DOT/FAA
NORTHWEST MOUNTAIN REGION
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PRIORITY

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EMERGENCY DISTRIBUTION BY TELEGRAM IS REQUIRED.

TRANSMITTED AS FOLLOWS IS TELEGRAPHIC AIRWORTHINESS DIRECTIVE T-91-17-51 FOR IMMEDIATE TRANSMITTAL TO ALL OWNERS AND OPERATORS OF BOEING MODEL 767 SERIES AIRPLANES.

ON JULY 3, 1991, THE FAA ISSUED AD 91-15-09, AMENDMENT 39-7073 (56 FR 31326, JULY 10, 1991), TO REQUIRE INSPECTIONS, ADJUSTMENTS, AND FUNCTIONAL CHECKS OF THE THRUST REVERSER SYSTEM ON CERTAIN BOEING MODEL 767 SERIES AIRPLANES, EQUIPPED WITH PRATT AND WHITNEY PW4000 SERIES ENGINES. THAT ACTION WAS PROMPTED BY AN ON-GOING ACCIDENT INVESTIGATION, FROM WHICH IT HAD BEEN DETERMINED THAT, PRIOR TO THE ACCIDENT THE AIRPLANE EXPERIENCED AN IN-FLIGHT DEPLOYMENT OF A THRUST REVERSER. WHILE THE INVESTIGATION HAS NEITHER REVEALED THE CAUSE OF THAT DEPLOYMENT NOR DETERMINED THAT THE DEPLOYMENT CAUSED THE ACCIDENT, IT HAD IDENTIFIED A NUMBER OF POSSIBLE DISCREPANCIES IN THE THRUST REVERSER CONTROL SYSTEM WHICH, UNDER CERTAIN SCENARIOS, COULD CONTRIBUTE TO SUCH A DEPLOYMENT

SINCE ISSUANCE OF THAT AD, TESTING OF AN ELECTRICALLY CONTROLLED HYDRAULIC DIRECTIONAL CONTROL VALVE (DCV) HAS SHOWN THAT CONTAMINATION IN THE DCV SOLENOID VALVE CAN PRODUCE INTERNAL BLOCKAGE, WHICH, IN COMBINATION WITH UNCOMMANDED HYDRAULIC PRESSURE AT THE DCV, CAN RESULT IN THE UNCOMMANDED MOVEMENT OF THE DCV TO THE DEPLOY POSITION. UNCOMMANDED PRESSURE AT THE DCV CAN RESULT FROM AN AUTO-RESTOW SIGNAL THAT OPENS THE THRUST REVERSER SYSTEM ISOLATION VALVE. RESULTS OF THE INSPECTIONS AND CHECKS REQUIRED BY AD 91-15-09 INDICATE THAT APPROXIMATELY 90 PERCENT OF THE AIRPLANES CHECKED HAVE STOW POSITION SENSORS OUT OF ADJUSTMENT. IMPROPER STOW SENSOR ADJUSTMENT CAN RESULT IN AN AUTO-RESTOW SIGNAL. CONTAMINATION OF THE DCV SOLENOID VALVE IS A LATENT CONDITION THAT WOULD NOT BE DETECTED UNTIL IT AFFECTS THRUST REVERSER OPERATION. THIS CONDITION, IF NOT CORRECTED, COULD RESULT IN A THRUST REVERSER IN-FLIGHT DEPLOYMENT.

DURING THE ORIGINAL CERTIFICATION, IT WAS ACKNOWLEDGED THAT PNEUMATIC AND HYDRAULIC VALVES COULD FAIL THROUGH CONTAMINATION, BUT IT WAS ASSUMED THE AUTO-RESTOW SYSTEM WOULD PROTECT THE AIRPLANE UNTIL THE NEXT LANDING WHEN THE FAILURE WOULD BE DETECTED. THE CONTAMINATION TEST AND AD INSPECTION RESULTS DESCRIBED ABOVE HAVE CALLED THIS ASSUMPTION INTO QUESTION AND HAS RESULTED IN AN FAA DETERMINATION THAT BOTH PNEUMATIC AND HYDRAULIC SYSTEMS ARE AFFECTED. UNTIL SUCH TIME THAT FINAL CORRECTIVE ACTIONS HAVE BEEN IDENTIFIED TO PRERVENT UNCOMMANDED THRUST REVERSER DEPLOYMENT, THIS AD REQUIRES THE DEACTIVATION OF THE THRUST REVERSERS ON BOTH ENGINES.

ALTHOUGH UNDER THE FAA CERTIFICATION STANDARDS, PERFORMANCE CREDIT FOR REVERSE THRUST IS NOT ALLOWED, FLIGHT CREWS NEVERTHELESS BENEFIT SUBSTANTIALLY FROM USING REVERSE THRUST. THIS IS PARTICULARLY TRUE WHEN RUNWAYS ARE WET AND SLIPPERY. THEREFORE, DURING THE INTERIM PERIOD OF OPERATION WITH BOTH THRUST REVERSERS DEACTIVATED, AS HEREIN REQUIRED, THE FAA CONSIDERS IT APPROPRIATE TO REQUIRE THAT THE COMPUTED TAKE-OFF RUNWAY LENGTH BE INCREASED BY FIVE PERCENT. NO INCREASES ARE CONSIDERED NECESSARY FOR THE LANDING RUNWAY LENGTH BECAUSE THE OPERATING RULES PRESENTLY REQUIRE CONSERVATIVE FACTORS.

SINCE THIS CONDITION IS LIKELY TO EXIST OR DEVELOP ON OTHER AIRPLANES OF THIS SAME TYPE DESIGN, THIS AIRWORTHINESS DIRECTIVE IS ISSUED TO REQUIRE DEACTIVATION OF BOTH THRUST REVERSERS ON BOEING MODEL 767 SERIES AIRPLANES, EQUIPPED WITH PRATT AND WHITNEY PW4000, GENERAL ELECTRIC CF6-80C2, AND ROLLS ROYCE RB211-524 SERIES ENGINES IN ACCORDANCE WITH SECTION 78-31-1 OF BOEING DOCUMENT D630T002, "BOEING 767 DISPATCH DEVIATION GUIDE," REVISION 9, DATED MAY 1, 1991. THIS AD SUPERSEDES AD 91-15-09, AMENDMENT 39-7073, AND IS CONSIDERED TO BE INTERIM ACTION UNTIL FINAL ACTION IS IDENTIFIED, AT WHICH TIME THE FAA MAY CONSIDER FURTHER RULEMAKING TO ADDRESS IT.

PURSUANT TO THE AUTHORITY OF THE FEDERAL AVIATION ACT OF 1958, DELEGATED TO ME BY THE ADMINISTRATOR, THE FOLLOWING AIRWORTHINESS DIRECTIVE IS ISSUED AND IS EFFECTIVE IMMEDIATELY UPON RECEIPT OF THIS TELEGRAM:

BOEING: APPLIES TO MODEL 767 SERIES AIRPLANES, EQUIPPED WITH PRATT AND WHITNEY PW4000, GENERAL ELECTRIC CF6-80C2, AND ROLLS

ROYCE RB211-524 SERIES ENGINES, CERTIFICATED IN ANY CATEGORY. COMPLIANCE REQUIRED AS INDICATED, UNLESS PREVIOUSLY ACCOMPLISHED.

TO PREVENT POTENTIAL THRUST REVERSER INFLIGHT DEPLOYMENTS, ACCOMPLISH THE FOLLOWING WITHIN 7 DAYS AFTER RECEIPT OF THIS AD:

A. DEACTIVATE BOTH THRUST REVERSER SYSTEMS IN ACCORDANCE WITH SECTION 78-31-1 OF BOEING DOCUMENT D630T002, "BOEING 767 DISPATCH DEVIATION GUIDE," REVISION 9, DATED MAY 1, 1991.

B. ADD THE FOLLOWING TO THE LIMITATIONS SECTION OF THE FAA APPROVED AIRPLANE FLIGHT MANUAL:

"ADD FIVE PERCENT (5%) TO EACH COMPUTED TAKE-OFF RUNWAY LENGTH."

THIS MAY BE ACCOMPLISHED BY PLACING A COPY OF THIS AD IN THE AFM.

C. AN ALTERNATIVE METHOD OF COMPLIANCE OR ADJUSTMENT OF THE COMPLIANCE TIME, WHICH PROVIDES AN ACCEPTABLE LEVEL OF SAFETY, MAY BE USED WHEN APPROVED BY THE MANAGER, SEATTLE AIRCRAFT CERTIFICATION OFFICE (ACO), FAA, TRANSPORT AIRPLANE DIRECTORATE.

NOTE: THE REQUEST SHOULD BE FORWARDED THROUGH AN FAA PRINCIPAL MAINTENANCE INSPECTOR, WHO MAY CONCUR OR COMMENT AND THEN SEND IT TO THE MANAGER, SEATTLE ACO.

D. SPECIAL FLIGHT PERMITS MAY BE ISSUED IN ACCORDANCE WITH FAR 21.197 AND 21.199 TO OPERATE AIRPLANES TO A BASE IN ORDER TO COMPLY WITH THE REQUIREMENTS OF THIS AD.

FOR FURTHER INFORMATION CONTACT MR. LANNY PINKSTAFF, SEATTLE AIRCRAFT CERTIFICATION OFFICE, PROPULSION BRANCH, ANM-140S; TELEPHONE (206) 227-2684.

ISSUED IN RENTON, WASHINGTON, ON

TRANSPORT AIRPLANE DIRECTORATE
AIRCRAFT CERTIFICATION SERVICE