



AMTEC

Agricultural Machinery Testing and Evaluation Center 1977

ACR 004:2024 CHECKLIST AND REMINDERS FOR THE AMTEC TEST CONDITIONS AND REQUIREMENTS FOR WALKING-TYPE AGRICULTURAL TRACTOR (ROTARY TILLING-TYPE)

■ 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 and other relevant information of the machine upon application for testing.

- Operator's manual with complete specifications as indicated in Annex B of PNS/BAFS 348:2022
- 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

As recommended by AMTEC, the laboratory performance test shall be performed first. During laboratory performance test, AMTEC shall handle and operate the machine during the laboratory testing proper.

During field performance test, the same tractor (including the engine) tested in the laboratory shall be assembled and tested for normal operation. The officially designated representative and/or operator of the test applicant shall operate, demonstrate, adjust, repair, and decide on matters related to the operation of the machine. The operator shall be skilled in operating a float-assist type walking-type agricultural tractor.

■ Running-in of the Machine

A test run shall be conducted prior to the official test to check its condition and make necessary adjustments to the machine. During field performance test, no other adjustments shall be permitted while the official test is on-going.

■ Test Plot

The test applicant shall prepare at least two (2) test plots. Each test plot:

- Shall be at least 500 m² and rectangular with sides in the ratio of 2:1 as much as possible;
- Shall be unplowed and soaked for at least 24 hours with water level of 3 cm to 5cm for lowland field; and
- Shall be unplowed for upland field.

■ Other Test Necessities

The following shall also be adequately supplied during the conduct of the laboratory performance test:

- Sufficient engine and gear oil; and
- Appropriate belt/s size for the transmission system.

The following shall also be adequately supplied during the conduct of the field performance test:

- Fuel tank of engine filled to full capacity;
- 4 L or sufficient fuel for refilling after each test trial; and
- Tools for machine repair and adjustments.

■ Machine Setting

The WTAT shall be tested at the manufacturer's and the following recommended setting during rotary tilling operation:

- Operating depth, mm: 90-110

■ Requirements



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AMTEC shall conduct various tests and verification on different parameters of the machine including the following requirements as per PNS/BAFS 346:2022:

■ Fabrication Requirements

Item	Requirement as per PNS/BAFS 346:2022
General	<input type="checkbox"/> The WTAT shall be generally made of steel bars and sheet metals.
Chain and Sprocket Transmission System	<input type="checkbox"/> It shall conform to PAES 303:2000 (Engineering materials – Roller chains and sprockets for agricultural machines – Specifications and applications) <input type="checkbox"/> It shall have provisions for refilling of lubricating oil.
Hand Grip	<input type="checkbox"/> It shall be made of non-slip material <input type="checkbox"/> It shall have a minimum nominal diameter of 25 mm.
Handle Bar	<input type="checkbox"/> Mechanism for handle bar height adjustment with at least three settings shall be provided. <input type="checkbox"/> Handle bar height shall be 650 mm to 800 mm.
Engine Speed Adjustment Mechanism	<input type="checkbox"/> Mechanism for adjustment of engine speed during operation shall be provided and within reach of the operator.
Stand Assembly	<input type="checkbox"/> It shall be provided for use when the WTAT is not in operation.

■ Standard Tools

Basic hand tools as recommended by the manufacturer and separate basic tools for the engine shall be provided. The sizes of the hand tools shall be specified in metric units and shall be based on the applicable sizes required for operation and maintenance of the WTAT. These tools shall be suitable to the necessary adjustment operations during maintenance and operation.

■ Safety, Workmanship, and Finish

- There shall be earmuffs or other ear protection device provided for the operator to use when 95 dB(A) is exceeded during operation. Recommendations for use of ear protection device shall likewise be indicated in the operator's manual.
- The WTAT shall be free from any manufacturing defects that may be detrimental to its operation.
- All metal surfaces shall be painted properly.
- Parts of the WTAT that are exposed to the operator shall be free from sharp edges and rough surfaces.
- Appropriate labels, safety symbols, and warning notices shall be provided in accordance with PNS/BAFS 330:2022 (Technical means for ensuring safety – Guidelines).
- All controls shall be in accordance with PNS/BAFS 330:2022 (Technical means for ensuring safety – Guidelines).
- All exposed, hot surfaces shall be provided with heat shield or protection to minimize the possibility of inadvertent contact with the operator.
- Mechanism for emergency stop of the engine and immediate load disengagement of the transmission system shall be provided.
- Mechanism for belt transmission adjustment shall be provided.
- Belt cover and mud guard shall be provided. All other moving parts shall have safety guards. When the PTO is in use, a cover or casing that protects the sides of the PTO shaft shall be fitted. An additional non-rotating casing shall also be provided when the PTO is not in use. This casing shall enclose the PTO shaft completely and shall be fixed to the tractor body.
- There shall be a provision for means to minimize vibration.
- The hexagonal axle shall be in accordance with the specifications of PAES 108:2000 (Agricultural machinery – Hexagonal axle and hub for walking-type agricultural tractor – Specifications).



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■ Performance Requirements

Criteria	Requirement as per PNS/BAFS 346:2022
Power requirement of the prime mover, kW, maximum	13.5
Actual Field Capacity, ha/h	As per manufacturer's specification
Peak Transmission Efficiency, %, minimum	80
Breakdowns/malfunctions during the five-hour continuous running test	Shall have none

■ Suspension and Termination of Test

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.

AMTEC-OP-F24 (Waiver for Nonconformity to Test Requirements)

If the machine stops due to breakdown or malfunction during the test run affecting the machine's performance, the test shall be suspended. If the machine cannot continue the operation, the test shall be consequently terminated.

■ Other Assistance During Test

1. 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.
2. The applicant is requested to assist the AMTEC Staff in looking and/or making arrangements for hotel accommodation and food near the test site.
3. The applicant shall provide drinking water to the AMTEC Staff during the testing activity.
4. 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.
5. 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

1. The testing fee for walking-type agricultural tractor is PhP 19,500.
2. To proceed through AMTEC test, the test applicant shall settle at least 50 % of the testing fee which is non-refundable but transferrable.
3. In cases of additional testing during the field, the test applicant shall immediately pass the required documents and settle at least 50% of the testing fee within 5 working days after the testing proper.
 Additional testing, number of machines: _____
4. Payment/s shall be directed to the following:
 Through UPLB Cashier's Office (8AM to 2PM): AMTEC Trust Fund Code No. 8271632-40A2040101000
 Through Landbank (8:30AM to 3PM): UPLB Trust Fund Account No. 1892100507 or UPLB FI Account No. 1892-1003-29

■ 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