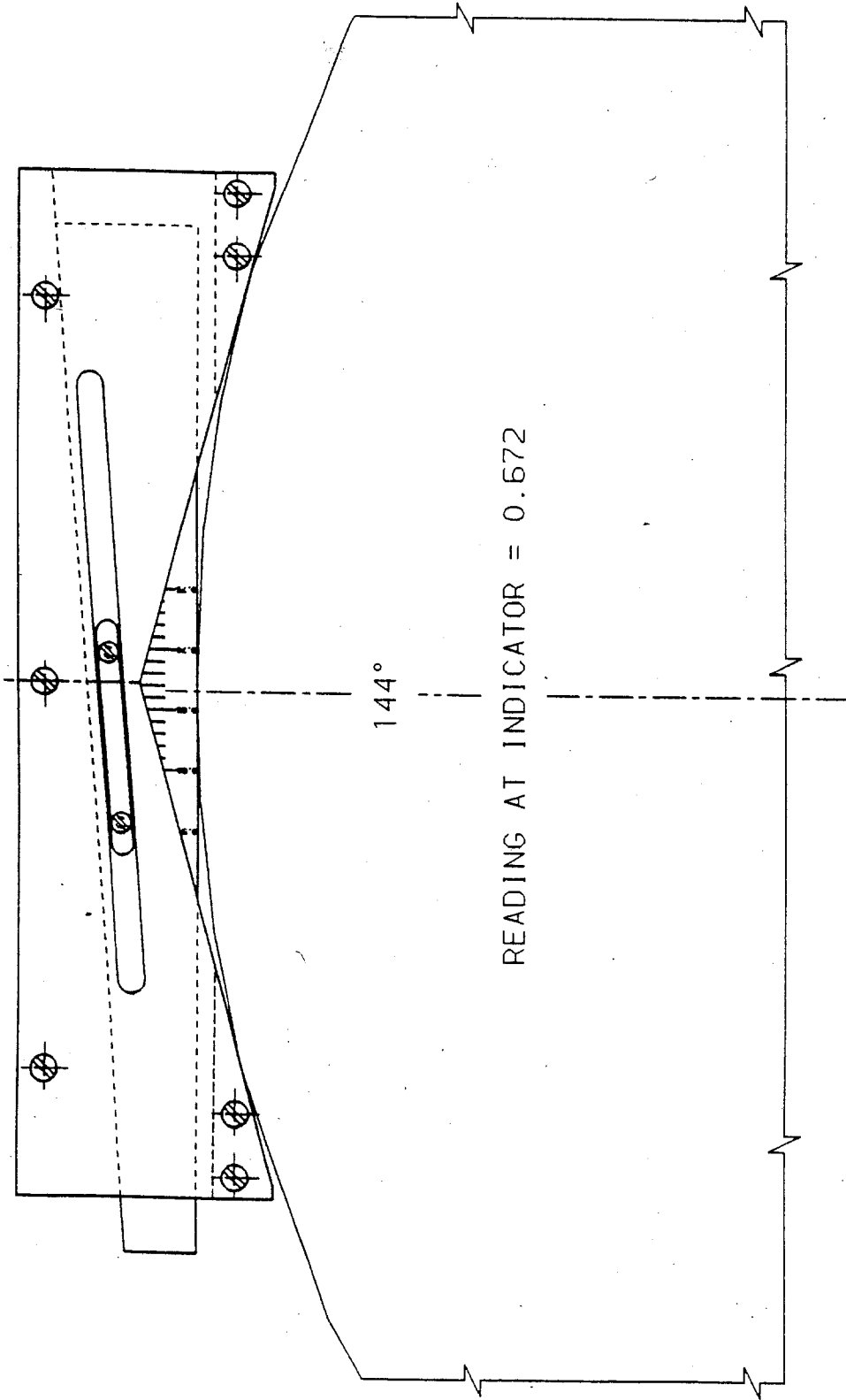


# CN WHEEL DEFECT GAUGE



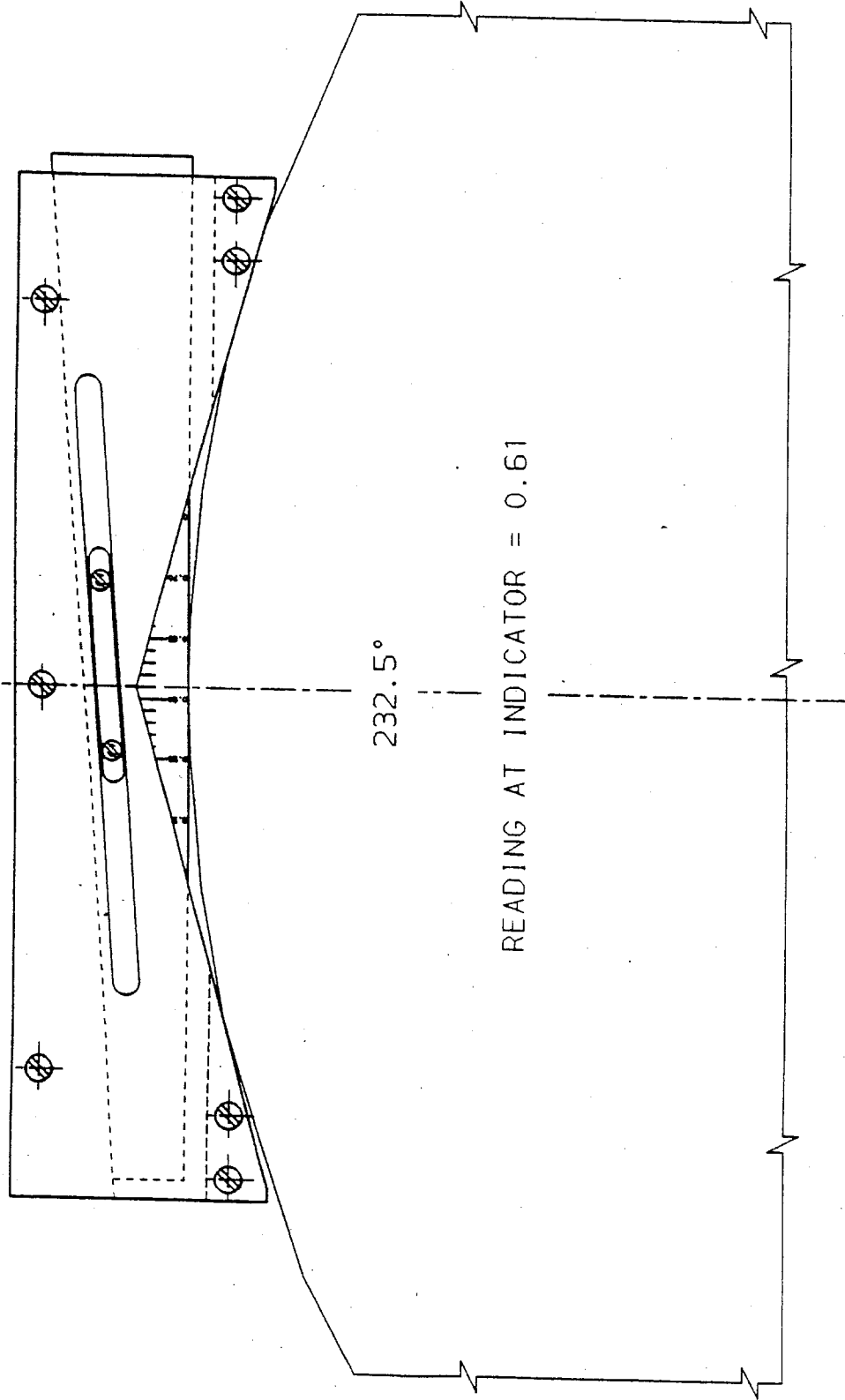
WHEEL DEFECT GAUGE PLACED AT 144° ANGULAR POSITION ON RIGHT WHEEL OF PTEX 455948

WHEELSET IMPACT LOAD MEASURED 102.0 kips AT 50.3 mph

AT STONY PLAIN WHEEL IMPACT DETECTOR

REFERENCE: PT5948.PRF DATED 3 JUL. 1992

CN WHEEL DEFECT GAUGE



WHEEL DEFECT GAUGE PLACED AT 232.5° ANGULAR POSITION ON RIGHT WHEEL OF PTEX 455948

WHEELSET IMPACT LOAD MEASURED 102.0 kips AT 50.3 mph

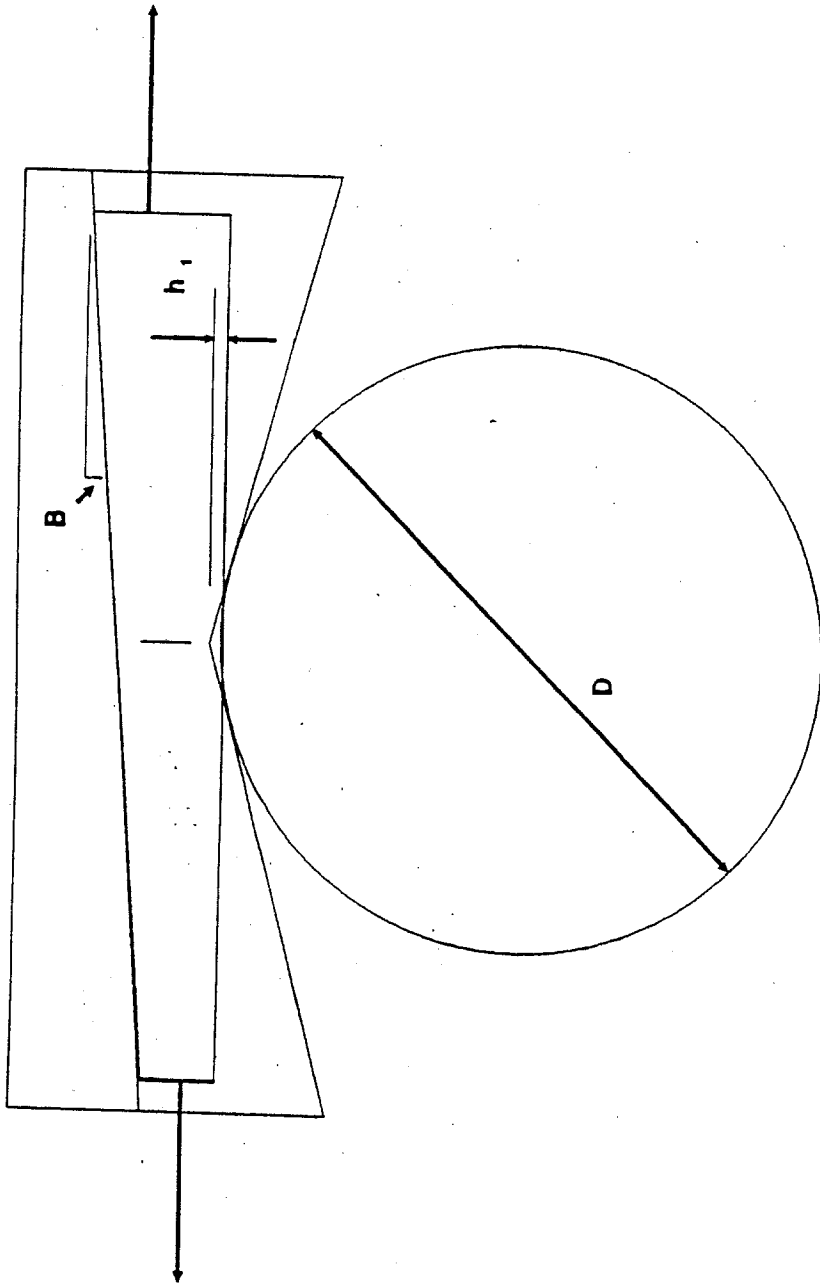
AT STONY PLAIN WHEEL IMPACT DETECTOR

REFERENCE: PT5948.PRF DATED 3 JUL. 1992

CN WHEEL DEFECT GAUGE.

SCALE FACTOR INCREASED BY ADDITION OF A TAPERED SLIDE  
ON A TAPERED GUIDE.

FIGURE 2.

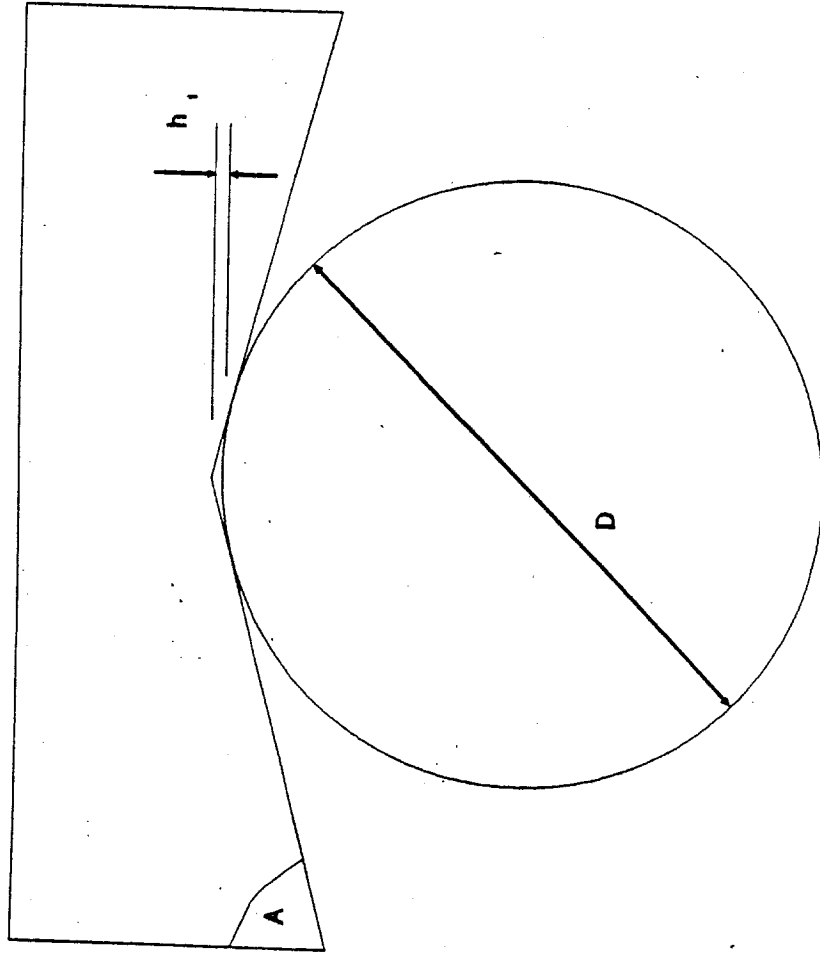


ANGLE 'B' OF TAPER CHOSEN SO THAT DISPLACEMENT OF SLIDE  
IS 1/4 OF CHANGE IN DIAMETER 'D'.

CN WHEEL DEFECT GAUGE

FIGURE 1.

BASED ON A TANGENT GAUGE USED TO MEASURE THE DIAMETER OF A CYLINDER.



$$\text{then } h_1 = \frac{D}{\text{CONSTANT}}$$

AS ANGLE 'A' INCREASES SO DOES THE CONSTANT.

## CN WHEEL DEFECT GAUGE.

FIGURE 1.

### APPLICATION TO WHEEL IMPACT LOAD DETECTOR.

1. WHEELSET CAUSING EXCESSIVE LOAD IDENTIFIED BY TRACK- MOUNTED DETECTOR.
2. WHEELSET REMOVED AT A REPAIR POINT.
3. WHEEL DEFECT GAUGE APPLIED TO TREAD SO THAT THE TANGENT ARMS SPAN AN UNDAMAGED PART. SLIDE MOVED UNTIL IT IS ALSO TANGENT TO THE TREAD.  
NOTE SCALE READING AT INDICATOR AS IN FIG.3.
4. GAUGE MOVED TO CONTACT TREAD AT DAMAGED PART. SLIDE MOVED TO BE TANGENT TO TREAD AT DAMAGED PART. NOTE SCALE READING AT INDICATOR AS IN FIG.4.
5. SUBTRACT FIRST SCALE READING FROM THE SECOND. IF THE DIFFERENCE EXCEEDS 0.050 THEN THE DEPRESSION AT THE DAMAGED PART EXCEEDS 0.050", AND THE WHEEL IS CONDEMNABLE.
6. THE PROCESS CONFIRMS THAT THE CORRECT WHEEL WAS REMOVED.
7. THE PROCESS ALSO PROVIDES A PHYSICAL MEASUREMENT OF A CONDEMNED WHEEL FOR FUTURE REFERENCE.
8. WHEELSET SELECTION DETERMINED BY IMPACT FORCE GENERATED.