

# 4N6XPRT Systems

Expert System Software for Litigation

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La Mesa, CA 91942-9342

FED Tax ID No.: 95-3121248

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The 2011 version of 4N6XPRT StifCalcs® contains a Force Balance module -

The Force Balance approach to Stiffness values is based on the concept of "Equal and Opposite Forces" in combination with the assumption that one of the vehicles involved has a good set of Stiffness values based on testing.

There are essentially only TWO requirements in order to use a Force Balance approach, and they are:

- You must have A-B values for one of the vehicles for the surface that was hit
- Both vehicles must have SOME damage

Beyond these two requirements, the QUALITY of your calculation results will be impacted by :

- The quality of the information you have on each vehicle (weight, pass/cargo load, etc.)
- The quality/accuracy of your crush measurements
- The quality of your A-B stiffness values

while the Force Balance analysis CAN be run with degraded information in the above three areas, the quality of the results will also be degraded, sometimes significantly so.

As an extension of our **I**ndividual **V**ehicle **D**ata **S**earch **S**ervice, we have now added Force Balance Analysis runs to our services. An order form with pricing follows on the next page.

With respect to the Order Form -

- A) Please be SPECIFIC on the vehicle make and model, including drive wheels, bed length, etc.
- B) The Curb Weight used will come from Expert AutoStats unless you specify some other weight
- C) The PDOF Lever Arm default length is 0 inches
- D) The Angle of Collision Force to Normal Force default value is 0 degrees
- E) If no Crush Spacing is indicated, equal spacing will be used.

If you have any specific questions, please be sure to call.

Sincerely,



Daniel W. Vomhof III  
General Manager/Technical Support

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## FORCE BALANCE ORDER FORM

**\$40 for the first "Run" / \$20 for each additional crush variation with same vehicles**

Vehicle 1 (KNOWN Stiffness) - Year/Make/Model

Curb Weight (pounds) = \_\_\_\_\_  
Occupant + Cargo Weight (pounds) = \_\_\_\_\_  
Total Weight (pounds) = \_\_\_\_\_

Angle of Collision Force to Force Normal to  
Collision Face (degrees) = \_\_\_\_\_  
PDOF Lever Arm Distance (inches) = \_\_\_\_\_

Damage Length (inches) = \_\_\_\_\_

If Crush Depth measurements are equally spaced, you do not  
need to fill in the distance between Crush measurements.

### Crush Depth

### Crush Spacing EQUAL?? Yes / No

C1 (inches) = \_\_\_\_\_ Distance C1 to C2 (inches) = \_\_\_\_\_  
C2 (inches) = \_\_\_\_\_ Distance C2 to C3 (inches) = \_\_\_\_\_  
C3 (inches) = \_\_\_\_\_ Distance C3 to C4 (inches) = \_\_\_\_\_  
C4 (inches) = \_\_\_\_\_ Distance C4 to C5 (inches) = \_\_\_\_\_  
C5 (inches) = \_\_\_\_\_ Distance C5 to C6 (inches) = \_\_\_\_\_  
C6 (inches) = \_\_\_\_\_ Distance C6 to C7 (inches) = \_\_\_\_\_  
C7 (inches) = \_\_\_\_\_ Distance C7 to C8 (inches) = \_\_\_\_\_  
C8 (inches) = \_\_\_\_\_ Distance C8 to C9 (inches) = \_\_\_\_\_  
C9 (inches) = \_\_\_\_\_ Distance C9 to C10 (inches) = \_\_\_\_\_  
C10 (inches) = \_\_\_\_\_

Vehicle 2 - Year/Make/Model

Curb Weight (pounds) = \_\_\_\_\_  
Occupant + Cargo Weight (pounds) = \_\_\_\_\_  
Total Weight (pounds) = \_\_\_\_\_

Angle of Collision Force to Force Normal to  
Collision Face (degrees) = \_\_\_\_\_  
PDOF Lever Arm Distance (inches) = \_\_\_\_\_

Damage Length (inches) = \_\_\_\_\_

If Crush Depth measurements are equally spaced, you do not  
need to fill in the distance between Crush measurements.

### Crush Depth

### Crush Spacing EQUAL?? Yes / No

C1 (inches) = \_\_\_\_\_ Distance C1 to C2 (inches) = \_\_\_\_\_  
C2 (inches) = \_\_\_\_\_ Distance C2 to C3 (inches) = \_\_\_\_\_  
C3 (inches) = \_\_\_\_\_ Distance C3 to C4 (inches) = \_\_\_\_\_  
C4 (inches) = \_\_\_\_\_ Distance C4 to C5 (inches) = \_\_\_\_\_  
C5 (inches) = \_\_\_\_\_ Distance C5 to C6 (inches) = \_\_\_\_\_  
C6 (inches) = \_\_\_\_\_ Distance C6 to C7 (inches) = \_\_\_\_\_  
C7 (inches) = \_\_\_\_\_ Distance C7 to C8 (inches) = \_\_\_\_\_  
C8 (inches) = \_\_\_\_\_ Distance C8 to C9 (inches) = \_\_\_\_\_  
C9 (inches) = \_\_\_\_\_ Distance C9 to C10 (inches) = \_\_\_\_\_  
C10 (inches) = \_\_\_\_\_

Name \_\_\_\_\_  
Company \_\_\_\_\_  
Address \_\_\_\_\_  
City/State/Zip \_\_\_\_\_  
Phone \_\_\_\_\_  
Case Reference \_\_\_\_\_

Visa/MasterCard/American Express  
Card Number \_\_\_\_\_  
Expiration \_\_\_\_\_ / \_\_\_\_\_  
Security Code \_\_\_\_\_  
Card Billing Address \_\_\_\_\_  
City/State/Zip \_\_\_\_\_

E-Mail \_\_\_\_\_