Inspector's Statement regarding investigation of N204HF at Anglin Aircraft Recovery on October 25, 2017. In attendance were: Stephan Koza FAA, Oscar Guevara FAA, Brian Rayner NTSB, Joseph Epperson NTSB, Douglas Herlihy Helicopter Flight Services, Jason Chen Helicopter Flight Services, John Lukens Sikorsky, Bill MacGregor Anglin Aircraft Recovery.

The following are bullet statements regarding discussion primarily between Mr. Rayner and Mr. Herlihy regarding the parts involved:

1. Approximately 13 months prior to the accident a custom throttle cable was installed by Mr. Herlihy.
2. The cable appears to be fine.
3. All other associated parts are original.
4. There were no rigging changes to the throttle control system at that time.
5. Four years ago a new engine was installed by Mr. Herlihy.
6. Schweizer manuals were used for the engine change and throttle connections.
7. Checks were made to ensure the throttle works in the full open and closed positions.
8. Operational checks were made using pictures in the manual.
9. Tie rod dimensions between the throttle control rod and the bell crank were checked.
10. The idle stop screw was checked.
11. The idle stop screw was adjusted after the engine was started.
12. It is not known if any other set screws were adjusted at that time.
13. It needs to be researched if there are set procedures for throttle rigging.
14. The helicopter was purchased new in 2000 for $204,000.
15. This is the 4th engine installed with 2000-2200 hours being the overhaul limit.
16. Mr. Herlihy did all 4 engine changes and throttle rigging.
17. Each carburetor stayed with each engine.
18. The throttle tie rod stayed with each specific helicopter.
19. The fuel injected engine tie rod is different than the carbureted engine tie rod.

The following are bullet statements regarding the on scene investigation:

1. The carburetor was separated from the engine.
2. The throttle was still attached.
3. The bell crank was fractured.
4. Neither throttle was controlling the carburetor.
5. The collective levers received impact damage.

The following are bullet statements regarding specific parts involved with the investigation:

1. It appears that for some time only 3 threads instead of 15 threads were engaged on the throttle control arm (4.97" required).
2. The threads were worn out.

3. It disconnected through wear with no threads engaged and came loose and broke free.
4. There is a possibility it was rigged that way; more lab work is required.
5. The fixed distance of the cable and tie rod appears .5" too long.
6. The throttle control arm disconnect precipitated this event but was not the sole reason for the event.
7. Other major repairs were discussed.
8. Mr. Herlihy is sure he would not assemble such a component with only 3 threads engaged versus 15.
9. Mr. Herlihy has performed 6-8 engine changes on his helicopters.
10. Technical data comes from a Sikorsky subscription through the mail with CDs.
11. Technical data also comes from the Sikorsky 360 website though Mr. Herlihy mentioned problems with it.
12. Technical data was used every time.
13. Tie rod measurement comes installed from the factory.

The following are bullet statements regarding general aspects of the investigation.

1. The pilot in command was responsible for the outcome of the autorotation which he elected to do after inflight analysis with other helicopter pilots.
2. The pilot in command was a new CFI with just under 500 hours total helicopter time.
3. He might have fixated on the "numbers" when he was reminded to aim for the midfield point of the runway.
4. It cannot be known what transpired in the cockpit with the non pilot passenger.
5. Sikorsky is in the process of issuing a Service Bulletin to check the 4.97" length and possible thread damage.

The investigation is ongoing.

[redacted]

Stephan A. Koza
Aviation Safety Inspector