

# GOBLIN®

## Functional Test Sequence

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### Installation and Key Set-up Points

- Make sure the GOBLIN® clip is oriented to bead on hard hat brim
- Arms of the each GOBLIN® should be even with the horizon
- Adjust mirror so hair or outside edge of ear is visible at the inside edge of mirror
- GOBLIN® Peripheral Vision System™ was designed to work in conjunction with, NOT in place of, standard safety protocol and other Personal Protective Equipment (PPE)

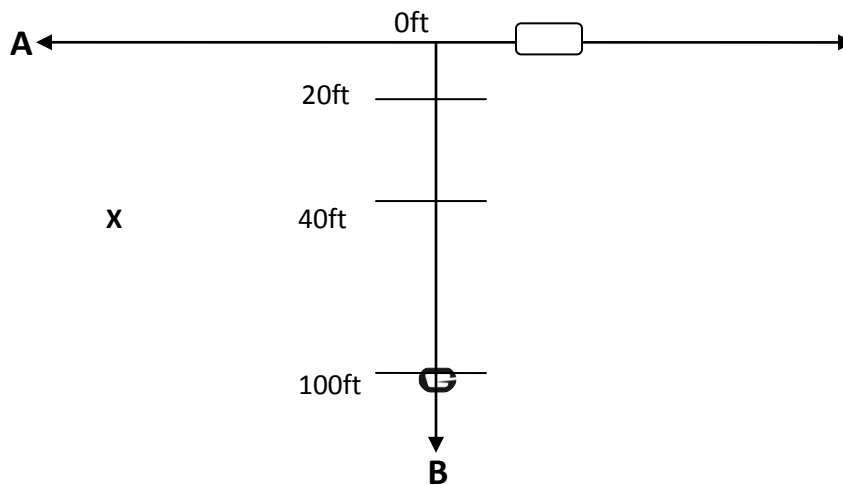
### Test Sequence



#### Phase One

##### 1. Field of Vision Test

###### Purpose of Test:

- To determine if GOBLIN® Peripheral Vision System™ distracts from forward vision.
- To determine if the proximity of passing traffic might be a distraction at 100ft.
- To determine awareness of movement at 40ft.
- To determine an alert at 20ft.



**Diagram Key:** Line **A** represents the path on which the large vehicle or construction equipment (Test Vehicle) will travel in both directions. The  mark represents the Test Vehicle. Line **B** represents a line marked at 20ft, 40ft and 100ft from line **A**. The horizontal marks on line **B** represent measured intervals at which to test the GOBLIN® Peripheral Vision System™. The **X** mark represents the Observer who records information and ensures safety of Test Subject. The  mark represents the person wearing GOBLIN® Peripheral Vision System™ (Test Subject).

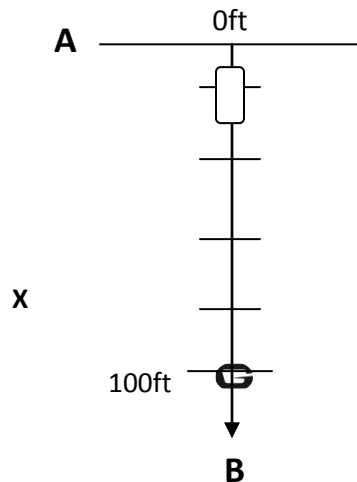
**How to conduct test:**



- Test Subject stands at 100ft mark on line **B** facing away from the vehicle (direction of the arrow above).
- Test Subject scans the horizon and performs job without looking into GOBLIN® Peripheral Vision System™.
- Observer stands out of the path of the Test Vehicle and maintains visual and verbal contact with Test Vehicle to ensure safety of test subject.
- Test Vehicle drives along line **A** (on diagram above) in both directions.
- Test vehicle stops when Test Subject reports to the Observer on their awareness of Test Vehicle as it traveled on line **A**.
- Measurement is taken from vehicle to line **B**.
- Test is repeated with the Test Subject standing at 40ft and 20ft mark on line **B**.

**2. Start-Stop Test**

**Purpose of Test:**

- To determine if GOBLIN® Peripheral Vision System™ adequately warns wearer of danger approaching from behind.
- To determine the proximity of danger when the wearer is first made alert.
- To determine the point of close proximity alarm.



**Diagram Key:** Line **A** represents the starting line for the Test Vehicle. The  mark represents the Test Vehicle. Line **B** represents the path on which the Test Vehicle will travel. The 100ft mark on line **B** represents the placement of the Test Subject. Horizontal marks represent measured increments along line **B**. The **X** mark represents the Observer. The  mark represents the Test Subject.

**How to conduct test:**

- Test Subject stands at 100ft mark on line **B** facing away from the vehicle (direction of the arrow above).
- Test subject scans the horizon and performs job (as taught in flagger training class) without looking into GOBLIN® Peripheral Vision System™.
- Observer stands out of the path of the Test Vehicle and maintains visual and verbal contact with Test Vehicle to ensure safety of test subject.
- Test Vehicle starts at line **A** (0ft) and slowly rolls (less than 5mph) along line **B** in the direction of the arrow (toward test subject).
- When Test Subject is first alerted to Test Vehicle the Test Subject should raise their hand in the air, signaling the test vehicle to stop.
- Test Vehicle should stop immediately.
- Observer should record how many feet from subject when vehicle was sighted.

**Phase Two**

**1. Reality Testing**

**Purpose of Test:**

- To determine how GOBLIN® Peripheral Vision System™ works in real-world work zone conditions.
- To determine what jobsite workers will benefit from GOBLIN® Peripheral Vision System™.

**How to conduct test:**

- Following the same safety protocol used in every-day best practices, set up test conditions.
- The results of this testing should be recorded by an observer.
- Contact Neuwaukum Industries Inc. for further information on conducting Reality Testing. 360.825.1505

## **Test Results**

Test was conducted with three subjects, Subject #1, Subject #2 and Subject #3. Test results are as follows:

### **Phase One**

#### **1. Field of Vision Test**

<u>Subject/Position</u>	<u>Results</u>
#1 right/ 100'	did not see vehicle movement
#1 left/ 100'	did not see vehicle movement
#2 right/ 100'	did not see vehicle movement
#2 left/ 100'	did not see vehicle movement
#3 right/ 100'	did not see vehicle movement
#3 left/ 100'	did not see vehicle movement
#1 right/ 40'	movement sighted at ____ ft. from line B
#1 left/ 40'	movement sighted at ____ ft. from line B
#2 right/40'	movement sighted at ____ ft. from line B
#2 left/ 40'	movement sighted at ____ ft. from line B
#3 right/40'	movement sighted at ____ ft. from line B
#3 left/ 40'	movement sighted at ____ ft. from line B
#1 right/ 20'	movement sighted at ____ ft. from line B
#1 left/ 20'	movement sighted at ____ ft. from line B
#2 right/ 20'	movement sighted at ____ ft. from line B
#2 left/ 20'	movement sighted at ____ ft. from line B
#3 right/ 20'	movement sighted at ____ ft. from line B
#3 left/ 20'	movement sighted at ____ ft. from line B

## **2. Start/Stop Test**

<b><u>Subject@100 ft./Vehicle Position</u></b>	<b><u>Results</u></b>
#1/ 90° to Line A	movement/mass sighted at ____ ft. from subject
#1/ 45° to Line A	movement/mass sighted at ____ ft. from subject
#2/ 90° to Line A	movement/mass sighted at ____ ft. from subject
#2/ 45° to line A	movement/mass sighted at ____ ft. from subject
#3/ 90° to line A	movement/mass sighted at ____ ft. from subject
#3/45° to Line A	movement/mass sighted at ____ ft. from subject

## **Phase Two**

### **1. Reality Testing**