Glossary of Abbreviations & Symbols Used in This Guide

BEARING AND GEAR DIMENSIONS		
SYMBOL	FEATURE	UNITS
α	Pressure angle of gear teeth	°
b_2	Face width of gear teeth	in
B_i	Size of hole in inner ring	in
B_o	Size of hole in outer ring	in
D_2	Pitch diameter of gear	in
d_i	Inside diameter of inner ring	in
D_i	Internal diameter on outer ring	in
D_o	Outside diameter of outer ring	in
d_o	External diameter on inner ring	in
D_p	Diameter of bearing raceway	in
d_r	Internal diameter on inner ring	in
D_r	External diameter on outer ring	in
D_w	Diameter of rolling element	in
FD	Full depth involute spur gear (ref. ANSI B6.1-1968, R1974 or ISO 53:1998)	-
FS	Fellows stub involute spur gear (ref. Machinery's Handbook, 18th Edition)	-
H	Height of overall bearing assembly	in
H_i	Height of inner ring	in
H_o	Height of outer ring	in
L_i	Bolt circle in inner ring	in
L_o	Bolt circle in outer ring	in
m	Module of gear teeth = 25.4/Pd	mm
n_f	Number of lubrication nipples/fittings per plane	-
n_i	Number holes in inner ring	-
n_o	Number holes in outer ring	-
P_d	Diametral pitch	-
SD	Stub involute spur gear (ref. ASA B6.1-1932)	-
x_2	Addendum modification coefficient of gear teeth, ("+" sign increases tooth thickness at D2 and "-" sign decreases tooth thickness at D2)	-
z_2	Number of gear teeth	-

BEARING AND GEAR PROPERTIES		
SYMBOL	FEATURE	UNITS
C_{rm}	Moment load rating	ft-lbs
F_z	Maximum allowable gear tooth load	lbs
G	Weight of bearing assembly	lbs
M_w	Friction torque of bearing, installed and subjected to loads	ft-lbs

PINION DIMENSIONS		
SYMBOL	FEATURE	UNITS
b_1	Face width	in
D_1	Pitch diameter	in
D_{i1}	Stock bore	in
D_{o1}	Outside diameter	in
D_{r1}	Diameter of hub	in
L_1	Length of pinion	in
P_d	Diametral pitch	-
w	Square key size, nominal	in
x_1	Addendum modification coefficient	-
z_1	Number of teeth	-

APPLICATION DATA		
SYMBOL	FEATURE	UNITS
f_a	Application Service Factor	-
F_a	Force parallel to bearing axis of rotation	lbs
F_r	Force perpendicular to bearing axis of rotation	lbs
M_k	Tilting moment about bearing centerline	ft-lbs
N	Rotational speed	rpm
μ	Friction coefficient	-

MISCELLANEOUS		
SYMBOL	FEATURE	UNITS
ft	Linear unit of measurement	foot
ft-lbs	Units of torque or moment	foot - pounds
in	Linear unit of measurement	inch
lbs	Units of force or weight	pounds
mm	Linear unit of measurement (SI)	millimeter
⚠	Warning	-

REFERENCES	
AGMA	American Gear Manufacturers Association
ANSI	American National Standards Institute
ASTM	American Society for Testing and Materials
DIN	Deutsches Institut für Normung
ISO	International Standards Organization
NLGI	National Lubricating Grease Institute
SAE	Society of Automotive Engineers