

HST GCJ-1000 Optical Cable Impact Testing Machine



Picture Just for reference

I.Introduction:

HST GCJ-1000 Series Optical Fiber Cable Impact Testing Machine is intended to determine the ability of optical fiber cable withstand impact.

Sample

The sample is a representative cable length sufficient to carry out the specified test.

Apparatus

The apparatus allows a hammer with a 25mm rounded edge to drop vertically on a cable sample fixed on a flat steel plate. The apparatus may allow a single or multiple repeated impacts to be imparted on the cable sample.

The energy of the impact is determined by the drop height and by the weight of the hammer.

Procedure

Two procedures are commonly used:

1. A repeated impact test whereby the hammer drops on the same location in the cable sample 25 times.
2. The hammer is allowed to drop on 3 different locations in the cable, typically separated by 50cm from each other. The number of impacts in each location is limited.

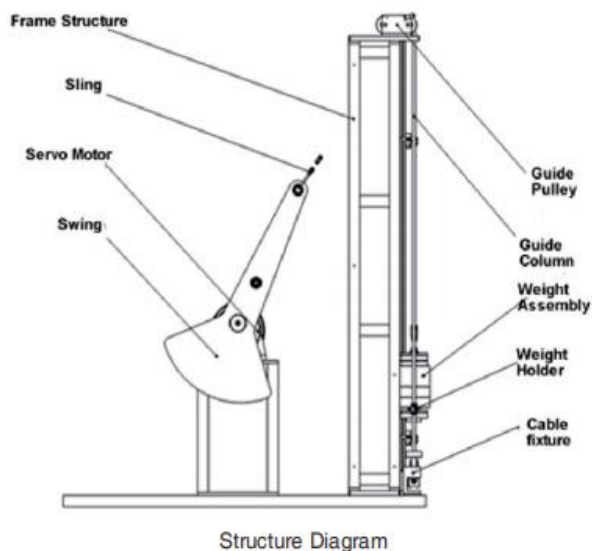
Pass/Fail criteria

1. The fiber attenuation does not increase by more than a predetermined value, typically 0.05dB.
2. In some case, the cable passes the test if there are no fiber breaks. This requirement is usually applied when very high impact energy is used.
3. There are no breaks or cracks in the cable elements. Signs of the impact are considered normal.



II. Mechanical part:

Framework and Operation



Complete Machine Diagram

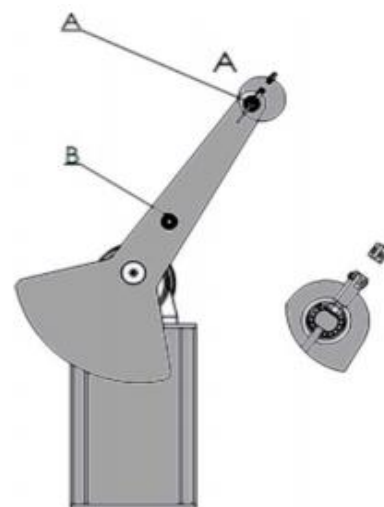
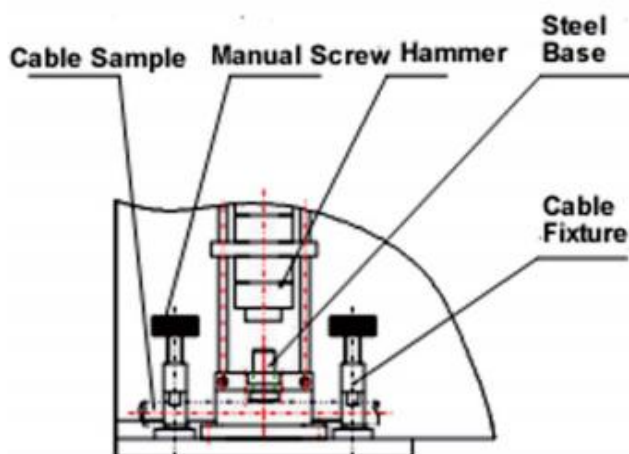
Replacement of striking face

The national standard impact and military standard impact have different requirements on striking face. So the striking face shall be replaced according to different impact standards

Adjustment of Impact Height

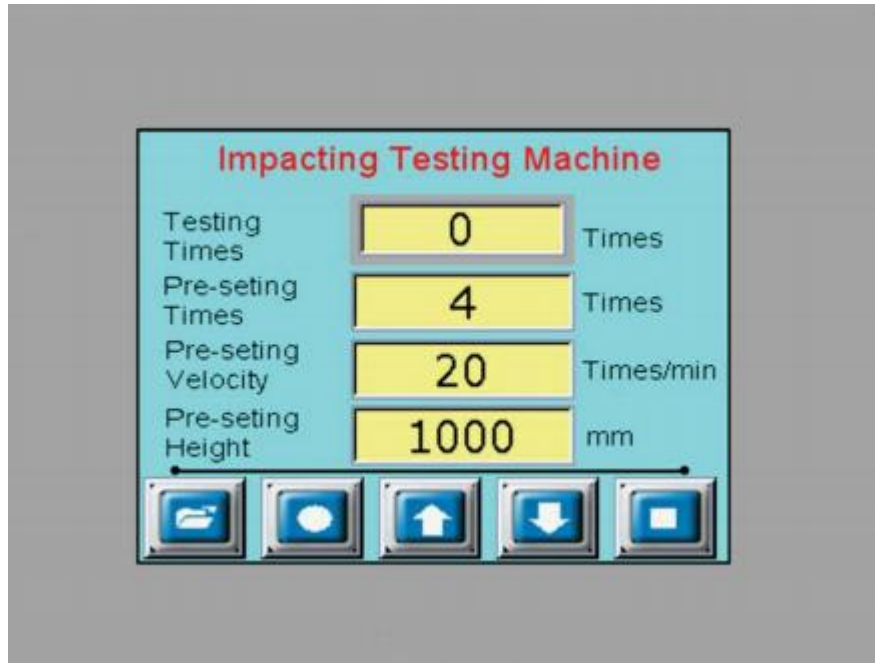
As is shown in the following figure, Point A and Point B are rotating points of steel wire rope when the impact height is 300mm and 1,000mm respectively. The rotating part can be installed in either A or B according to the impact height. The installation method is as shown in the following figure.

The length of steel wire rope for pulling hammer varies with different optical cables and impact standards. While adjusting, rotate the height adjustment screw rod until the impact drop hammer contacts the optical cable (military standard). With regard to national standard, rotate the height adjustment screw rod until the impact hammer contacts the upper surface of the hammer and then lock the height adjustment screw rod.



III. Software part

- Operation panel



- Operation Instruction

Electrifying

Turn the power supply switch to the right to "ON", and then the system is electrified. The counting window displays "0". The pre-set height and pre-set velocity windows show the input values of last test, The "Test" key is light.

Parameter Setting

Press the window corresponding to each parameter, the system gives input window. After inputting test parameters, press enter to exit.

The different impact height corresponds to different velocity, as is shown in the following:

Setting range of testing times for national standard: 10-20 times/min;

Setting range of testing times for military standard: 10-30 times/min.

Setting of Key Function



Chinese-English switch on HMI. Under English operation interface, press this key and enter, the system will switch to Chinese operation interface. If under Chinese operation interface, press this key, the system will switch to English operation interface.



Actuator origin operation key. Under non-test status, press this key, the actuator will automatically

find original origin. After finding the position of origin, the actuator stops rotating.



Keys of actuator moving up and down. Under non-test status, press this key, the actuator will move up and down. Release this key, the actuator stops rotating.

Note: Due to the reason of mechanical principle, these two keys are only used for the commissioning of up and down. The actual direction of up and down may be different from the arrow on the key. If the actual movement direction of actuator is different from the arrow on the key, it doesn't matter, continue to press this key and the desire movement direction will be achieved.



Test stop key. Under test status, press this key, the actuator stops working and the test is over.

Test

- **Actuator Zero Point Adjustment**



origin operation key. Under nontest status, press this key, the actuator will automatically find original origin. After finding the position of origin, the actuator stops rotating.

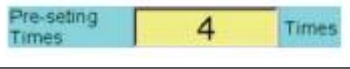
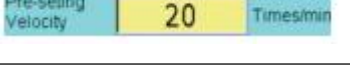
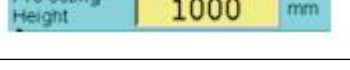
- **Test Sample Installation**

Installation of test sample

- **Test Start and End**

Press "Test" key on the operation panel and the testing times of last test will be automatically zeroed and the system enters into test status. After the test times amounts to pre-setting times, the test will be automatically finished. If the test shall be ended during the test process, press  to end the test.

IV. Setting of Input and Display Window Function

	Display window of testing times
	Input window of pre-setting times 1-9999
	Input window of pre-setting frequency 1-30 times/min.
	Input window of testing height 1,000mm, 300mm.