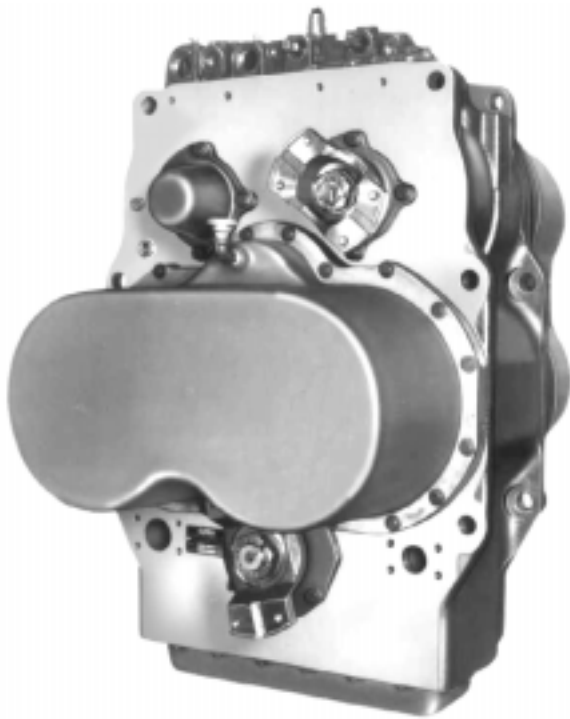


**1000 SERIES  
Powershift Transmission  
250 TO 1000 hp (190 TO 746 kW)**



***OFF-HIGHWAY SYSTEMS***



# 1000 Series

## 250 to 1000 hp (190 to 746 kW)

### “THE WORKHORSE”

## FOUR SIZES OF TRANSMISSIONS TO FIT YOUR APPLICATION

The Spicer 1000 Series is the workhorse of the industry. This is the transmission needed for heavy-duty, severe applications where durability, ease of maintenance, and serviceability are required.

The 1000 Series is available in four different transmission models, with horsepowers ranging from 180 all the way up to 1000. These ranges enable you to select the power that is appropriate to your specific vehicle requirements and tasks.

A typical application would be a low profile machine in mines, where removing the transmission is difficult. The 1000 Series' external clutch packs make servicing and repair less costly and less difficult, as the transmission can be serviced without removal from the machine.

Other applications include wheel loaders, mining trucks, logging trucks, and other industrial, mining, and construction machinery.

### Design Features

- Remote, Long Drop Transmission Configuration
- Interchangeable Clutches, Accessible from Outside of the Transmission, Eliminating the Need to Remove the Entire Transmission for Most Service Problems.
- Separate Unit Construction of Torque Converter and Transmission.
- Parts Interchangeability within the Line.

### 1000 Series Options

#### Inching

A hydraulic or manually controlled inching option is available for vehicles requiring precise movement at high engine RPM's.

#### Axle Disconnect

For vehicles that require extensive road travel, the front or rear axle disconnect option offer increased road speeds and decreased tire wear.

#### Emergency Steering Pump Drive

A ground driven pump drive provides emergency steering power in the event of engine failure.

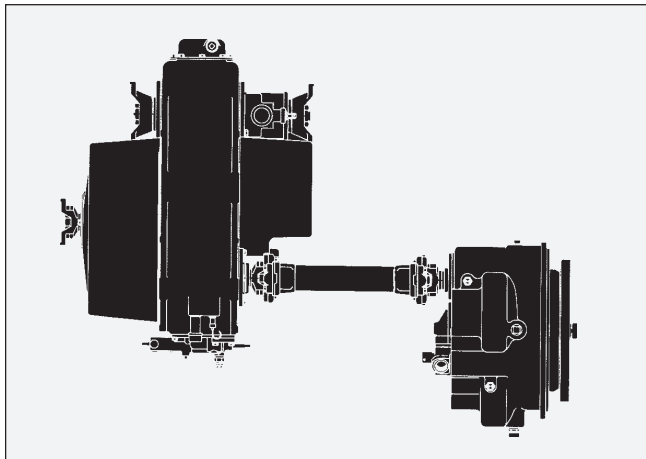
#### Modulation

A clutch modulation valve provides smooth forward to reverse shifts, allowing increased operator productivity and drive-line protection.

OPTIONS				
	5000	6000	8000	16000
Speedometer Drive	Yes	Yes	Yes	Yes
2 or 4 Wheel Drive	Yes	Yes	Yes	Yes
Brake Actuated Clutch Release	Yes	Yes	Yes	Yes
Axle Disconnect	Yes	Yes	Yes	Yes
PTO	Yes	Yes	Yes	Yes
Retarder	Yes	Yes	Yes	Yes
Emergency Pump Drive	Yes	Yes	Yes	Yes
Hydraulic Remote Controls	Yes	Yes	Yes	Yes
Modulation	Yes	Yes	Yes	Yes
Electric Controls	Yes	Yes	Yes	Yes
Back-up Alarm	Yes	Yes	Yes	Yes
Mechanical Inching	Yes	Yes	Yes	Yes
Horsepower	250 - 275	300 + 400	350 - 550	To 1000
Kilowatt	186 - 260	224 - 300	260 - 410	To 746

## Other Options

- Unidirectional PTO
- Declutch
- Speedometer Drive
- Electronic Gear Selector (EGS), Designed and Engineered to Provide a Smooth, Efficient Shifting Operation via Predetermined Gear Selection
- Automatic Powershift Control (APC100), which greatly Improves Vehicle and Operator Performance by Allowing the Transmission to Shift Automatically at Predetermined Speeds and Load Points.



## 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 the machine design.

Transmission Weight (Average Dry)	
5000 Series .....	1675 lbs. .... (760 Kg)
6000 Series .....	1800 lbs. .... (817 Kg)
8000 Series .....	2567 lbs. .... (1165 Kg)
16000 Series .....	4025 lbs. .... (1827 Kg)

## Torque Converters Matched to 1000 Series Transmission

Model	Pump Mounting	Wheel Designation in. (mm)
CL+C5000	Thru SAE "C" .....	14 (355.6) to 16 (406.4)
CL+C8000	Thru SAE "C" ....	14 (355.6) to 16.7 (424.2)
CL+C16000	Thru SAE "D" .....	16 (406.4) to 19 (482.6)

Each of the four models in the Spicer 1000 Series can be mated with a matching Spicer torque converter to provide high operating efficiency for virtually any application. Spicer offers many different torque converter wheel configurations with stall torque ratios to match most engine requirements.

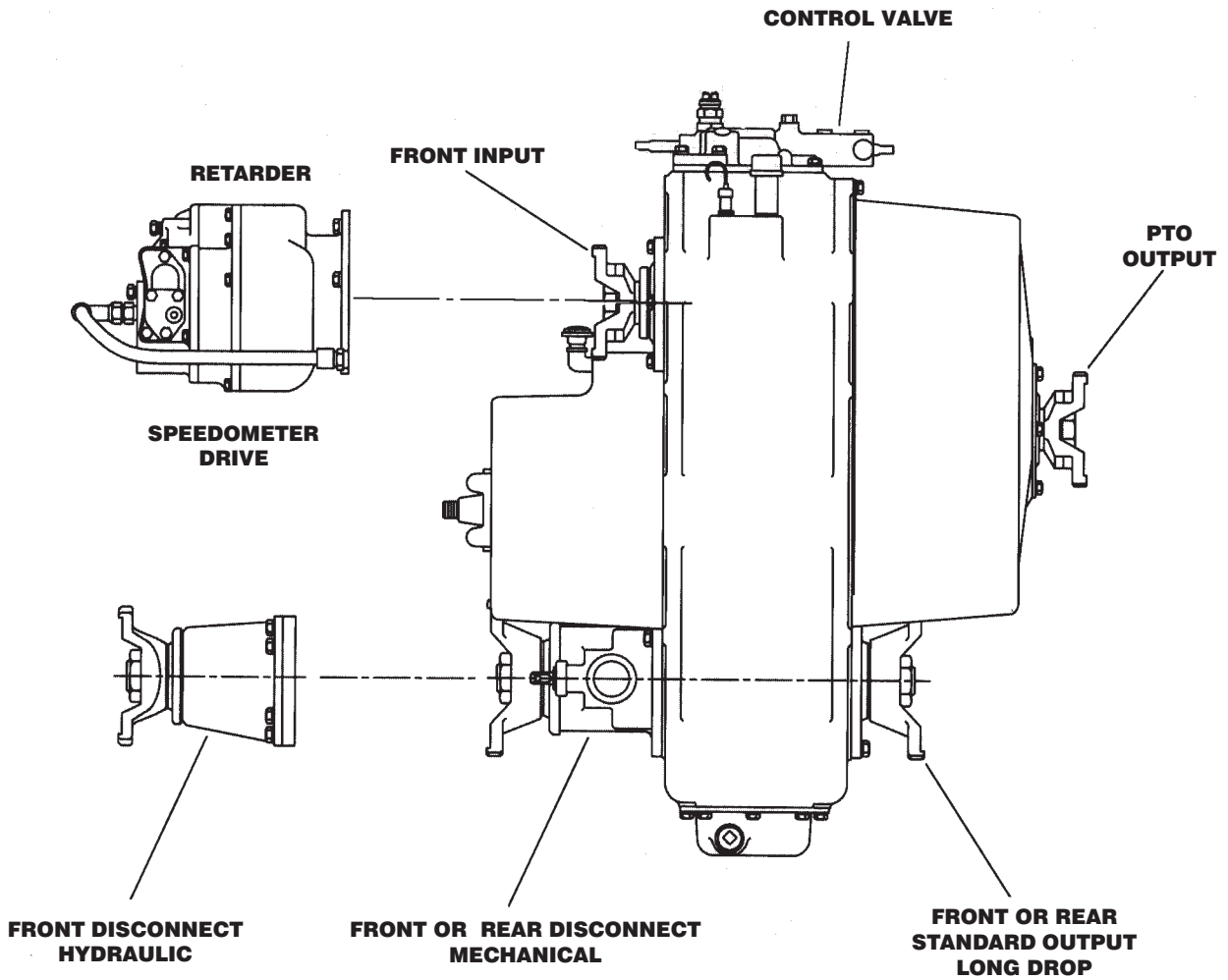
## Pump Drives

All Spicer torque converters are built with three engine driven accessory pump drives: one for the charging pump and two for mounting additional accessory pumps. A wide range of flow capabilities permits use of pumps for power steering and other functions needed for proper vehicle performance.

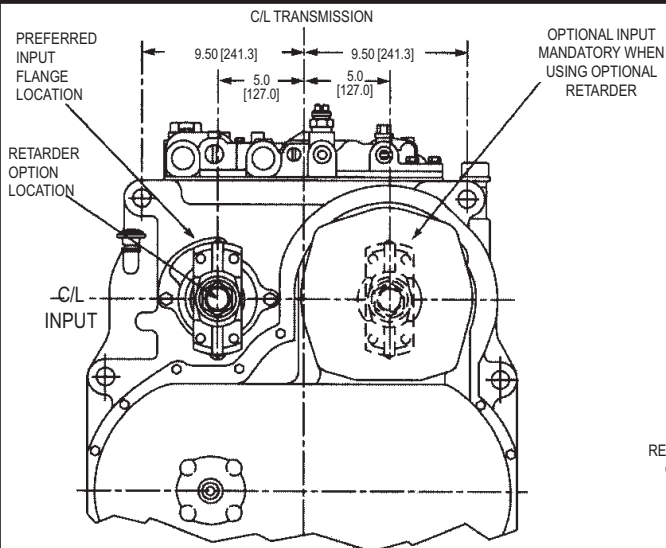
# TECHNICAL DATA

TYPICAL RATIOS													
FORWARD										REVERSE			
Trans Model	Speeds	1st	2nd	3rd	4th	5th	6th	7th	8th	1st	2nd	3rd	4th
<b>5000 Series</b>													
5402	4	5.33	2.74	1.4	0.71					5.33	2.74	1.4	0.71
5421	4	4.0	2.27	1.29	0.71					4.09	2.27	1.29	0.71
5422	4	4.43	2.46	1.4	0.78					4.43	2.46	1.4	0.78
5820	8	5.33	4.05	2.74	2.08	1.4	1.06	0.72	0.55	5.33	2.74	1.4	0.72
5821	8	4.09	3.11	2.27	1.73	1.29	0.98	0.72	0.55	4.09	2.27	1.29	0.72
5822	8	4.43	3.37	2.46	1.87	1.4	1.06	0.78	0.58	4.43	2.46	1.4	0.78
<b>6000 Series</b>													
6420	4	5.29	2.76	1.39	0.72					5.29	2.76	1.39	0.72
6421	4	4.11	2.29	1.29	0.72					4.11	2.29	1.29	0.72
6422	4	4.39	2.45	1.39	0.77					4.39	2.45	1.39	0.77
6820	8	5.29	4.02	2.76	2.1	1.39	1.05	0.72	0.55	5.29	2.76	1.39	0.72
6821	8	4.1	3.12	2.29	1.74	1.29	0.98	0.72	0.55	4.1	2.29	1.29	0.72
6822	8	4.39	3.34	2.45	1.87	1.39	1.05	0.77	0.59	4.39	2.45	1.39	0.77
<b>8000 Series</b>													
8421	4	5.31	2.71	1.4	0.71					5.31	2.71	1.4	0.71
8421	4	4.07	2.26	1.29	0.71					4.07	2.26	1.29	0.71
8422	4	4.43	2.46	1.4	0.78					4.43	2.46	1.4	0.78
8425	4	4.43	2.91	1.4	0.92					4.43	2.91	1.4	0.92
8820	8	5.31	4.03	2.71	2.06	1.4	1.06	0.71	0.54	5.31	2.71	1.4	0.71
8821	8	4.07	3.08	2.26	1.71	1.29	.097	0.71	0.54	4.07	2.296	1.29	0.71
8822	8	4.43	3.36	2.46	1.87	1.4	1.06	0.78	0.59	4.43	2.46	1.4	0.78
<b>16000 Series</b>													
16420	4	5.32	2.84	1.4	0.75					5.32	2.84	1.4	0.75
16421	4	4.21	2.34	1.34	0.75					4.21	2.34	1.34	0.75
16820	8	5.32	3.95	2.84	2.11	1.4	1.04	0.75	0.55	5.32	2.84	1.4	0.75
16821	8	4.21	3.13	2.34	1.74	1.34	1	0.75	0.55	4.21	2.34	1.34	0.75

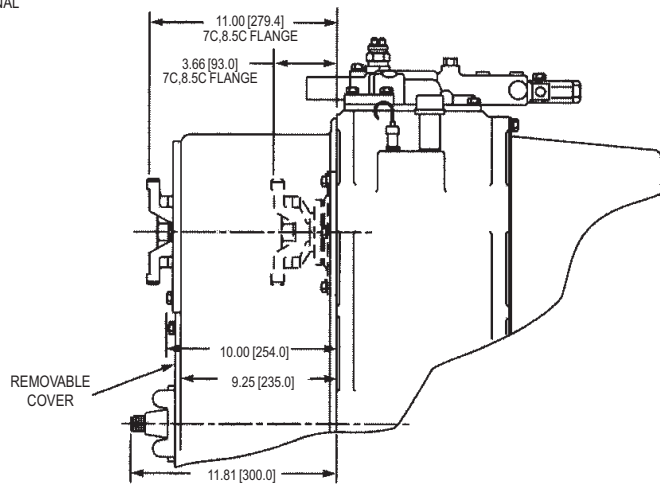
# RETARDERS INSTALLATION DIMENSIONS



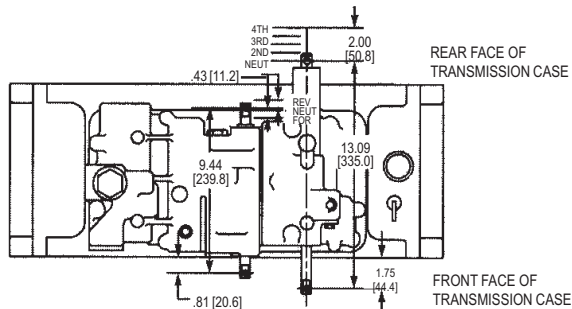
# 5000 SERIES INSTALLATION DIMENSIONS



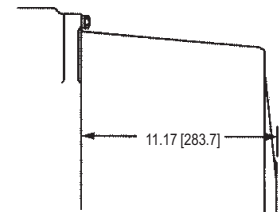
**FRONT VIEW  
8 SPEED**



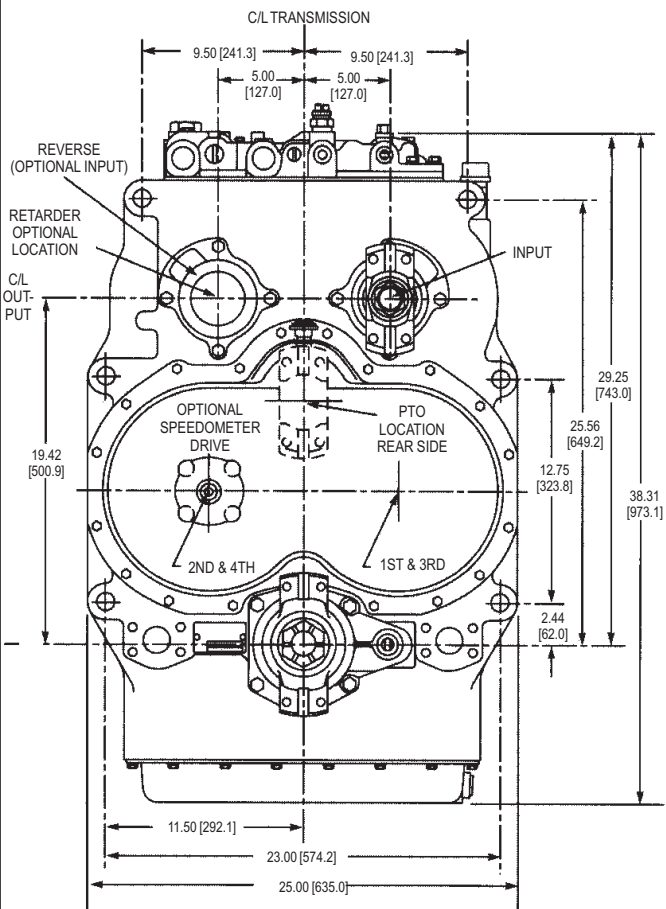
**SIDE VIEW  
8 SPEED**



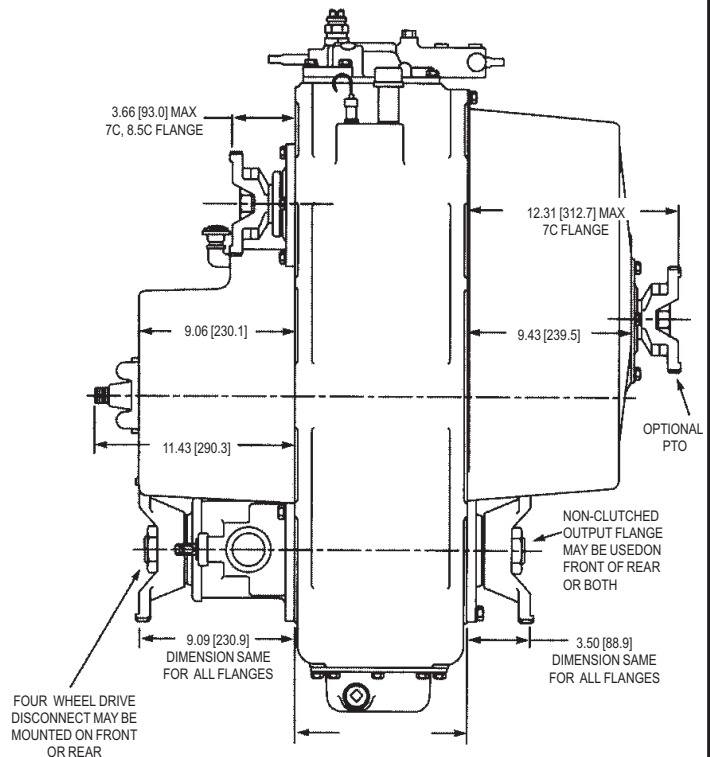
**TOP OF CONTROL COVER**



**FORWARD & REVERSE  
CLUTCH MODULATION**

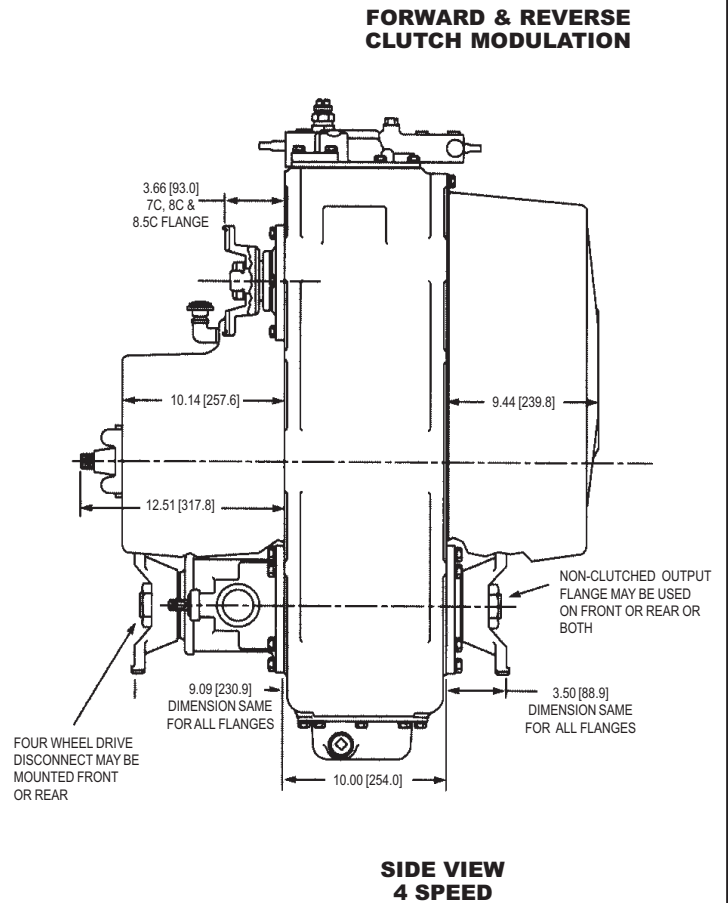
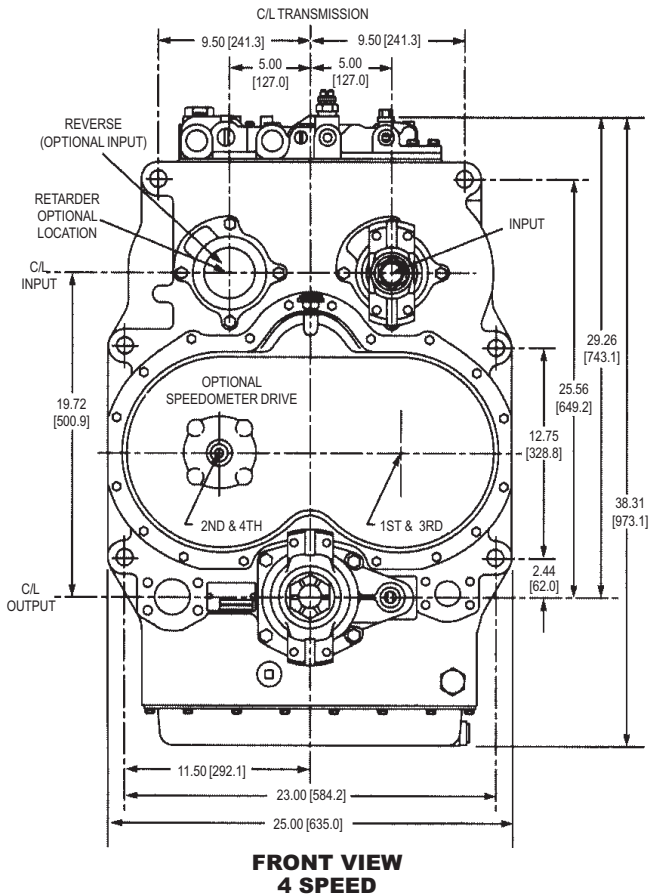
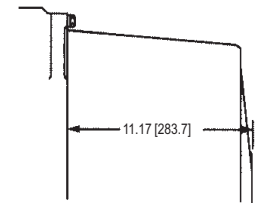
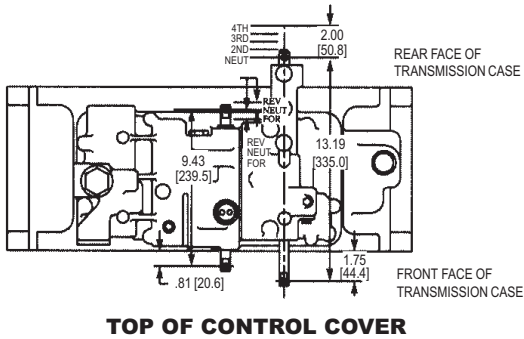
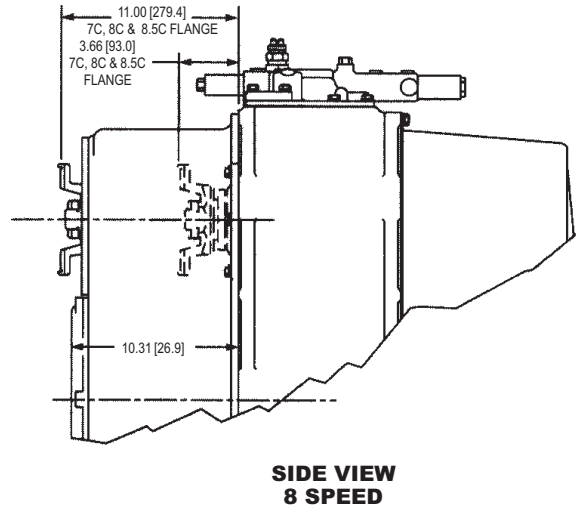
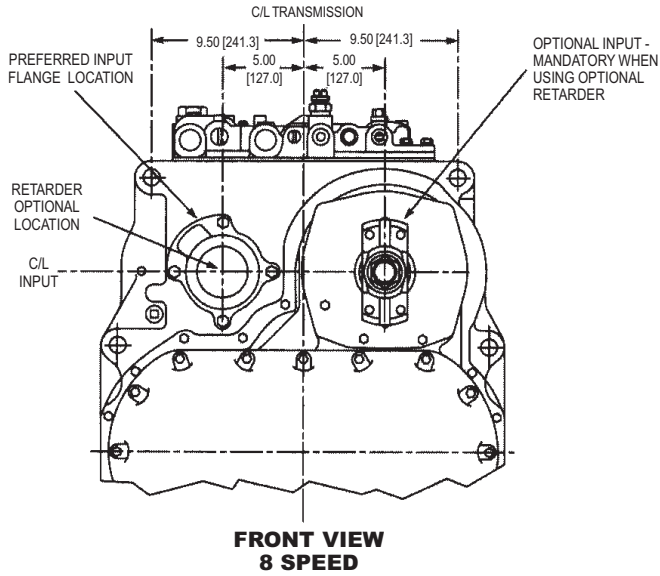


**FRONT VIEW 4 SPEED**

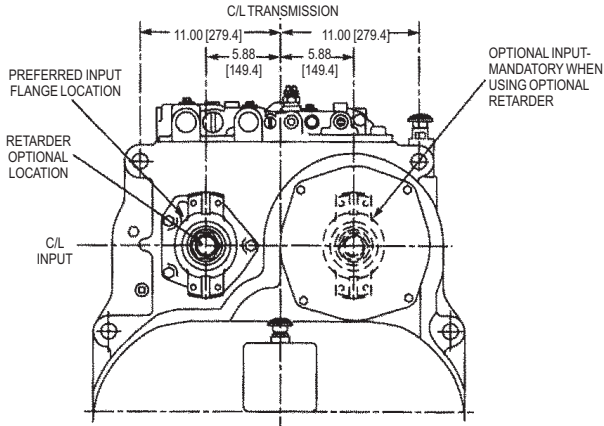


**SIDE VIEW  
4 SPEED**

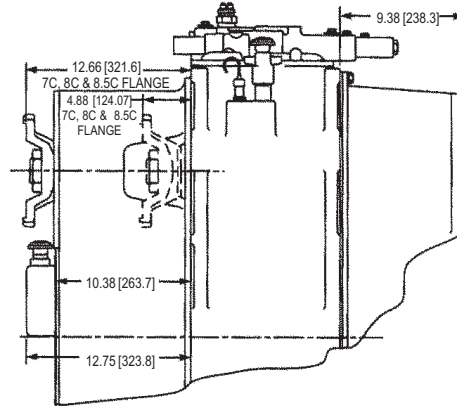
# 6000 SERIES INSTALLATION DIMENSIONS



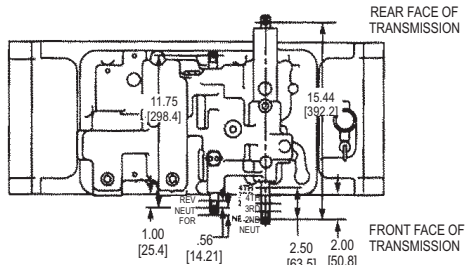
# 8000 SERIES INSTALLATION DIMENSIONS



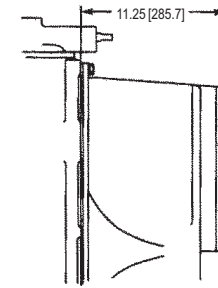
**FRONT VIEW  
8 SPEED**



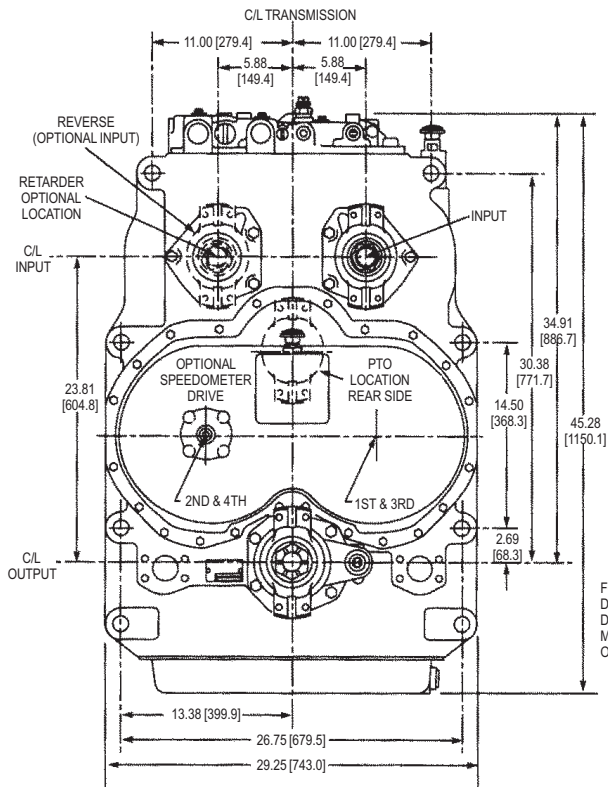
**SIDE VIEW  
8 SPEED**



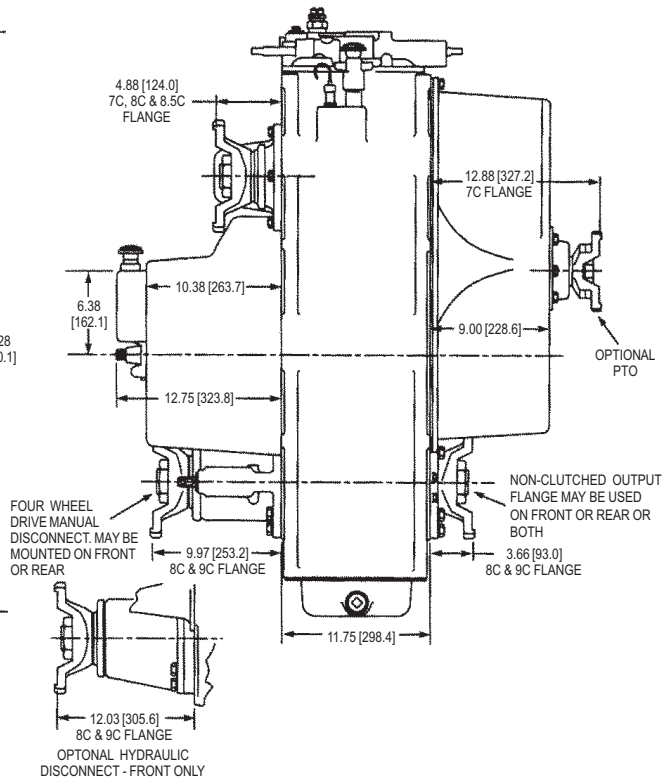
**TOP OF CONTROL COVER**



**FORWARD & REVERSE  
CLUTCH MODULATION**

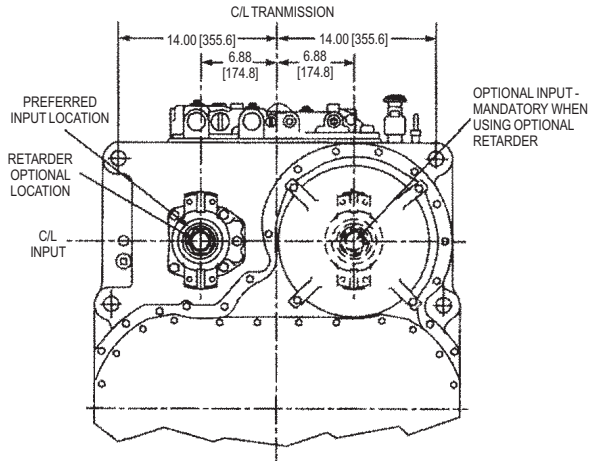


**FRONT VIEW  
4 SPEED**

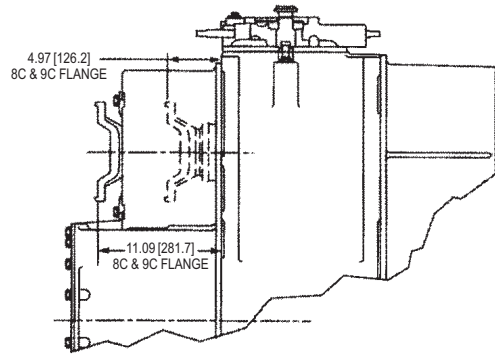


**SIDE VIEW  
4 SPEED**

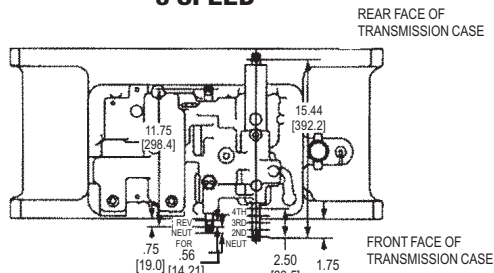
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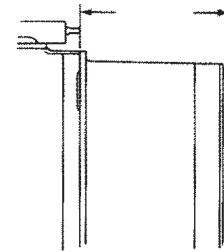
**FRONT VIEW  
8 SPEED**



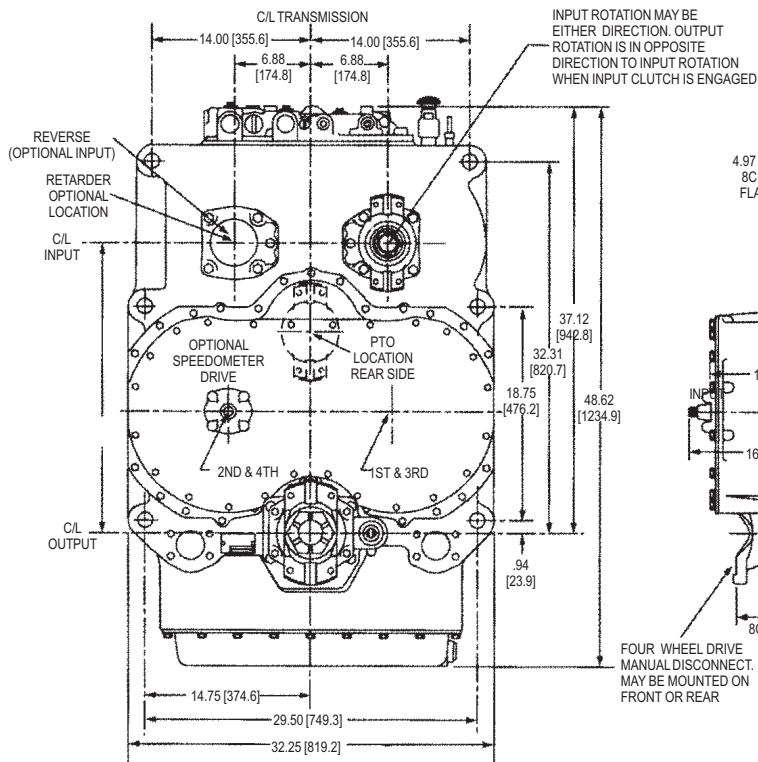
**SIDE VIEW  
8 SPEED**



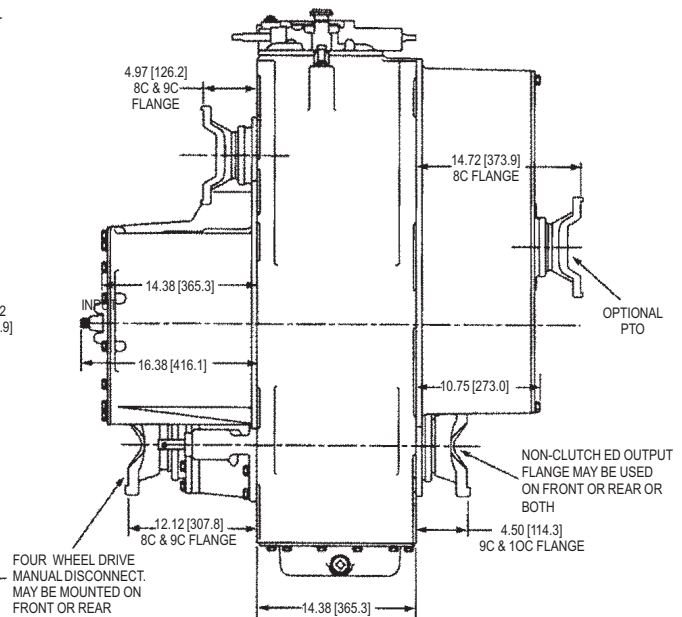
**TOP OF CONTROL COVER**



**FORWARD & REVERSE  
CLUTCH MODULATION**



**FRONT VIEW**



**SIDE VIEW**



**APPLICATION POLICY**

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



**OFF-HIGHWAY SYSTEMS**

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