



SUMMARY OF FINDINGS

Tealeye Cornejo

Air Safety Investigator (Field)

Western Pacific Region

Date: April 19, 2019

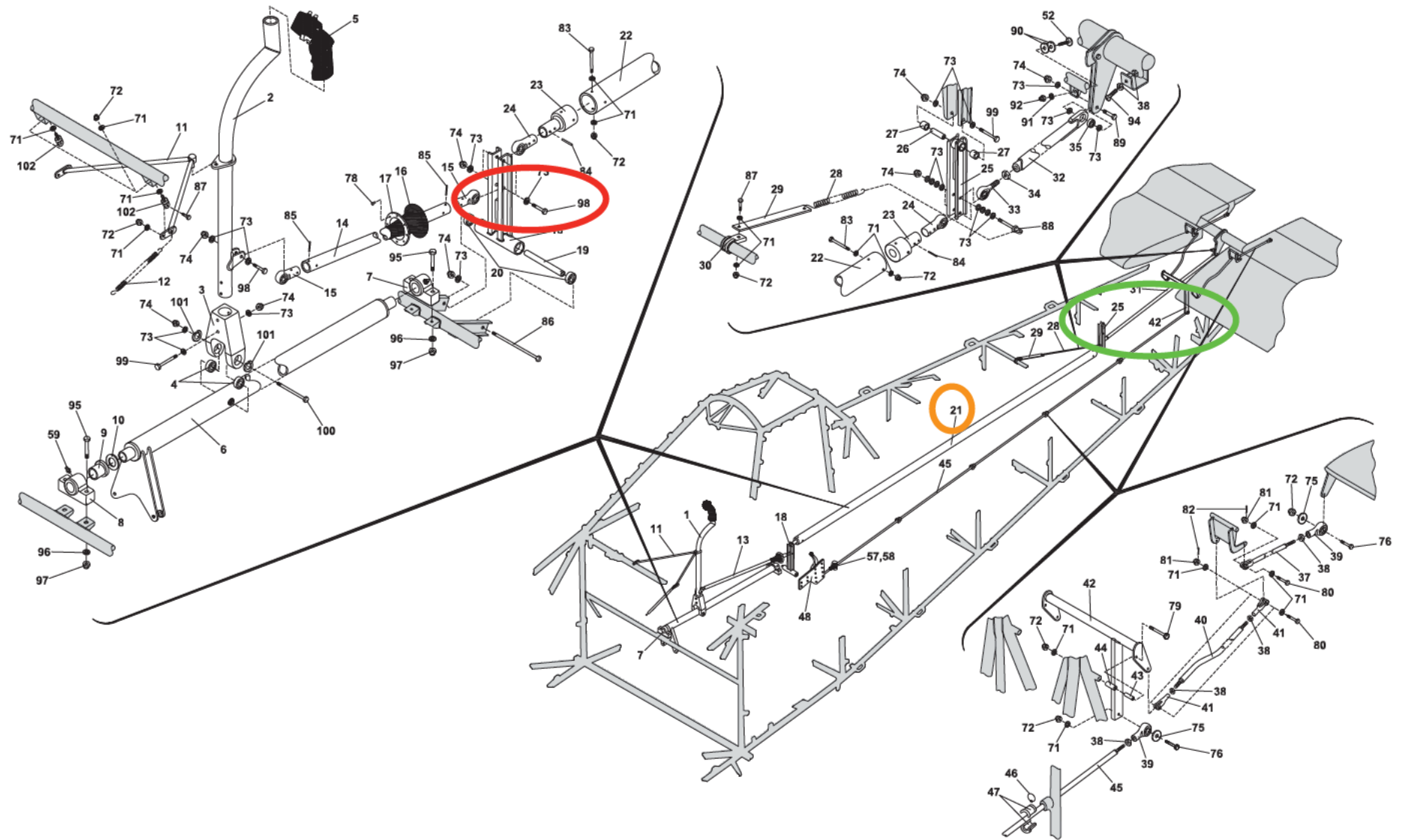
Person Contacted: Keenon Wood email: [REDACTED]

NTSB Accident Number: WPR19LA112

Narrative:

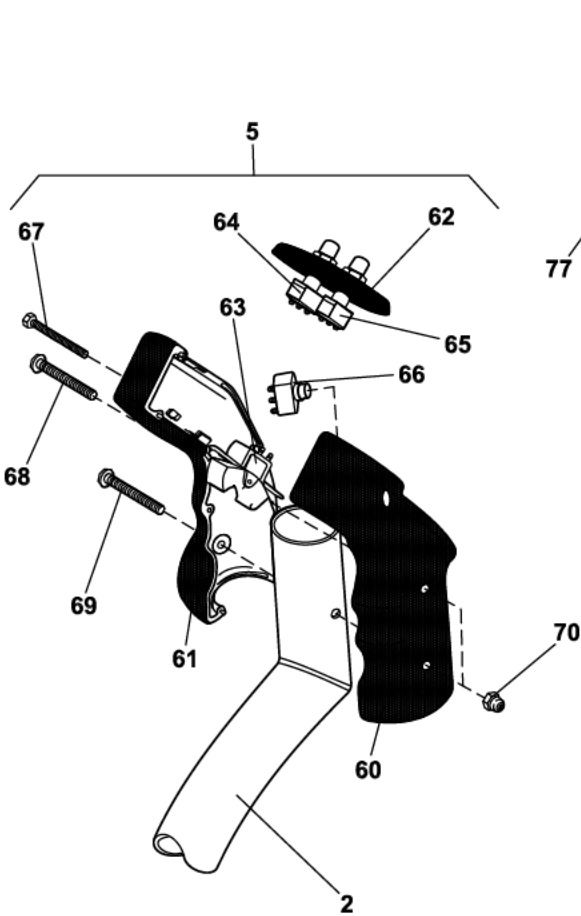
Inspector Wood contacted Air Tractor to discuss the missing components. Bolt (98) had separated from the elevator control connection between a push rod (21) and the forward bell crank.

In the parts manual, in the Controls Group section for the elevator and elevator/rudder trim control systems installations, the bolt (98) is shown in the lower hole but is used in the upper hole as well and connects rod end (24). The bolt that is missing from the accident installation is not shown in the parts manual diagram.

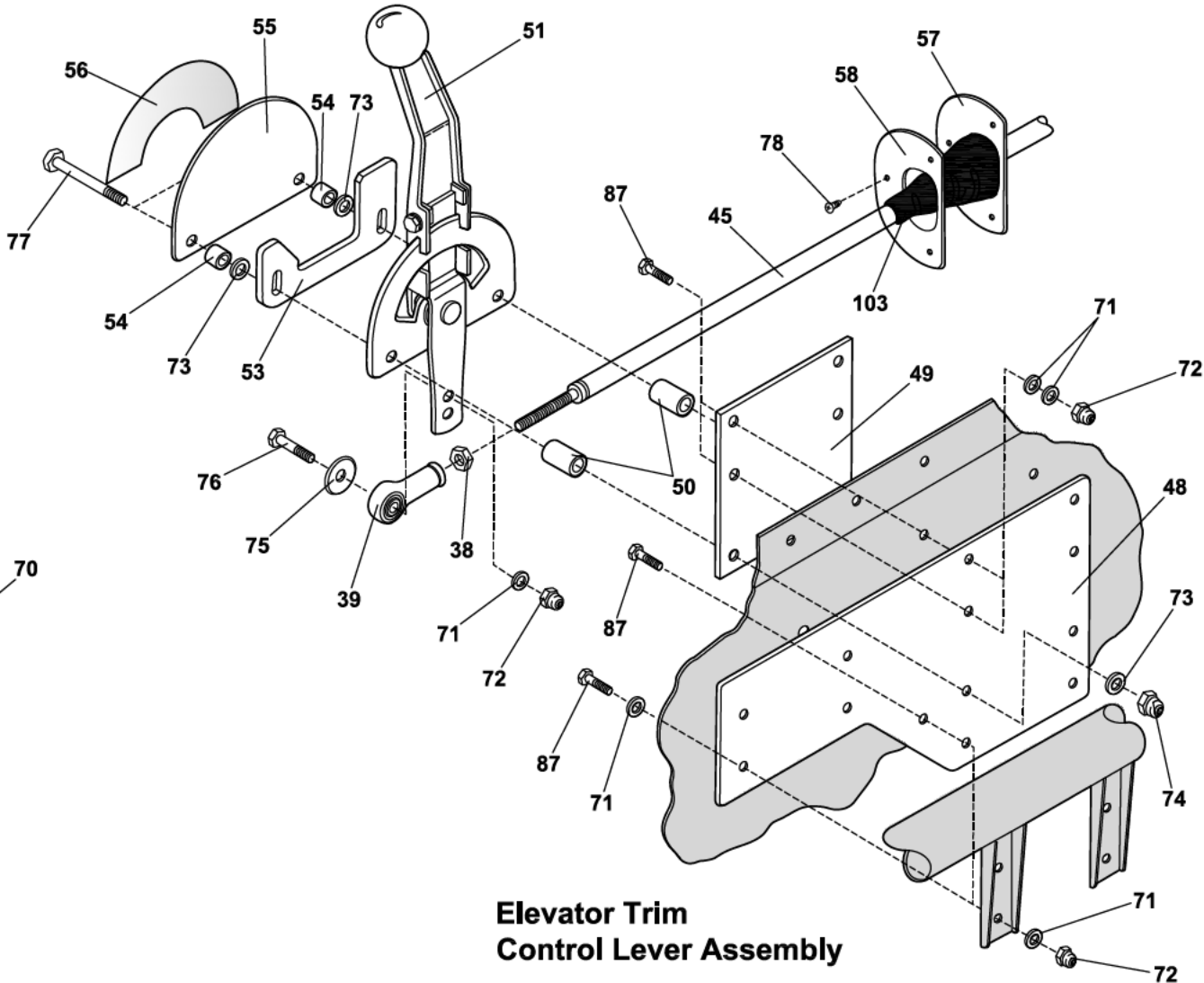


CONTROLS GROUP - Figure 2. Elevator and Elevator/Rudder Trim Control System Installations

Item	Part Number	Description	Qty
1	70346-1	Flagger Control Stlck Assembly (Inc. Items 2-4 & 60-102)	1
2	70047-1	Control Stick Weld Assembly	1
3	70043-1	Socket, Control Stlck	1
4	KP4	Bearing (Fafnir)	2
5	72066-1	Control Stick Grip Assembly	1
6	70050-7	Torque Tube Assembly	1
7	70160-1	Housing Assembly (Inc. Items 8, 9 & 52)	2
8	70231-1	Housing	2
9	70230-1	Bearing	2
10	3088A325	Shim (McMaster-Carr)	as reqd
11	70478-1	Control Lock Assembly	1
12	#38 SS	Spring, Ajax	1
13	70294-2	Elevator Forward Push Rod Assembly (Inc. Items 14 & 15)	1
14	70293-2	Tube	1
15	RE4H6	Bearing, Hollow Shank Rod End	2
16	70148-1	Boot, Elevator	1
17	70142-1	Boot Ring, Elevator	1
18	70117-1	Elevator Forward Idler Assembly	1
19	70081-1	Spacer	1
20	KP6A	Bearing (Fafnir)	2
21	70011-9	Elevator Main Push Rod Assembly (Inc. Items 22-24)	1
22	70433-1	Tube, Push Rod	1
23	70296-1	End, Push Rod	2
24	RE4S10	Bearing, Solid Shank Rod End	2
25	70023-1	Elevator Idler Assembly	1
26	70055-1	Bushing	1
27	B610	Bearing (Torrington)	2
28	70103-1	Spring	1
29	70466-3	Strap	1
30	MS21919DG10	Clamp, Cushioned	1
31	70020-1	Elevator Aft Push Rod Assembly (inc. items 32-35)	1
32	70010-6	Push Rod Weld Assembly	1
33	RE4M6	Bearing, Male Threaded Shank Rod End	1
34	AN316-6	Nut, Thin Check	1
35	MS14104-4	Bearing	1
36	30534-1	Bushing	1
37	70646-1	Trim Tab Push Rod Assembly	2
38	AN316-4	Nut, Thin Check	10
39	REB3N	Bearing, Female Threaded Shank Rod End	4
40	70153-1	Push Rod	2
41	AN486-4	Rod End, Threaded Clevis Fork	4
42	70314-1	Trim Bellcrank Assembly	1
43	70065-1	Bushing	2
44	P26-8	Bushing (Bunting)	2
45	70752-1	Push Rod	1
46	40081-00	Snap Ring (Piper)	4
47	70122-1	Fairlead, Trim Push Rod	4
48	70751-1	Plate, Quadrastat Attach	1
49	70176-1	Adapter Plate, Trim Lever	1
50	70066-1	Spacer	2
51	71362-2	Quadrastat (Transland P/N 24015)	1
52	70062-1	Elevator Stop Bolt Assembly	1
53	70453-1	Stop, Trim Lever	1
54	70093-1	Bushing	2
55	70139-1	Plate, Trim Lever Placard	1
56	50055-1	Placard, Trim Lever	1
57	70070-1	Boot, Elevator Trim	1
58	70143-1	Boot Ring, Elevator Trim	1
59	MS15001-1	Grease Fitting	2
60	135L	Grip (left side) (NAI)	1
61	135R	Grip (right side) (NAI)	1
62	135C	Grip Cap (NAI)	1
63	135G31-1	Trigger Switch (NAI)	1
64	135G21	Switch, Black Cap (NAI)	1
65	135G22	Switch, Red Cap (NAI)	1
66	135G25-R	Switch, Turn Light (NAI)	1
67	AN500-6-24	Screw, Fillister Head	1
68	AN526-1032-22	Screw, Truss Head Slot	1
69	AN526-1032R24	Screw, Truss Head Phillips	1
70	AN364-1032	Nut, Thin Self Locking	2
71	AN960-10	Washer, Flat	as reqd
72	AN365-1032	Nut, Self Locking	as reqd
73	AN960-416	Washer, Flat	as reqd
74	AN365-428	Nut, Self Locking	14



Flagger Stick Grip Assembly



Elevator Trim Control Lever Assembly

Item	Part Number	Description	Qty
75	AN970-3	Washer, Large Area	4
76	AN3-7A	Bolt	4
77	AN4-17A	Bolt	3
78	90008-1	Screw, S.S. Truss Hd. Self Tapping, Type A	11
79	AN3-14A	Bolt	2
80	AN3-6	Bolt, Drilled Shank	7
81	AN310-3	Nut, Castellated	7
82	AN380-2-2	Pin, Cotter	7
83	AN3-21A	Bolt	4
84	79-040-187-0937	Roll Pin	4
85	98296-A-999	Roll Pin (McMaster-Carr)	4
86	AN4-50A	Bolt	1
87	AN3-5A	Bolt	11
88	AN43B-15A	Eye Bolt	2
89	AN4-10A	Bolt	2

Item	Part Number	Description	Qty
90	70067-1	Washer	as reqd
91	AN960C416	Washer, Stainless Flat	as reqd
92	MS21044C4	Nut, Self Locking	1
93	1/4 x 3/4 x 1/16	Washer, Commercial	1
94	1/4-28 UNF x 1	Bolt (McMaster-Carr)	1
95	AN5-14A	Bolt	4
96	AN960-516	Washer, Flat	4
97	AN365-524	Nut, Self Locking	4
98	AN4-13A	Bolt	3
99	AN4-20A	Bolt	3
100	NAS1304-44	Bolt	1
101	1300-93	Snap Ring	2
102	AN42B-4A	Eye Bolt	2
103	TY-523	Strap, Self Locking (Tyrap)	1