

**AIRWORTHINESS COMPLIANCE CHECKLIST:**

**INSTALLATION OF LARGER TIRE ON THE SAME DIAMETER WHEEL**

**I HAVE DETERMINED THE PLANNED ALTERATION TO BE IN COMPLIANCE WITH PARAGRAPH C, CHECKLIST APPLICABILITY.**

IA SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

AIRCRAFT MAKE \_\_\_\_\_ MODEL \_\_\_\_\_

SERIAL # N# \_\_\_\_\_

TABLE 5-1. Installation of Larger Tire on the Same Diameter Wheel - Checklist Qualifications for DER Data Review

Item [1] Completed Initials	Planned FAA Approval Method Pick 1, [2]			Subject Evaluated	(14 CFR)	(CAR)	Item to Consider  or  Intent of the regulation	DER Authority [3] (ref. 8110.37)	Other Guidance	
	DER 8110- 3	FSDO ASI, 337, Block 3	Other (AC 43.13)						AC Orders Policy	AC 43- 13-1B/2A
				Ground Loads	23.473	3.242 3.243	<ul style="list-style-type: none"> <li>Determine Design Maximum Weight or Design Landing Weight. Determine Load Factor for Landing Condition</li> </ul>			
				Landing Gear Arrangement	23.477	3.244	<ul style="list-style-type: none"> <li>See Part 23, Appendix C</li> </ul>			
				Level Landing Conditions	23.479	3.245	<ul style="list-style-type: none"> <li>For applicable aircraft attitudes, compute drag components for wheel spin-up loads, vertical ground loads, and spring back loads. See Part 23, Appendix C &amp; D.</li> </ul>			
				Tail Down Landing Condition	23.481	3.246	<ul style="list-style-type: none"> <li></li> </ul>			
				Side Load Conditions	23.485	3.249	<ul style="list-style-type: none"> <li>With the aircraft in a level attitude and only the main wheels contacting the ground and the shock absorbers and the tires in their static position:</li> </ul>			
				Braked Roll Conditions	23.493	3.248	<ul style="list-style-type: none"> <li>Is brake torque the limiting factor?</li> </ul>			
				Design and Construction, General	23.601	3.291	<ul style="list-style-type: none"> <li>Tire must be TSO C62d qualified.</li> </ul>			
				Inspection Provisions	23.611	3.296	<ul style="list-style-type: none"> <li>Can preflight of brakes be completed?</li> <li>Are reasonable means provided for inspection and servicing?</li> </ul>			
				Wheels	23.731	3.361	<ul style="list-style-type: none"> <li>Maximum static load rating of each wheel may not be less than the corresponding static ground reaction at the design maximum weight and critical center of gravity.</li> <li>Maximum wheel limit load must equal or greater</li> </ul>			

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							than the maximum radial limit load under applicable ground load.			
				Tires	23.733	3.362	<ul style="list-style-type: none"> <li>• Approved tire ratings are not exceeded at design maximum weight and critical center of gravity.</li> <li>• Nose wheel load 1.0W downward and .31W forward (W is design maximum weight) applied by the principles of statics. Drag reaction applied at ground contact point only at wheels with brakes.</li> <li>• Specially constructed tires must be marked with make, size, number of plies, identification.</li> <li>• Tires installed on retractable landing gear must not contact structure when inflated to .25 times the rated bursting pressure.</li> </ul>			
				Brakes	23.735	3.363	<ul style="list-style-type: none"> <li>• Brakes must prevent airplane from rolling on a paved runway while applying take-off power and possess sufficient capacity to provide adequate speed control without excessive pedal or hand force.</li> </ul>			
				Function and Installation	23.1301	3.652	<ul style="list-style-type: none"> <li>• Additional equipment installed (per operating rules) must meet intended function.</li> </ul>			
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TABLE 1-2. DER Signatures

**a. Checklist Table.** This checklist is issued for guidance purposes to help show completeness of documentation for the FAA field approval and return to service process. The checklist is intended to provide guidance information during the process of approving the installation of a larger diameter tire on the same diameter wheel and then returning the airplane to service. An airplane modification is eligible to use this checklist when it has met the requirements outlined in paragraph 8 of this AC.

**b. Approval.** Modifications meeting the scope described in paragraph c may be approved by using this checklist and completing FAA Form 337. The IA can approve this modification and the airplane incorporating it for return to service using DER data entirely approved by completing Block 7, “Approval for Return to Service” of FAA Form 337. The FAA usage of Block 3, “For FAA Use Only” will not be required to accomplish this checklist for modifications, which falls within the scope of paragraph c providing that no data approval is required by AFS/ASI.

**c. Airworthiness Compliance Checklist Applicability.** This checklist is to be used only on repairs or alterations to:

- Airplanes 6,000 pounds or less maximum gross weight
- Airplanes having tricycle wheel arrangement or tail dragger.

**d. Checklist Use.** Inspect the alteration criteria and examine its supporting data to verify that they meet the following criteria:

- (1) Existing wheels are retained.
- (2) Appropriate operations advisory information should be included in the Aircraft Flight Manual (AFM) or Flight Manual Supplement (FMS).

#### NOTE 1

This checklist is not applicable to modifications requiring revision of the FAA approved Limitations section of the AFM or FMS. Please contact FAA Flight Standards District Office (FSDO) or Aircraft Certification Office (ACO) representatives for modifications requiring revision of the Limitations section. However, in accordance with 14 CFR, part 23, § 23.1581 (b)(2)(ii), Operational advisory information as prescribed in §§ 23.1585 through 23.1589, may be inserted into the AFM or FMS in a

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manner acceptable to the administrator. The FAA has determined that, for modifications within the scope described on this checklist, operational advisory information can be inserted into the AFM or FMS if it is determined to be acceptable by the IA. The IA's finding should include consideration of information provide by applicable equipment manufactures, if available.

(3) It should comply with 14 CFR, part 23, § 23.733, & § 23.735, or CAR, § 3.361 & § 3.362.

(4) Any additional Instructions for Continued Airworthiness (ICA) are properly documented per 14 CFR, part 23, § 23.1529 requirements.

**e. Necessary Approvals.**

(1) DER's should initial all applicable items in Table 1-1, "Checklist and Qualifications for DER Data Review".

(2) DER's should sign the table in Table 1-2, "DER Signatures".

(3) DER's show evidence of DER authority as required in paragraph g.

(4) DER's show compliance to any additional DER identified requirements in Table 1-1.

(5) DER's selects and identifies applicable regulations based on certification basis of airplane.

(6) When all FAA Form 8110-3's are complete, give originals along with the completed FAA Form 337 to local FSDO office.

(7) An ACO Engineer or FSDO Inspector may sign in place of any DER signature.

(8) When indicated on individual checklists A & P and IA's signatures can be substituted

**f. Applicable Guidance Material.**

**g. Evidence of DER Authority to Approve.**

**h. Complete Checklist Process.** Send a copy of the completed checklist and reporting data to the local FSDO office which will, in turn, forward it to the FAA Aircraft Registration Branch, Oklahoma City, Oklahoma, for inclusion in the aircraft record. Submit originals to the aircraft owner or operator to be kept with the aircraft records.

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