

DEPARTMENTS

EDITOR'S NOTEBOOK	2
More aviation cybersecurity, please	
LETTER TO THE EDITOR	3
Fighting wildfires with drones	
INTERNATIONAL BEAT	4
Antonov looks for partners; India's space programs	
IN BRIEF	6
Moon missions; radiation damage; HondaJet; connected aircraft	
ENGINEERING NOTEBOOK	10
Breakthrough material	
CONVERSATION	14
FAA opens the skies to unmanned aircraft	
BOOKS	16
Nixon's space shuttle decision — and its consequences	
OUT OF THE PAST	46
CAREER OPPORTUNITIES	48

FEATURES

UPPING THE STATION'S UPMASS	20
Five aerospace teams are vying for up to \$14 billion in NASA contracts to boost the amount of cargo delivered to and from the International Space Station. <i>by Debra Werner</i>	
PREDICT TROUBLE; AVOID TROUBLE	26
Airliners are safe but expensive to maintain. One way to put a dent in those costs would be to know in advance which parts are likely to require maintenance — and when. <i>by Henry Canaday</i>	
AIRBUS VS. BOEING: WHOSE AUTOMATION PHILOSOPHY IS BEST?	32
Airbus and Boeing each uses automation to make flying safer and easier. But the world's two dominant manufacturers of large passenger jets have different ideas about how computers and pilots should interact. <i>by Clint R. Balog</i>	
ALL-SEEING AIRCRAFT	36
Before aircraft can fly without pilots at the controls, they'll need to be equipped with sensors and computers capable of performing like the human eyes and brain. <i>by Keith Button</i>	
TRUST: 3-D MANUFACTURING'S HOLY GRAIL	42
Additively made parts are being incorporated into spacecraft, but engineers are cautious about using the technique for propellant tanks on vehicles that must carry people or expensive scientific equipment. <i>by Henry Kenyon</i>	
BULLETIN	
AIAA MEETING SCHEDULE	B2
AIAA NEWS	B5

ON THE COVER

The five cargo vehicles competing for the \$14 billion NASA contract (clockwise from top left): Cygnus (Orbital ATK); Dream Chaser (Sierra Nevada Corporation); Jupiter and Exoliner (Lockheed Martin); Dragon (SpaceX); CST-100 (Boeing)

