

North American Clutch & Driveline

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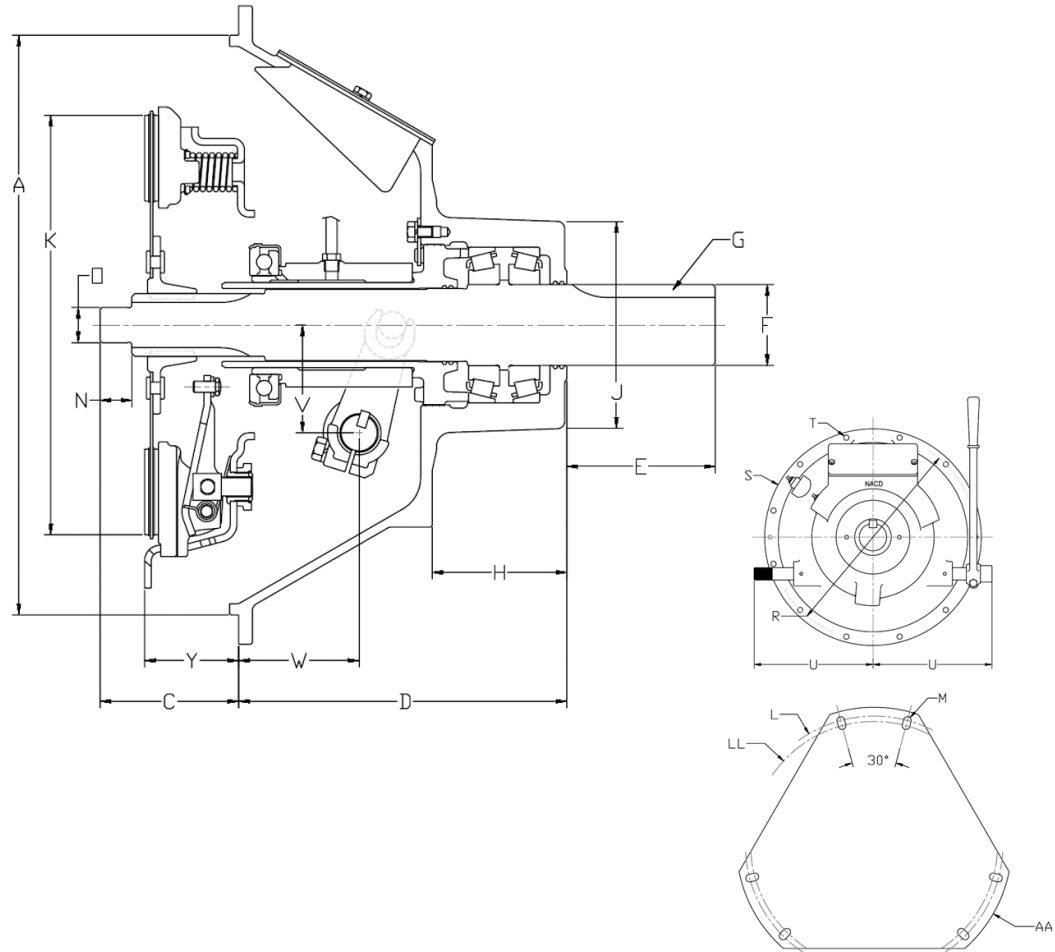
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All dimensions are in inches unless otherwise specified. Listing subject to change without notice. * The figure listed below is torque capacity of the clutch. To determine the actual clutch torque capacity required for any given application the torque service factor must be considered. See the chart and formula on the back side of this sheet to calculate the proper clutch torque capacity for your application or contact your NACD sales representative for recommendations. ** Other pilot bearing sizes are available. The illustrations are shown for identification of dimensions only. They are not intended to necessarily depict the actual size, exact shape or internal configuration of the part numbers listed.

PTO Part Number	Ball or Tapered Roller Brng Type	Model			Application (in-line or side loaded)	Type of Facing	Type Release Bearing	Clutch Torque Capacity lb. Ft *	A	C	D	Shaft		
		SAE Hsg Size	Clutch Size	Qty. of Facings								E Length	F Dia. + .000-.001	G Keyway
437418AM	Tapered	3	12"	1	Both	Metallic	Ball	1150	16.125	3.86	9.25	4.00	2.250	5/8 x 5/16
438250AM	Tapered	3	12"	1	Both	Metallic	Ball	1150	16.125	3.86	9.25	4.00	2.250	5/8 x 5/16

H	J	K	L Multi	LL Multi	M (holes)		AA	N	O	R	S	T (holes)		U	V	W	Y
					Qty.	Dia.						Qty.	Dia.				
3.75	6.00	11.89	13.875	13.500	6	.406	14.625	.88	.984	16.875	17.75	12	.433	9.75	3.00	3.35	2.62
3.75	6.00	11.89	13.875	13.500	6	.406	14.625	.88	.984	16.875	17.75	12	.433	9.75	3.00	3.35	2.62

Allowable Side Load Pulls:

The following formula can be used to calculate applied side load. Loads are calculated on proper tensioning of belts. If belts are tightened excessively, the resulting side load can exceed these limits

$$L = \frac{126000 \times \text{H.P.}}{N \times D} \times F \times A$$

L = Actual Applied Load (lbs.)

N = Shaft Speed (rev./min.)

D = Pitch Diameter of Sheaves, etc. (in.)

F = Load Factor (see below)

1.0 for chain

2.5 for V belt drive

3.5 for flat belt drive

A = 1.0 for low & moderate duty drives

1.4 for severe duty shock loads or large inertia loads (reciprocating compressors, crusher, chippers, planers, etc.)

Required Clutch Torque Capacity Calculation:

Required Clutch Torque = Maximum Engine Torque x Service Factor

Blower or Vacuum

- Centrifugal with free flow of air 1.7
- With high start-up inertia or subject to choking of air supply 4.0

Compressors

- Reciprocating, 1 or 2 cylinders 4.0
- Reciprocating, 3 or more cylinders 2.5
- Roto screw or turbine 2.0

Conveyor

- Fed uniformly 1.5
- Not fed uniformly 2.0
- Reciprocating 3.0

Drills 2.0

Generator 2.0

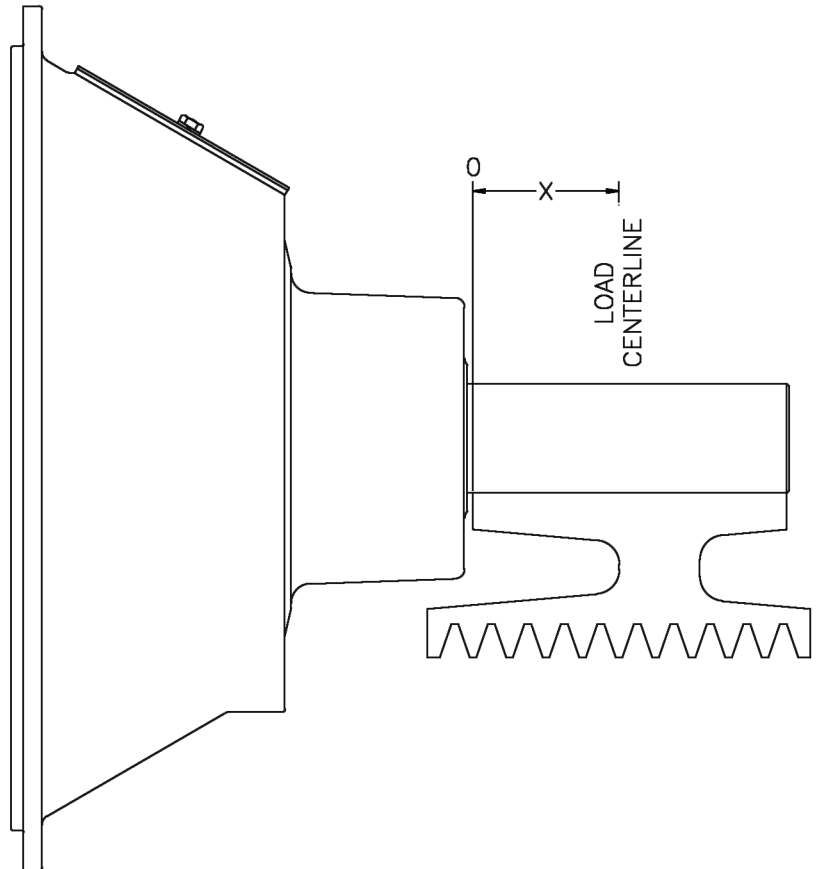
Pump

- Centrifugal or turbine 1.5
- Dredge 2.0
- Mud or reciprocating 3.0

Rock Crusher, Hammer Mill 3.0

Snow Blower 2.0

Wood Chipper, Saw Mill 3.0



Allowable Side Load (LBS) pull for part numbers 438250AM & 437418AM								
RPM	X" Distance							
	0"	1"	2"	3"	4"	5"	6"	7"
1600	3125	2025	1515	1205	1000	850	740	660
1900	3005	1950	1455	1158	960	815	713	635
2200	2885	1875	1395	1111	920	780	686	610
2500	2765	1800	1335	1064	880	745	659	585
2800	2645	1725	1275	1017	840	710	632	560
3100	2525	1650	1215	970	800	675	605	535

Ratings: Shafts, bearings and clutch capacities are rated on a conservative basis. For unusually heavy starting loads, frequent engagement service, or if prime mover is engine of less than 4 cylinders, consult our sales representatives for recommendations. Extremely low speed engines require special consideration.