digest. The DRAFT digest was e-mailed to him for review on October 25, 2023. He replied on October 26, 2023 at 0753 EDT with comments that were incorporated into the narrative. The FINAL digest in Track Changes mode was e-mailed to him for FINAL review on November 1, 2023. He replied on November 2, 2023, at 0847 EDT with, “Tim, I concur with the statement as written, thank you for your time and patience.” The FINAL digest was e-mailed to him on November 2, 2023.