Report No.: GJ-70315-2025

China recognizes international mutual recognition testing

CNAS L0550

230008349388

Inspection Report

Type of inspection: commissioned inspection

Product model: R32-JSS

Product name: Hydraulic excavator driver protection device

Entrusting unit: Shandong Lipai Machinery Group Co., LTD

National Construction and Urban Construction Machinery Quality Supervision and Inspection Center

Inspection Report

product name	Hydraulic excavator driver protection device	ts	R32-JSS
		trademark	/
client	Shandong Lipai Machinery Group Co., LTD	kind of inspection	consignment
Address of the client	Jining High-tech Zone Sixth Industrial Park A zone		
production unit	Shandong Lipai Machinery Group Co., LTD	date of manufacture	February 2025
Address of the producing unit	Jining High-tech Zone Sixth Industrial Park A zone		
sample size	One	Sample number	SLP250225J03
Host manufacturer	Shandong Lipai Machinery Group Co., LTD		
Host type	hydraulic crawler excavator	Host model	/
Date of sample delivery	May 12,2025	The person who delivered it	Shao Zhutong
examination date	May 12th to May 16th, 2025	inspection personal	Zhou Shichao is named Yang
place of survey	361 Yinpen South Road, Yuelu District, Changsha		
inspection standard	See appendix C	inspecting item	See appendix E
inspect the conclusion	Based on the criteria: 1. GB/T 19932-2005 2. ISO 10262:1998 3. GB/T 19930-2005 4. ISO 12117:1997 The driver protection device sample of hydraulic excavator with maximum main machine mass of 3500kg was tested, and the sample has met the minimum performance requirements of the standard. Date of issue: May 2025		
remarks	Appendix A Overview and sample photos Appendix B Sample identification Appendix C Test basis Appendix D Test environmental conditions Appendix E test items and test results Appendix F test photos		

ratify: 唐秋冰 examine and verify: 胡道权 Lead Inspector: Agreed

Appendix A Overview and Sample Photos

R32-JSS type hydraulic excavator driver protection device is developed by Shandong Lipai Machinery Group Co., LTD.

Entrusted by Shandong Lipai Machinery Group Co., LTD., the National Construction and Urban Construction Machinery Quality Supervision and Inspection Center conducted commissioned inspection on the samples provided by them from May 12 to May 16,2025 at No.361 Yinpen South Road, Yuelu District, Changsha City.

Photo of the Sample

Appendix B Sample Identification Mark B1 Machine

Type: hydraulic excavator

Manufacturer: Shandong Lipai Machinery Group Co., LTD. Test main engine model/work quality: / 3500kg Number: /

Machine part number: SLP25022503

B2 Driver Protection Device

B2.1 Front Protection Device

manufacturer： /

model： /

number： /

Protection device serial number: /

B2.2 Top Protection Device

Manufacturer: Shandong Lipai Machinery Group Co., LTD

Model: R32-JSS

number： /

Protection device number: SLP250225J03

B2.3 Tipping Protection Structure

Manufacturer: Shandong Lipai Machinery Group Co., LTD

Model: R32-JSS

number： /

Protection device serial number: /

B3 Materials of Fasteners and Main Load-Bearing Parts

Bolt specification and strength grade: M16×40-10.9

Nut size and strength grade: /

Material of structural main load-bearing parts: Q235

Location Diagram of B4 SIP Point

The SIP point position is shown in Figure 1 below

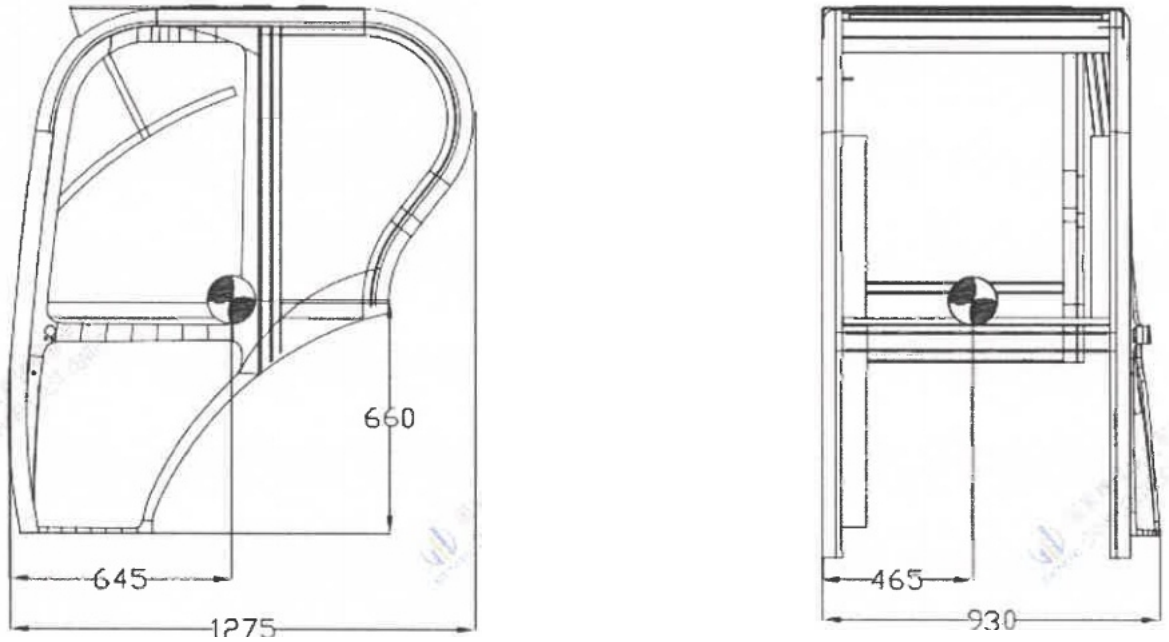


Figure 1. SIP Point Location Diagram

Appendix C Test Basis

The inspection basis is shown in Table 1

Table 1

order number	inspection standard
1	GB/T 19932-2005 Laboratory test and performance requirements of protective devices for hydraulic excavators of earthmoving machinery
2	ISO 10262:1998《Earth-moving machinery-Hydraulic excavators-Laboratory tests and performance requirements for operator protective guards》
3	GB/T 19930-2005 Laboratory test and performance requirements of tipping protection structure for small excavators of earthmoving machinery
4	ISO 12117:1997《Earth-moving machinery-Tip-Over Protection Structure(TOPS)for compact excavators-Laboratory tests and performance requirements》

Appendix D Test Environmental Conditions

The inspection environmental conditions are shown in Table 2

Table 2

order number	inspecting item	proving time	weather	temperature ℃	wind speed m/s
1	Energy absorption capacity of top protection device	May 12,2025	fine	27	(indoor)
2	Invert the lateral energy absorption capacity of the protective structure	May 12,2025	fine	27	(indoor)
3	Invert the longitudinal energy absorption capacity of the protective structure	May 12,2025	fine	27	(indoor)
4	Low temperature test of materials	May 16,2025	yin	24	(indoor)

Appendix E Inspection Items and Inspection Results

E1 Energy absorption capacity test of top protection device

The energy absorption capacity of the top protection device is shown in Table 3

Table 3

order number	inspecting item	Design or standard requirements	result	conclusion	remarks
1	Energy absorption capacity of top protection device	The top protection device shall not penetrate the DLV under initial or subsequent impact under the 1365J energy reference	After the hammer impact energy of 1365J, the top protection device was not penetrated after impact. The maximum vertical residual deformation of the top protection device at location 1 of the hammer was 34 mm, and that at location 2 of the hammer was 11mm. The top protection device did not invade DLV	qualified	

E2 rollover protection structure lateral energy absorption capability test

The lateral energy absorption capacity of the [illegible] Table

order number	inspecting item	Design or standard requirements	result	conclusion	remarks
1	Invert the lateral energy absorption capacity of the protective structure	The absorbed energy is not less than 3500J, and the tipping protection structure does not invade DLV	When the loading force is 53kN, the displacement of the loading point is 97mm, and the absorbed energy reaches 3597J. The tipping protection structure does not invade DLV	qualified	

E3 rollover protection structure longitudinal energy absorption capacity test

The test results of vertical energy absorption capacity of overturning protection structure are shown in Table 5

order number	inspecting item	Design or standard requirements	result	conclusion	remarks
1	Flip the protective cover Construct vertical energy absorption capacity	The absorbed energy is not less than 1158J, and the protective structure does not invade DLV	The loading point displacement is 55mm, the absorbed energy reaches 1162J, and the protective structure does not invade DLV	qualified	

E4 Material low temperature test

The low temperature test results of materials are shown in Table 6

Table 6

order number	inspecting item		Design or standard requirements	result	conclusion	remarks
1	The material is cold trial	Height of specimen (10mm×10mm×55mm)	The absorption capacity is at least 11J	31J	qualified	V-shaped notch pendulum impact, test temperature -30℃

Appendix F Test Photos

Photo-F-1 Hammer drop test

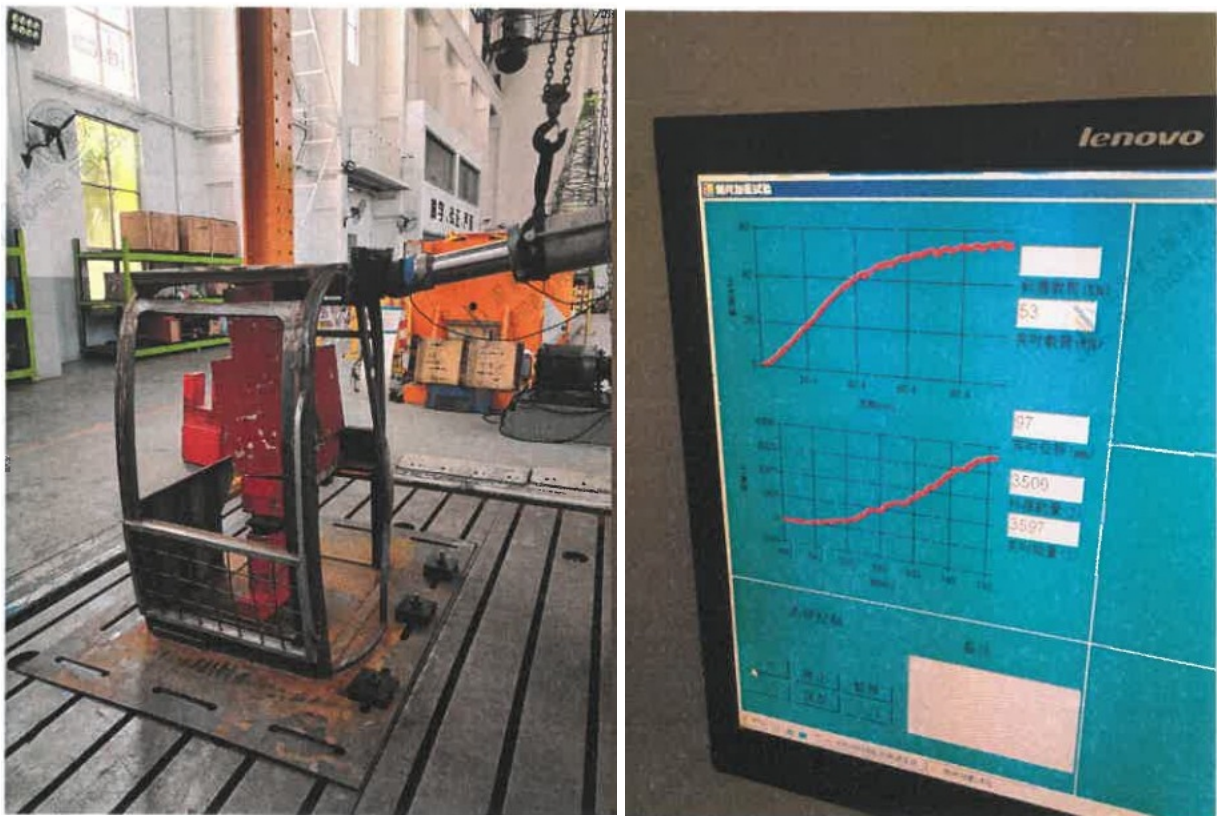


Photo F-2 lateral loading test

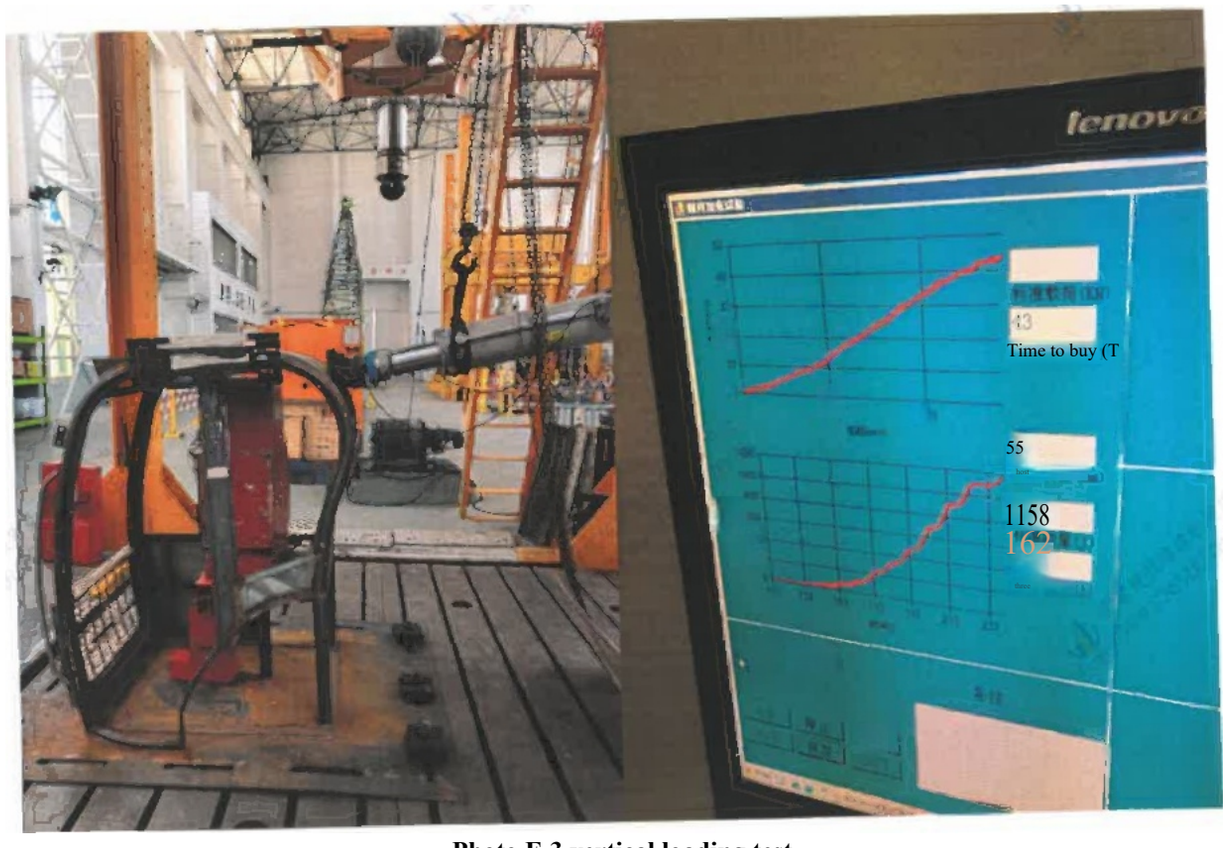
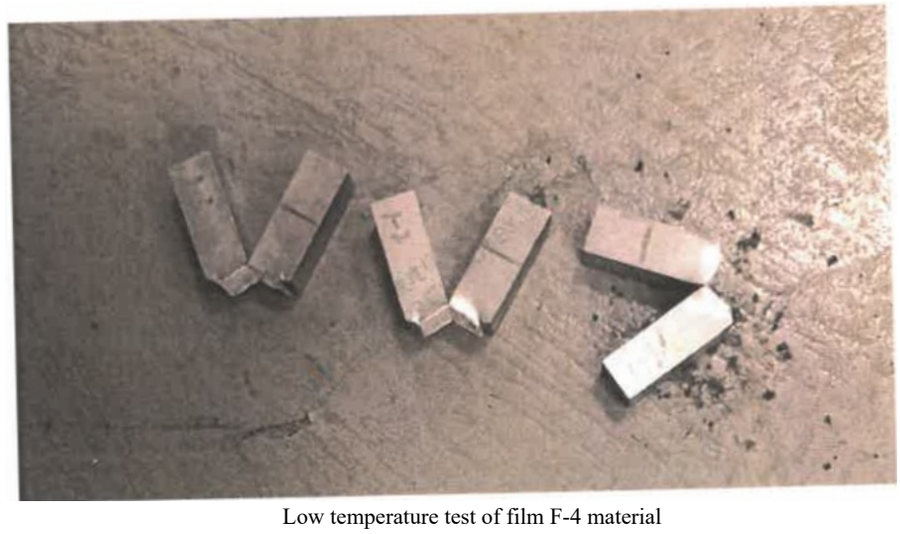


Photo F-3 vertical loading test



Low temperature test of film F-4 material

———— Nothing below — — — —