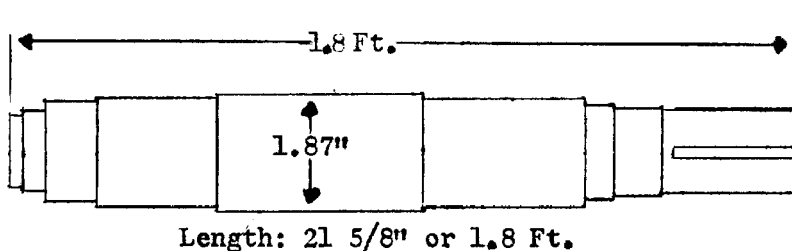


BASIC FUNCTION VALUE STANDARD
of
Transmit Torque*

Application to a Motor Shaft
For the 10 H.P. k256U Open Motor

#227A322 Shaft	Cost
Material	\$ 1.47
Labor	.60
IME	<u>3.36</u>
	\$ 5.43



	<u>Torque</u>	<u>Fig. 10*</u>	<u>1.8 Ft. Shaft Cost</u>
Transmits Torque = $\frac{10 \text{ H.P.} \times 63,024}{1800 \text{ R.P.M.}}$ =	351 lb. - in.	1.8¢/ft.	3.3¢
100% Overload Torque =	702 lb. - in.	3¢/ft.	5.4¢
Side thrust has equivalent Torque			
From 360# Load	1293 lb. - in.		
From 40# Rotor	<u>67</u> lb. - in.		
TOTAL	1360 lb. - in.		

These can be combined

Resultant Torque = $\sqrt{702^2 \times 1360^2}$ = 1530 lb. - in. 3.6¢/ft. 6.5¢

Safety Factor

Fatigue and Shear	8.5	13,000 lb. - in.	15¢/ft.	27 ¢
1/64" radius Bearing Shoulder	$\times \frac{3.0}{25.5}$	39,000 lb. - in.	31¢/ft.	56¢

This gives the cost of the Basic Function.

Isn't there a way to provide all the Secondary Functions for less than an additional 56¢?

*Reference- "Value: Its Meaning and Measurement
By: R. E. Fountain
Value Analysis Service

Daniel P. Barlow, Engineer
Advanced Value Research
Value Analysis Service
5/22/58