

GOBLIN®

Functional Test Sequence

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.

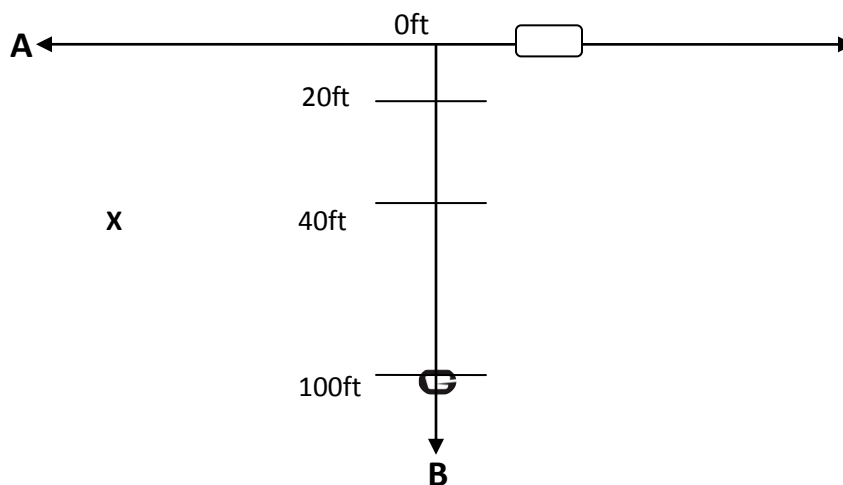




Diagram Key: Line **A** represents the path on which the large vehicle or construction equipment (Test Vehicle) will travel in both directions. The  mark represents the Test Vehicle. Line **B** represents a line marked at 20ft, 40ft and 100ft from line **A**. The horizontal marks on line **B** represent 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.

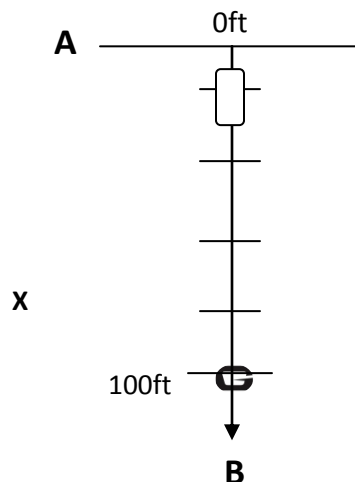




Diagram Key: Line **A** represents the starting line for the Test Vehicle. The  mark represents the Test Vehicle. Line **B** represents the path on which the Test Vehicle will travel. The 100ft mark on line **B** represents the placement of the Test Subject. Horizontal marks represent measured increments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

Subject@100 ft./Vehicle Position	Results
#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