



AMTEC
Agricultural Machinery Testing and Evaluation Center
1977

ACR 026:2023 CHECKLIST AND REMINDERS FOR THE AMTEC TEST CONDITIONS AND REQUIREMENTS FOR SUBSOILER

■ Application for AMTEC Test

The test applicant shall submit AMTEC-OP-F01 (Agricultural Machinery Test Application Form) together with the following requirements:

- AMTEC-OP-F16 (Waiver for Machine Specifications)
- AMTEC-OP-F18 (Data Privacy Consent Form)

■ Technical Specifications of the Machine

The test applicant shall submit any document/s indicating the specifications of the machine upon application for testing. In case the said document/s are not available, the applicant shall fill out the Machine Specifications Sheet provided by AMTEC upon request.

- Operator's manual with complete specifications as indicated in Annex B of PNS/PAES 150:2010
- Brochure
- Machine specifications sheet (shall be filled out upon request and receipt of copy from AMTEC in case the manual or brochure is not available).

■ Preparation and Operation of the Machine

The subsoiler shall be ready for testing. The officially designated operator of the test applicant shall operate, demonstrate, adjust, and repair. Meanwhile, the officially designated representative shall decide on matters related to the operation of the machine.

■ Running-in of the Machine

A test run shall be conducted prior the official test as to check its condition and make necessary adjustments to the machine.

■ Test Plot

The test applicant shall prepare at least three (3) test plots. Each test plot shall be:

- Rectangular with sides in the ratio of 2:1 as much as possible;
- At least 1000 m² (Four-wheel tractor-drawn);
- The headland shall be at least 3 m in length (depending on tractor size);
- The test shall be carried out on a dry or wet field depending on the manufacturer.

■ Other Test Necessities

The following shall also be adequately supplied during the conduct of testing:

- Fuel sufficient for the entire duration of test trials;
- Tools for machine repair and adjustments
- The tractor to be used shall be compatible with the subsoiler in accordance with the manufacturer's specification of required power.

■ Machine Setting

The subsoiler shall be tested at the manufacturer's recommended setting for the following:

- Gear setting: _____
- Depth setting: _____

■ Recommended Subsoiling Pattern

Before the operation, a turning zone shall be established. The manufacturer has the liberty to perform their recommended operational pattern for the test.



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■ Performance and/or Fabrication Test Requirements

AMTEC shall conduct various tests and verification on different performance parameters of the machine including the following requirements as per PNS/PAES 150:2010:

■ Fabrication Requirements

Criteria	Requirement as per PNS/PAES 149:2010
General Requirements	<input type="checkbox"/> It shall consist of main frame, transverse tool bars, and shank assembly.
Main Frame	<input type="checkbox"/> It shall be made of mild steel (e.g. AISI 1020). <input type="checkbox"/> Shall be constructed from 152 mm × 254 mm (6" × 10") square tube or channel bar with at least 6 mm thickness. <input type="checkbox"/> Frame sections shall be folded to facilitate ease of transport.
Transverse Toolbars	<input type="checkbox"/> Shall be made of mild steel (e.g. AISI 1020). <input type="checkbox"/> Shall be constructed from 76 mm × 102 mm (3" × 4") square tube or channel bar or from a 76 mm angular bar with at least 6 mm thickness.
Shank Assembly	<input type="checkbox"/> Shall consist of shank, shank protection mechanism, and ripper point. <input type="checkbox"/> Wear shin shall be installed to provide protection for the shank during fillage.
Shank	<input type="checkbox"/> Shall be made of alloy steel (e.g. AISI 5160) with at least 20 mm thickness. <input type="checkbox"/> Shall be attached to the frame by bolt or shall be fully welded. <input type="checkbox"/> Holes shall be punched at the ends where the ripper points shall be attached.
Ripper Points	<input type="checkbox"/> Shall be made of heat-treated carbon steel (e.g. AISI 1080). <input type="checkbox"/> Shall be bolted on the end of the shanks to allow replacement. <input type="checkbox"/> Its width shall at least be 44 mm (1 3/4").
Wear shin	<input type="checkbox"/> Shall be made of alloy steel (e.g. AISI 5160) with a thickness of at least 6 mm (1/4") and at least 152 mm (6") length
Gauge wheels	<input type="checkbox"/> Shall have an adjustable axle to allow modification of operating depth.
Welded parts	<input type="checkbox"/> All welded parts shall be in accordance with the criteria set in AWS D1.1:2000 <input type="checkbox"/> There shall be no crack on welded area <input type="checkbox"/> There shall be no fusion between adjacent layers of weld metal and between weld metal and base metal. <input type="checkbox"/> All craters shall be filled to provide the specified weld size, except for the end of intermittent fillet welds outside of their effective length <input type="checkbox"/> Weld profiles shall be in its acceptable form <input type="checkbox"/> Welded joints shall not be less than 4 mm site fillet weld <input type="checkbox"/> Undercut shall not exceed 2 mm for any length of weld.



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■ Performance Requirements	
Criteria	Requirement as per PNS/PAES 149:2010
Operating depth, mm, minimum	350
Uniformity of depth of cut on the soil	There shall be a uniform depth of cut on the soil.
Disturbance of the soil surface during the operation	Surface of the soil shall have minimal disturbance during the operation.
Field efficiency, %, minimum	80
Hydraulic cylinder	Shall be able to adjust the operating depth of the subsoiler.
Shank and gauge wheel assembly	Shall be intact after the test.
Ease of mounting	Shall be easy to mount and unmount from the tractor linkages.
■ Safety, Workmanship and Finish	
General	<input type="checkbox"/> Shall be painted and shall have a rust-free finish <input type="checkbox"/> Shall be free from manufacturing defects that maybe unsafe
Bolts	<input type="checkbox"/> Shall conform with standards for strength application and shall be made of hot-galvanized steel for corrosion resistance
■ Suspension and Termination of Test	
<p>If the test plot does not conform with the recommended quantity and characteristics, AMTEC shall not proceed with the test. Should the test applicant request the conduct of the test despite the non-conformity to the test requirements identified by AMTEC, the applicant shall sign the AMTEC Waiver for Nonconformity to Test Requirements.</p> <p><input type="checkbox"/> AMTEC-OP-F24 (Waiver for Nonconformity to Test Requirements)</p> <p>On the other hand, if the machine stops due to breakdown or malfunction during the test run affecting the machine's performance, the test may be suspended. If the machine cannot continue the operation, the test shall be consequently terminated.</p>	
■ Other Assistance During Test	
<ol style="list-style-type: none"> For field and laboratory tests outside the AMTEC premises, the applicant shall shoulder the transportation expenses (i.e. fuel, toll fees, vehicle rental, plane fare, sea fare, etc.) of the AMTEC Staff assigned for the testing activity. The applicant is requested to assist the AMTEC Staff in looking and/or making arrangements for hotel accommodation and food near the test site. The applicant shall provide drinking water to the AMTEC Staff during the testing activity. The applicant shall provide any form of shed or sunshade (e.g. tent, umbrella, etc.) for the test equipment, samples (if applicable), and AMTEC Staff during the testing activity in the field. The applicant is requested to assist the AMTEC Staff in finding any means to access a safe and convenient restroom near the test site during the testing activity. 	
■ Testing Fee	
<ol style="list-style-type: none"> The testing fee for subsoiler is Php 7,000.00. To proceed through AMTEC test, the test applicant shall settle at least 50% of the testing fee which is non-refundable but transferrable. In cases of additional testing during the field, the test applicant shall immediately submit the required documents and settle at least 50% of the testing fee within 5 working days after the testing proper. <input type="checkbox"/> Additional testing, number of machines: _____ Payment/s shall be directed to the following: <input type="checkbox"/> Through UPLB Cashier's Office (8AM to 12PM): AMTEC Trust Fund Code No. 8271632-40A2040101000 <input type="checkbox"/> Through Landbank (8:30AM to 3:00PM): UPLB Trust Fund Account No. 1892100507 or UPLB FI Account No. 1892-1003-29 	



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■ **Other Reminders**

1. All manufacturers, fabricators, assemblers, and importers (MFAI) shall secure a Certificate of Conformity (CC) from the Bureau of Agricultural and Fisheries Engineering (BAFE) which guarantees that their agricultural and fisheries machinery conforms with PNS/BAFS PABES or other relevant standards identified by BAFE. More information about the application for CC can be found at <http://bafe.da.gov.ph/index.php/certificate-of-conformity-of-manufacturers-fabricators-assemblers-distributors-dealers-importers-and-exporters/>.
2. All MFAI shall employ an Agricultural and Biosystems Engineer (ABE), as mandated by RA 10915 (ABE Law), who shall facilitate all activities and concerns pertinent to AMTEC testing and BAFE requirements. Do you currently have an ABE in your roster of employees? Yes No