FAILURE TIMES OF BEARINGS

4. Describing the Failure Times

SPSS produces the following tables of descriptive statistics for the failure times of the five material/technology applications.

MEASURES OF	STATISTICS	TYPE OF MATERIAL		
		1	2	3
CENTER	MEAN	10.6930	6.0500	8.6360
	MEDIAN	11.2150	4.6800	9.2800
	5% TRIM MEAN	10.7772	5.8367	8.6583
	95% CI FOR MEAN	(7.245, 14.141)	(3.964, 8.136)	(6.282, 10.990)
SPREAD	STANDARD DEV.	4.8193	2.9150	3.2906
	STD ERROR	1.5240	0.9218	1.0406
	VARIANCE	23.2255	8.4975	10.8281
	IQR	9.8350	3.0175	5.6050
	MINIMUM	3.0300	3.1900	3.4600
	MAXIMUM	16.8400	12.7500	13.4100
	RANGE	13.8100	9.5600	9.9500
SHAPE	SKEWNESS	-0.2830	1.6598	-0.1165
	ST. ERROR SKEW	0.6870	0.6870	0.6870
	KURTOSIS	-1.2910	2.4093	-1.1102
	ST. ERROR KURT	1.3342	1.3342	1.3342
COUNT		10	10	10

MEASURES OF	STATISTICS	TYPE OF MATERIAL	
		4	5
CENTER	MEAN	9.7980	14.7060
	MEDIAN	7.6750	14.5850
	5% TRIM MEAN	9.1456	14.7878
	95% CI FOR MEAN	(5.644, 13.9515)	(11.227, 18.185)
SPREAD	STANDARD DEV.	5.8062	4.8634
	STD ERROR	1.8361	1.5379
	VARIANCE	33.7118	23.6523
	IQR	3.5600	8.7175
	MINIMUM	5.8800	6.4300
	MAXIMUM	25.4600	21.5100
	RANGE	19.5800	15.0800
SHAPE	SKEWNESS	2.6240	-0.1810
	ST. ERROR SKEW	0.6870	0.6870
	KURTOSIS	7.3216	-0.7088
	ST. ERROR KURT	1.3342	1.3342
COUNT		10	10

The numerical summaries confirm the conclusions we have reached while examining the side-by-side boxplots in the previous section. Mean time until failure was longest for the compound 5 (14.7060), shorter for the groups 1 (10.693) and 4 (9.798), even shorter for

the group 3 (8.636), and shortest for the group 2. The longest failure time was for a bearing from group 4 (25.460).

The numerical values of the interquartile range for the five groups are consistent with our conclusions about the spread in the data we have reached before.