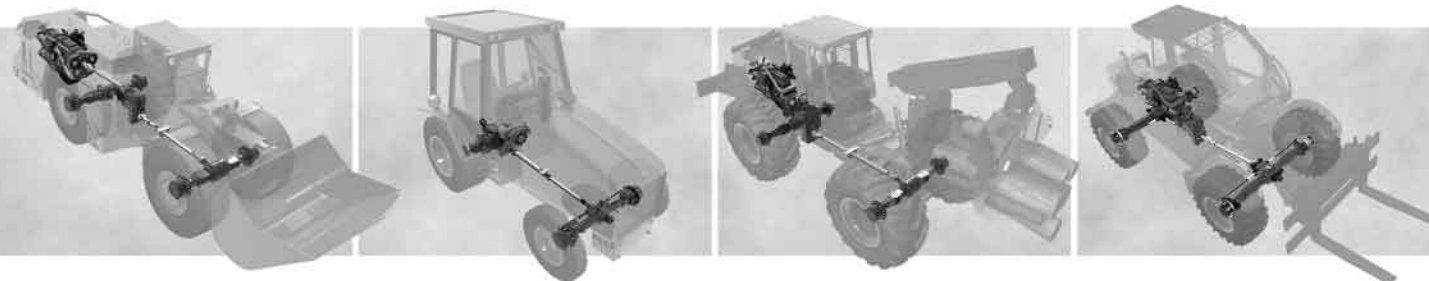
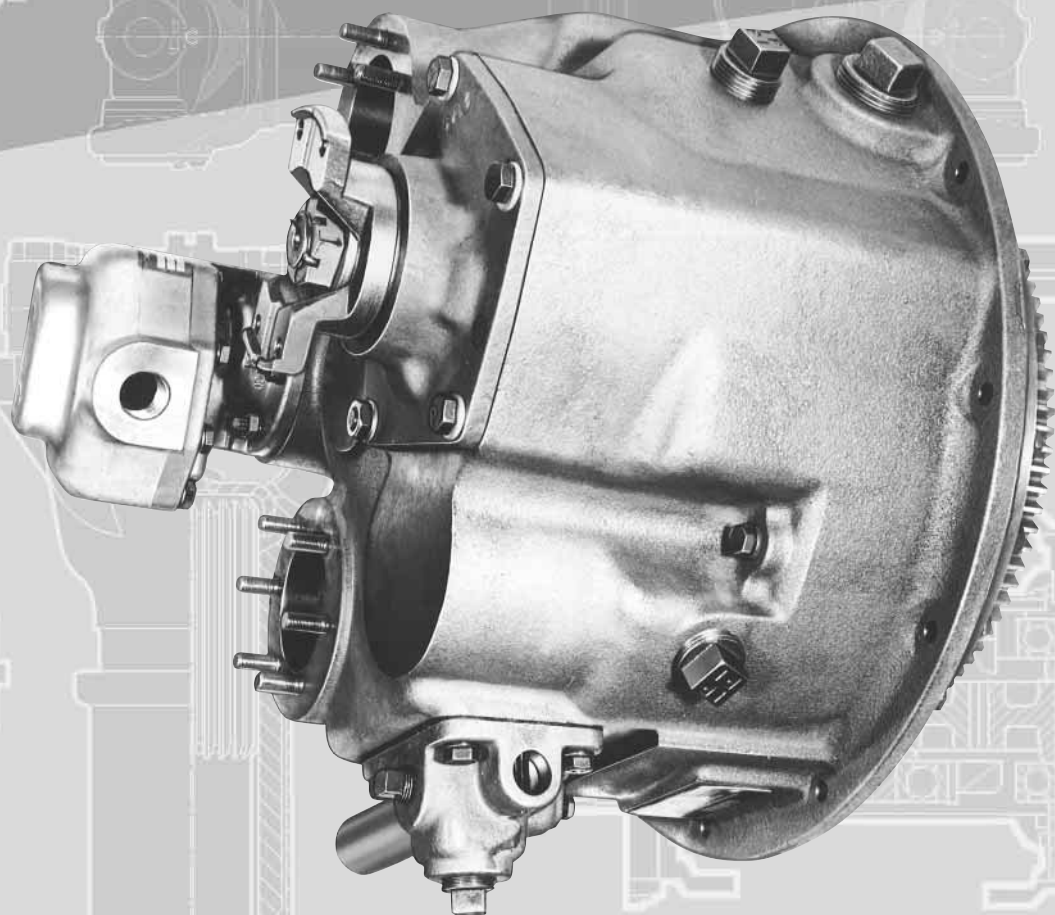


Off-Highway Systems

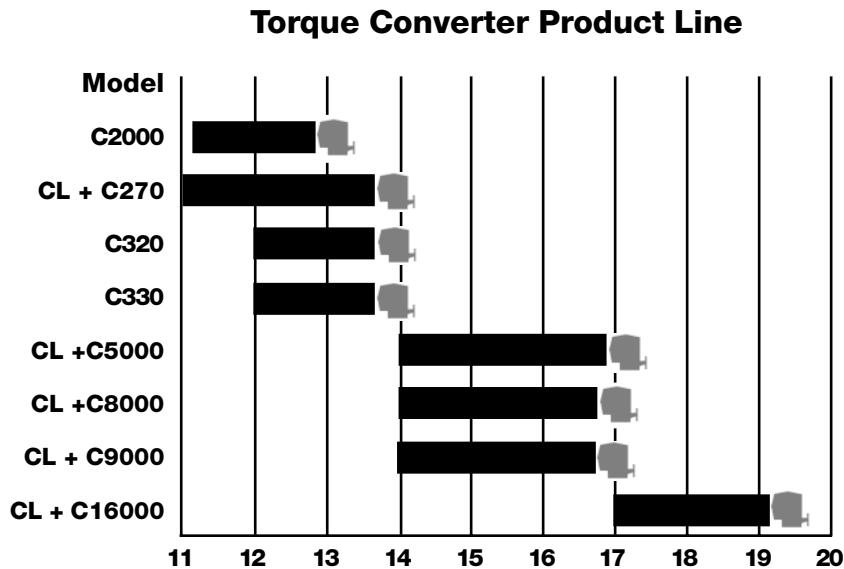
DANA



*Specifications
Torque Converters*

SPICER[®]

Torque converters provide high operating efficiency for any application.



Spicer® torque converters teamed with the appropriate transmissions provide high operating efficiency for virtually any application. Spicer offers 36 torque converter wheel configurations with stall torque ratios to match most engine requirements.

Although mounted remotely, Spicer converters are an integral part of the transmission and do not exert end loading on engine crankshafts.

Features and Options

Engine-Driven Pump Drives

All Spicer® torque converters are built with three accessory pump drives: one for the charging pump and the other two for mounting additional accessory pumps. The exception to this is on the Model C330, which has one additional pump drive for mounting accessory pumps.

A floating sleeve on the pump drive connector provides mounting flexibility. Most pumps can be attached to the torque converter by mating the splines and securing the mounting bolts.

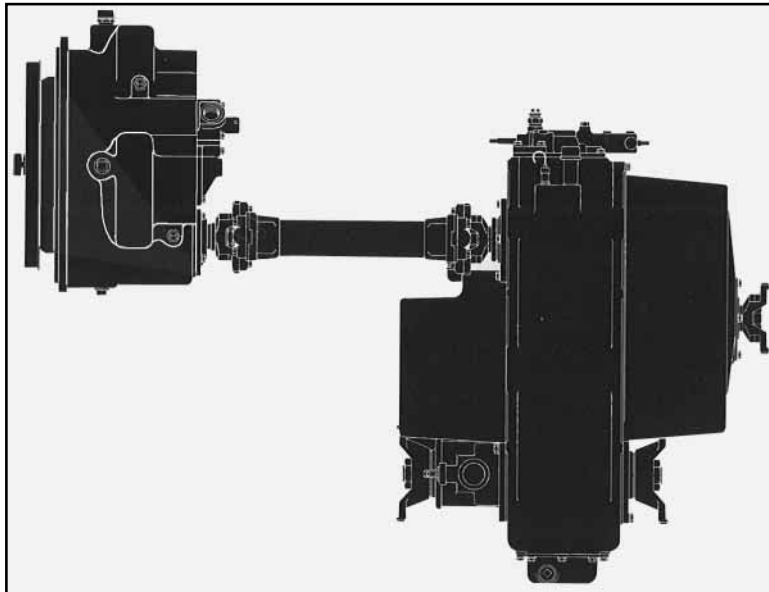
Since each pump is engine driven, maximum oil flow can be achieved even when operation of the vehicle reduces torque converter output speed.

Circuit Design that Provides up to 3:1 Torque Multiplication

The Spicer design delivers optimum engine power through a wide operation range, providing the highest output levels. The outward flow of oil through the impeller maximizes the torque capability of the converter, providing up to 3:1 torque multiplication.

Inline or Offset Output Shafts

All torque converters are available with inline or offset outputs, enabling OEMs to choose the mounting position that provides the best propeller shaft angles and lengths. Converter outputs are off-center by several inches and rotate 360°, so you can select the most desirable mounting position for the best propeller shaft angles and lengths.



Torque Converter and Remote Mounted Transmission

The torque converter mounted directly to the engine and connected to the transmission via a drive shaft provides ultimate flexibility in machine design.

Converter Lockup

For applications traveling over long distances with a load, it is more fuel efficient to drive directly from the engine to the transmission. For this reason, Spicer has developed a lockup feature for all offset converter models. This allows the operator to lock the converter into direct drive as needed for specific applications.

Appropriate SAE Pump Mountings

All torque converters have pump mounting and drive adapters designed especially to match the pump requirements. Spicer offers the appropriate SAE size mountings.

Governor, Tachometer, or Flex Plate Drive Options

Governor or turbine tachometer drives are available on Spicer torque converters, and flex plate drives are available on some models, enabling OEMs to choose the right drive option for virtually any off-road situation.

Converter Wheel Size and Flange Size Options

Spicer offers a wide selection of converter wheel sizes and flange sizes.

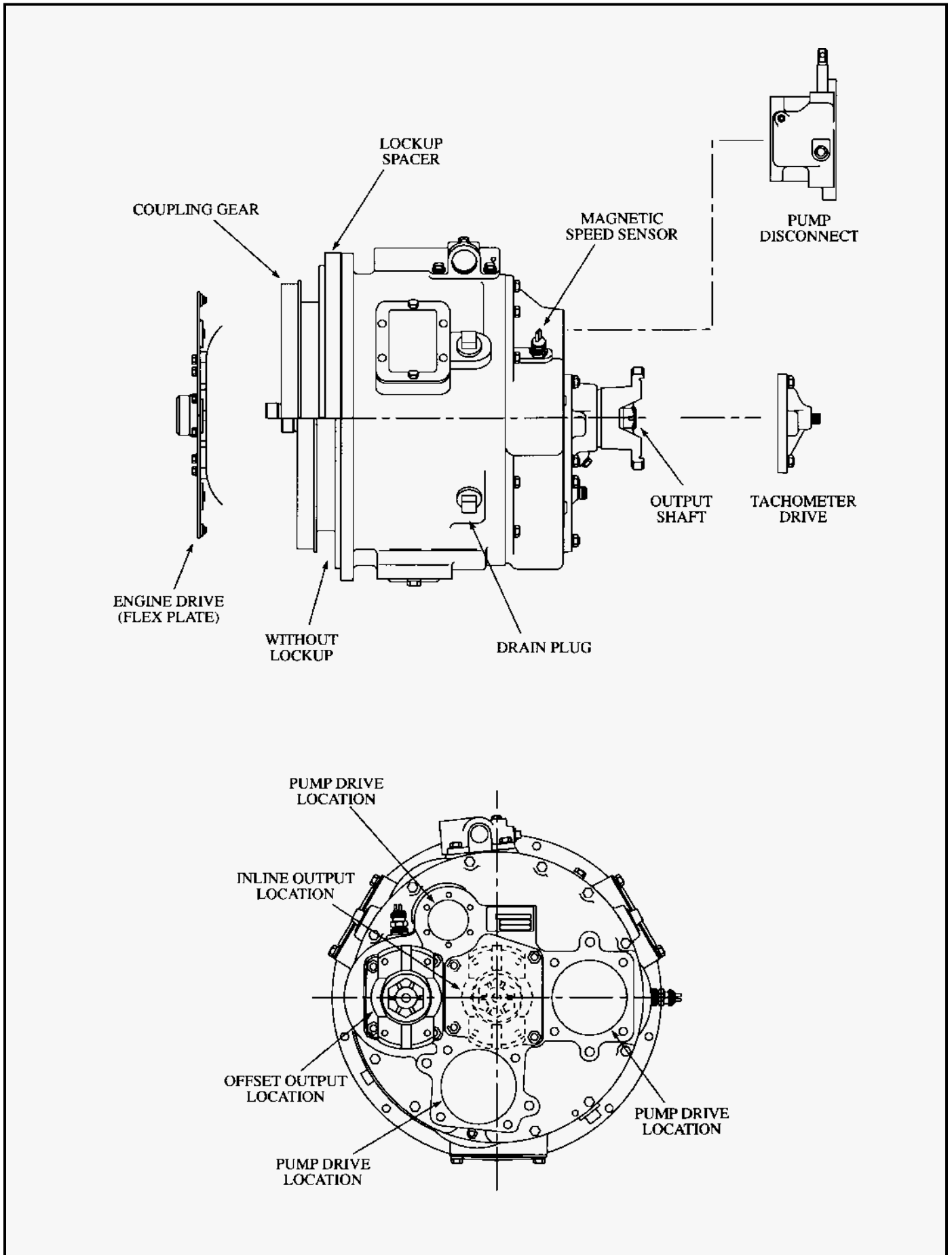
TECHNICAL DATA

Model	Wheel Designation in.(mm)	Torque Multiplication Ratio	Maximum Input RPM
C2000	11.2 (284.5) to 12.9 (328.0)	2.850 to 1.930	3300
CL+C270	11 (279.4) to 13.7 (380.0)	3.121 to 1.820	3300
CL+320	12 (304.8) to 13.7 (380.0)	3.100 to 1.820	3300
C330	12 (304.8) to 13.7 (380.0)	3.100 to 1.820	3300
CL+C5000	14 (355.6) to 16.9 (429.3)	3.140 to 1.640	2800
CL+C8000	14 (355.6) to 16.7 (424.2)	3.100 to 1.780	2700
CL + C9000	14 (355.6) to 16.7 (424.2)	3.100 to 1.780	2700
CL+C16000	17 (431.8) to 19.1 (485.0)	3.080 to 1.830	2800

Model	Weight Without Lockup lbs. (Kg)	Weight With Lockup lbs. (Kg.)
C2000	225 (102)	—
C270	260 (118)	310 (141)
C320	290 (132)	340 (154)
C330	465 (211)	—
C5000	395 (179)	435 (198)
C8000	550 (250)	590 (268)
CL + C9000	800 (360)	840 (378)
C16000	1050 (477)	1150 (523)

Pump Drives	C2000	C270	C320	C330	C5000	C8000	C9000	C16000
SAE "A"	Optional 2 Bolt	Optional 2 Bolt	Optional 2 Bolt	Optional 2 Bolt	Optional 2 Bolt	Optional 2 Bolt	Optional 2 Bolt	Optional 2 Bolt
SAE "B"	Optional 2 & 4 Bolt	Optional 2 & 4 Bolt	Optional 2 & 4 Bolt	Optional 2 & 4 Bolt	Optional 2 & 4 Bolt	Optional 2 & 4 Bolt	Optional 2 & 4 Bolt	Optional 2 & 4 Bolt
SAE "C"	Optional 2 & 4 Bolt	Optional 2 & 4 Bolt	Optional 2 & 4 Bolt	Optional 2 & 4 Bolt	2 & 4 Bolt STD Opt. 4 to 6 Bolt Adapter	2 & 4 Bolt STD Opt. 4 to 6 Bolt Adapter	2 & 4 Bolt STD 4 Bolt w/6 Bolt Adapter	2 & 4 Bolt STD 4 Bolt w/6 Bolt Adapter
SAE "D"						Optional	Optional	Optional

STANDARD MODEL AND FEATURE IDENTIFICATION



C2000 Series INSTALLATION DIMENSIONS

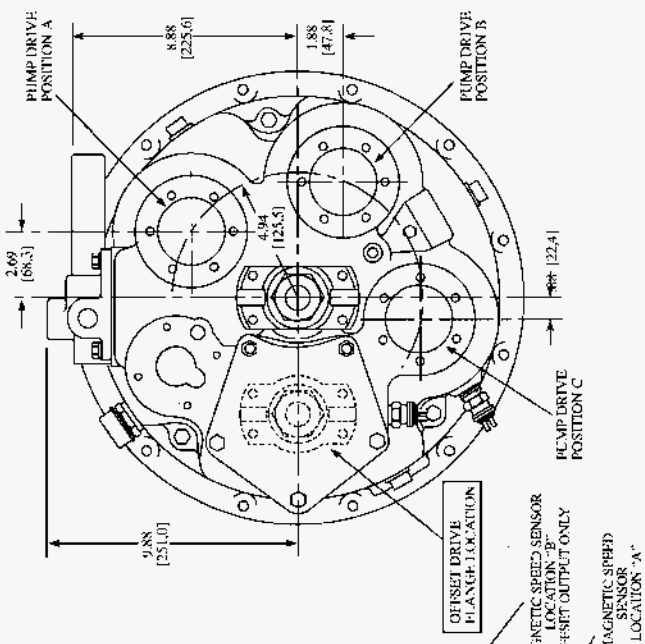
PUMP DRIVE RATIOS AVAILABLE

- 0.965 OVERDRIVE
- 1.133 UNDERDRIVE

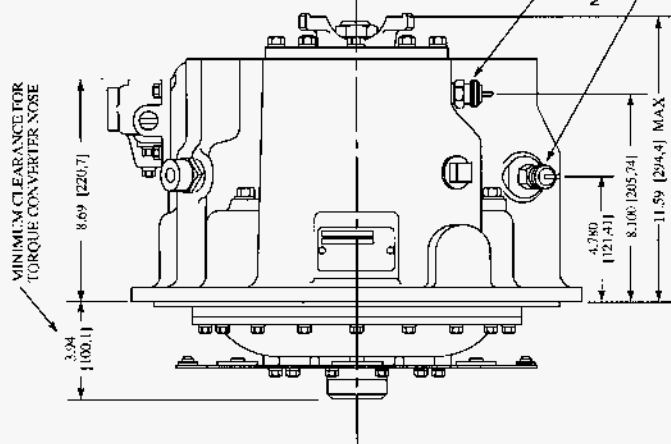
OFFSET DRIVE RATIOS AVAILABLE

- 0.897 OVERDRIVE
- 0.965 OVERDRIVE
- 1.037 UNDERDRIVE
- 1.115 UNDERDRIVE
- 1.290 UNDERDRIVE

NOTE: CUSTOMER MUST DETERMINE LOCATION AND POSITION OF PUMPS. ALL POSITIONS NOTED ARE WITH OFFSET OUTPUT FLANGE LOCATED AT 9:00 O'CLOCK.

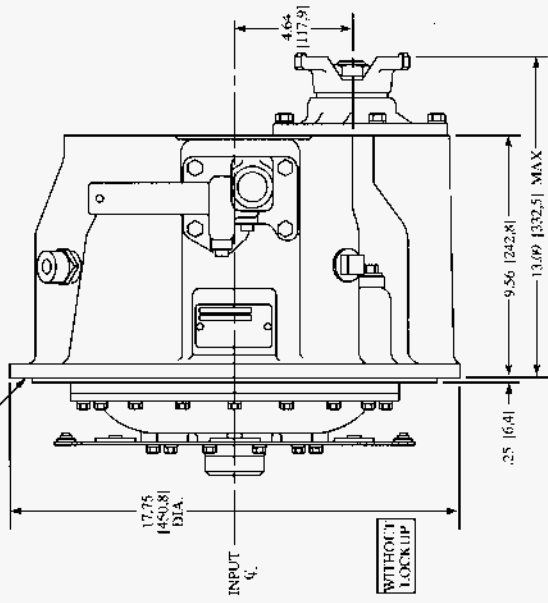


INLINE OUTPUT REAR VIEW



INLINE OUTPUT SIDE VIEW

MATING ENGINE PARTS MUST CONFORM TO SAE STANDARDS SAE NO. 5 HOUSING



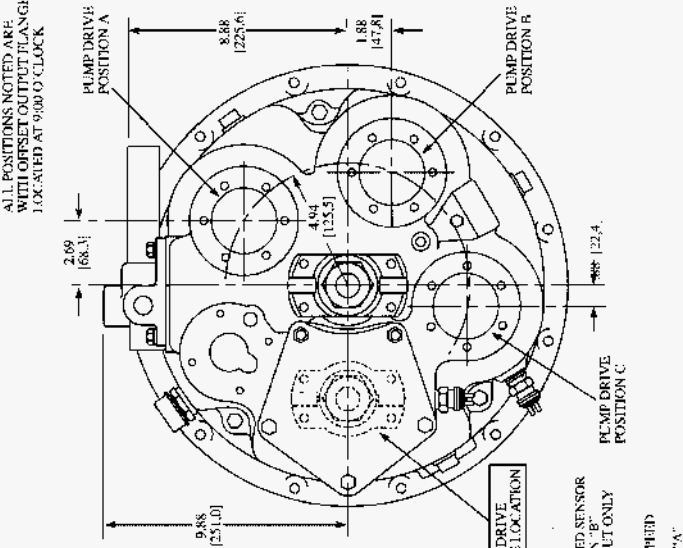
OFFSET OUTPUT SIDE VIEW WITHOUT LOCKUP

C270 Series INSTALLATION DIMENSIONS

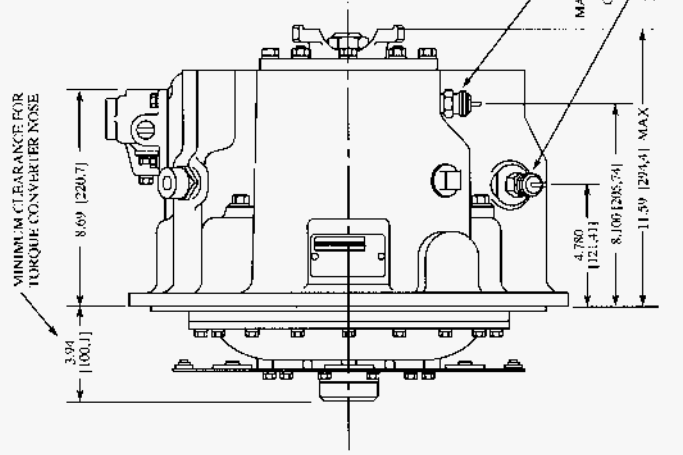
PUMP DRIVE RATIOS AVAILABLE:
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 0.965 OVERDRIVE
 1.037 UNDERDRIVE
 1.115 UNDERDRIVE
 1.290 UNDERDRIVE

OFFSET DRIVE RATIOS AVAILABLE:

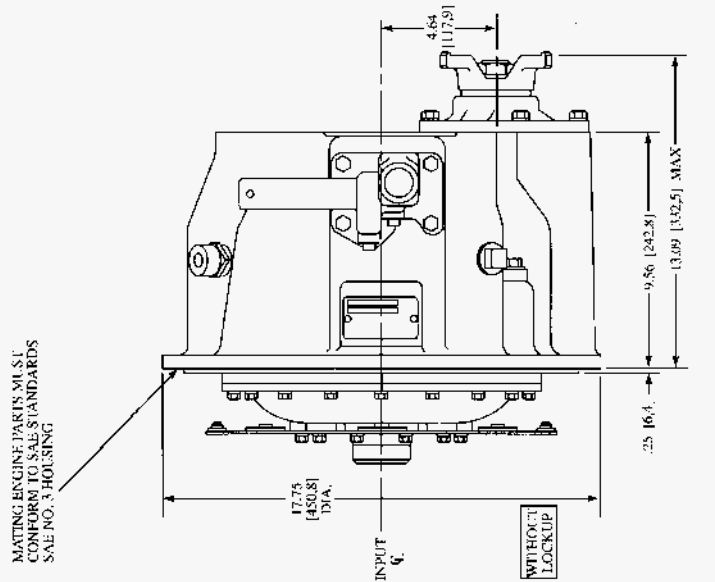
NOTE: CUSTOMER MUST DETERMINE LOCATION AND POSITION OF PUMPS
 ALL POSITIONS NOTED ARE WITH OFFSET OUTPUT FLANGE LOCATED AT 9:00 O'CLOCK



INLINE OUTPUT REAR VIEW



INLINE OUTPUT SIDE VIEW



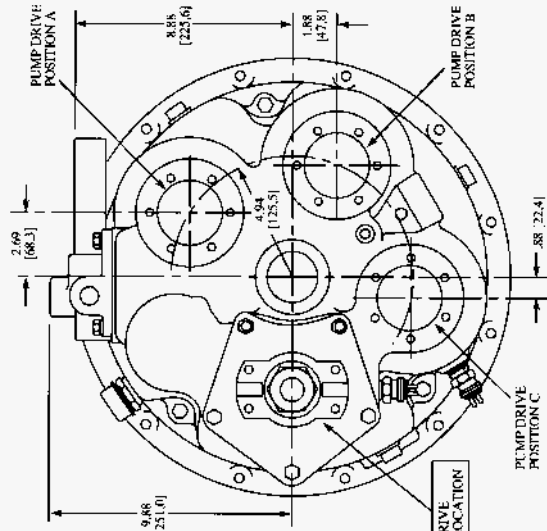
OFFSET OUTPUT SIDE VIEW WITHOUT LOCKUP

C320 Series INSTALLATION DIMENSIONS

OFFSET DRIVE RATIOS AVAILABLE
 0.885 OVERDRIVE
 0.960 OVERDRIVE
 1.042 UNDERDRIVE
 1.130 UNDERDRIVE
 1.333 UNDERDRIVE

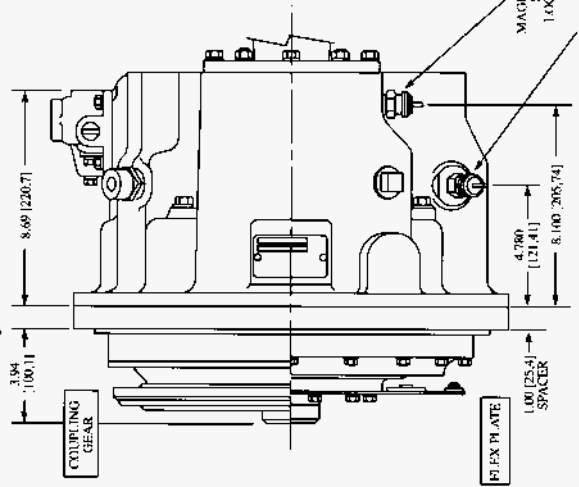
PUMP DRIVE RATIOS AVAILABLE
 0.965 OVERDRIVE
 1.135 UNDERDRIVE

NOTE: CUSTOMER MUST DETERMINE LOCATION AND POSITION OF PUMPS
 ALL POSITIONS NOTED ARE WITH OFFSET OUTPUT FLANGE LOCATED AT 9:00 O'CLOCK



OFFSET OUTPUT REAR VIEW

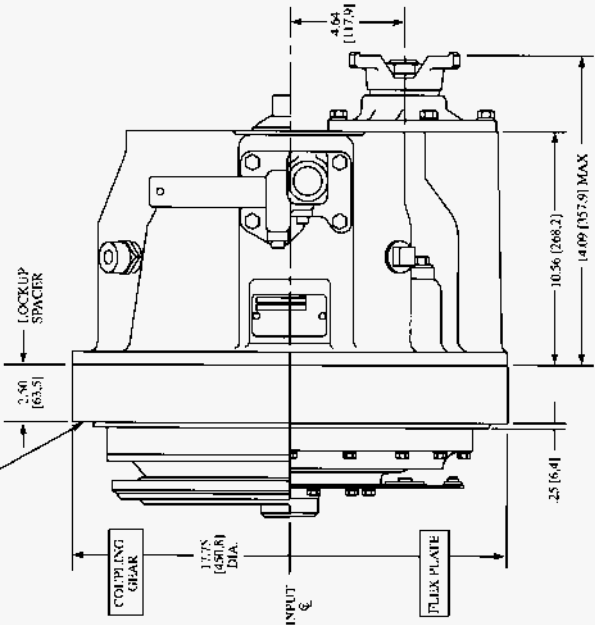
MINIMUM CLEARANCE FOR TORQUE CONVERTER NOSE



OFFSET OUTPUT SIDE VIEW WITHOUT LOCKUP

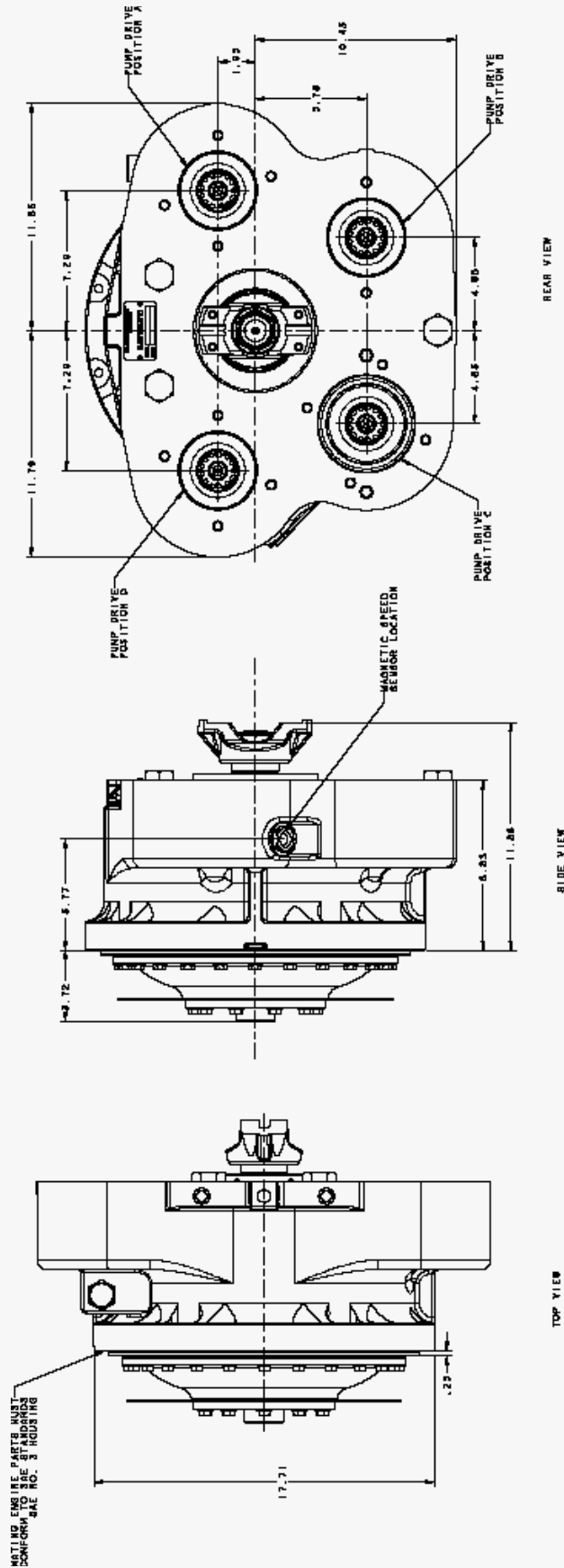
(INLINE OUTPUT NOT AVAILABLE)

MATING ENGINE PARTS MUST CONFORM TO SAE STANDARDS SAE NO. 7 HOUSING



OFFSET OUTPUT SIDE VIEW WITH LOCKUP

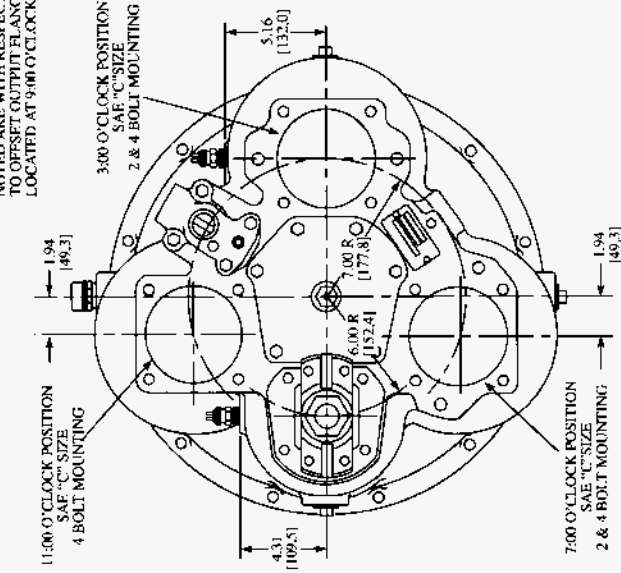
C330 Series INSTALLATION DIMENSIONS



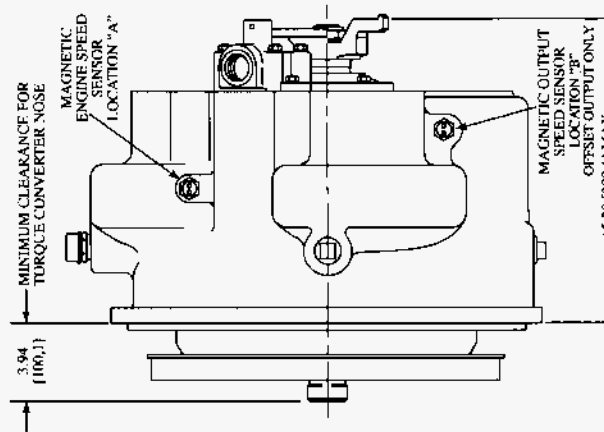
C5000 Series INSTALLATION DIMENSIONS

PUMP DRIVE RATIOS AVAILABLE	OFFSET DRIVE RATIOS AVAILABLE
0.826 OVERDRIVE	0.895 OVERDRIVE
0.886 OVERDRIVE	1.000 DIRECT
0.955 OVERDRIVE	1.118 UNDERDRIVE
1.400 UNDERDRIVE	1.250 UNDERDRIVE

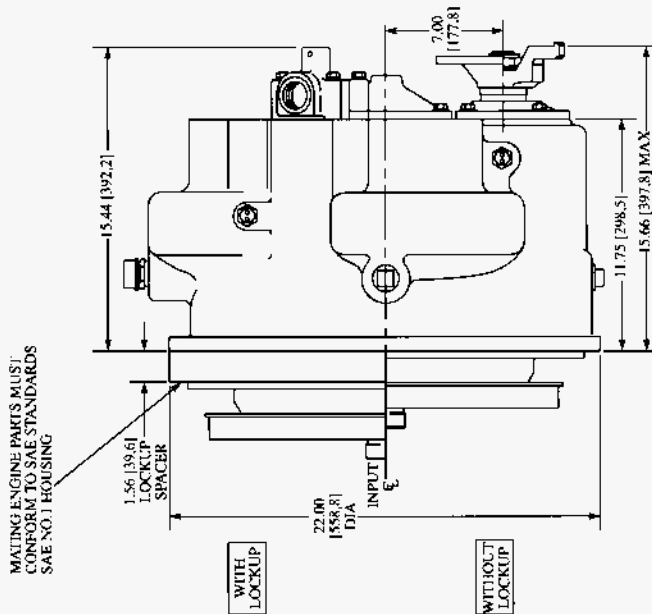
ALL PUMP DRIVE POSITIONS NOTED ARE WITH RESPECT TO OFFSET OUTPUT FLANGE LOCATED AT 9:00 O'CLOCK



OFFSET OUTPUT
REAR VIEW



INLINE OUTPUT
SIDE VIEW
LOCKUP NOT AVAILABLE
ON INLINE OUTPUT

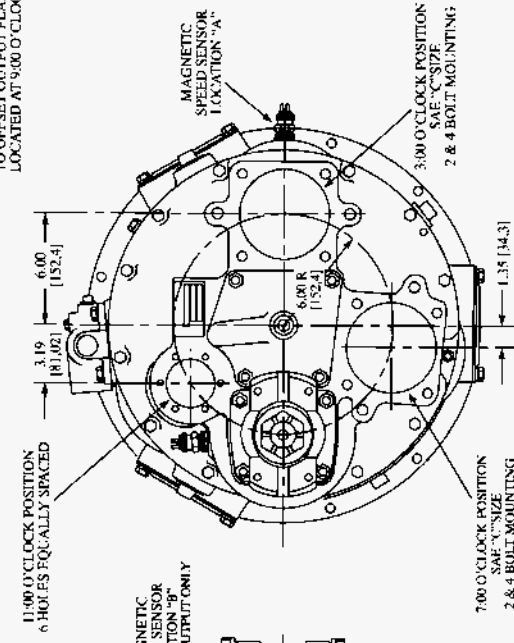


OFFSET OUTPUT
SIDE VIEW
WITH & WITHOUT LOCKUP

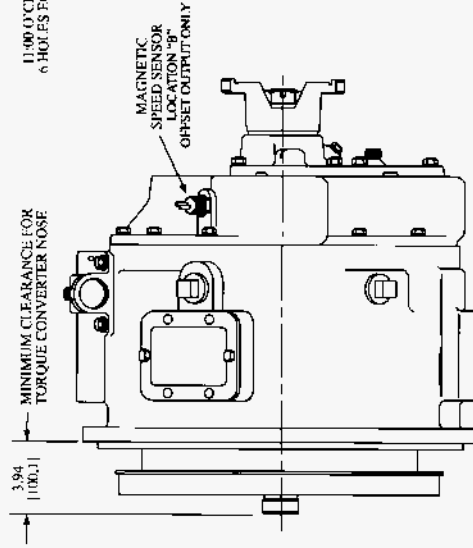
C8000 Series INSTALLATION DIMENSIONS

- PUMP DRIVE RATIOS AVAILABLE:**
 0.800 OVERDRIVE
 0.946 OVERDRIVE
 1.057 UNDERDRIVE
 1.250 UNDERDRIVE
- OFFSET DRIVE RATIOS AVAILABLE:**
 0.895 OVERDRIVE
 1.000 DIRECT
 1.118 UNDERDRIVE
 1.323 UNDERDRIVE

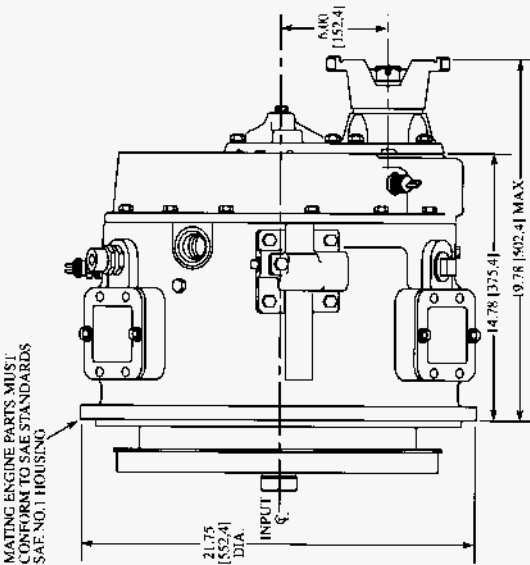
ALL PUMP DRIVE POSITIONS NOTED ARE WITH RESPECT TO OFFSET OUTPUT FLANGE LOCATED AT 9:00 O'CLOCK



OFFSET OUTPUT REAR VIEW

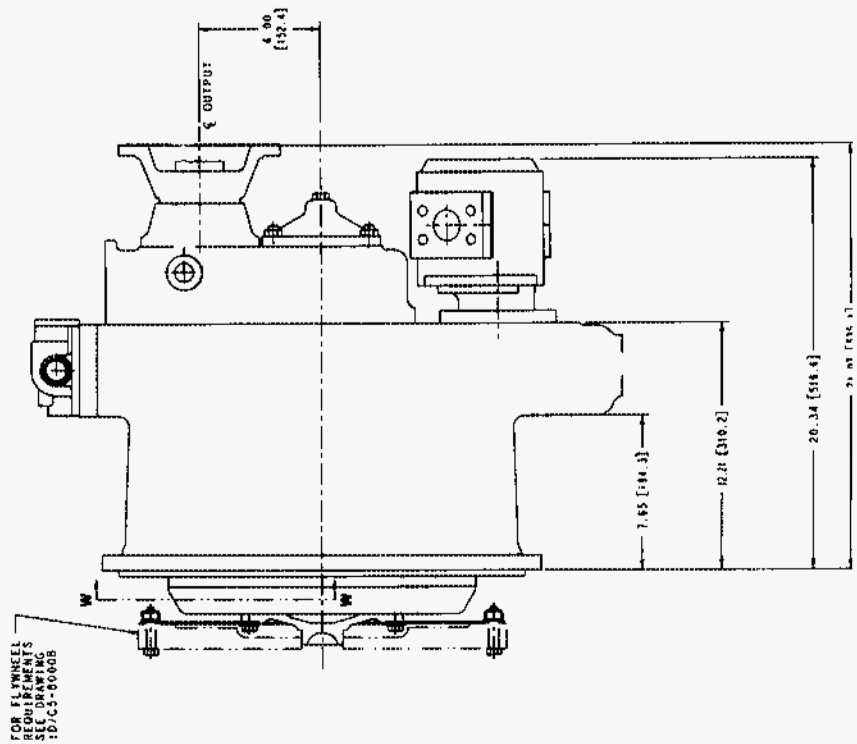
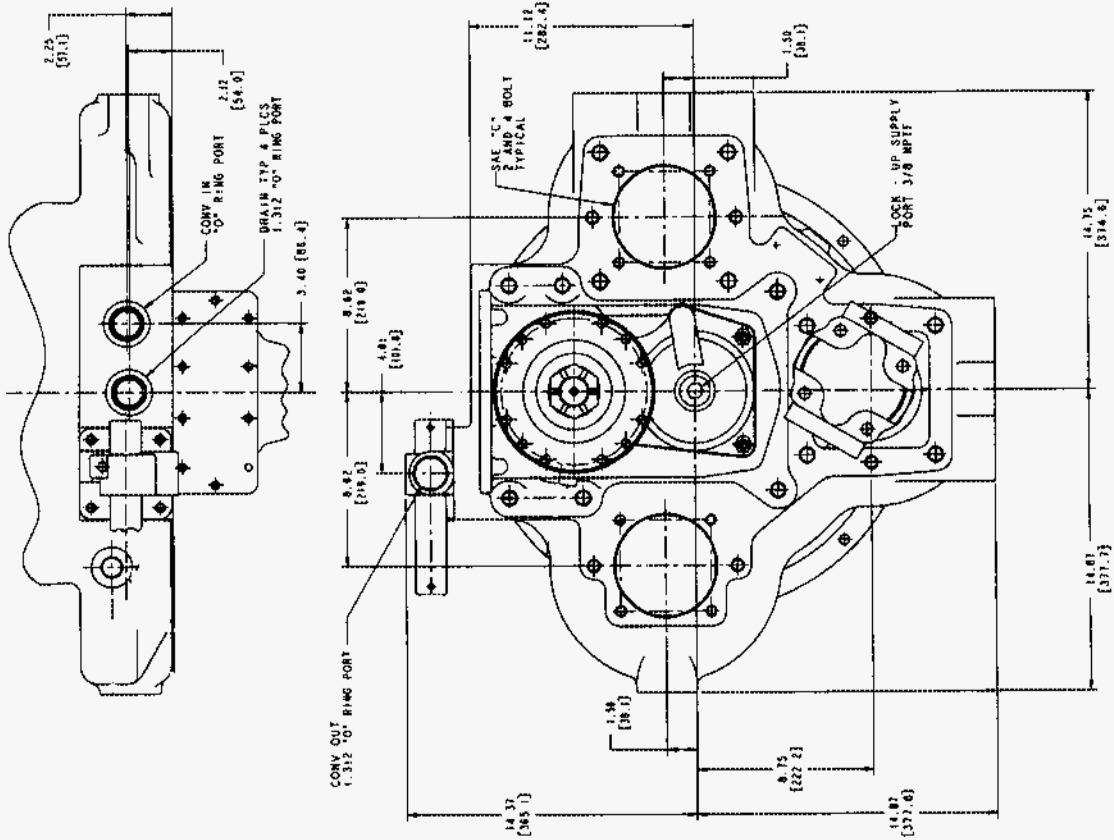


INLINE OUTPUT SIDE VIEW



OFFSET OUTPUT SIDE VIEW WITH & WITHOUT LOCKUP

C9000 Series INSTALLATION DIMENSIONS

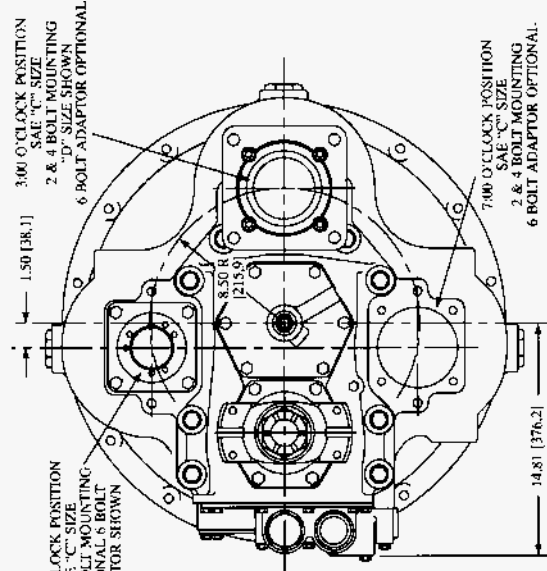


C16000 Series INSTALLATION DIMENSIONS

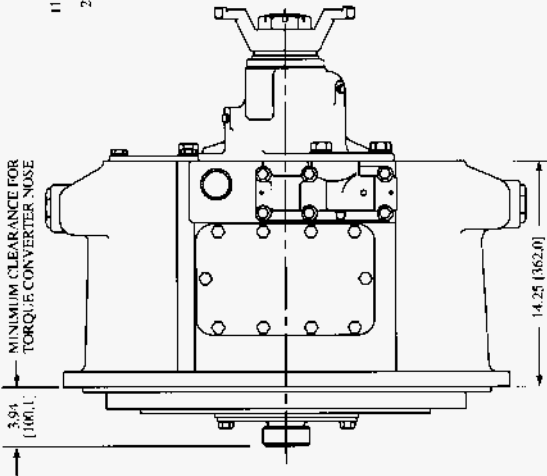
PUMP DRIVE RATIOS AVAILABLE
 0.842 OVERDRIVE
 0.892 OVERDRIVE
 1.000 DIRECT
 1.121 UNDERDRIVE
 1.188 UNDERDRIVE

OFFSET DRIVE RATIOS AVAILABLE

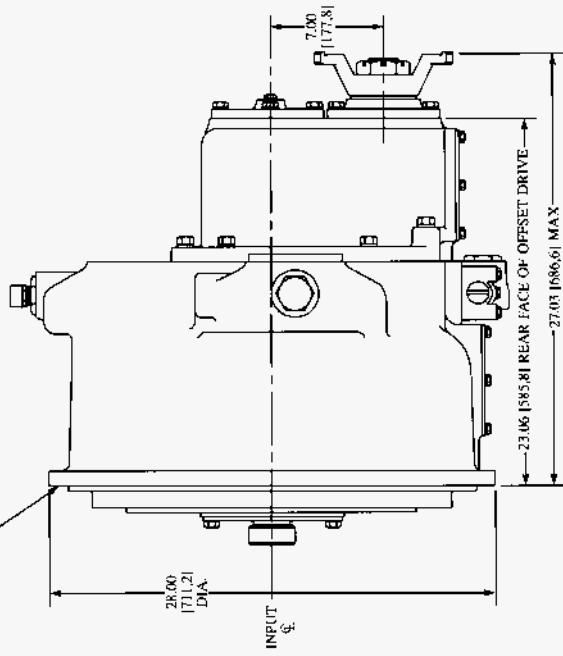
ALL POSITIONS NOTED ARE WITH OFFSET OUTPUT FLANGE LOCATED AT 9:00 O'CLOCK



OFFSET OUTPUT REAR VIEW



INLINE OUTPUT SIDE VIEW



OFFSET OUTPUT SIDE VIEW WITH & WITHOUT LOCKUP

MATING ENGINE PARTS MUST CONFORM TO SAE STANDARDS SAE NO. J HOUSING

APPLICATION POLICY

Capacity ratings, features and specifications vary depending upon the model and type of service. Applications must be obtained from Off-Highway Systems. We reserve the right to change or modify our product specifications, configurations, or dimensions at any time without notice.



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