## Strain Gage Test Results Performed using M24 X 3.00 FFT Inserts on Caterpillar 793 Truck Wheel Hub by RE Metrology

The object of this test was to measure the difference in spreading force between a standard bolt, common repair insert and a Full-Torque repair insert

Gage A									Gage B								
No insert	Torque 645 737 830 950	Strains 7125 8085 10790 15329		Strain per InLb 11.047 10.970 13.000 16.136	Ave 12.788	less hysteresis 7125 6739 6390 6723	Strain per FtLb 11.047 9.144 7.699 7.077	Ave 8.742	No insert	Torque 645 737 830 950	Strains 9942 13075 14784 17800	Hysteresis 0 1288 2470 4000	Strain per InLb 15.414 17.741 17.812 18.737	Ave 17.426	less hysteresis 9942 11787 12314 13800	Strain per FtLb 15.414 15.993 14.836 14.526	Ave 15.192
Common insert	645 737 830 950	36400 41229 46600 67200	15600 18500 23850 40348	56.434 55.942 56.145 70.737	59.815	20800 22729 22750 26852	32.248 30.840 27.410 28.265	29.691	Common insert	645 737 830 950	15800 21200 24380 29290	5827 6630 8675 10153	24.496 28.765 29.373 30.832	28.367	9973 14570 15705 19137	15.462 19.769 18.922 20.144	18.574
Spiralhook insert	645 737 830 950	14115 14760 14400 17800	7610 7600 8300 14500	21.884 20.027 17.349 18.737	19.499	6505 7160 6100 3300	10.085 9.715 7.349 3.474	7.656	Spiralhook insert	645 737 830 950	4256 7220 10680 14217	6000 6918 8580 10500	6.598 9.796 12.867 14.965	11.057	-1744 302 2100 3717	0.410 2.530 3.913	1.713
35	33	Strain Gage	A Less Hysteres	sis				25	Strain Gage B Less Hystere	osis					to sile		14
30 30 25 25 10 10 10 10 10 10 10 10 10 10 10 10 10	737		830		990	■No insert ■ Common ins ■ Spiralhook is	per food/ib	10	645 737 830		950	■ No insert ■ Common in ■ Spiralhook i					A
Torque Strain Gage A									Torque Strain Gage B		6			٨			
80 70 60 60 60 60 60 60 60 60 60 60 60 60 60			1			■ No insert ■ Common in ■ Spiralhook i	gydyn bet inchyn seert seert 1	5				□No insert □ Common ins □ Spiralhook in			5 5		
645	737	Torq	830 Iue		950			6	45 737 630 Torque		950				6		