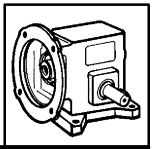


# CONTENTS

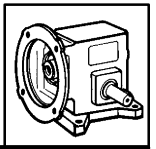


## Quill TIGEAR® Right Angle Speed Reducers

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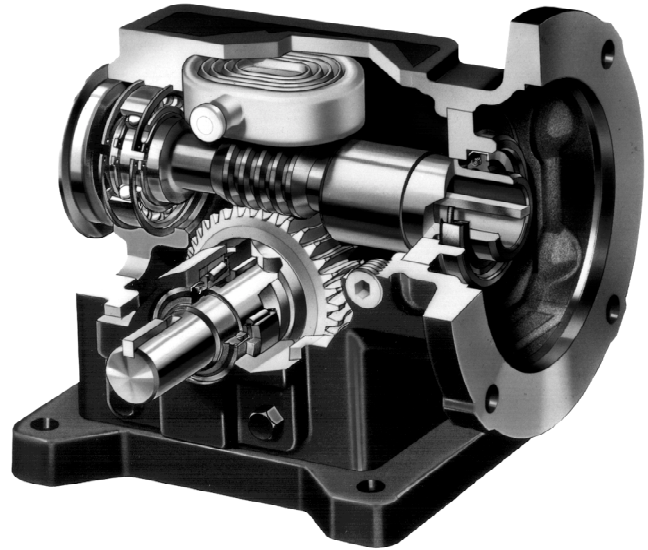


## Quill TIGEAR Speed Reducers

With the RELIALUBE<sup>®</sup> system

- Integral Quill Mount  
Close Coupled C-face Design
- 1/4 TO 5 HP
- 5:1 TO 60:1 Reductions
- 6 Case Sizes  
1.33 IN. to 3.50 IN. Center Distances

You don't need a maintenance schedule anymore. No periodic maintenance is required because it's virtually maintenance free.

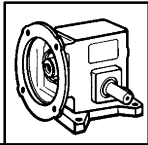


### NYLON COATED E-Z KLEEN<sup>®</sup> TIGEAR

Designed To Survive The Severe Washdown Environments Found In Food Processing And Chemical Applications.



- Cast iron housings coated with durable white Nylon11 resist corrosion better than epoxy paints.
- Stainless steel nameplates and fasteners
- Rubber covered bore plugs
- Electroless nickel plated output shafts
- **Footless multimount gearcase is standard.** Nylon coated bolt-on base is available as an option
- Smooth contours on all surfaces for easy cleaning

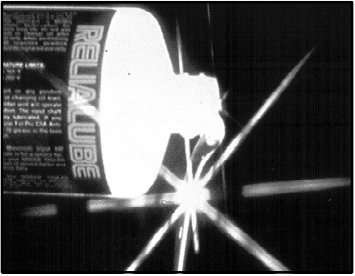


## DODGE TIGEAR Tough Industrial Gearing



### THE RELIALUBE<sup>®</sup> SYSTEM

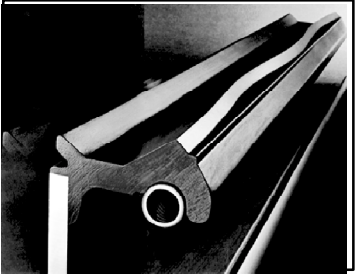
RELIALUBE is an exclusive systems approach to lubricating, sealing and cooling the components in an enclosed gearbox.



1. Factory filled synthesized hydrocarbon lubricant stays contamination free and won't break down under normal operating conditions.



2. Our special compression chamber lowers the gearcase pressure and eliminates the potential leakage and contamination paths associated with the use of conventional vents.



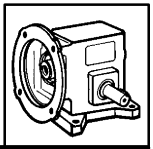
3. Specially engineered, bi-rotational, hydrodynamic radial lip design effectively pumps lubrication back into the oil sump while simultaneously sealing out external contaminants. The special lip design, used in conjunction with precision, plunge ground seal journals, extends the seal service life by creating less drag, less heat and reduced shaft wear.



4. A silicone based sealant seals metal-to-metal joints better than gaskets. It has a wide operating temperature range and is highly resistant to chemical and solvents.

**Our exclusive RELIALUBE system minimizes leaks by giving you a pressure vented gearbox with no open paths to the environment.**

# SPECIFICATION



## General Specification — Intergral Quill Mount DODGE TIGEAR Speed Reducers

The speed reducer shall be a single reduction worm gear reducer incorporating a quill style input configuration. The reducer shall be manufactured in the United States of America. Gear geometry shall be a single enveloping involute helicoid design. The gearcase, bearing housings, and motor adapter shall be manufactured from Class 30 gray iron. A bolt-on base shall be available in aluminum configurations. A riser block kit, designed for mounting to the top surface, shall be available to provide a method for avoiding a mounting arrangement that would position the input shaft below the level of the output shaft.

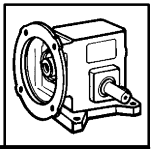
The reducer shall be sealed with no direct passage from the oil sump to the ambient atmosphere. A compression chamber within the gearcase shall provide pressure release. Lubrication shall be a factory supplied synthesized hydrocarbon that requires no periodic changes and is filled to a level suitable for all approved mounting positions. USDA Class AA and Class H1 food grade lubricants and low temperature lubricants shall be available to accommodate different applications.

The gear set shall consist of a hardened steel worm shaft and a copper-tin bronze alloy worm gear for superior wear resistance. All units shall have the worm gear set properly centered during assembly to produce an optimum contact pattern. The contact pattern of each set shall be manually checked to ensure that the optimum pattern is present. Output shafts shall incorporate tapered roller bearings shimmed for proper running clearances. High quality seals on shafts shall operate on plunge ground seal journals having a 10-20 micro finish. Joints shall be sealed with anaerobic silicone rubber sealant. All fasteners shall be a minimum Grade 5 and provide for self sealing and locking. Motor mounting bolts and input/output keys shall be provided.

When properly service factored to account for the thermal limitations of the reducer, the standard construction shall be suitable for washdown duty in ambient temperatures from  $-10^{\circ}\text{F}$  to  $+165^{\circ}\text{F}$ . For continuous operation in ambient conditions above  $+80^{\circ}\text{F}$ , contact DODGE Application Engineering. When used without the aluminum bolt-on foot the reducer shall be BISSC certified. Severe operating environments shall be addressed with a Nylon 11 coated gearcase incorporating stainless steel hardware and nickel plated shaft extensions.

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# HOW TO ORDER/ NOMENCLATURE



## HOW TO ORDER TIGEAR REDUCERS

All TIGEAR reducers and accessories have a part number. Reducer part numbers are found in the selection tables and the accessories are listed in the modification section of this catalog. Refer to the part numbers when ordering and specify the reducer part number along with the part numbers of the required accessories.

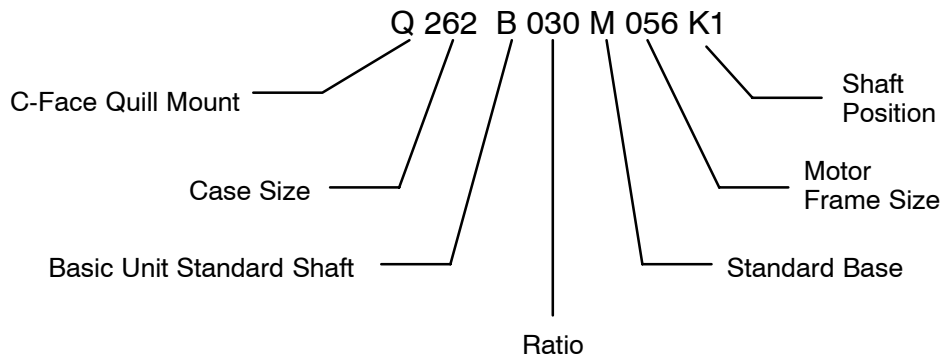
MZ94621      Size 262, EZ-KLEEN, 60:1, 56C-Face, K1 mounting  
(Pg. G3-20)

41164235Z      Size 262 EZ-KLEEN Base Kit      (Pg. G3-31)

## QUILL AND SEPARATE TIGEAR NOMENCLATURE

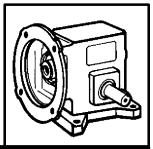
	SERIES	SIZE	OUTPUT TYPE	RATIO	OPTIONS	MOTOR FRAME	SHAFT POSITION
Q	QUILL C-FACE	133	B	BASIC UNIT STD SHAFT	N	056	L1
		150	Y	BASIC UNIT SPECIAL SHAFT	M	140	K1
175	Z	180			LK		
200	EZ-KLEEN (NYLON COATED)	005				NO BASE	
262		007					
350		010					
		012					
	015						
	018						
	020						
	025						
	030						
	040						
	050						
	060						

### EXAMPLE



EASY SELECTION PAGES G3-6-G3-9	SELECTION PAGES G3-10-G3-29	DIMENSIONS PAGES G3-13-G3-25	MODIFICATIONS/ACCESSORIES PAGES G3-31-G3-35
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# EASY SELECTION



## Quill TIGEAR

### TIGEAR EASY SELECTION PROCEDURES

In the following tables, TIGEAR reducers have been pre-selected for commonly applied service factors. All selections are for 1750 rpm motors. For selections at other motor speeds refer to the selection procedure using the rating tables. Each block in the selection table provides the following information:

- **Gearcase Size** Worm gear center distance. For example, a size 133 has a 1.33" center distance.
- **Output Torque** Torque that will be produced at the output shaft when the particular motor is loaded to its nameplate rated horsepower.
- **Output OHL** The continuous overhung load that may be applied to the output shaft at one shaft diameter from the seal face.

Two methods are available to the designer using the selection tables. The **horsepower method**, applied in cases where motor horsepower is known, is useful when interchanging with a competitive unit or utilizing an available motor. The **torque method** requires a knowledge of driven load torque requirements and provides the most economical reducer selection. Both methods assume the desired ratio or output rpm is known.

#### Reducer Service Factors

Prime Mover	Duration of Service Per Day	Driven Machine Load Classification		
		Uniform	Medium Shock	Heavy Shock
Electric Motor	Occasional 1/2 hour	0.80	0.90	1.00
	Intermittent	0.90	1.00	1.25
	10 hours	1.00	1.25	1.50
	24 hours	1.25	1.50	1.75
Electric Motor with Frequent Starts and Stops	Occasional 1/2 hour	0.90	1.00	1.25
	Intermittent	1.00	1.25	1.50
	10 hours	1.25	1.50	1.75
	24 hours	1.50	1.75	2.00

### HORSEPOWER METHOD OF SELECTION

- Step 1: Referring to the reducer service factor table, determine the appropriate service factor.
- Step 2: Locate the selection table configured for the required service factor.
- Step 3: Read down from motor horsepower and across from rpm/ratio to locate the appropriate selection block.

### TORQUE METHOD OF SELECTION

- Step 1: Referring to the reducer service factor table, determine the appropriate service factor.
- Step 2: Locate the selection table that applies to the required service factor.
- Step 3: Find the row that represents the applicable output rpm/ratio and read across the torque line until the torque value equals or exceeds driven load requirements.
- Step 4: Read up from the selection block to determine required motor horsepower.

#### Overhung Load

To determine overhung load, divide the torque required by the pitch radius of the sprocket, sheave, etc. and multiply by the appropriate factor as follows.

Chain drive	1.00
Synchronous Belt Drive	1.10
Spur or Helical Gear	1.25
V-Belt	1.50
Flat Belt	2.50

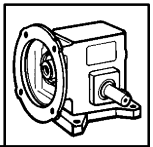
The calculated overhung load must not exceed the output overhung load rating.

For loads acting at more than one shaft diameter from the seal face use the following conversion factors:

Distance in Shaft Diameters from Output Seal Face	Multiply Overhung Load Capacity by this Factor
1D	1.00
2D	0.65
3D	0.45
4D	0.35
5D	0.30

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# EASY SELECTION



## Quill TIGEAR

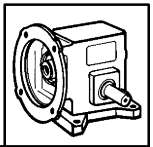
### 1.00 REDUCER SERVICE FACTOR 1750 RPM INPUT

		MOTOR HORSEPOWER									
RPM	RATIO		0.25	0.33	0.5	0.75	1	1.5	2	3	5
350	5	<b>SIZE</b>	<b>133</b>	<b>133</b>	<b>133</b>	<b>133</b>	<b>133</b>	<b>150</b>	<b>175</b>	<b>200</b>	<b>262</b>
		Torque	31 lb in	44 lb in	72 lb in	113 lb in	154 lb in	237 lb in	322 lb in	494 lb in	835 lb in
		OHL	397 lb	397 lb	397 lb	397 lb	397 lb	644 lb	614 lb	615 lb	866 lb
233	7.5	<b>SIZE</b>	<b>150</b>	<b>150</b>	<b>150</b>	<b>150</b>	<b>150</b>	<b>200</b>	<b>200</b>	<b>262</b>	
		Torque	46 lb in	66 lb in	107 lb in	168 lb in	229 lb in	356 lb in	479 lb in	730 lb in	
		OHL	731 lb	731 lb	731 lb	731 lb	731 lb	734 lb	734 lb	1015 lb	
175	10	<b>SIZE</b>	<b>133</b>	<b>133</b>	<b>133</b>	<b>133</b>	<b>150</b>	<b>175</b>	<b>200</b>	<b>262</b>	<b>350</b>
		Torque	61 lb in	86 lb in	140 lb in	219 lb in	299 lb in	462 lb in	626 lb in	957 lb in	1610 lb in
		OHL	417 lb	417 lb	417 lb	417 lb	770 lb	722 lb	738 lb	1060 lb	1758 lb
138	12.67	<b>SIZE</b>	<b>200</b>	<b>200</b>	<b>200</b>	<b>200</b>	<b>200</b>	<b>200</b>	<b>262</b>		
		Torque	78 lb in	110 lb in	178 lb in	277 lb in	376 lb in	575 lb in	800 lb in		
		OHL	797 lb	797 lb	797 lb	797 lb	797 lb	797 lb	1049 lb		
117	15	<b>SIZE</b>	<b>133</b>	<b>133</b>	<b>133</b>	<b>150</b>	<b>175</b>	<b>262</b>	<b>262</b>	<b>350</b>	
		Torque	90 lb in	126 lb in	202 lb in	317 lb in	435 lb in	682 lb in	918 lb in	1385 lb in	
		OHL	434 lb	434 lb	434 lb	872 lb	775 lb	1210 lb	1210 lb	2009 lb	
97	18	<b>SIZE</b>	<b>200</b>	<b>200</b>	<b>200</b>	<b>200</b>	<b>200</b>	<b>262</b>	<b>262</b>		
		Torque	108 lb in	151 lb in	242 lb in	376 lb in	510 lb in	817 lb in	1099 lb in		
		OHL	890 lb	890 lb	890 lb	890 lb	890 lb	1181 lb	1181 lb		
88	20	<b>SIZE</b>	<b>133</b>	<b>133</b>	<b>133</b>	<b>175</b>	<b>175</b>	<b>262</b>	<b>350</b>	<b>350</b>	
		Torque	116 lb in	162 lb in	258 lb in	408 lb in	553 lb in	896 lb in	1168 lb in	1780 lb in	
		OHL	452 lb	452 lb	452 lb	826 lb	826 lb	1203 lb	2124 lb	2124 lb	
70	25	<b>SIZE</b>	<b>133</b>	<b>133</b>	<b>175</b>	<b>175</b>	<b>262</b>	<b>262</b>	<b>350</b>	<b>350</b>	
		Torque	140 lb in	195 lb in	319 lb in	493 lb in	711 lb in	1084 lb in	1422 lb in	2167 lb in	
		OHL	459 lb	459 lb	872 lb	872 lb	1312 lb	1312 lb	2235 lb	2235 lb	
58	30	<b>SIZE</b>	<b>133</b>	<b>133</b>	<b>175</b>	<b>175</b>	<b>262</b>	<b>350</b>	<b>350</b>		
		Torque	156 lb in	216 lb in	357 lb in	552 lb in	815 lb in	1226 lb in	1661 lb in		
		OHL	464 lb	464 lb	945 lb	945 lb	1373 lb	2168 lb	2168 lb		
44	40	<b>SIZE</b>	<b>133</b>	<b>133</b>	<b>175</b>	<b>262</b>	<b>262</b>	<b>350</b>	<b>350</b>		
		Torque	197 lb in	272 lb in	448 lb in	734 lb in	993 lb in	1516 lb in	2050 lb in		
		OHL	484 lb	484 lb	1058 lb	1428 lb	1428 lb	2425 lb	2425 lb		
35	50	<b>SIZE</b>	<b>150</b>	<b>175</b>	<b>200</b>	<b>262</b>	<b>350</b>	<b>350</b>			
		Torque	239 lb in	336 lb in	545 lb in	872 lb in	1184 lb in	1821 lb in			
		OHL	1179 lb	1123 lb	1105 lb	1457 lb	2550 lb	2550 lb			
29	60	<b>SIZE</b>	<b>150</b>	<b>175</b>	<b>200</b>	<b>262</b>	<b>350</b>	<b>350</b>			
		Torque	274 lb in	385 lb in	624 lb in	1006 lb in	1366 lb in	2096 lb in			
		OHL	1260 lb	1217 lb	1124 lb	1481 lb	2602 lb	2602 lb			

Output torque and output overhung load are tabulated for each selection.

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# EASY SELECTION



## Quill TIGEAR

### 1.25 REDUCER SERVICE FACTOR 1750 RPM INPUT

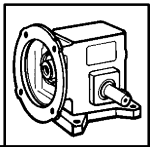
RPM	RATIO		MOTOR HORSEPOWER								
			0.25	0.33	0.5	0.75	1	1.5	2	3	5
350	5	<b>SIZE</b>	<b>133</b>	<b>133</b>	<b>133</b>	<b>133</b>	<b>150</b>	<b>175</b>	<b>175</b>	<b>262</b>	<b>350</b>
		Torque	31 lb in	44 lb in	72 lb in	113 lb in	155 lb in	239 lb in	322 lb in	496 lb in	825 lb in
		OHL	397 lb	397 lb	397 lb	397 lb	644 lb	614 lb	614 lb	866 lb	1556 lb
233	7.5	<b>SIZE</b>	<b>150</b>	<b>150</b>	<b>150</b>	<b>150</b>	<b>200</b>	<b>200</b>	<b>262</b>	<b>262</b>	
		Torque	46 lb in	66 lb in	107 lb in	168 lb in	232 lb in	356 lb in	481 lb in	730 lb in	
		OHL	731 lb	731 lb	731 lb	731 lb	734 lb	734 lb	1015 lb	1015 lb	
175	10	<b>SIZE</b>	<b>133</b>	<b>133</b>	<b>133</b>	<b>150</b>	<b>175</b>	<b>200</b>	<b>262</b>	<b>350</b>	<b>350</b>
		Torque	61 lb in	87 lb in	140 lb in	220 lb in	302 lb in	465 lb in	632 lb in	951 lb in	1610 lb in
		OHL	417 lb	417 lb	417 lb	770 lb	722 lb	738 lb	1060 lb	1758 lb	1758 lb
138	12.67	<b>SIZE</b>	<b>200</b>	<b>200</b>	<b>200</b>	<b>200</b>	<b>200</b>	<b>262</b>	<b>262</b>		
		Torque	78 lb in	110 lb in	178 lb in	277 lb in	376 lb in	594 lb in	800 lb in		
		OHL	797 lb	797 lb	797 lb	797 lb	797 lb	1049 lb	1049 lb		
117	15	<b>SIZE</b>	<b>133</b>	<b>133</b>	<b>133</b>	<b>175</b>	<b>200</b>	<b>262</b>	<b>350</b>	<b>350</b>	
		Torque	90 lb in	126 lb in	202 lb in	320 lb in	439 lb in	682 lb in	907 lb in	1385 lb in	
		OHL	434 lb	434 lb	434 lb	775 lb	892 lb	1210 lb	2009 lb	2009 lb	
97	18	<b>SIZE</b>	<b>200</b>	<b>200</b>	<b>200</b>	<b>200</b>	<b>262</b>	<b>262</b>			
		Torque	108 lb in	151 lb in	242 lb in	376 lb in	535 lb in	817 lb in			
		OHL	890 lb	890 lb	890 lb	890 lb	1181 lb	1181 lb			
88	20	<b>SIZE</b>	<b>133</b>	<b>133</b>	<b>175</b>	<b>175</b>	<b>262</b>	<b>350</b>	<b>350</b>	<b>350</b>	
		Torque	116 lb in	162 lb in	263 lb in	408 lb in	587 lb in	862 lb in	1168 lb in	1780 lb in	
		OHL	452 lb	452 lb	826 lb	883 lb	1203 lb	2124 lb	2124 lb	2124 lb	
70	25	<b>SIZE</b>	<b>133</b>	<b>150</b>	<b>175</b>	<b>200</b>	<b>262</b>	<b>350</b>	<b>350</b>		
		Torque	140 lb in	206 lb in	319 lb in	502 lb in	711 lb in	1050 lb in	1422 lb in		
		OHL	459 lb	948 lb	872 lb	934 lb	1312 lb	2235 lb	2235 lb		
58	30	<b>SIZE</b>	<b>133</b>	<b>150</b>	<b>175</b>	<b>262</b>	<b>262</b>	<b>350</b>	<b>350</b>		
		Torque	156 lb in	219 lb in	357 lb in	602 lb in	815 lb in	1226 lb in	1661 lb in		
		OHL	464 lb	995 lb	945 lb	1373 lb	1373 lb	2168 lb	2168 lb		
44	40	<b>SIZE</b>	<b>133</b>	<b>175</b>	<b>200</b>	<b>262</b>	<b>350</b>	<b>350</b>			
		Torque	197 lb in	282 lb in	459 lb in	734 lb in	982 lb in	1516 lb in			
		OHL	484 lb	1058 lb	1078 lb	1428 lb	2425 lb	2425 lb			
35	50	<b>SIZE</b>	<b>175</b>	<b>175</b>	<b>262</b>	<b>350</b>	<b>350</b>	<b>350</b>			
		Torque	244 lb in	336 lb in	565 lb in	866 lb in	1184 lb in	1821 lb in			
		OHL	1123 lb	1123 lb	1457 lb	2550 lb	2550 lb	2550 lb			
29	60	<b>SIZE</b>	<b>175</b>	<b>200</b>	<b>262</b>	<b>350</b>	<b>350</b>				
		Torque	281 lb in	397 lb in	654 lb in	1001 lb in	1366 lb in				
		OHL	1217 lb	1124 lb	1481 lb	2602 lb	2602 lb				

Output torque and output overhung load are tabulated for each selection.

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# EASY SELECTION



## Quill TIGEAR

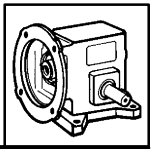
### 1.50 REDUCER SERVICE FACTOR 1750 RPM INPUT

		MOTOR HORSEPOWER									
RPM	RATIO		0.25	0.33	0.5	0.75	1	1.5	2	3	5
350	5	<b>SIZE</b>	<b>133</b>	<b>133</b>	<b>133</b>	<b>150</b>	<b>150</b>	<b>175</b>	<b>200</b>	<b>262</b>	<b>350</b>
		Torque	31 lb in	44 lb in	72 lb in	113 lb in	155 lb in	239 lb in	326 lb in	496 lb in	825 lb in
233	7.5	<b>SIZE</b>	<b>150</b>	<b>150</b>	<b>150</b>	<b>150</b>	<b>200</b>	<b>262</b>	<b>262</b>		
		Torque	46 lb in	66 lb in	107 lb in	168 lb in	232 lb in	357 lb in	481 lb in		
175	10	<b>SIZE</b>	<b>133</b>	<b>133</b>	<b>133</b>	<b>175</b>	<b>175</b>	<b>262</b>	<b>262</b>	<b>350</b>	
		Torque	61 lb in	87 lb in	140 lb in	222 lb in	302 lb in	469 lb in	632 lb in	951 lb in	
138	12.67	<b>SIZE</b>	<b>200</b>	<b>200</b>	<b>200</b>	<b>200</b>	<b>200</b>	<b>262</b>			
		Torque	78 lb in	110 lb in	178 lb in	277 lb in	376 lb in	594 lb in			
117	15	<b>SIZE</b>	<b>133</b>	<b>133</b>	<b>150</b>	<b>175</b>	<b>262</b>	<b>262</b>	<b>350</b>	<b>350</b>	
		Torque	90 lb in	126 lb in	204 lb in	320 lb in	447 lb in	682 lb in	907 lb in	1385 lb in	
97	18	<b>SIZE</b>	<b>200</b>	<b>200</b>	<b>200</b>	<b>200</b>	<b>262</b>				
		Torque	108 lb in	151 lb in	242 lb in	376 lb in	535 lb in				
88	20	<b>SIZE</b>	<b>133</b>	<b>133</b>	<b>175</b>	<b>200</b>	<b>262</b>	<b>350</b>	<b>350</b>		
		Torque	116 lb in	162 lb in	263 lb in	414 lb in	587 lb in	862 lb in	1168 lb in		
70	25	<b>SIZE</b>	<b>133</b>	<b>175</b>	<b>175</b>	<b>262</b>	<b>262</b>	<b>350</b>	<b>350</b>		
		Torque	140 lb in	200 lb in	319 lb in	524 lb in	711 lb in	1050 lb in	1422 lb in		
58	30	<b>SIZE</b>	<b>133</b>	<b>175</b>	<b>200</b>	<b>262</b>	<b>350</b>	<b>350</b>			
		Torque	156 lb in	224 lb in	363 lb in	602 lb in	791 lb in	1226 lb in			
44	40	<b>SIZE</b>	<b>150</b>	<b>175</b>	<b>262</b>	<b>350</b>	<b>350</b>	<b>350</b>			
		Torque	200 lb in	282 lb in	476 lb in	715 lb in	982 lb in	1516 lb in			
35	50	<b>SIZE</b>	<b>175</b>	<b>200</b>	<b>262</b>	<b>350</b>	<b>350</b>				
		Torque	244 lb in	345 lb in	565 lb in	866 lb in	1184 lb in				
29	60	<b>SIZE</b>	<b>200</b>	<b>262</b>	<b>262</b>	<b>350</b>	<b>350</b>				
		Torque	289 lb in	415 lb in	654 lb in	1001 lb in	1366 lb in				

Output torque and output overhung load are tabulated for each selection.

HOW TO ORDER PAGE G3-5	SELECTION PAGES G3-10-G3-29	DIMENSIONS PAGES G3-13-G3-25	MODIFICATIONS/ACCESSORIES PAGES G3-31-G3-35
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# SELECTION



## Quill TIGEAR

### SELECTION USING RATING TABLES

Because the efficiency of worm gear speed reducers varies from approximately 60 to 90%, it is important to consider the horsepower/torque conditions at both input and output in a given application. In a situation where motor horsepower is known (e.g., competitive interchange or when a particular motor is available), selection can be done based on input ratings. Where a gearbox is being selected by a designer who knows driven equipment loads, the reducer is selected from the output torque capacity.

### HORSEPOWER METHOD OF SELECTION

- Step 1: **Determine Service Factor** Referring to the reducer service factor table, determine the appropriate service factor.
- Step 2: **Determine Equivalent Horsepower** Multiply the motor horsepower by the service factor obtained in step 1.
- Step 3: **Calculate Required Ratio** Divide the motor shaft rpm by the reducer output shaft rpm.
- Step 4: **Determine Unit Size** Refer to the rating tables and read across from ratio row and down from motor rpm column to select a unit whose **mechanical** input horsepower rating meets or exceeds the equivalent horsepower.
- Step 5: **Check Thermal Rating** Compare the thermal input horsepower rating of the reducer selected to the motor horsepower. Thermal rating should always equal or exceed applied motor horsepower. For continuous duty operation in ambient temperatures above 80°F contact DODGE Engineering.

### Reducer Service Factors

Prime Mover	Duration of Service Per Day	Driven Machine Load Classification		
		Uniform	Medium Shock	Heavy Shock
Electric Motor	Occasional 1/2 hour	0.80	0.90	1.00
	Intermittent 2 hours	0.90	1.00	1.25
	10 hours	1.00	1.25	1.50
	24 hours	1.25	1.50	1.75
Electric Motor with Frequent Starts and Stops	Occasional 1/2 hour	0.90	1.00	1.25
	Intermittent 2 hours	1.00	1.25	1.50
	10 hours	1.25	1.50	1.75
	24 hours	1.50	1.75	2.00

### Overhung Load

To determine overhung load, divide the torque required by the pitch radius of the sprocket, sheave, etc. and multiply by the appropriate factor as follows:

Chain Drive	1.00
Synchronous Belt Drive	1.10
Spur or Helical Gear	1.25
V-Belt	1.50
Flat Belt	2.50

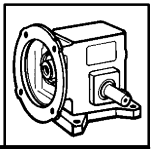
The calculated overhung load must not exceed the output overhung load rating which is expressed in lbs.

For loads acting at more than one shaft diameter from the seal face use the following conversion factors:

Distance in Shaft Diameters from Output Seal Face	Multiply Overhung Load Capacity by this Factor
1D	1.00
2D	0.65
3D	0.45
4D	0.35
5D	0.30

HOW TO ORDER PAGE G3-5	EASY SELECTION PAGES G3-6-G3-9	DIMENSIONS PAGES G3-13-G3-25	MODIFICATIONS/ACCESSORIES PAGES G3-31-G3-35
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# SELECTION



## Quill TIGEAR

### TORQUE METHOD OF SELECTION

- Step 1: **Determine Service Factor** Referring to the reducer service factor table, determine the appropriate service factor.
- Step 2: **Determine Equivalent Torque** Multiply the torque required to drive the load at the output of the reducer by the service factor obtained in Step 1. (If drive components, e.g. chain or belt drives, are used between reducer and driven equipment be sure to account for them when calculating output torque at the reducer.)
- Step 3: **Calculate Required Ratio** Divide the motor shaft rpm by the reducer output shaft rpm.
- Step 4: **Determine Unit Size** Refer to the rating tables and read across from ratio row and down from motor rpm column to select a unit whose **mechanical** output torque rating meets or exceeds the equivalent torque.
- Step 5: **Determine Required Motor Horsepower** First, calculate the output horsepower using the following equation where output torque is the torque required to drive the load at the output of the reducer.

$$\text{Output HP} = \frac{\text{Output Speed} \times \text{Output Torque}}{63025}$$

Then calculate the required motor horsepower using the following equation to account for reducer efficiency:

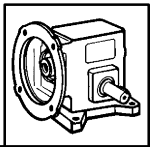
$$\text{Required Motor Horsepower} = \frac{\text{Output Hp} \times \text{Rated Input Hp}}{\text{Rated Output Hp}}$$

- Step 6: **Select Motor Hp** From available motors, select a horsepower that is equal to or greater than the value from Step 5: When the nearest motor horsepower is greater, check service factor at input by dividing rated input horsepower by actual motor horsepower. If the service factor is less than the value from Step 1, a larger reducer may be required.
- Step 7: **Check Thermal Rating** Compare the thermal input horsepower rating of the reducer selected to the motor horsepower (pg. G3-29). Thermal rating should always equal or exceed applied motor horsepower. For continuous duty operation in ambient temperatures above 80°F contact DODGE Engineering.

**NOTE:** On applications where input speeds exceed 2500 rpm or frequent start/stops or reversals occur, a three piece coupled input reducer is recommended. Use of hollow input bore reducers on these applications may result in aggravated fretting corrosion between the motor shaft and the input bore.

HOW TO ORDER PAGE G3-5	EASY SELECTION PAGES G3-6-G3-9	DIMENSIONS PAGES G3-13-G3-25	MODIFICATIONS/ACCESSORIES PAGES G3-31-G3-35
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# SELECTION/DIMENSIONS



## Quill TIGEAR—Size Q133

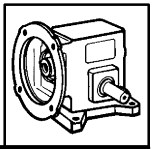
RATIO	RATING DATA	INPUT RPM						PART NUMBER	SHAFT
		2500	1750	1450	1170	580	300	56C	POSITION
5	Output Rpm	500	350	290	234	116	60	MR96100 MR96100L1 MR96100LK	K1 L1 LK
	Mechanical Input Hp	1.42	1.08	0.94	0.80	0.50	0.28		
	Output Torque (lb in.)	155	167	174	184	226	239		
	Mechanical Output Hp	1.23	0.93	0.80	0.68	0.42	0.23		
	Output OHL (lbs.)	397	397	397	397	397	397		
10	Output Rpm	250	175	145	117	58	30	MR96101 MR96101L1 MR96101LK	K1 L1 LK
	Mechanical Input Hp	1.05	0.80	0.69	0.59	0.34	0.20		
	Output Torque (lb in.)	218	234	243	254	292	317		
	Mechanical Output Hp	0.86	0.65	0.56	0.47	0.27	0.15		
	Output OHL (lbs.)	417	417	417	417	417	417		
15	Output Rpm	167	117	97	78	39	20	MR96102 MR96102L1 MR96102LK	K1 L1 LK
	Mechanical Input Hp	0.82	0.63	0.51	0.50	0.25	0.13		
	Output Torque (lb in.)	242	261	253	304	294	283		
	Mechanical Output Hp	0.64	0.48	0.39	0.38	0.18	0.09		
	Output OHL (lbs.)	434	434	434	434	434	434		
20	Output Rpm	125	88	73	59	29	15	MR96103 MR96103L1 MR96103LK	K1 L1 LK
	Mechanical Input Hp	0.71	0.52	0.41	0.41	0.21	0.11		
	Output Torque (lb in.)	264	266	253	311	304	292		
	Mechanical Output Hp	0.53	0.37	0.29	0.29	0.14	0.07		
	Output OHL (lbs.)	452	452	452	452	452	452		
25	Output Rpm	100	70	58	47	23	12	MR96104 MR96104L1 MR96104LK	K1 L1 LK
	Mechanical Input Hp	0.54	0.39	0.34	0.28	0.17	0.09		
	Output Torque (lb in.)	238	234	246	247	282	287		
	Mechanical Output Hp	0.38	0.26	0.23	0.18	0.10	0.06		
	Output OHL (lbs.)	459	459	459	459	459	459		
30	Output Rpm	83	58	48	39	19	10	MR96105 MR96105L1 MR96105LK	K1 L1 LK
	Mechanical Input Hp	0.50	0.40	0.32	0.30	0.17	0.09		
	Output Torque (lb in.)	243	271	253	298	304	292		
	Mechanical Output Hp	0.32	0.25	0.19	0.18	0.09	0.05		
	Output OHL (lbs.)	464	464	464	464	464	464		
40	Output Rpm	63	44	36	29	15	8	MR96106 MR96106L1 MR96106LK	K1 L1 LK
	Mechanical Input Hp	0.42	0.33	0.26	0.22	0.12	0.07		
	Output Torque (lb in.)	249	272	253	262	269	283		
	Mechanical Output Hp	0.25	0.19	0.15	0.12	0.06	0.03		
	Output OHL (lbs.)	484	484	484	484	484	484		
50	Output Rpm	50	35	29	23	12	6	MR96107 MR96107L1 MR96107LK	K1 L1 LK
	Mechanical Input Hp	0.29	0.23	0.20	0.17	0.11	0.06		
	Output Torque (lb in.)	194	210	224	236	262	274		
	Mechanical Output Hp	0.15	0.12	0.10	0.09	0.05	0.03		
	Output OHL (lbs.)	498	498	498	498	498	498		
60	Output Rpm	42	29	24	20	10	5	MR96108 MR96108L1 MR96108LK	K1 L1 LK
	Mechanical Input Hp	0.25	0.19	0.17	0.15	0.09	0.05		
	Output Torque (lb in.)	187	199	210	220	244	254		
	Mechanical Output Hp	0.12	0.09	0.08	0.07	0.04	0.02		
	Output OHL (lbs.)	506	506	506	506	506	506		

NOTE: Shaded ratings are thermally limited. See page G3-29 for thermal capabilities.

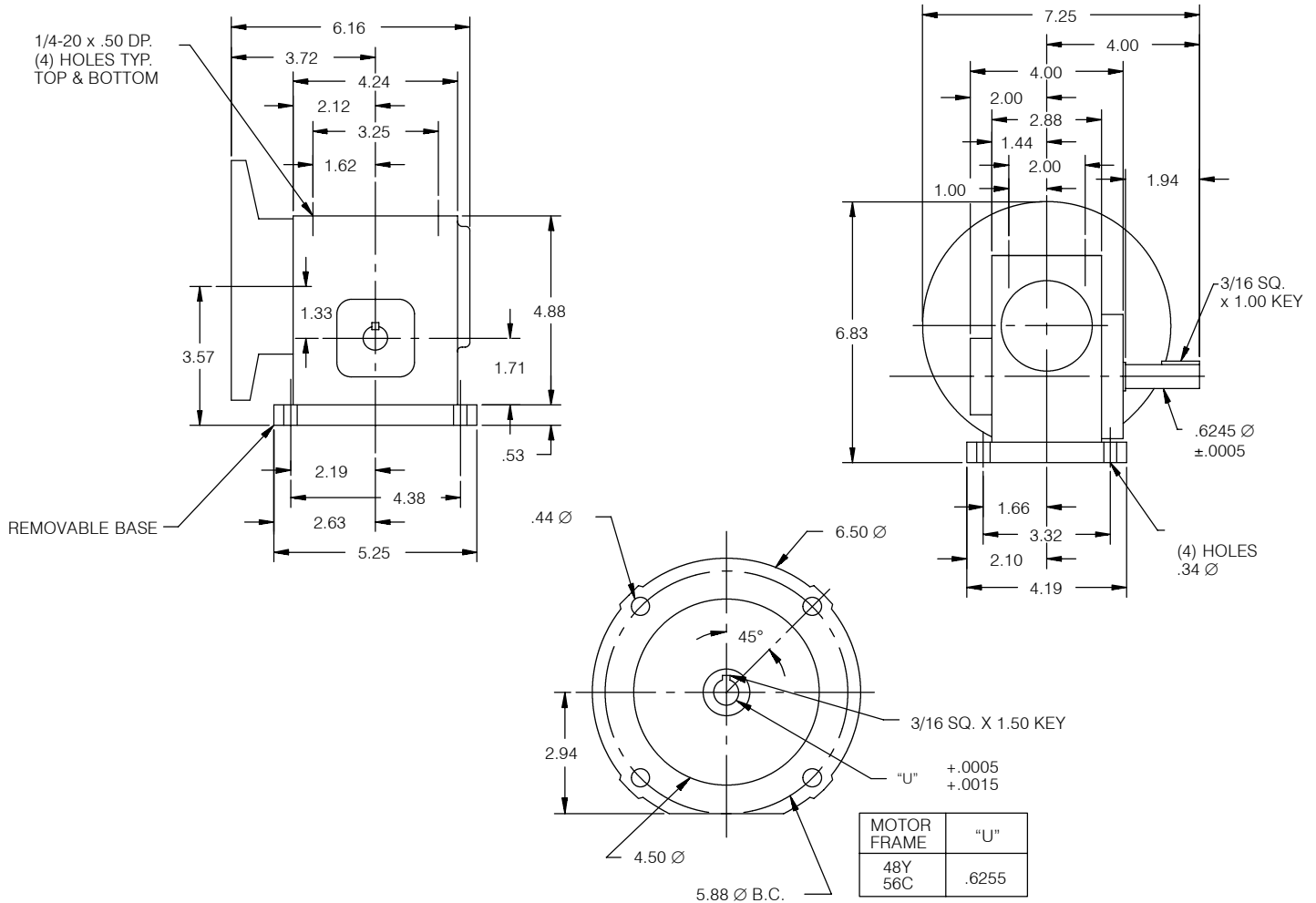
A removable base is included with the standard units. E-Z KLEEN units are not available for size Q133.

HOW TO ORDER PAGE G3-5	SELECTION PAGES G3-10-G3-11	RENEWAL PARTS PAGES G3-36-G3-37	MODIFICATIONS/ACCESSORIES PAGES G3-31-G3-35
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# SELECTION/DIMENSIONS

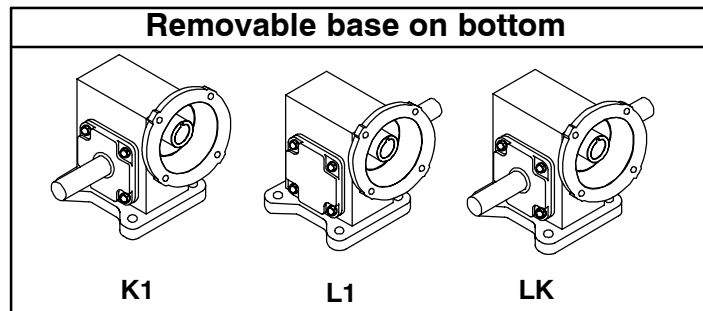


## Quill TIGEAR—Size Q133



For other mounting positions, see page G3-30

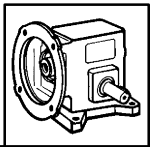
### SHAFT POSITIONS



Because TIGEAR reducers don't have vent, level and drain plugs, they are suitable for a wide variety of mounting positions. However, DODGE does not recommend using mounting positions which place the reducer's input shaft below the level of the output shaft (worm under). These positions should be avoided.

HOW TO ORDER PAGE G3-5	SELECTION PAGES G3-10-G3-11	ENGINEERING/TECHNICAL PAGES G3-38-G3-40	MODIFICATIONS/ACCESSORIES PAGES G3-31-G3-35
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# SELECTION/DIMENSIONS



## Quill TIGEAR—Size Q150

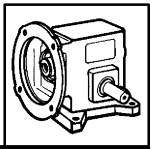
RATIO	RATING DATA	INPUT RPM						56C FRAME		SHAFT POSITION
		2500	1750	1450	1170	580	300	STANDARD	EZ-KLEEN	
5	Output Rpm	500	350	290	234	116	60	MR94742 MR94742L1 MR94742LK	MZ94742 MZ94742L1 MZ94742LK	K1 L1 LK
	Mechanical Input Hp	1.99	1.52	1.32	1.12	0.61	0.36			
	Output Torque (lb in.)	221	240	249	261	280	308			
	Mechanical Output Hp	1.76	1.33	1.15	0.97	0.52	0.29			
	Output OHL (lbs.)	611	644	697	720	886	886			
7.5	Output Rpm	333	233	193	156	77	40	MR94907 MR94907L1 MR94907LK	MZ94907 MZ94907L1 MZ94907LK	K1 L1 LK
	Mechanical Input Hp	1.38	1.12	1.01	0.87	0.52	0.29			
	Output Torque (lb in.)	224	258	280	298	347	370			
	Mechanical Output Hp	1.19	0.96	0.86	0.74	0.43	0.24			
	Output OHL (lbs.)	687	731	752	805	856	856			
10	Output Rpm	250	175	145	117	58	30	MR94743 MR94743L1 MR94743LK	MZ94743 MZ94743L1 MZ94743LK	K1 L1 LK
	Mechanical Input Hp	1.19	1.03	0.95	0.81	0.50	0.25			
	Output Torque (lb in.)	252	307	344	357	436	414			
	Mechanical Output Hp	1.00	0.85	0.79	0.66	0.40	0.20			
	Output OHL (lbs.)	727	770	793	863	863	863			
15	Output Rpm	167	117	97	78	39	20	MR94744 MR94744L1 MR94744LK	MZ94744 MZ94744L1 MZ94744LK	K1 L1 LK
	Mechanical Input Hp	0.92	0.75	0.68	0.61	0.33	0.18			
	Output Torque (lb in.)	276	317	345	376	397	400			
	Mechanical Output Hp	0.73	0.59	0.53	0.47	0.24	0.13			
	Output OHL (lbs.)	807	872	872	872	872	872			
20	Output Rpm	125	88	73	59	29	15	MR94745 MR94745L1 MR94745LK	MZ94745 MZ94745L1 MZ94745LK	K1 L1 LK
	Mechanical Input Hp	0.70	0.59	0.54	0.47	0.30	0.17			
	Output Torque (lb in.)	265	312	344	368	451	461			
	Mechanical Output Hp	0.53	0.43	0.40	0.34	0.21	0.11			
	Output OHL (lbs.)	893	893	893	893	893	893			
25	Output Rpm	100	70	58	47	23	12	MR94874 MR94874L1 MR94874LK	MZ94874 MZ94874L1 MZ94874LK	K1 L1 LK
	Mechanical Input Hp	0.62	0.46	0.39	0.33	0.19	0.10			
	Output Torque (lb in.)	290	301	299	315	344	357			
	Mechanical Output Hp	0.46	0.33	0.27	0.23	0.13	0.07			
	Output OHL (lbs.)	948	948	948	948	948	948			
30	Output Rpm	83	58	48	39	19	10	MR94746 MR94746L1 MR94746LK	MZ94746 MZ94746L1 MZ94746LK	K1 L1 LK
	Mechanical Input Hp	0.54	0.43	0.41	0.35	0.22	0.12			
	Output Torque (lb in.)	269	297	341	351	416	410			
	Mechanical Output Hp	0.36	0.28	0.26	0.22	0.13	0.07			
	Output OHL (lbs.)	995	995	995	995	995	995			
40	Output Rpm	63	44	36	29	15	8	MR94747 MR94747L1 MR94747LK	MZ94747 MZ94747L1 MZ94747LK	K1 L1 LK
	Mechanical Input Hp	0.44	0.37	0.34	0.30	0.17	0.09			
	Output Torque (lb in.)	270	315	346	383	394	376			
	Mechanical Output Hp	0.27	0.22	0.20	0.18	0.09	0.05			
	Output OHL (lbs.)	1108	1108	1108	1108	1108	1108			
50	Output Rpm	50	35	29	23	12	6	MR94748 MR94748L1 MR94748LK	MZ94748 MZ94748L1 MZ94748LK	K1 L1 LK
	Mechanical Input Hp	0.39	0.29	0.26	0.23	0.14	0.08			
	Output Torque (lb in.)	283	287	305	325	366	386			
	Mechanical Output Hp	0.22	0.16	0.14	0.12	0.07	0.04			
	Output OHL (lbs.)	1179	1179	1179	1179	1179	1179			
60	Output Rpm	42	29	24	20	10	5	MR94749 MR94749L1 MR94749LK	MZ94749 MZ94749L1 MZ94749LK	K1 L1 LK
	Mechanical Input Hp	0.30	0.25	0.22	0.19	0.12	0.07			
	Output Torque (lb in.)	233	274	287	304	341	360			
	Mechanical Output Hp	0.15	0.13	0.11	0.09	0.05	0.03			
	Output OHL (lbs.)	1260	1260	1260	1260	1260	1260			

NOTE: Shaded ratings are thermally limited. See page G3-29 for thermal capabilities.

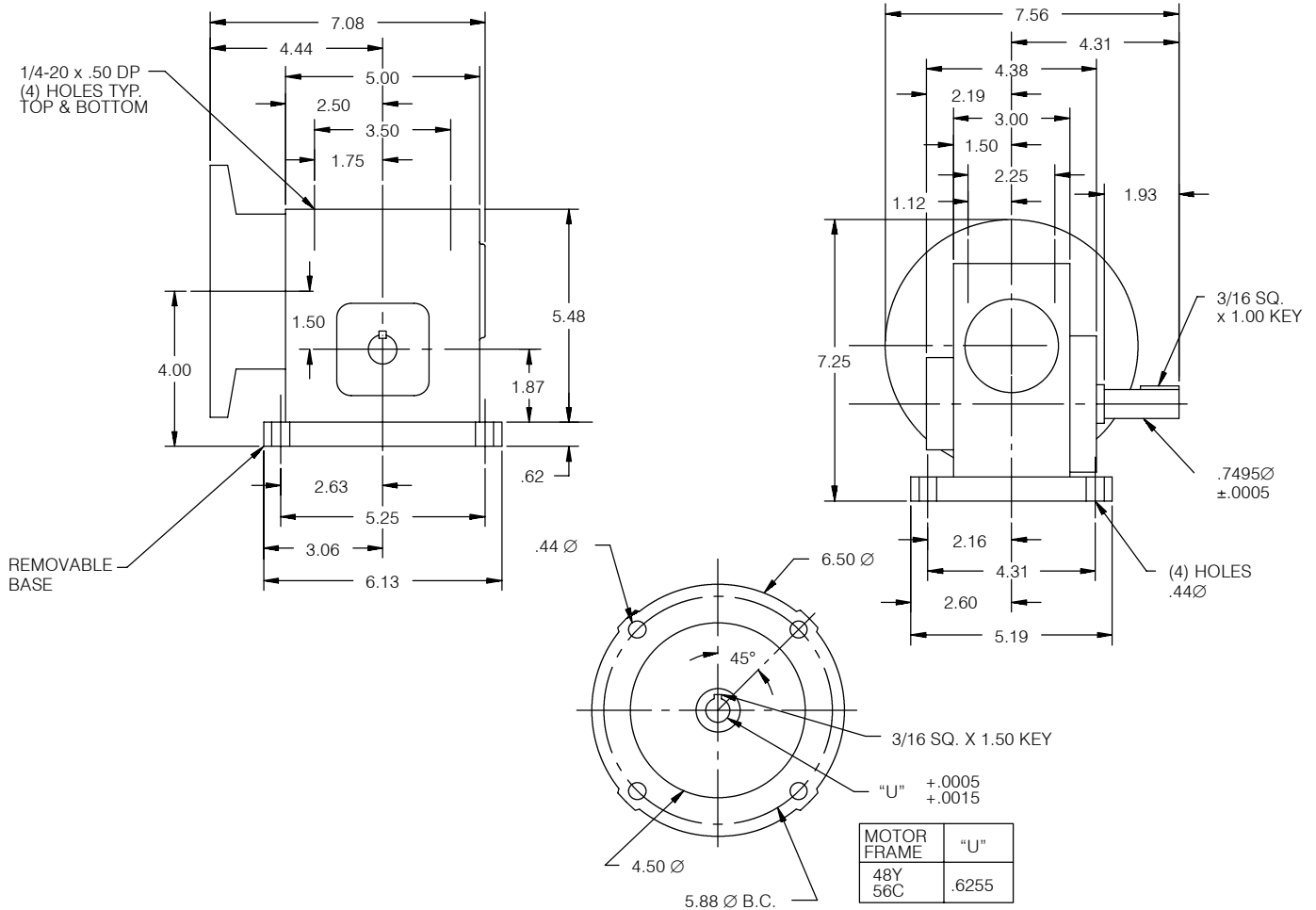
A removable base is included with the standard units. E-Z KLEEN units are footless as standard. Order E-Z KLEEN base kit 41164235W if required.

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# SELECTION/DIMENSIONS

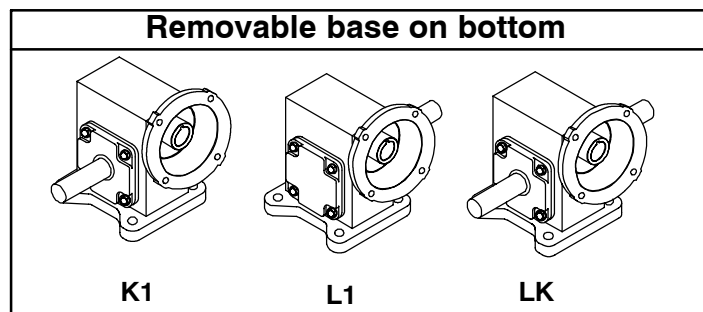


## Quill TIGEAR—Size Q150



For other mounting positions, see page G3-30

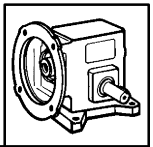
### SHAFT POSITIONS



Because TIGEAR reducers don't have vent, level and drain plugs, they are suitable for a wide variety of mounting positions. However, DODGE does not recommend using mounting positions which place the reducer's input shaft below the level of the output shaft (worm under). These positions should be avoided.

HOW TO ORDER PAGE G3-5	SELECTION PAGES G3-10-G3-11	ENGINEERING/TECHNICAL PAGES G3-38-G3-40	MODIFICATIONS/ACCESSORIES PAGES G3-31-G3-35
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# SELECTION/DIMENSIONS



## Quill TIGEAR—Size Q175

RATIO	RATING DATA	INPUT RPM						STANDARD NUMBER		EZ-KLEEN NUMBER		SHAFT POSITION
		2500	1750	1450	1170	580	300	56C	140TC	56C	140TC	
5	Output Rpm	500	350	290	234	116	60					
	Mechanical Input Hp	3.38	2.59	2.26	2.00	1.06	0.59	MR94750	MR94758	MZ94750	MZ94758	K1
	Output Torque (lb in.)	386	420	440	478	497	524	MR94750L1	MR94758L1	MZ94750L1	MZ94758L1	L1
	Mechanical Output Hp	3.06	2.33	2.02	1.78	0.91	0.50	MR94750LK	MR94758LK	MZ94750LK	MZ94758LK	LK
	Output OHL (lbs.)	586	614	628	639	801	801					
10	Output Rpm	250	175	145	117	58	30					
	Mechanical Input Hp	2.02	1.70	1.48	1.16	0.64	0.41	MR94751	MR94759	MZ94751	MZ94759	K1
	Output Torque (lb in.)	441	524	548	524	567	682	MR94751L1	MR94759L1	MZ94751L1	MZ94759L1	L1
	Mechanical Output Hp	1.75	1.46	1.26	0.97	0.52	0.32	MR94751LK	MR94759LK	MZ94751LK	MZ94759LK	LK
	Output OHL (lbs.)	688	722	738	824	824	824					
15	Output Rpm	167	117	97	78	39	20					
	Mechanical Input Hp	1.46	1.20	1.01	0.85	0.52	0.27	MR94752	MR94879	MZ94752	MZ94879	K1
	Output Torque (lb in.)	456	524	529	542	644	619	MR94752L1	MR94879L1	MZ94752L1	MZ94879L1	L1
	Mechanical Output Hp	1.21	0.97	0.81	0.67	0.40	0.20	MR94752LK	MR94879LK	MZ94752LK	MZ94879LK	LK
	Output OHL (lbs.)	775	775	775	775	775	775					
20	Output Rpm	125	88	73	59	29	15					
	Mechanical Input Hp	1.15	1.00	0.81	0.75	0.45	0.25	MR94753		MZ94753		K1
	Output Torque (lb in.)	456	553	529	602	694	708	MR94753L1		MZ94753L1		L1
	Mechanical Output Hp	0.90	0.77	0.61	0.56	0.32	0.17	MR94753LK		MZ94753LK		LK
	Output OHL (lbs.)	826	826	826	826	826	826					
25	Output Rpm	100	70	58	47	23	12					
	Mechanical Input Hp	1.00	0.79	0.68	0.55	0.29	0.17	MR94868		MZ94868		K1
	Output Torque (lb in.)	475	524	530	524	524	553	MR94868L1		MZ94868L1		L1
	Mechanical Output Hp	0.75	0.58	0.49	0.39	0.19	0.11	MR94868LK		MZ94868LK		LK
	Output OHL (lbs.)	872	872	872	872	872	872					
30	Output Rpm	83	58	48	39	19	10					
	Mechanical Input Hp	0.85	0.75	0.60	0.54	0.33	0.19	MR94754		MZ94754		K1
	Output Torque (lb in.)	450	552	524	573	653	678	MR94754L1		MZ94754L1		L1
	Mechanical Output Hp	0.60	0.51	0.40	0.35	0.20	0.11	MR94754LK		MZ94754LK		LK
	Output OHL (lbs.)	945	945	945	945	945	945					
40	Output Rpm	63	44	36	29	15	8					
	Mechanical Input Hp	0.69	0.57	0.50	0.45	0.25	0.14	MR94755		MZ94755		K1
	Output Torque (lb in.)	464	527	536	607	603	601	MR94755L1		MZ94755L1		L1
	Mechanical Output Hp	0.46	0.37	0.31	0.28	0.14	0.07	MR94755LK		MZ94755LK		LK
	Output OHL (lbs.)	1058	1058	1058	1058	1058	1058					
50	Output Rpm	50	35	29	23	12	6					
	Mechanical Input Hp	0.58	0.44	0.37	0.33	0.19	0.11	MR94756		MZ94756		K1
	Output Torque (lb in.)	474	477	456	495	524	524	MR94756L1		MZ94756L1		L1
	Mechanical Output Hp	0.38	0.27	0.21	0.18	0.10	0.05	MR94756LK		MZ94756LK		LK
	Output OHL (lbs.)	1123	1123	1123	1123	1123	1123					
60	Output Rpm	42	29	24	20	10	5					
	Mechanical Input Hp	0.41	0.34	0.31	0.27	0.17	0.10	MR94757		MZ94757		K1
	Output Torque (lb in.)	350	402	426	461	524	524	MR94757L1		MZ94757L1		L1
	Mechanical Output Hp	0.23	0.19	0.16	0.14	0.08	0.04	MR94757LK		MZ94757LK		LK
	Output OHL (lbs.)	1217	1217	1217	1217	1217	1217					

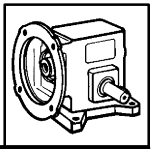
NOTE: Shaded ratings are thermally limited. See page G3-29 for thermal capabilities.

A removable base is included with the standard units. EZ-KLEEN units are footless as standard. Order the E-Z KLEEN base kit 41164235X if required.

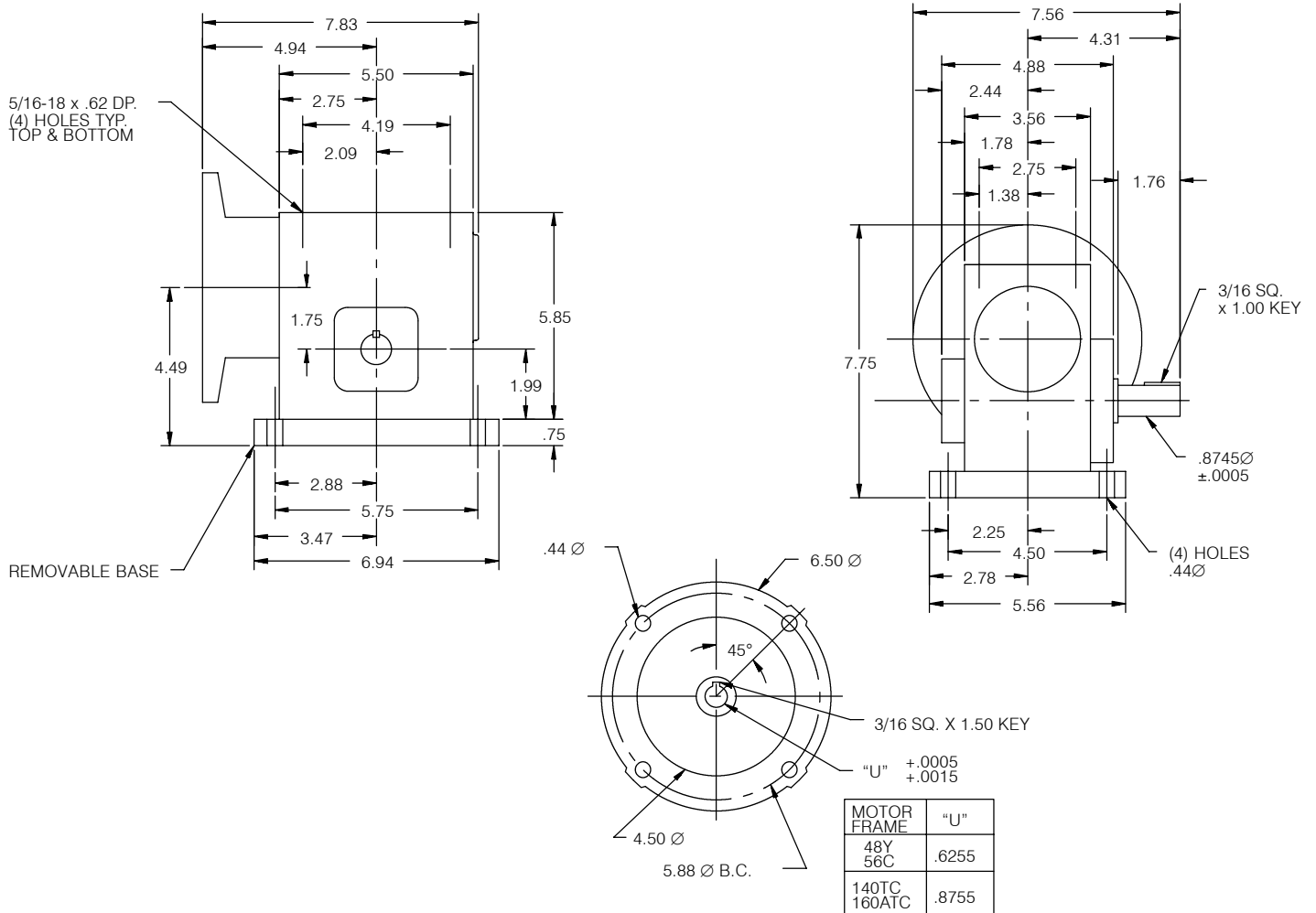
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# SELECTION/DIMENSIONS

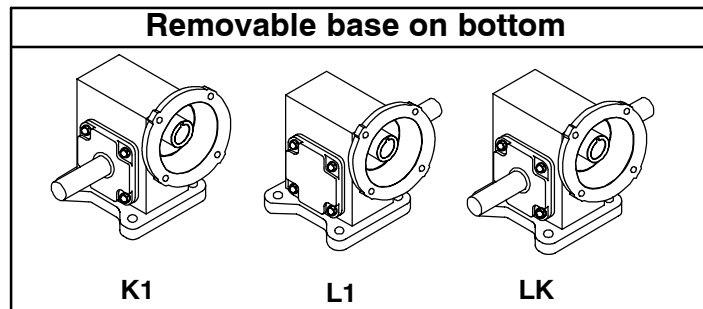


## Quill TIGEAR—Size Q175



For other mounting positions, see page G3-30

### SHAFT POSITIONS



Because TIGEAR reducers don't have vent, level and drain plugs, they are suitable for a wide variety of mounting positions. However, DODGE does not recommend using mounting positions which place the reducer's input shaft below the level of the output shaft (worm under). These positions should be avoided.

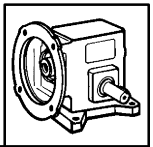
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# SELECTION/DIMENSIONS



## Quill TIGEAR—Size Q200

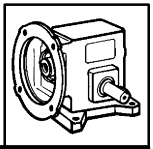
RATIO2	RATING DATA	INPUT RPM						STANDARD NUMBER		EZ-KLEEN NUMBER		SHAFT POSITION
		2500	1750	1450	1170	580	300	56C	140TC	56C	140TC	
5	Output Rpm	500	350	290	234	116	60					
	Mechanical Input Hp	4.30	3.20	3.20	2.48	1.30	0.69	MR94610	MR94611	MZ94610	MZ94611	K1
	Output Torque (lb in.)	500	528	636	610	624	624	MR94610L1	MR94611L1	MZ94610L1	MZ94611L1	L1
	Mechanical Output Hp	3.97	2.93	2.93	2.25	1.15	0.59	MR94610LK	MR94611LK	MZ94610LK	MZ94611LK	LK
	Output OHL (lbs.)	627	615	621	689	689	689					
7.5	Output Rpm	333	233	193	156	77	40					
	Mechanical Input Hp	2.85	2.06	1.89	1.69	0.90	0.50	MR94909	MR94612	MZ94909	MZ94612	K1
	Output Torque (lb in.)	483	493	543	597	624	652	MR94909L1	MR94612L1	MZ94909L1	MZ94612L1	L1
	Mechanical Output Hp	2.56	1.83	1.67	1.48	0.77	0.41	MR94909LK	MR94612LK	MZ94909LK	MZ94612LK	LK
	Output OHL (lbs.)	701	734	787	808	906	906					
10	Output Rpm	250	175	145	117	58	30					
	Mechanical Input Hp	2.34	2.00	1.88	1.51	0.93	0.55	MR94760	MR94767	MZ94760	MZ94767	K1
	Output Torque (lb in.)	517	626	704	695	837	929	MR94760L1	MR94767L1	MZ94760L1	MZ94767L1	L1
	Mechanical Output Hp	2.05	1.74	1.62	1.29	0.77	0.44	MR94760LK	MR94767LK	MZ94760LK	MZ94767LK	LK
	Output OHL (lbs.)	735	738	795	823	823	823					
12.67	Output Rpm	197	138	114	92	46	24					
	Mechanical Input Hp	1.85	1.51	1.51	1.22	0.83	0.46	MR94910	MR94911	MZ94910	MZ94911	K1
	Output Torque (lb in.)	501	580	696	693	908	929	MR94910L1	MR94911L1	MZ94910L1	MZ94911L1	L1
	Mechanical Output Hp	1.57	1.27	1.26	1.01	0.66	0.35	MR94910LK	MR94911LK	MZ94910LK	MZ94911LK	LK
	Output OHL (lbs.)	797	797	797	797	797	797					
15	Output Rpm	167	117	97	78	39	20					
	Mechanical Input Hp	1.66	1.39	1.33	1.13	0.75	0.39	MR94761	MR94904	MZ94761	MZ94904	K1
	Output Torque (lb in.)	525	622	711	737	949	915	MR94761L1	MR94904L1	MZ94761L1	MZ94904L1	L1
	Mechanical Output Hp	1.39	1.15	1.09	0.91	0.58	0.29	MR94761LK	MR94904LK	MZ94761LK	MZ94904LK	LK
	Output OHL (lbs.)	793	892	892	892	892	892					
18	Output Rpm	139	97	81	65	32	17					
	Mechanical Input Hp	1.38	1.14	1.14	0.92	0.65	0.39	MR94912	MR94613	MZ94912	MZ94613	K1
	Output Torque (lb in.)	504	587	700	696	929	1034	MR94912L1	MR94613L1	MZ94912L1	MZ94613L1	L1
	Mechanical Output Hp	1.11	0.91	0.89	0.71	0.48	0.27	MR94912LK	MR94613LK	MZ94912LK	MZ94613LK	LK
	Output OHL (lbs.)	890	890	890	890	890	890					
20	Output Rpm	125	88	73	59	29	15					
	Mechanical Input Hp	1.30	1.11	1.06	0.88	0.62	0.34	MR94762	MR94905	MZ94762	MZ94905	K1
	Output Torque (lb in.)	522	626	711	729	977	984	MR94762L1	MR94905L1	MZ94762L1	MZ94905L1	L1
	Mechanical Output Hp	1.04	0.87	0.82	0.67	0.45	0.23	MR94762LK	MR94905LK	MZ94762LK	MZ94905LK	LK
	Output OHL (lbs.)	883	883	883	883	883	883					
25	Output Rpm	100	70	58	47	23	12					
	Mechanical Input Hp	1.13	0.92	0.88	0.78	0.42	0.22	MR94875	MR94906	MZ94875	MZ94906	K1
	Output Torque (lb in.)	549	639	707	774	782	748	MR94875L1	MR94906L1	MZ94875L1	MZ94906L1	L1
	Mechanical Output Hp	0.87	0.71	0.65	0.57	0.29	0.14	MR94875LK	MR94906LK	MZ94875LK	MZ94906LK	LK
	Output OHL (lbs.)	934	934	934	934	934	934					
30	Output Rpm	83	58	48	39	19	10					
	Mechanical Input Hp	0.93	0.79	0.77	0.65	0.43	0.25	MR94763		MZ94763		K1
	Output Torque (lb in.)	501	599	689	702	868	907	MR94763L1		MZ94763L1		L1
	Mechanical Output Hp	0.66	0.55	0.53	0.43	0.27	0.14	MR94763LK		MZ94763LK		LK
	Output OHL (lbs.)	1008	1008	1008	1008	1008	1008					
40	Output Rpm	63	44	36	29	15	8					
	Mechanical Input Hp	0.79	0.67	0.64	0.55	0.35	0.20	MR94764		MZ94764		K1
	Output Torque (lb in.)	535	628	714	748	873	891	MR94764L1		MZ94764L1		L1
	Mechanical Output Hp	0.53	0.44	0.41	0.34	0.20	0.11	MR94764LK		MZ94764LK		LK
	Output OHL (lbs.)	1078	1078	1078	1078	1078	1078					
50	Output Rpm	50	35	29	23	12	6					
	Mechanical Input Hp	0.68	0.58	0.54	0.41	0.23	0.12	MR94765		MZ94765		K1
	Output Torque (lb in.)	548	639	700	646	659	627	MR94765L1		MZ94765L1		L1
	Mechanical Output Hp	0.43	0.36	0.32	0.24	0.12	0.06	MR94765LK		MZ94765LK		LK
	Output OHL (lbs.)	1105	1105	1105	1105	1105	1105					
60	Output Rpm	42	29	24	20	10	5					
	Mechanical Input Hp	0.55	0.50	0.42	0.35	0.19	0.11	MR94766		MZ94766		K1
	Output Torque (lb in.)	499	624	617	624	624	624	MR94766L1		MZ94766L1		L1
	Mechanical Output Hp	0.33	0.29	0.24	0.19	0.10	0.05	MR94766LK		MZ94766LK		LK
	Output OHL (lbs.)	1124	1124	1124	1124	1124	1124					

NOTE: Shaded ratings are thermally limited. See page G3-29 for thermal capabilities.

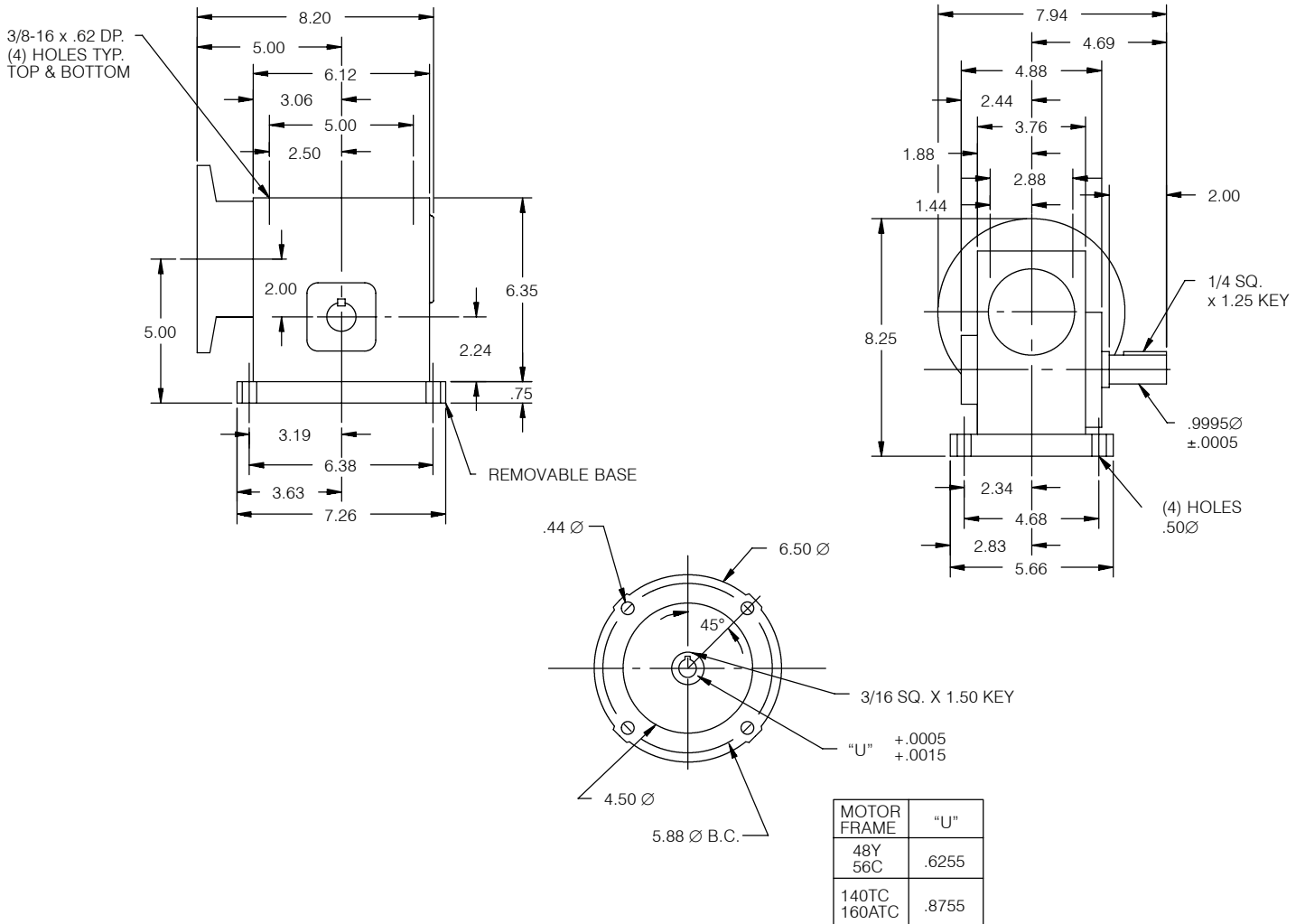
A removable base is included with the standard units. E-Z KLEEN units are footless as standard. Order E-Z KLEEN base kit 41164235Y if required.

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# SELECTION/DIMENSIONS

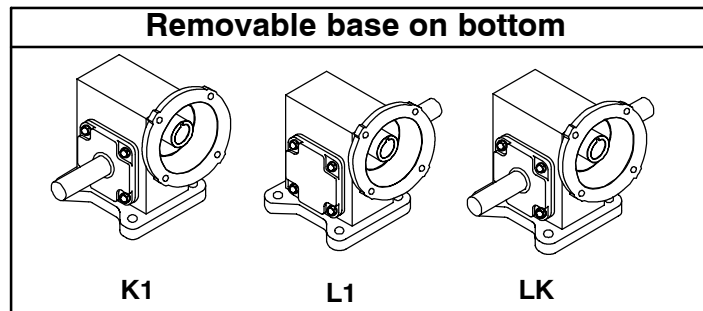


## Quill TIGEAR—Size Q200



For other mounting positions, see G3-30

### SHAFT POSITIONS



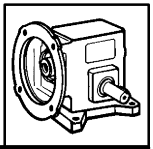
Because TIGEAR reducers don't have vent, level and drain plugs, they are suitable for a wide variety of mounting positions. However, DODGE does not recommend using mounting positions which place the reducer's input shaft below the level of the output shaft (worm under). These positions should be avoided.

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# SELECTION/DIMENSIONS

## Quill TIGEAR—Size Q262

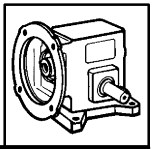
RATIO	RATING DATA	INPUT RPM						STANDARD NUMBER			EZ-KLEEN NUMBER		SHAFT POS.				
		2500	1750	1450	1170	580	300	56C	140TC	180TC	56C	140TC					
5	Output Rpm	500	350	290	234	116	60										
	Mechanical Input Hp	5.97	5.00	4.65	4.37	3.00	1.54		MR94660	MR94625							K1
	Output Torque (lb in.)	699	829	927	1094	1471	1426		MR94660L1	MR94625L1							L1
	Mechanical Output Hp	5.55	4.61	4.27	4.03	2.71	1.36		MR94660LK	MR94625LK							LK
	Output OHL (lbs.)	833	866	922	990	1040	1361										
7.5	Output Rpm	333	233	193	156	77	40										
	Mechanical Input Hp	4.85	4.02	4.02	3.18	1.70	0.88		MR94923	MR94924							K1
	Output Torque (lb in.)	837	984	1184	1164	1203	1173		MR94923L1	MR94924L1							L1
	Mechanical Output Hp	4.43	3.64	3.63	2.86	1.48	0.74		MR94923LK	MR94924LK							LK
	Output OHL (lbs.)	966	1015	968	1058	1183	1183										
10	Output Rpm	250	175	145	117	58	30										
	Mechanical Input Hp	3.82	3.17	3.05	2.47	2.05	1.20		MR94665	MR94667	MR94626			MZ94667			K1
	Output Torque (lb in.)	862	1013	1173	1175	1891	2070		MR94665L1	MR94667L1	MR94626L1			MZ94667L1			L1
	Mechanical Output Hp	3.42	2.81	2.70	2.16	1.74	0.99		MR94665LK	MR94667LK	MR94626LK			MZ94667LK			LK
	Output OHL (lbs.)	1014	1060	1083	1193	1193	1193										
12.67	Output Rpm	197	138	114	92	46	24										
	Mechanical Input Hp	3.18	2.61	2.48	2.10	1.50	0.88		MR94913								K1
	Output Torque (lb in.)	904	1050	1173	1247	1739	1924		MR94913L1					MZ94913L1			L1
	Mechanical Output Hp	2.83	2.30	2.13	1.82	1.26	0.72		MR94913LK					MZ94913LK			LK
	Output OHL (lbs.)	1049	1049	1049	1049	1049	1049										
15	Output Rpm	167	117	97	78	39	20										
	Mechanical Input Hp	2.73	2.24	2.13	1.84	1.54	0.90		MR94668	MR94622				MZ94668	MZ94622		K1
	Output Torque (lb in.)	891	1030	1173	1246	2007	2175		MR94668L1	MR94622L1				MZ94668L1	MZ94622L1		L1
	Mechanical Output Hp	2.38	1.91	1.80	1.53	1.23	0.69		MR94668LK	MR94622LK				MZ94668LK	MZ94622LK		LK
	Output OHL (lbs.)	1145	1210	1210	1210	1210	1210										
18	Output Rpm	139	97	81	65	32	17										
	Mechanical Input Hp	2.34	2.00	1.79	1.57	1.01	0.54		MR94914								K1
	Output Torque (lb in.)	912	1099	1173	1262	1573	1551		MR94914L1					MZ94914			L1
	Mechanical Output Hp	2.01	1.70	1.50	1.30	0.80	0.41		MR94914LK					MZ94914LK			LK
	Output OHL (lbs.)	1181	1181	1181	1181	1181	1181										
20	Output Rpm	125	88	73	59	29	15										
	Mechanical Input Hp	2.21	1.77	1.64	1.50	0.93	0.47		MR94669	MR94623				MZ94669	MZ94623		K1
	Output Torque (lb in.)	949	1065	1173	1325	1580	1479		MR94669L1	MR94623L1				MZ94669L1	MZ94623L1		L1
	Mechanical Output Hp	1.88	1.48	1.35	1.23	0.73	0.35		MR94669LK	MR94623LK				MZ94669LK	MZ94623LK		LK
	Output OHL (lbs.)	1203	1203	1203	1203	1203	1203										
25	Output Rpm	100	70	58	47	23	12										
	Mechanical Input Hp	1.82	1.52	1.36	1.21	0.65	0.34		MR94876	MR94877				MZ94876	MZ94877		K1
	Output Torque (lb in.)	939	1099	1173	1282	1309	1259		MR94876L1	MR94877L1				MZ94876L1	MZ94877L1		L1
	Mechanical Output Hp	1.49	1.22	1.08	0.95	0.48	0.24		MR94876LK	MR94877LK				MZ94876LK	MZ94877LK		LK
	Output OHL (lbs.)	1312	1312	1312	1312	1312	1312										
30	Output Rpm	83	58	48	39	19	10										
	Mechanical Input Hp	1.58	1.31	1.20	1.11	0.60	0.33		MR94650	MR94624				MZ94650	MZ94624		K1
	Output Torque (lb in.)	928	1080	1173	1322	1341	1339		MR94650L1	MR94624L1				MZ94650L1	MZ94624L1		L1
	Mechanical Output Hp	1.23	1.00	0.90	0.82	0.41	0.21		MR94650LK	MR94624LK				MZ94650LK	MZ94624LK		LK
	Output OHL (lbs.)	1373	1373	1373	1373	1373	1373										
40	Output Rpm	63	44	36	29	15	8										
	Mechanical Input Hp	1.23	1.01	1.01	0.83	0.75	0.46		MR94619	MR94651				MZ94619	MZ94651		K1
	Output Torque (lb in.)	885	1003	1193	1197	1974	2152		MR94619L1	MR94651L1				MZ94619L1	MZ94651L1		L1
	Mechanical Output Hp	0.88	0.70	0.69	0.55	0.45	0.26		MR94619LK	MR94651LK				MZ94619LK	MZ94651LK		LK
	Output OHL (lbs.)	1428	1428	1428	1428	1428	1428										
50	Output Rpm	50	35	29	23	12	6										
	Mechanical Input Hp	1.00	0.90	0.85	0.75	0.50	0.28		MR94620					MZ94620			K1
	Output Torque (lb in.)	854	1056	1173	1269	1517	1502		MR94620L1					MZ94620L1			L1
	Mechanical Output Hp	0.68	0.59	0.54	0.47	0.28	0.14		MR94620LK					MZ94620LK			LK
	Output OHL (lbs.)	1457	1457	1457	1457	1457	1457										
60	Output Rpm	42	29	24	20	10	5										
	Mechanical Input Hp	1.00	0.82	0.74	0.62	0.34	0.20		MR94621					MZ94621			K1
	Output Torque (lb in.)	980	1104	1173	1173	1173	1173		MR94621L1					MZ94621L1			L1
	Mechanical Output Hp	0.65	0.51	0.36	0.36	0.18	0.09		MR94621LK					MZ94621LK			LK
	Output OHL (lbs.)	1481	1481	1481	1481	1481	1481										

NOTE: Shaded ratings are thermally limited. See page G3-29 for thermal capabilities.

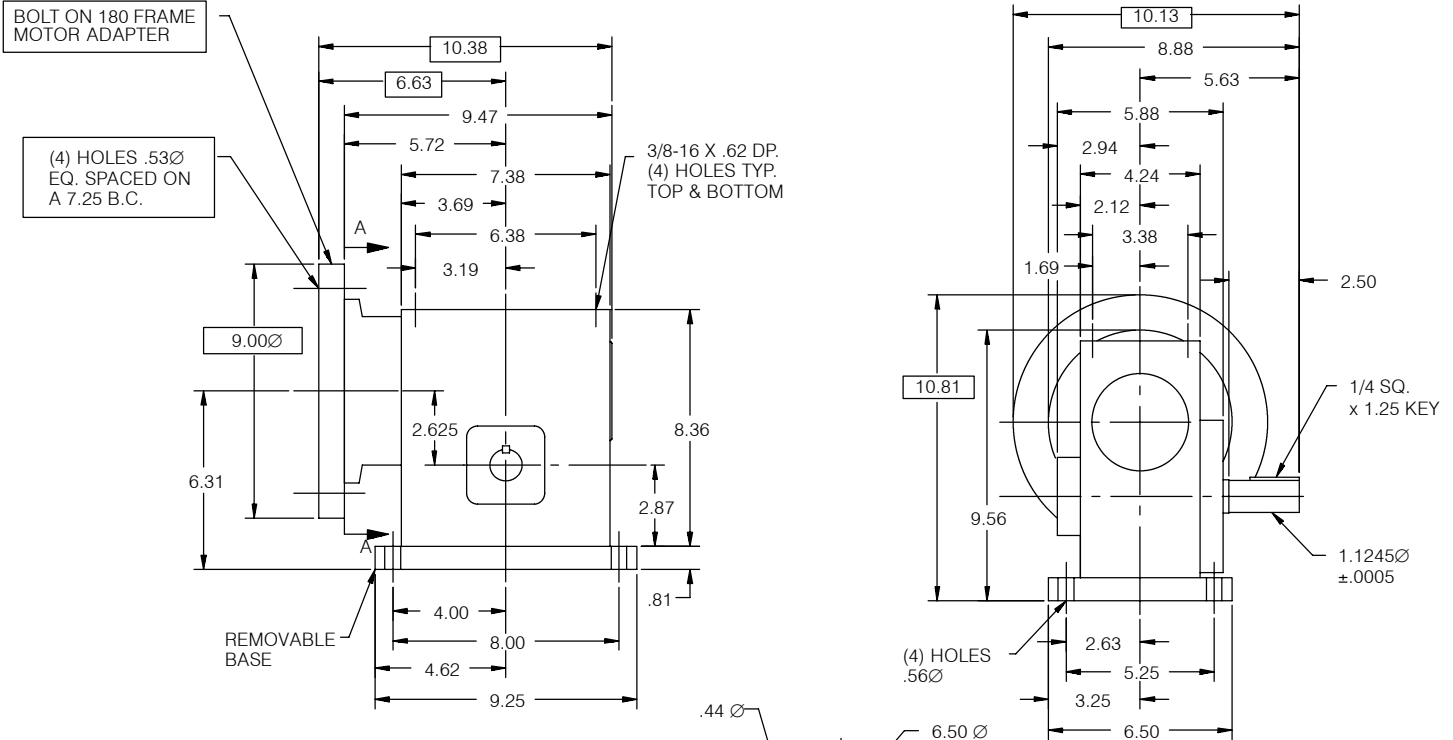
A removable base is included with the standard units. E-Z KLEEN units are footless as standard. Order E-Z KLEEN base kit 41164235Z if required.

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# SELECTION/DIMENSIONS



## Quill TIGEAR—Size Q262

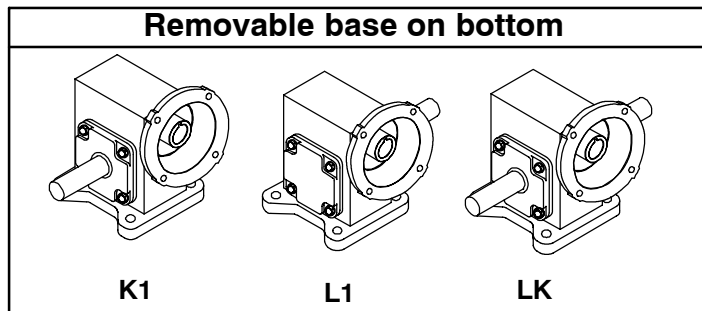


MOTOR FRAME	"U"	"XV"	KEY
48Y 56C	.6255	4.50	3/16 SQ. X 1.50 KEY
140TC 160ATC	.8755	4.50	3/16 SQ. X 1.50 KEY
180TC 180ATC	1.1255	8.50	1/4 SQ. X 2.00 KEY

NOTE: DIMENSIONS THAT ARE **BOXED** ARE FOR 180 FRAME APPLICATIONS ONLY.

For other mounting positions, see page G3-30

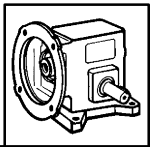
### SHAFT POSITIONS



Because TIGEAR reducers don't have vent, level and drain plugs, they are suitable for a wide variety of mounting positions. However, DODGE does not recommend using mounting positions which place the reducer's input shaft below the level of the output shaft (worm under). These positions should be avoided.

HOW TO ORDER PAGE G3-5	SELECTION PAGES G3-10-G3-11	ENGINEERING/TECHNICAL PAGES G3-38-G3-40	MODIFICATIONS/ACCESSORIES PAGES G3-31-G3-35
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# SELECTION/DIMENSIONS



## Quill TIGEAR—Size Q350

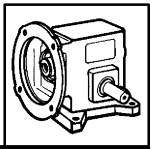
RATIO	RATING DATA	INPUT RPM						STANDARD PART NUMBER			E-Z KLEEN PART NUMBER		SHAFT POSITION		
		2500	1750	1450	1170	580	300	56C	140TC	180TC	56C	140TC			
5	Output Rpm	500	350	290	234	116	60								
	Mechanical Input Hp	12.55	10.00	8.78	7.64	4.81	3.58		MR94920	MR94632			MZ94920	K1	
	Output Torque (lb in.)	1481	1672	1764	1893	2351	3295		MR94920L1	MR94632L1			MZ94920L1	L1	
	Mechanical Output Hp	11.75	9.29	8.12	7.03	4.33	3.14		MR94920LK	MR94632LK			MZ94920LK	LK	
	Output OHL (lbs.)	1478	1556	1592	1647	1790	2180								
10	Output Rpm	250	175	145	117	58	30								
	Mechanical Input Hp	8.34	6.94	6.38	5.59	4.19	2.49		MR94635	MR94633			MZ94635	K1	
	Output Torque (lb in.)	1912	2248	2482	2629	3823	4357		MR94635L1	MR94633L1			MZ94635L1	L1	
	Mechanical Output Hp	7.58	6.24	5.71	4.88	3.52	2.08		MR94635LK	MR94633LK			MZ94635LK	LK	
	Output OHL (lbs.)	1669	1758	1859	1994	1994	1994								
15	Output Rpm	167	117	97	78	39	20								
	Mechanical Input Hp	5.90	4.87	4.85	3.92	3.24	2.00		MR94662	MR94634			MZ94662	K1	
	Output Torque (lb in.)	1957	2278	2767	2701	4318	4943		MR94662L1	MR94634L1			MZ94662L1	L1	
	Mechanical Output Hp	5.18	4.22	4.24	3.34	2.66	1.57		MR94662LK	MR94634LK			MZ94662LK	LK	
	Output OHL (lbs.)	1887	2009	1986	2161	2020	2020								
20	Output Rpm	125	88	73	59	29	15								
	Mechanical Input Hp	4.72	3.84	3.84	3.10	2.49	1.57		MR94627	MR94653			MZ94627	K1	
	Output Torque (lb in.)	2013	2293	2746	2712	4165	4817		MR94627L1	MR94653L1			MZ94627L1	L1	
	Mechanical Output Hp	3.99	3.18	3.16	2.52	1.92	1.15		MR94627LK	MR94653LK			MZ94627LK	LK	
	Output OHL (lbs.)	1994	2124	2124	2124	2124	2124								
25	Output Rpm	100	70	58	47	23	12								
	Mechanical Input Hp	3.93	3.19	3.19	2.56	1.84	1.15		MR94878	MR94903			MZ94878	K1	
	Output Torque (lb in.)	2033	2308	2759	2783	3678	4189		MR94878L1	MR94903L1			MZ94878L1	L1	
	Mechanical Output Hp	3.23	2.56	2.54	2.05	1.35	0.80		MR94878LK	MR94903LK			MZ94878LK	LK	
	Output OHL (lbs.)	2084	2235	2235	2235	2235	2235								
30	Output Rpm	83	58	48	39	19	10								
	Mechanical Input Hp	3.38	2.78	2.78	2.23	1.64	1.00	MR94670	MR94628	MR94661	MZ94670	MZ94628	K1		
	Output Torque (lb in.)	2040	2340	2800	2793	3808	4197	MR94670L1	MR94628L1	MR94661L1	MZ94670L1	MZ94628L1	L1		
	Mechanical Output Hp	2.70	2.17	2.15	1.71	1.17	0.67	MR94670LK	MR94628LK	MR94661LK	MZ94670LK	MZ94628LK	LK		
	Output OHL (lbs.)	2168	2168	2168	2168	2168	2168								
40	Output Rpm	63	44	36	29	15	8								
	Mechanical Input Hp	2.69	2.25	2.25	1.84	1.50	0.91	MR94671	MR94629		MZ94671	MZ94629	K1		
	Output Torque (lb in.)	2008	2316	2759	2761	4111	4460	MR94671L1	MR94629L1		MZ94671L1	MZ94629L1	L1		
	Mechanical Output Hp	1.99	1.61	1.59	1.27	0.95	0.53	MR94671LK	MR94629LK		MZ94671LK	MZ94629LK	LK		
	Output OHL (lbs.)	2425	2425	2425	2425	2425	2425								
50	Output Rpm	50	35	29	23	12	6								
	Mechanical Input Hp	2.28	1.93	1.93	1.56	1.13	0.75	MR94672	MR94630		MZ94672	MZ94630	K1		
	Output Torque (lb in.)	2033	2368	2813	2745	3621	4247	MR94672L1	MR94630L1		MZ94672L1	MZ94630L1	L1		
	Mechanical Output Hp	1.61	1.32	1.29	1.02	0.67	0.40	MR94672LK	MR94630LK		MZ94672LK	MZ94630LK	LK		
	Output OHL (lbs.)	2550	2550	2550	2550	2550	2550								
60	Output Rpm	42	29	24	20	10	5								
	Mechanical Input Hp	1.99	1.68	1.68	1.37	1.05	0.66	MR94673	MR94631		MZ94673	MZ94631	K1		
	Output Torque (lb in.)	2043	2352	2789	2743	3794	4189	MR94673L1	MR94631L1		MZ94673L1	MZ94631L1	L1		
	Mechanical Output Hp	1.35	1.09	1.07	0.85	0.58	0.33	MR94673LK	MR94631LK		MZ94673LK	MZ94631LK	LK		
	Output OHL (lbs.)	2602	2602	2602	2602	2602	2602								

NOTE: Shaded ratings are thermally limited. See page G3-29 for thermal capabilities.

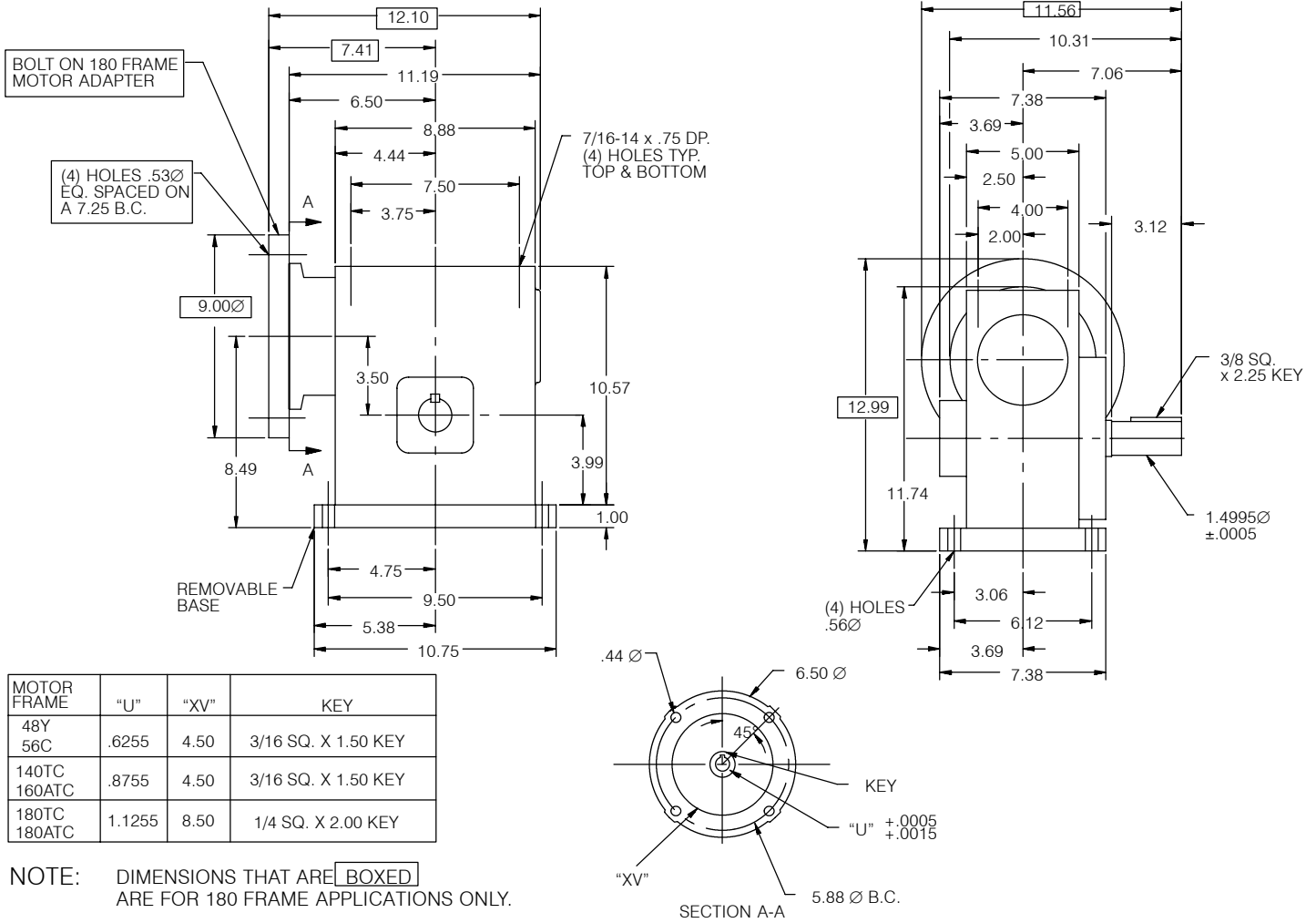
A removable base is included with the standard units. E-Z KLEEN units are footless as standard. Order E-Z KLEEN base kit 41164235AA if required.

HOW TO ORDER PAGE G3-5	SELECTION PAGES G3-10-G3-11	RENEWAL PARTS PAGES G3-36-G3-37	MODIFICATIONS/ACCESSORIES PAGES G3-31-G3-35
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# SELECTION/DIMENSIONS

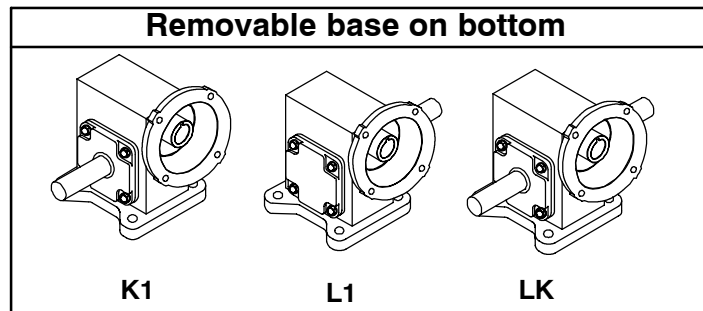


## Quill TIGEAR—Size Q350



For other mounting positions, see page G3-30

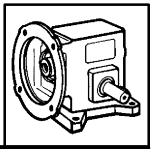
### SHAFT POSITIONS



Because TIGEAR reducers don't have vent, level and drain plugs, they are suitable for a wide variety of mounting positions. However, DODGE does not recommend using mounting positions which place the reducer's input shaft below the level of the output shaft (worm under). These positions should be avoided.

HOW TO ORDER PAGE G3-5	SELECTION PAGES G3-10-G3-11	ENGINEERING/TECHNICAL PAGES G3-38-G3-40	MODIFICATIONS/ACCESSORIES PAGES G3-31-G3-35
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# SELECTION/DIMENSIONS

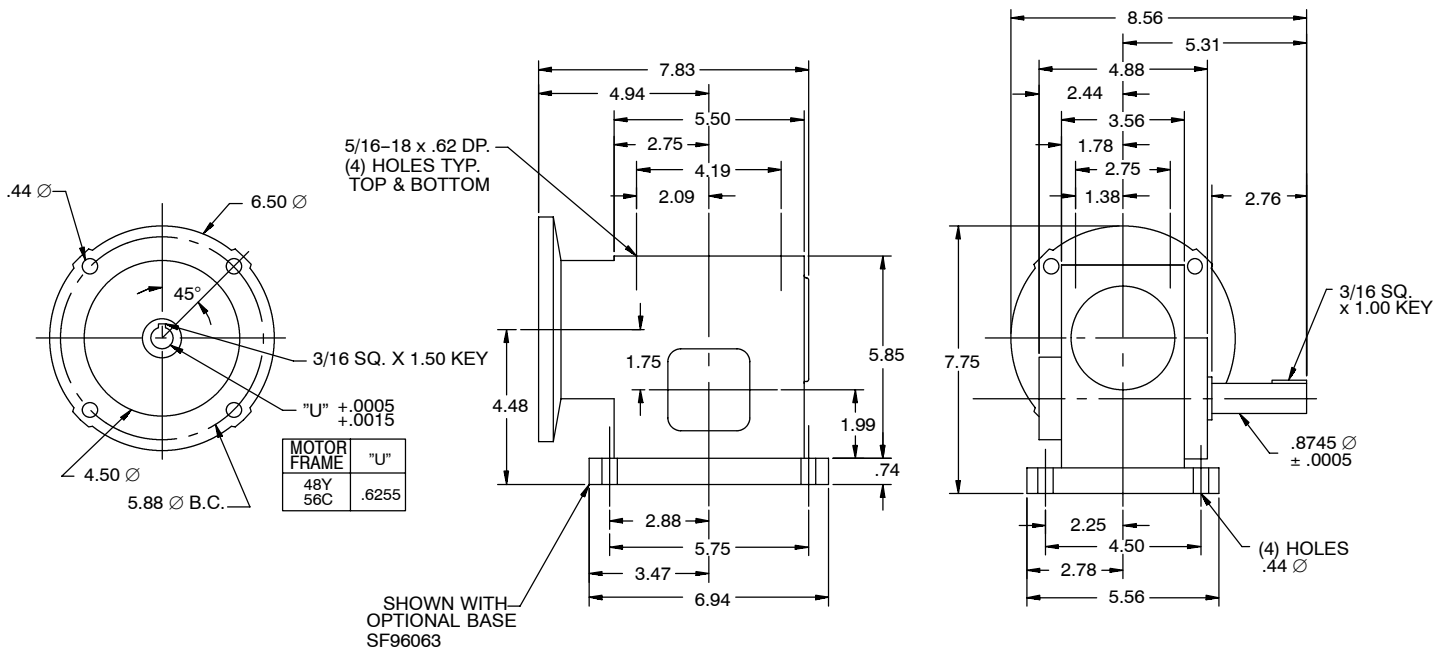


## Quill TIGEAR—Size Q176

### SIZE Q175 TIGEAR WITH 1" EXTENDED LENGTH OUTPUT SHAFT

All units listed below are 56C input. Also available with 140TC input as a production unit.

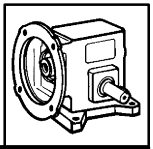
SHAFT POSITION	RATIO					
	5	10	15	20	25	30
K1	MA94750	MA94751	MA94752	MA94753	MA94868	MA94754
L1	MA94750L1	MA94751L1	MA94752L1	MA94753L1	MA94868L1	MA94754L1



HOW TO ORDER PAGE G3-5	SELECTION PAGES G3-10-G3-11	ENGINEERING/TECHNICAL PAGES G3-38-G3-40	MODIFICATIONS/ACCESSORIES PAGES G3-31-G3-35
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# SELECTION/DIMENSIONS

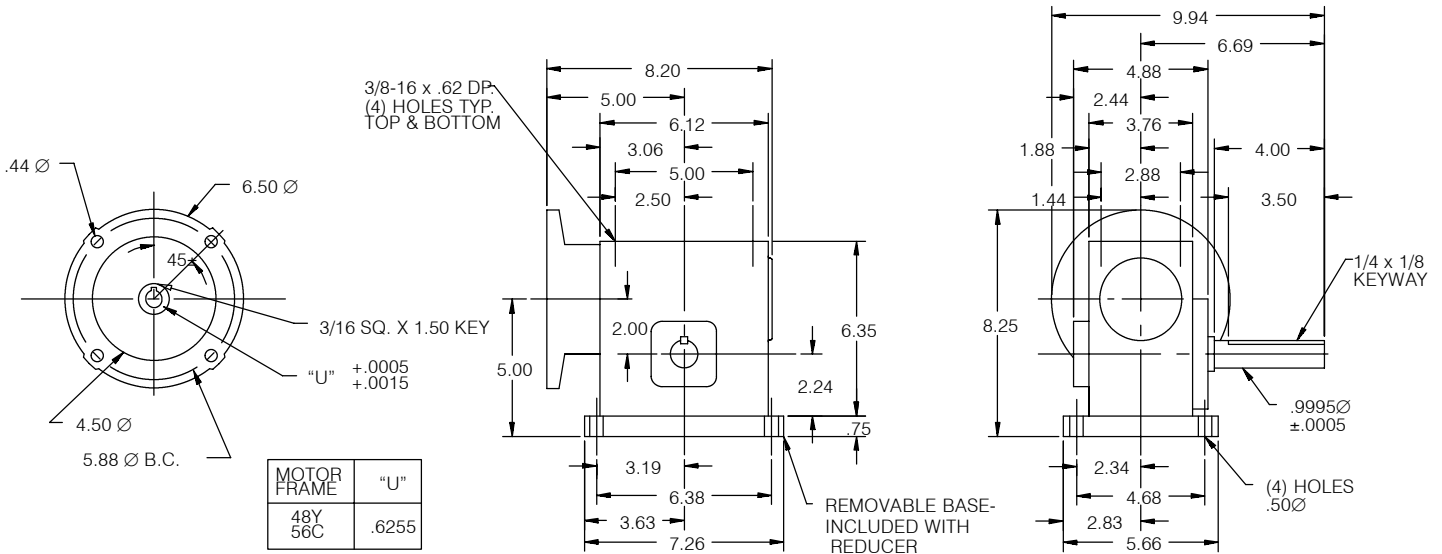


## Quill TIGEAR—Size Q202

### SIZE Q200 TIGEAR WITH 2" EXTENDED LENGTH OUTPUT SHAFT

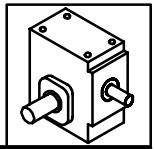
All units listed below are 56C input. Also available with 140TC input as a production unit.

SHAFT POSITION	RATIO								
	7.5	10	12.67	15	18	20	25	30	40
K1	MA94909	MA94760	MA94910	MA94761	MA94912	MA94762	MA94875	MA94763	MA94764
L1	MA94909L1	MA94760L1	MA94910L1	MA94761L1	MA94912L1	MA94762L1	MA94875L1	MA94763L1	MA94764L1



HOW TO ORDER PAGE G3-5	SELECTION PAGES G3-10-G3-11	ENGINEERING/TECHNICAL PAGES G3-38-G3-40	MODIFICATIONS/ACCESSORIES PAGES G3-31-G3-35
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# SELECTION/DIMENSIONS



## Separate TIGEAR

For mechanical ratings refer to Quill TIGEAR Ratings on pages G3-12 thru G3-22.

For Input Shaft OHL refer to page G3-28.

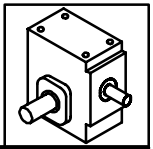
RATIO	SHAFT POSITION	PART NUMBER BY CASE SIZE					
		S133	S150	S175	S200	S262	S350
5	K1	SR96001	SR96010	SR96019	SR96028	SR96037	SR96046
	L1	SR96001L1	SR96010L1	SR96019L1	SR96028L1	SR96037L1	SR96046L1
	LK	SR96001LK	SR96010LK	SR96019LK	SR96028LK	SR96037LK	SR96046LK
10	K1	SR96002	SR96011	SR96020	SR96029	SR96038	SR96047
	L1	SR96002L1	SR96011L1	SR96020L1	SR96029L1	SR96038L1	SR96047L1
	LK	SR96002LK	SR96011LK	SR96020LK	SR96029LK	SR96038LK	SR96047LK
15	K1	SR96003	SR96012	SR96021	SR96030	SR96039	SR96048
	L1	SR96003L1	SR96012L1	SR96021L1	SR96030L1	SR96039L1	SR96048L1
	LK	SR96003LK	SR96012LK	SR96021LK	SR96030LK	SR96039LK	SR96048LK
20	K1	SR96004	SR96013	SR96022	SR96031	SR96040	SR96049
	L1	SR96004L1	SR96013L1	SR96022L1	SR96031L1	SR96040L1	SR96049L1
	LK	SR96004LK	SR96013LK	SR96022LK	SR96031LK	SR96040LK	SR96049LK
25	K1	SR96005	SR96014	SR96023	SR96032	SR96041	SR96050
	L1	SR96005L1	SR96014L1	SR96023L1	SR96032L1	SR96041L1	SR96050L1
	LK	SR96005LK	SR96014LK	SR96023LK	SR96032LK	SR96041LK	SR96050LK
30	K1	SR96006	SR96015	SR96024	SR96033	SR96042	SR96051
	L1	SR96006L1	SR96015L1	SR96024L1	SR96033L1	SR96042L1	SR96051L1
	LK	SR96006LK	SR96015LK	SR96024LK	SR96033LK	SR96042LK	SR96051LK
40	K1	SR96007	SR96016	SR96025	SR96034	SR96043	SR96052
	L1	SR96007L1	SR96016L1	SR96025L1	SR96034L1	SR96043L1	SR96052L1
	LK	SR96007LK	SR96016LK	SR96025LK	SR96034LK	SR96043LK	SR96052LK
50	K1	SR96008	SR96017	SR96026	SR96035	SR96044	SR96053
	L1	SR96008L1	SR96017L1	SR96026L1	SR96035L1	SR96044L1	SR96053L1
	LK	SR96008LK	SR96017LK	SR96026LK	SR96035LK	SR96044LK	SR96053LK
60	K1	SR96009	SR96018	SR96027	SR96036	SR96045	SR96054
	L1	SR96009L1	SR96018L1	SR96027L1	SR96036L1	SR96045L1	SR96054L1
	LK	SR96009LK	SR96018LK	SR96027LK	SR96036LK	SR96045LK	SR96054LK

Separate TIGEAR reducers are footless as standard. Order a base kit from page G3-31 if required. E-Z KLEEN option is not available for Separate TIGEAR.

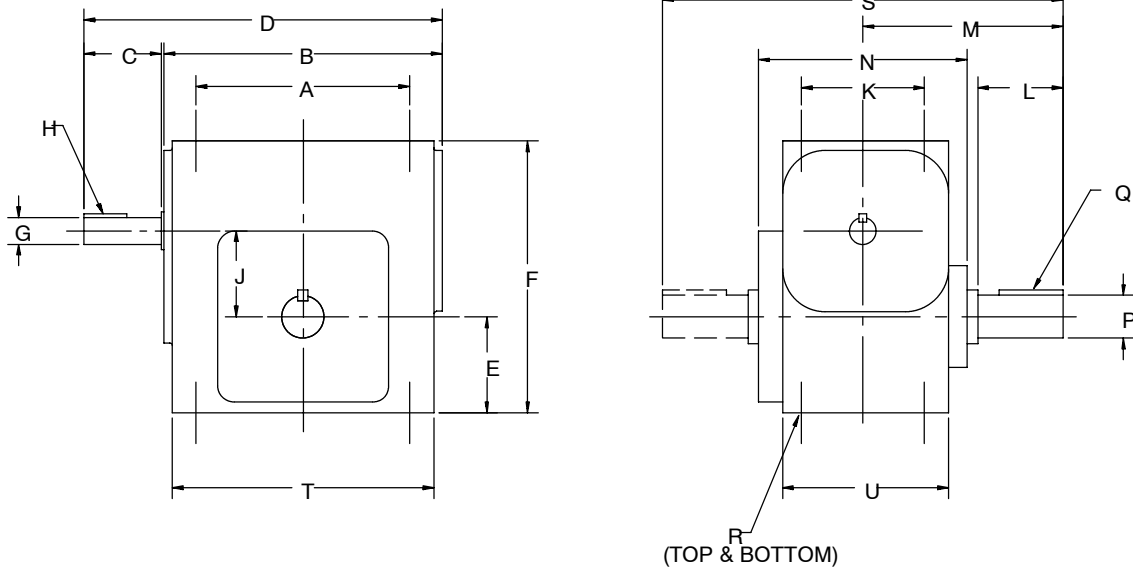
NOTE: 3-piece coupled motor adapters are no longer available for Separate TIGEAR reducers. If a 3-piece coupled input is required, select an Adaptable TIGEAR unit.

HOW TO ORDER PAGE G3-5	SELECTION PAGES G3-10-G3-11	ENGINEERING/TECHNICAL PAGES G3-38-G3-40	MODIFICATIONS/ACCESSORIES PAGES G3-31-G3-35
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# SELECTION/DIMENSIONS



## Separate TIGEAR



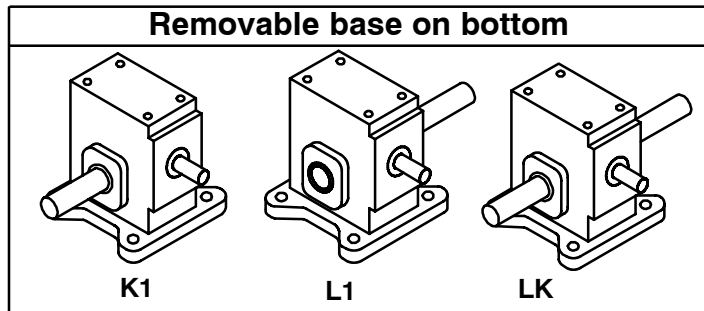
	A	B	C	D	E	F	G (DIA.)	H	J
<b>S133</b>	3.25	4.69	1.50	6.25	1.71	4.87	0.4995/0.5000	1/8 SQ. X 1.00	1.330
<b>S150</b>	3.50	5.50	1.81	7.37	1.87	5.48	0.6245/0.6250	3/16 SQ. X 1.00	1.500
<b>S175</b>	4.19	5.75	1.81	7.62	1.99	5.85	0.6245/0.6250	3/16 SQ. X 1.00	1.750
<b>S200</b>	5.00	6.50	1.81	8.37	2.24	6.35	0.6245/0.6250	3/16 SQ. X 1.00	2.000
<b>S262</b>	6.38	7.75	2.38	10.19	2.87	8.36	0.7495/0.7500	3/16 SQ. X 1.50	2.625
<b>S350</b>	7.50	9.38	2.44	11.88	3.99	10.57	0.8745/0.8750	3/16 SQ. X 1.50	3.500

	K	L	M	N	P (DIA.)	Q	R (TAP)	S	T	U
<b>S133</b>	2.00	1.94	4.00	4.00	0.624/0.625	3/16 SQ. X 1.00	1/4-20 X 0.50 DEEP	8.00	4.24	2.88
<b>S150</b>	2.25	1.94	4.31	4.38	0.749/0.750	3/16 SQ. X 1.00	1/4-20 X 0.50 DEEP	8.62	5.00	3.00
<b>S175</b>	2.75	1.75	4.31	4.88	0.874/0.875	3/16 SQ. X 1.00	5/16-18 X 0.50 DEEP	8.62	5.50	3.56
<b>S200</b>	2.88	2.19	4.69	4.88	0.999/1.000	1/4 SQ. X 1.25	3/8-16 X 0.62 DEEP	9.38	6.12	3.75
<b>S262</b>	3.38	2.50	5.63	5.88	1.124/1.125	1/4 SQ. X 1.25	3/8-16 X 0.62 DEEP	11.25	7.38	4.25
<b>S350</b>	4.00	3.12	7.07	7.38	1.499/1.500	3/8 SQ. X 2.25	7/16-14 X 0.75 DEEP	14.12	8.88	5.00

For other mounting positions, see page G3-30

### MOUNTING POSITIONS

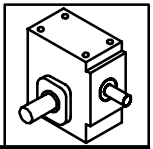
#### Removable base on bottom



Because TIGEAR reducers don't have vent, level and drain plugs, they are suitable for a wide variety of mounting positions. However, DODGE does not recommend using mounting positions which place the reducer's input shaft below the level of the output shaft (worm under). These positions should be avoided.

HOW TO ORDER PAGE G3-5	SELECTION PAGES G3-10-G3-11	ENGINEERING/TECHNICAL PAGES G3-38-G3-40	MODIFICATIONS/ACCESSORIES PAGES G3-31-G3-35
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# SELECTION/DIMENSIONS

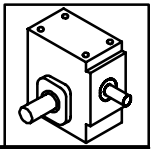


## Separate TIGEAR INPUT SHAFT OVERHUNG LOAD CAPACITY (LBS.)

CASE	INPUT	RATIO								
SIZE	RPM	5	10	15	20	25	30	40	50	60
S133	2500	136	40	0	0	0	0	0	72	72
	1750	156	150	31	42	50	72	31	66	74
	1450	160	158	42	49	43	68	48	64	68
	1170	162	160	65	22	47	40	46	62	59
	580	171	166	29	26	30	44	61	39	52
	300	183	165	55	55	54	76	69	63	72
S150	2500	108	111	16	73	22	68	46	23	91
	1750	122	125	33	52	21	84	47	92	75
	1450	124	76	31	36	22	78	23	84	71
	1170	127	75	23	63	18	87	54	75	67
	580	136	135	49	26	8	108	64	67	48
	300	144	147	68	15	19	139	101	83	59
S175	2500	171	180	143	155	102	167	145	128	172
	1750	197	197	115	111	89	121	125	137	162
	1450	211	212	122	133	90	151	124	149	154
	1170	225	241	122	100	106	132	106	139	152
	580	313	326	93	80	140	119	133	157	145
	300	416	375	142	107	148	142	169	181	165
S200	2500	173	194	200	202	201	201	200	202	211
	1750	203	211	221	221	226	221	223	224	224
	1450	199	217	227	228	211	227	231	209	245
	1170	232	245	225	253	187	251	235	269	262
	580	327	317	123	129	231	322	201	312	321
	300	444	417	204	181	309	396	247	402	364
S262	2500	399	410	416	212	399	421	420	428	415
	1750	423	456	465	173	347	470	473	470	468
	1450	459	471	485	126	326	498	488	495	500
	1170	482	520	524	66	292	516	538	534	548
	580	594	310	49	0	338	594	403	576	711
	300	747	753	345	80	427	684	409	679	761
S350	2500	348	342	353	348	355	360	352	357	348
	1750	387	374	390	390	399	402	392	397	389
	1450	418	389	385	385	396	400	389	395	387
	1170	449	421	437	438	450	456	441	451	443
	580	527	472	99	470	544	545	496	559	529
	300	654	650	613	633	717	730	687	723	714

HOW TO ORDER PAGE G3-5	SELECTION PAGES G3-10-G3-27	ENGINEERING/TECHNICAL PAGES G3-38-G3-40	MODIFICATIONS/ACCESSORIES PAGES G3-31-G3-35
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# SELECTION/DIMENSIONS

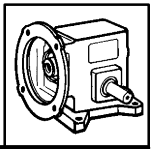


## Quill And Separate TIGEAR INPUT HP THERMAL RATINGS

RATIO	INPUT RPM	CASE SIZE					
		133	150	175	200	262	350
5	2500	1.36	1.59	2.14	2.65	5.00	6.95
	<b>1750</b>	<b>1.08</b>	<b>1.52</b>	<b>2.55</b>	<b>3.00</b>	<b>5.00</b>	<b>6.61</b>
	1450	0.94	1.32	2.26	2.63	4.64	6.48
	1170	0.80	1.12	2.00	2.48	4.37	6.35
	580	0.50	0.61	1.06	1.30	3.00	5.22
7.5	2500	-	1.38	-	2.18	3.66	-
	<b>1750</b>	-	<b>1.12</b>	-	<b>2.06</b>	<b>3.67</b>	-
	1450	-	1.01	-	1.89	3.57	-
	1170	-	0.87	-	1.69	3.18	-
	580	-	0.52	-	0.90	1.70	-
10	2500	1.05	1.19	1.68	2.00	3.38	5.50
	<b>1750</b>	<b>0.80</b>	<b>1.03</b>	<b>1.70</b>	<b>2.00</b>	<b>3.00</b>	<b>5.10</b>
	1450	0.69	0.95	1.48	1.78	2.95	4.90
	1170	0.59	0.81	1.16	1.51	2.47	4.71
	580	0.34	0.50	0.64	0.93	2.05	4.19
12.67	2500	-	-	-	1.66	3.16	-
	<b>1750</b>	-	-	-	<b>1.51</b>	<b>2.61</b>	-
	1450	-	-	-	1.51	2.48	-
	1170	-	-	-	1.22	2.10	-
	580	-	-	-	0.83	1.50	-
15	2500	0.82	0.92	1.41	1.50	2.70	4.08
	<b>1750</b>	<b>0.63</b>	<b>0.75</b>	<b>1.20</b>	<b>1.39</b>	<b>2.24</b>	<b>3.79</b>
	1450	0.51	0.68	1.01	1.33	2.13	3.78
	1170	0.50	0.61	0.85	1.13	1.84	3.78
	580	0.25	0.33	0.52	0.75	1.54	3.24
18	2500	-	-	-	1.32	2.34	-
	<b>1750</b>	-	-	-	<b>1.14</b>	<b>2.00</b>	-
	1450	-	-	-	1.14	1.79	-
	1170	-	-	-	0.92	1.57	-
	580	-	-	-	0.65	1.01	-
20	2500	0.71	0.70	1.15	1.30	2.21	3.36
	<b>1750</b>	<b>0.52</b>	<b>0.59</b>	<b>1.00</b>	<b>1.11</b>	<b>1.77</b>	<b>3.15</b>
	1450	0.41	0.54	0.81	1.06	1.64	3.04
	1170	0.41	0.47	0.75	0.88	1.50	3.00
	580	0.21	0.30	0.45	0.62	0.93	2.49
25	2500	0.54	0.62	1.00	1.12	1.82	3.16
	<b>1750</b>	<b>0.39</b>	<b>0.46</b>	<b>0.79</b>	<b>0.92</b>	<b>1.52</b>	<b>3.00</b>
	1450	0.34	0.39	0.68	0.88	1.36	2.90
	1170	0.28	0.33	0.55	0.78	1.21	2.56
	580	0.17	0.19	0.29	0.42	0.65	1.84
30	2500	0.50	0.54	0.83	0.90	1.58	2.81
	<b>1750</b>	<b>0.40</b>	<b>0.43</b>	<b>0.75</b>	<b>0.79</b>	<b>1.31</b>	<b>2.70</b>
	1450	0.32	0.41	0.60	0.77	1.20	2.70
	1170	0.30	0.35	0.54	0.65	1.11	2.23
	580	0.17	0.22	0.33	0.43	0.60	1.64
40	2500	0.42	0.44	0.69	0.79	1.23	2.09
	<b>1750</b>	<b>0.33</b>	<b>0.37</b>	<b>0.57</b>	<b>0.67</b>	<b>1.01</b>	<b>2.00</b>
	1450	0.26	0.34	0.50	0.64	1.01	2.13
	1170	0.22	0.30	0.45	0.55	0.83	1.84
	580	0.12	0.17	0.25	0.35	0.75	1.50
50	2500	0.29	0.39	0.58	0.68	1.00	1.91
	<b>1750</b>	<b>0.23</b>	<b>0.29</b>	<b>0.44</b>	<b>0.58</b>	<b>0.90</b>	<b>1.80</b>
	1450	0.20	0.26	0.37	0.54	0.85	1.40
	1170	0.17	0.23	0.33	0.41	0.75	1.30
	580	0.11	0.14	0.19	0.23	0.50	1.13
60	2500	0.25	0.30	0.41	0.55	1.00	1.82
	<b>1750</b>	<b>0.19</b>	<b>0.25</b>	<b>0.34</b>	<b>0.50</b>	<b>0.82</b>	<b>1.67</b>
	1450	0.17	0.22	0.31	0.42	0.74	1.41
	1170	0.15	0.19	0.27	0.35	0.62	1.16
	580	0.09	0.12	0.17	0.19	0.34	1.05

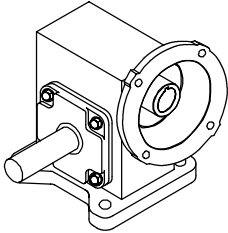
HOW TO ORDER PAGE G3-5	SELECTION PAGES G3-10-G3-27	ENGINEERING/TECHNICAL PAGES G3-38-G3-40	MODIFICATIONS/ACCESSORIES PAGES G3-31-G3-35
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# MOUNTING POSITIONS

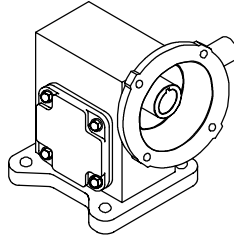


## Quill And Separate TIGEAR Mounting Positions

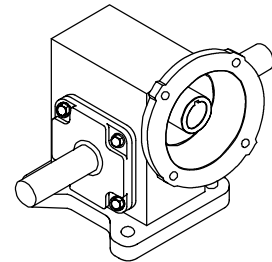
TIGEAR reducers are supplied with a synthesized hydrocarbon lubricant filled to a level suitable for all approved mounting positions.



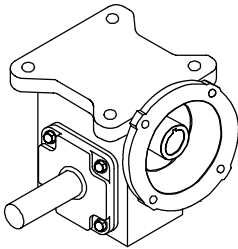
K1



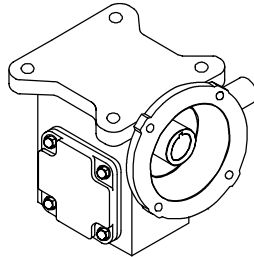
L1



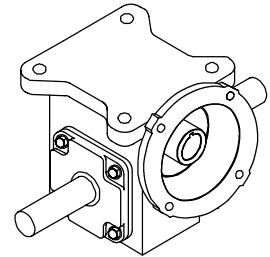
LK



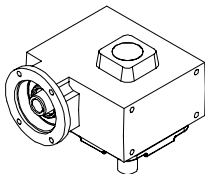
E3



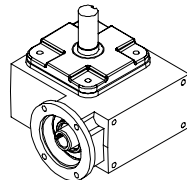
A3



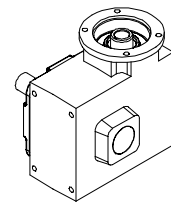
AE



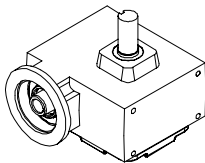
K2



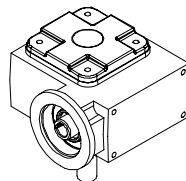
K4



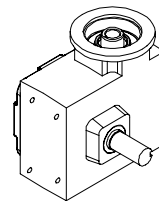
K5



L2



L4



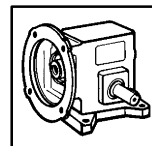
L5

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ENGINEERING/TECHNICAL  
PAGES G3-38-G3-40



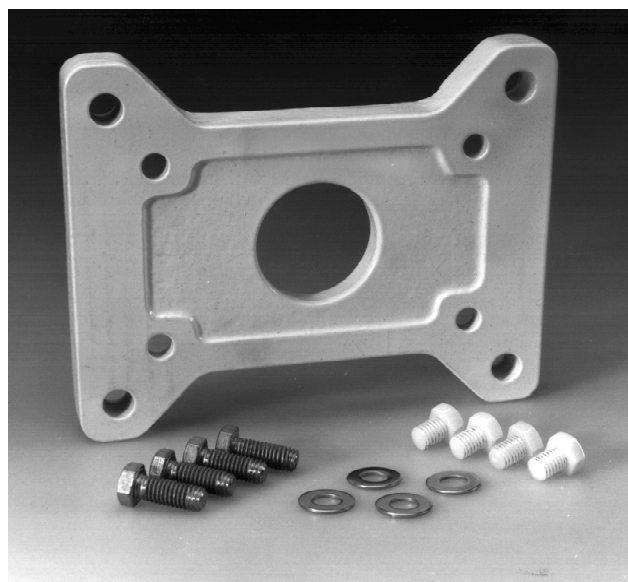
## Quill And Separate TIGEAR Reducers



### Standard Base Kits

The standard Quill TIGEAR units come with a base as standard. Replacement bases are available if one becomes damaged in service or to convert a unit which had been used footless. Separate TIGEAR reducers do not include a base but all units are drilled and tapped on top and bottom to accept bases listed below. These bases are aluminum for all case sizes. Each kit includes the base, and the required mounting hardware.

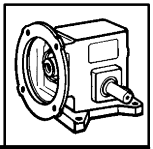
Reducer Case Size	Kit Number
133	SF96061
150	SF96062
175	SF96063
200	SF96064
262	SF96065
350	SF96066



### EZ-KLEEN Base Kits

For severe washdown environments, use an EZ-KLEEN base kit. These kits are available for sizes 150 through 350 and include the standard bolt-on base coated with white Nylon® 11, hole plugs for the top of the gear case and the required mounting hardware.

Reducer Case Size	Kit Number
150	41164235W
175	41164235X
200	41164235Y
262	41164235Z
350	41164235AA



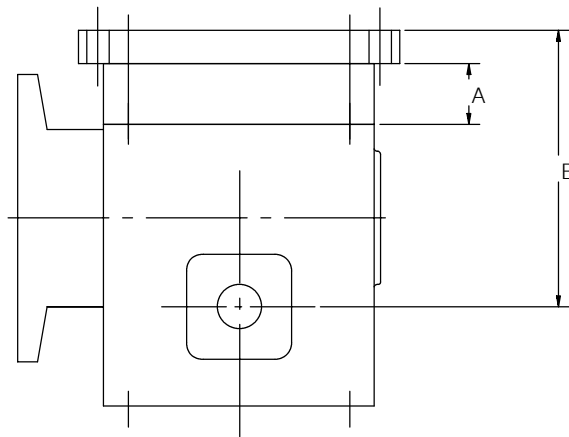
## Quill And Separate TIGEAR Reducers

### Riser Block Kits

Riser Blocks allow clearance over the motor eliminating the need to invert the reducer (worm under) when the application calls for a “ceiling” mount such as under a conveyor or other equipment. Riser Blocks permit the reducer to be mounted in the most desirable position keeping the high speed shaft seal above the oil level. Experience shows that this position results in increased seal life and durability. Each kit includes the Riser Block and required mounting hardware. For severe washdown environments, use an E-Z KLEEN Riser Block kit. These kits are available for sizes 150 through 350 and include the standard riser block coated with Nylon 11 and required mounting hardware.



Reducer Case Size	Kit Number	E-Z KLEEN Kit Number
133	RB94915	—
150	RB94916	RBZ94916
175	RB94917	RBZ94917
200	RB94918	RBZ94918
262	RB94919	RBZ94919
350	RB94920	RBZ94920



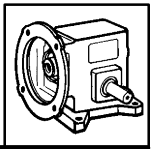
### TIGEAR Riser Block Kits

Case Size	A	B
133	1.66	5.35
150	1.38	5.61
175	1.38	6.01
200	1.38	6.25
262	1.91	8.22
350	1.69	9.29

*All dimensions are in inches*

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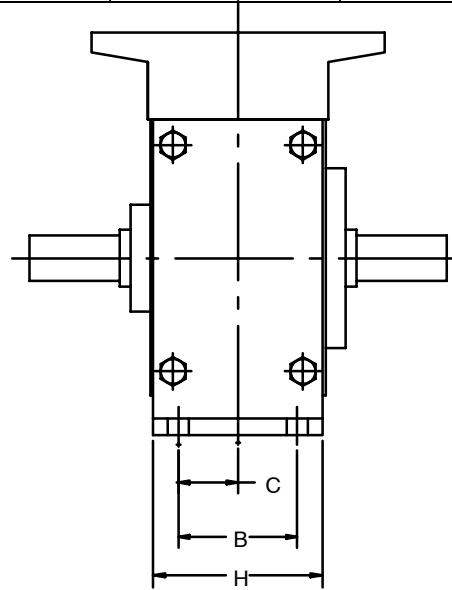
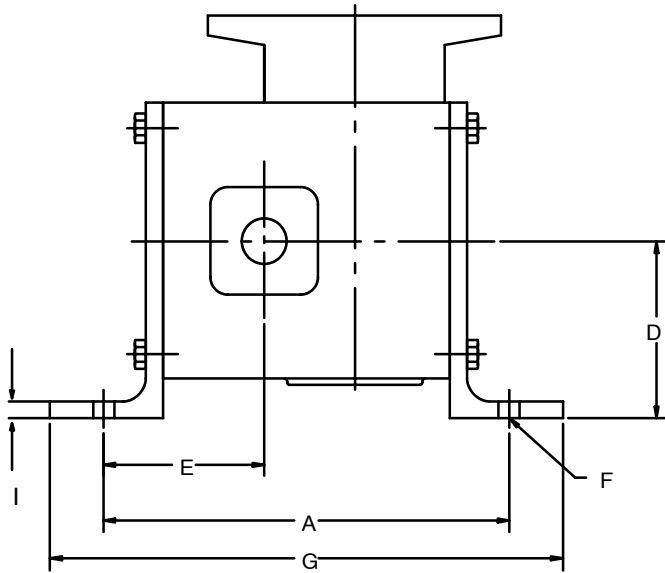
## Quill And Separate TIGEAR Reducers

### J-Mount Base Kits

J-mount kits allow the reducer to be “floor” mounted with the motor in a vertical (up) position. In this configuration, the output shaft(s) is horizontal. Each kit includes two brackets and the required mounting hardware. For severe washdown environments, use an E-Z KLEEN J-Mount base kit. These kits are available for sizes 150 through 350 and include the standard J-Mount base coated with Nylon 11 and required mounting hardware.



Reducer Case Size	Kit Number	E-Z KLEEN Kit Number
133	MJ94924	—
150	MJ94925	MJZ94925
175	MJ94926	MJZ94926
200	MJ94927	MJZ94927
262	MJ94928	MJZ94928
350	MJ94929	MJZ94929

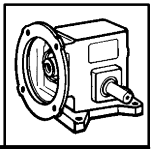


### TIGEAR J-Mount Base Kits

Case Size	A	B	C	D	E	F (DIA.)	G	H	I
133	6.89	2.00	1.00	2.95	2.71	0.34	7.77	2.88	0.25
150	8.00	2.50	1.25	3.50	3.12	0.41	9.50	3.38	0.31
175	8.38	2.50	1.25	3.50	3.25	0.41	9.88	3.56	0.38
200	9.00	2.63	1.32	3.94	3.56	0.47	11.38	3.75	0.38
262	11.50	3.13	1.57	4.75	4.44	0.53	13.38	4.25	0.50
350	13.50	4.00	2.00	5.50	5.45	0.56	15.57	5.50	0.38

All dimensions are in inches

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## Quill And Separate TIGEAR Reducers

### Output Shaft Reversal Kits

TIGEAR reducers are stocked in left-hand and right-hand output shaft configurations. However, it is possible to convert a left-hand unit to a right-hand unit or a right to a left. Each kit includes a shaft seal, shims, bore plug, self-sealing bolts, RTV joint sealant and instructions.



Reducer Case Size	Kit Number
133	079019-38-ET
150, 175 & 200	079019-38-EJ
262	079019-38-EK
350	079019-38-EL



### 140TC TO 56C Input Bore Adapter

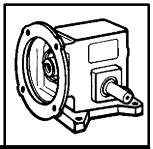
#### Part Number 411691-51-A

For emergency breakdown situations, this bore adapter can allow a standard NEMA 56 frame, C-Face motor to be mounted on a TIGEAR reducer which has a 140TC input. A 56C frame motor has a  $\frac{5}{8}$ " shaft diameter and a 140TC motor has a  $\frac{7}{8}$ " shaft diameter. Both frame sizes have the same bolt circle and tenon diameters. This bore adapter has a  $\frac{5}{8}$ " I.D. and a  $\frac{7}{8}$ " O.D. Because of the metal to metal contact and the clearance fit between the reducer input quill, the adapter and the motor, there is a chance for fretting corrosion which makes motor removal difficult. DODGE recommends that this adapter only be used for breakdown situations where local inventory consists of 56C frame motors and 140TC reducers.

***Not Recommended for  
Shocks Loads or  
Reversing Applications***

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# MODIFICATION/ ACCESSORIES



## TIGEAR C-Face Reducers

### LUBRICATION

The DODGE TIGEAR reducer incorporates the unique Relialube System which eliminates costly preparation time normally required to put a reducer into service. TIGEAR reducers are filled at the factory with Mobil SHC-634 lubricant to a level suitable for all mounting positions.

**Lubricant Capacity Estimating Table**

Volume of Mobil SHC-634			
Size	Capacity	Part Number	Quantity
133	8 oz.	41170966AB	1
150	11 oz.	41170966AB	1
175	16 oz.	41170966AE	1
200	21 oz.	41170966AE	1
262	38 oz.	41170966AE	2
350	75 oz.	41170966AF	1



Volume	Part Number (SHC-634)
12 oz.	41170966AB
1 qt. (32 oz.)	41170966AE
1 gal. (128 oz.)	41170966AF

### LUBRICANT OPTIONS

#### FOOD GRADE LUBRICANT

Chevron FM460X lubricant serves the needs of food processing applications which need a non-contaminating gear oil. Chevron FM460X carries USDA Class AA and H1 approvals. Use of this lubricant can reduce the potential damage to food caused by oil seeping through worn-out shaft seals. In place of the standard lube sticker covering the tapped holes in the top of the gear case, units specifying this option will be furnished with cap plugs.

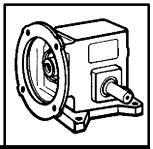
#### LOW TEMPERATURE LUBRICANT

When reducer selections are properly service factored to account for the thermal limitations of the reducer, the standard lubricant provided with TIGEAR reducer covers an operating ambient temperature range of  $-10^{\circ}$  F to  $+165^{\circ}$  F. For ambient operating conditions above  $+80^{\circ}$  F, contact DODGE Application Engineering. To apply TIGEAR reducers in applications from  $+75^{\circ}$  F to  $-30^{\circ}$  F, specify Mobil SHC-629 lubricant.

Volume	Part Number (SHC-629)
1 qt. (32 oz.)	41170966AG
1 gal. (128 oz.)	41170966AH

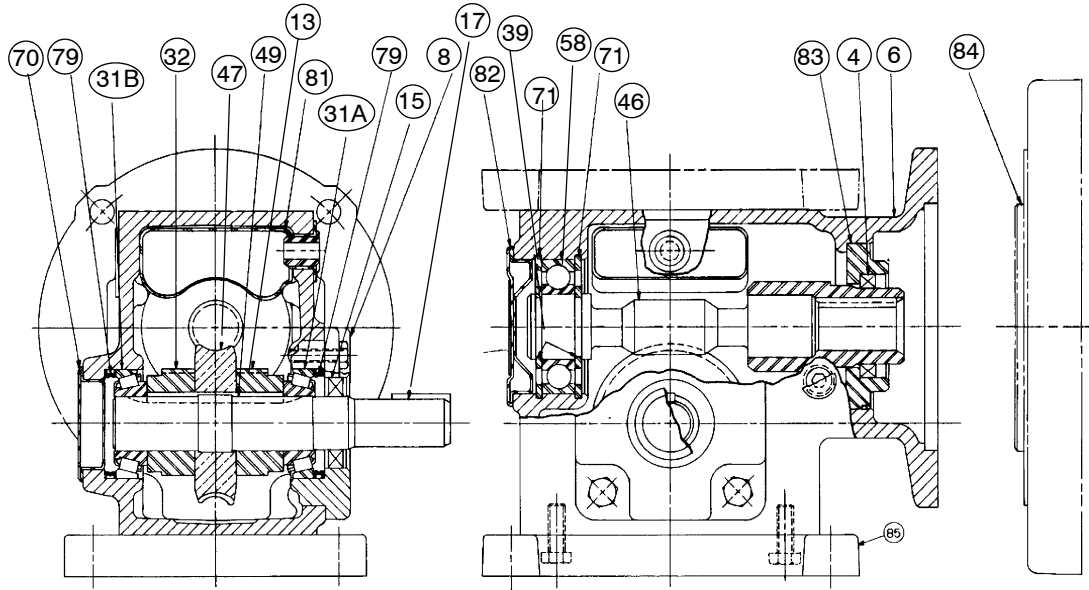
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# RENEWAL PARTS



## Quill TIGEAR

SIZES Q133, Q150, Q175, Q200, Q262, Q350



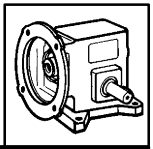
Ref. No.	Parts Description	Unit Qty.	Part Numbers ■					
			133	150	175	200	262	350
*4	Oil Seal, Input (56 Fr.) Oil Seal, Input (140C Fr.) Oil Seal, Input (180C Fr.)	1	276267	276269	276269 276270	276269 276270	276276 276276 276277	276276 276276 276277
*5B	Bearing, Ball	1	79147-02M	79147-02M	79147-02AB	79147-02AB	79147-02AH	79147-03V
*31B	Bearing, Roller—Opp. Ext.	1	411626-01E	411626-01BE	411626-01BE	411626-01C	411626-01A	411626-01R
*31A	Bearing, Roller—Ext. End	1	411626-01E	411626-01BE	411626-01BE	411626-01C	411626-01A	411626-01R
6	Gear Case	1	86898-04A	86897-02AA	86899-02AA	86900-02AA	86853-06AA	86865-06AA
8	Bearing Housing	1	602401-02BB	602401-02AA	602401-02AA	602401-02AA	602035-16AA	79141-02AA
11	Data Plate	1	602415-29A	602415-29A	602415-29A	602415-29A	602415-29A	602415-29A
*15	Oil Seal—Output Shaft (1)	1	276171	276172	276172	276173	276174	276175
*15	Oil Seal—Output Shaft (3) (1)	1	275694	275696	275696	275696	275702	275703
17	Output Shaft, Single Ext.	1	602403-04A	602026-64AA	602389-01AA	602027-79AC	602354-75AA	602354-25AA
	Output Shaft, Double Ext.	1	602403-05A	602026-74AA	602389-03AA	602027-89AB	602354-41AA	602354-39AA
*46	Worm Shaft	1	Contact Renewal Parts for Current Part Numbers					
*47	Worm Gear	1						
13	Spacer, Worm Gear—Outer	1	602405-12H	602405-12A	602405-12B	602405-12C	602405-12E	602405-12G
32	Spacer, Worm Gear—Inner	1	602405-12H	602405-12A	602405-12B	602405-12C	602405-12D	602405-12F
49	Key, Worm Gear	1	415104-40H	415104-40D	415104-40E	415104-40E	415104-40F	415104-40G
84	Adaptor, Motor	—	—	—	—	—	79067-22AB	79067-22AB
83	Adaptor, Housing-Input Seal	—	—	275858	275859	275859	275860	275861
*39	Retaining Ring	2	411637-02E	411637-02E	411637-02N	411637-02N	411637-02AP	411637-02AR
*71	Retaining Ring	2	56618	56618	58256	58256	411637-01A	411637-02AC
82	Plug, Input Bore	1	275683	275683	275684	275684	275685	275686
70	Plug, Output Bore (2)	1	275679	275680	275680	275680	275681	275682
81	Compression Chamber	1	411642-38A	411642-38B	411642-38C	411642-38D	411642-38E	411642-38F
85	Bolt on Foot	1	79140-15B	79140-05A	79140-07A	79140-09A	79140-11A	275705
79	Shim Pack	1	411642-46E	411623-33A	411623-33A	411623-33A	411623-33B	411623-33C

- (1) Qty. 2 required for double shaft extension.
- (2) Not required for double shaft extension.
- (3) For units manufactured prior to 5/01/00. Refer to date code chart on page G3-40.

- \* Recommended spare parts.
- NOTE: These part numbers apply to standard units only. For Part Numbers not found, contact DODGE Renewal Parts (864) 297-4160.

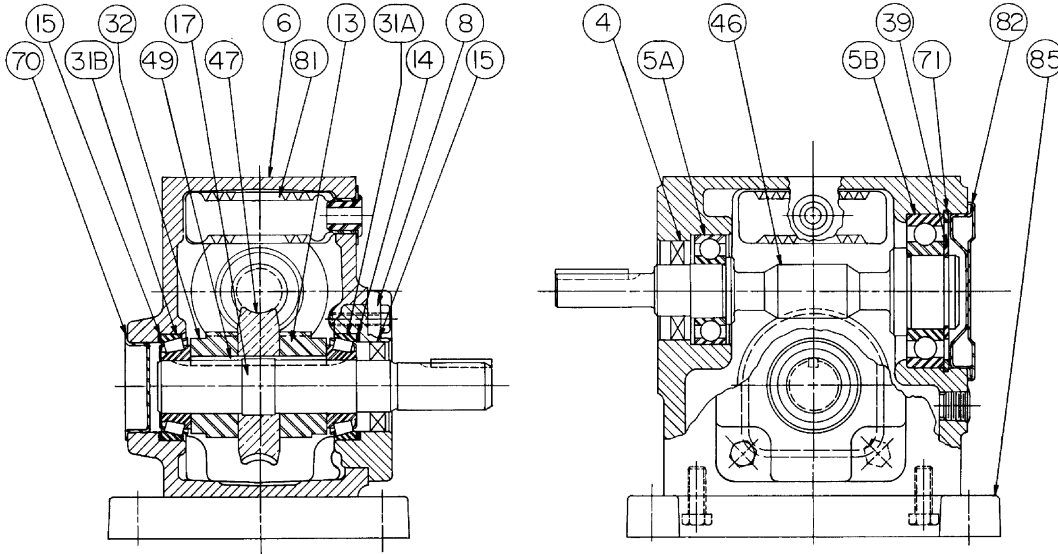
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# RENEWAL PARTS



## Separate TIGEAR

**SIZES S133, S150, S175, S200, S262, S350**



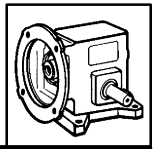
Ref. No.	Parts Description	Unit Qty.	Part Numbers ■					
			S133	S150	S175	S200	S262	S350
*4	Input Seal	1	276268	276268	276271	276271	276272	276272
*5A	Input Shaft Bearing	1	79147-02K	79147-02K	79147-02BF	79147-02BF	79147-02AH	79147-03AH
*5B	Input Shaft Bearing	1	79147-02M	79147-02X	79147-02AH	79147-02AH	79147-02AS	79147-02AA
6	Gearcase	1	86898-06A	86897-02BA	86899-02BA	86900-02BA	86853-06BA	86865-06BA
8	Bearing Housing	1	602401-02BB	602401-02AA	602401-02AA	602401-02AA	602035-16AA	79141-02AA
11	Data Plate	1	602415-29A	602415-29A	602415-29A	602415-29A	602415-29A	602415-29A
13	Spacer, Worm Gear—Outer	1	602405-12H	602405-12A	602405-12B	602405-12C	602405-12E	602405-12G
*15	Output Shaft Seal (1)	1	276171	276172	276172	276173	276174	276175
*15	Output Shaft Seal (3) (1)	1	275694	275696	275696	275696	275702	275703
17	Output Shaft	1	602403-04A	602026-64AA	602389-01AA	602027-79AC	602354-75AA	602354-25AA
*31A	Roller Bearing	1	411626-01E	411626-01BE	411626-01BE	411626-01C	411626-01A	411626-01R
*31B	Roller Bearing	1	411626-01E	411626-01BE	411626-01BE	411626-01C	411626-01A	411626-01R
32	Spacer, Worm Gear—Inner	1	602405-12H	602405-12A	602405-12B	602405-12C	602405-12D	602405-12F
39	Lockring	1	411637-02E	411637-02AY	411637-02AP	411637-02AP	411637-02BA	411637-02BA
46	Worm Shaft	1						
47	Worm Gear	1						
49	Key, Worm Gear	1	415104-40H	415104-40D	415104-40E	415104-40E	415104-40F	415104-40G
52	Bearing Housing Bolts	4	411631-58A	411631-58A	411631-58A	411631-58C	411631-58C	411631-58D
54	Input Shaft Key	1	415104-40H	415104-40D	415104-40E	415104-40E	415104-40F	415104-40G
66	Output Shaft Key	1	415104-40A	415104-40A	415104-40A	415104-40B	415104-40B	415104-40C
71	Lockring	1	056618	411637-02AV	411637-01A	411637-01A	411637-02AW	411637-02AX
*79	Shim Pack	1	411642-46E	411623-33A	411623-33A	411623-33A	411623-33B	411623-33C
81	Compression Chamber	1	411642-38A	411642-38B	411642-38C	411642-38D	411642-38E	411642-38F
70	Output Bore Plug (2)	1	275680	275680	275680	275680	275681	275682
82	Input Bore Plug	1	275683	275687	275685	275685	275688	275689
85	Foot Kit (4)	1	SF96061	SF96062	SF96063	SF96064	SF96065	SF96066

Contact Renewal Parts for Current Part Numbers

- (1) Qty. 2 required for double shaft extension.
- (2) Not required for double shaft extension.
- (3) For units manufactured prior to 5/01/00. Refer to date code chart on page G3-40
- (4) Foot not supplied as part of original equipment on separate TIGEAR.

- \* Recommended spare parts.
- NOTE: These part numbers apply to standard units only. For Part Numbers not found, contact DODGE Renewal Parts (864) 297-4160.

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## Quill TIGEAR

### INSTALLATION

TIGEAR reducers can be installed with the base mounted to the top or bottom of the gear case, or without the base at all. The mounting surface must be flat or breakage may result when mounting bolts are tightened. Use steel shims as required to assure that the gearbox is sitting solidly on all four bolting points and is properly aligned.

Check the output shaft and coupling or sprocket bore for nicks, burrs and cleanliness before assembling. Good practice is to slip the sprocket in place, then tap the key in place. **Do not drive the sprocket over the key. Doing so may result in seal and bearing damage.** For maximum overhung load capacity, install sprockets as close to the output seal face as practical while maintaining full key engagement.

Check all hardware for tightness before start-up.

### MOTOR MOUNTING

Quill TIGEAR reducers employ a hollow input “quill” for mounting standard NEMA C-Face motors without additional shaft couplings. The motor shaft fits into the bored input shaft of the reducer. This type of mounting is suitable for applications having input speeds of 2500 RPM and less.

#### 56C and 140TC Frame Motors

1. Check the reducer C-Face, tenon, and input bore for nicks, burrs, and cleanliness.
2. Remove the motor mounting bolts and anti-seize capsule from the plastic bag.
3. Check the motor shaft, motor shaft keyway and motor C-Face for nicks, burrs, and cleanliness and proper size. Apply an even coat of the anti-seize lubricant provided to the motor shaft and motor shaft keyway.
4. Align the input bore key with the motor shaft keyway and push motor into place, fully engaging the tenon. **Note: Do not use motor bolt to draw motor into reducer until tenon is engaged.** Rotate the motor to the desired conduit box position and install the self-locking motor bolts provided. Tighten the bolts to 22 to 24 ft-lbs (264-292 in-lbs).

#### 180TC Frame Motors Require the Use of a 56C to 180TC Adapter

1. Remove mask from adapter and check tenon for nicks, burrs and cleanliness.
2. Attach adapter to 180TC motor using the self-locking, low head socket screws provided. Tighten the screws to 20 to 25 ft-lbs (240-300 in-lbs).
3. Mount motor (with adapter attached) to the reducer using the same procedure as for 56C frame motors listed above, except tighten the bolts to 22 to 24 ft-lbs (264-292 in-lbs).

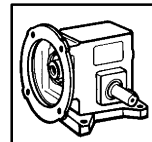
### MOTOR REMOVAL

Reducers with hollow bore, quill type inputs may be difficult to separate from C-Face motors after time in use due to fretting corrosion between the quill bore and the motor shaft. To remove the motor, take the motor mounting bolts out and rotate the motor approximately one inch. If the C-Flange motor mounting holes (in the reducer) are tapped, install two  $1/2$ -13 UNC screws 180 degrees apart and use them to push the motor out of the quill bore. On units where holes are not tapped, removing the motor may require applying force to a blunt object inserted in the reducer C-Flange holes. Also, the holes may be tapped **Before Mounting the Motor to the Reducer.** Tap two of the existing holes with a  $1/2$ -13 UNC 2B tap. There is no need to use a tap drill as the existing clearance holes are suitable for tapping.

### MAINTENANCE

TIGEAR reducers require virtually no periodic maintenance. However, DODGE recommends occasional visual inspections to check for hardware security, leakage, and general overall condition. In extremely dirty environments, heavy accumulations of dirt can cause overheating. An occasional wash down or wipe-off will assure the long life of the equipment.

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## Quill And Separate TIGEAR Reducers

### SHIPPING WEIGHTS (LBS.)

#### Quill TIGEAR with C-Face Input

MOTOR FRAME	MOTOR ADAPTERS					
	Q133	Q150	Q175	Q200	Q262	Q350
56/140	17	22	27	32	52	110
180	N/A	N/A	N/A	N/A	61	119

#### Separate TIGEAR with Shaft Input

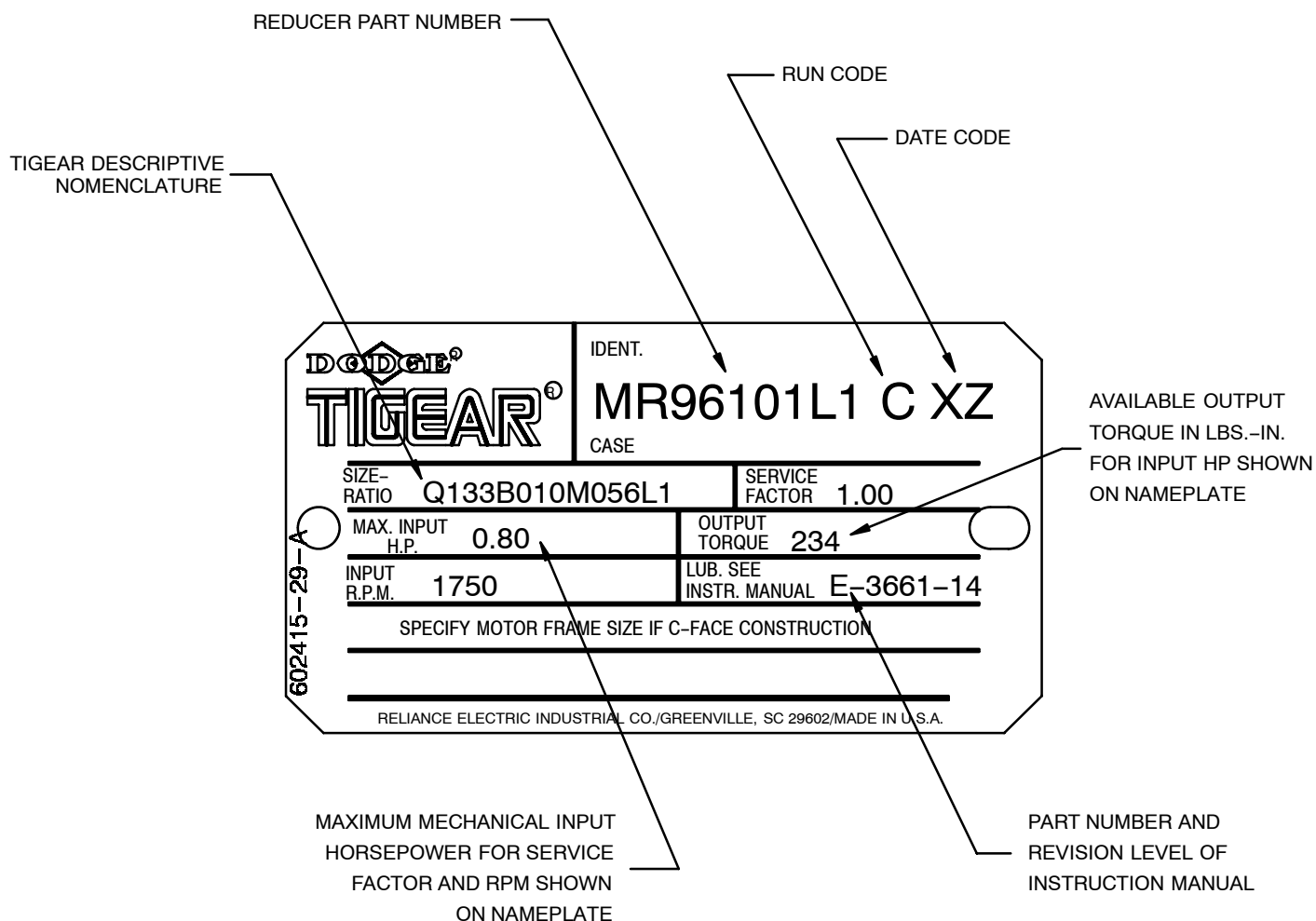
A133	A150	A175	A200	A262	A350
17	22	27	32	52	110

### Accessories

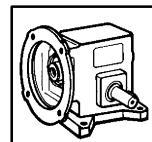
To Be Added To Reducer Shipping Weight

ACCESSORY	REDUCER CASE SIZE					
	133	150	175	200	262	350
Bolt-On Foot Kits	2	2	2	2	3	4
Riser Block Kits	3	3	4	4	6	7
J-Mount Base Kits	6	6	6	8	12	14

### NAMEPLATE DECODER



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## Manufactured Date Code Chart

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1961	AL	BL	CL	DL	EL	FL	GL	HL	JL	KL	LL	ML
1962	AM	BM	CM	DM	EM	FM	GM	HM	JM	KM	LM	MM
1963	AN	BN	CN	DN	EN	FN	GN	HN	JN	KN	LN	MN
1964	AP	BP	CP	DP	EP	FP	GP	HP	JP	KP	LP	MP
1965	AQ	BQ	CQ	DQ	EQ	FQ	GQ	HQ	JQ	KQ	LQ	MQ
1966	AR	BR	CR	DR	ER	FR	GR	HR	JR	KR	LR	MR
1967	AS	BS	CS	DS	ES	FS	GS	HS	JS	KS	LS	MS
1968	AT	BT	CT	DT	ET	FT	GT	HT	JT	KT	LT	MT
1969	AU	BU	CU	DU	EU	FU	GU	HU	JU	KU	LU	MU
1970	AV	BV	CV	DV	EV	FV	GV	HV	JV	KV	LV	MV
1971	AW	BW	CW	DW	EW	FW	GW	HW	JW	KW	LW	MW
1972	AX	BX	CX	DX	EX	FX	GX	HX	JX	KX	LX	MX
1973	AY	BY	CY	DY	EY	FY	GY	HY	JY	KY	LY	MY
1974	AZ	BZ	CZ	DZ	EZ	FZ	GZ	HZ	JZ	KZ	LZ	MZ
1975	NA	PA	QA	RA	SA	TA	UA	VA	WA	XA	YA	ZA
1976	NB	PB	QB	RB	SB	TB	UB	VB	WB	XB	YB	ZB
1977	NC	PC	QC	RC	SC	TC	UC	VC	WC	XC	YC	ZC
1978	ND	PD	QD	RD	SD	TD	UD	VD	WD	XD	YD	ZD
1979	NE	PE	QE	RE	SE	TE	UE	VE	WE	XE	YE	ZE
1980	NF	PF	QF	RF	SF	TF	UF	VF	WF	XF	YF	ZF
1981	NG	PG	QG	RG	SG	TG	UG	VG	WG	XG	YG	ZG
1982	NH	PH	QH	RH	SH	TH	UH	VH	WH	XH	YH	ZH
1983	NJ	PJ	QJ	RJ	SJ	TJ	UJ	VJ	WJ	XJ	YJ	ZJ
1984	NK	PK	QK	RK	SK	TK	UK	VK	WK	XK	YK	ZK
1985	NL	PL	QL	RL	SL	TL	UL	VL	WL	XL	YL	ZL
1986	NM	PM	QM	RM	SM	TM	UM	VM	WM	XM	YM	ZM
1987	NN	PN	QN	RN	SN	TN	UN	VN	WN	XN	YN	ZN
1988	NP	PP	QP	RP	SP	TP	UP	VP	WP	XP	YP	ZP
1989	NQ	PQ	QQ	RQ	SQ	TQ	UQ	VQ	WQ	XQ	YQ	ZQ
1990	NR	PR	QR	RR	SR	TR	UR	VR	WR	XR	YR	ZR
1991	NS	PS	QS	RS	SS	TS	US	VS	WS	XS	YS	ZS
1992	NT	PT	QT	RT	ST	TT	UT	VT	WT	XT	YT	ZT
1993	NU	PU	QU	RU	SU	TU	UU	VU	WU	XU	YU	ZU
1994	NW	PW	QW	RW	SW	TW	UW	VW	WW	XW	YW	ZW
1995	NX	PX	QX	RX	SX	TX	UX	VX	WX	XX	YX	ZX
1996	NY	PY	QY	RY	SY	TY	UY	VY	WY	XY	YY	ZY
1997	NZ	PZ	QZ	RZ	SZ	TZ	UZ	VZ	WZ	XZ	YZ	ZZ
1998	AA	BA	CA	DA	EA	FA	GA	HA	JA	KA	LA	MA
1999	AB	BB	CB	DB	EB	FB	GB	HB	JB	KB	LB	MB
2000	AC	BC	CC	DC	EC	FC	GC	HC	JC	KC	LC	MC
2001	AD	BD	CD	DD	ED	FD	GD	HD	JD	KD	LD	MD
2002	AE	BE	CE	DE	EE	FE	GE	HE	JE	KE	LE	ME
2003	AF	BF	CF	DF	EF	FF	GF	HF	JF	KF	LF	MF
2004	AG	BG	CG	DG	EG	FG	GG	HG	JG	KG	LG	MG
2005	AH	BH	CH	DH	EH	FH	GH	HH	JH	KH	LH	MH
2006	AJ	BJ	CJ	DJ	EJ	FJ	GJ	HJ	JJ	KJ	LJ	MJ
2007	AK	BK	CK	DK	EK	FK	GK	HK	JK	KK	LK	MK
2008	AL	BL	CL	DL	EL	FL	GL	HL	JL	KL	LL	ML
2009	AM	BM	CM	DM	EM	FM	GM	HM	JM	KM	LM	MM
2010	AN	BN	CN	DN	EN	FN	GN	HN	JN	KN	LN	MN

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