

Chelsea® 280 Series

PowerShift Hydraulic 10-Bolt



Overview:

The 280 Series is a PTO design utilizing the best of our technology and innovations from our current Hot Shift PTOs. The 280 Series combines our 277 and 278 Series into one model of PTO. It features a single continuous duty torque rating - No more intermittent rating. Pump clearance issues have been improved with rotatable cast iron flanges, and the Wet Spline Lubrication option provide 7 to 10 times greater shaft life. A broader coverage of speed ratios expanded from 5 ratios to 9 ratios and includes lower and higher speeds that were never available in the past. The standard output shaft features a new positive stop for driveline outputs that eliminates oil seal damage by the driveline coupling. Three positions for the integrated solenoid valve, plus a remote mount option provides maximum clearance under the truck. The pressure lube hose will be included with the 280 Series. No need to order separately. Versatility, power, ease of maintenance and installation make the 280 Series the best choice for fire & rescue, vacuum, truck cranes, and refuse truck requirements.

- Fire & Rescue
- Pumper Cleaner
- Truck Cranes
- Refuse



Product Features and Benefits:

- **Torque** – Features a single continuous duty torque rating.
- **Power** – Best in class torque ratings.
- **Clearance** – Interference issues have been reduced with rotatable cast iron flanges.
- **Positive Stop** – Driveline outputs; eliminates oil seal damage from coupling.
- **Protection** – Wet Spline Lubrication option provide 7 to 10 times greater shaft life.
- **Speeds** – Broader coverage of speed ratios expanded from 5 ratios to 9 ratios.
- **Outputs** – Lower and higher speeds now available.
- **Hose Included** – No need to order separately.
- **Smart Start** – Option available to reduce shock load at start-up for certain applications.

Contact Information:

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280 SERIES POWER TAKE-OFF MODEL NUMBER DESIGNATOR & SPECIFICATIONS

280 G B FJ P - B 5 XD

Basic Model
280

Mounting Option
G = Metric Studs

Gear Ratio

3 & 5 Arr.	8 Arr.
B = 22/50	B = 22/53
C = 25/47	C = 25/50
D = 28/44	D = 28/47
G = 31/41	G = 31/44
K = 33/39	K = N/A
M = 35/37	M = 35/40
P = 37/35	P = 37/38
S = 39/33	S = 39/36
T = 41/31	T = 42/33

Input Option
FJ = Allison
KV = CAT
NOTE: For more details, see Application Catalog.
(Transmission Model Number required.)

Lube Option

Pressure
P = Pressure Lube
⁴⁵R = Valve Cap Rotated 120°
S = Valve Cap Rotated 240°

Wet Spline
W = Wet Spline
⁴⁵V = Valve Cap Rotated 120° w/ Wet Spline
Y = Valve Cap Rotated 240° w/ Wet Spline

Output Option

Driveline Output
XD = Rd Standard Shaft (1-1/4" - 5/16" Key)
XV = 1410 Series Companion Flange
BV = Drag Brake - 1410 Series Companion Flange
BD = Drag Brake - Rd Standard Shaft (1-1/4" - 5/16" Key)
SD = Smart Start - Rd Standard Shaft (1-1/4" - 5/16" Key)
SV = Smart Start - 1410 Series Companion Flange
AB = DIN 120 Flange
AC = DIN 100 Flange
SB = Smart Start - DIN 120 Flange
SC = Smart Start - DIN 100 Flange

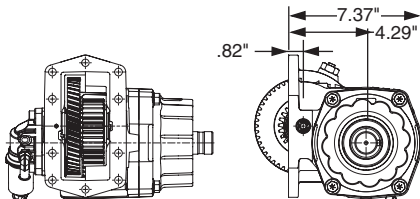
Pump Mount
RB = Rotatable SAE B 4-Bolt Flange, SAE B Shaft (7/8" - 13T)
⁴⁷ RK = Rotatable SAE B 2 or 4-Bolt Flange, SAE B Shaft (7/8" - 13T)
⁴⁷ RF = Rotatable SAE B 2 or 4-Bolt Flange, SAE BB Shaft (1" - 15T)
⁴⁷ RZ = Rotatable SAE B 2 or 4-Bolt Flange, SAE C Shaft (1-1/4" - 14T)
⁴⁷ RS = Rotatable SAE C 2 or 4-Bolt Flange, SAE C Shaft (1-1/4" - 14T)
⁴⁷ RY = Rotatable ISO 7653 Pump Mount DIN 5462 Shaft
XR = Chelsea Special (Cloverleaf), SAE B Shaft (7/8" - 13T)

Assembly Arrangement
3 = Right side - bulge down
Left side - bulge up
5 = Left side - bulge down
Right side - bulge up
8 = Both sides - no offset

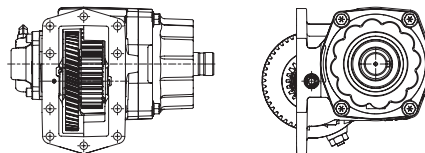
Shift Option

Hydraulic
⁴⁶B = 12V Elec/Hyd
⁴⁶D = 24V Elec/Hyd
⁴⁶E = 12V Elec/Hyd w/o Installation Kit
⁴⁶N = 24V Elec/Hyd w/o Installation Kit
⁴⁶K = 12V Elec/Hyd w/ EOC
⁴⁶L = 24V Elec/Hyd w/ EOC
¹⁵G = 12V Elec/Hyd Remote Valve w/o EOC
¹⁵H = 24V Elec/Hyd Remote Valve w/o EOC
²¹ ⁴⁶S = 12V Elec/Hyd w/ Air Shift PTO/Dump Pump Combo Valve, w/ Kick Out, w/ Neutral Spring Return
²¹ ⁴⁶T = 12V Elec/Hyd w/ Air Shift PTO/Dump Pump Combo Valve, w/o Kick Out, w/ Neutral Spring Return

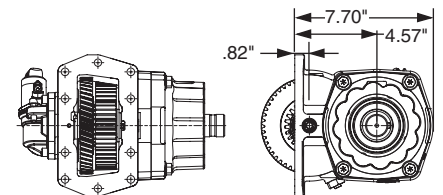
¹⁵ The remote mount solenoid option can not utilize the EOC option.
²¹ Includes Installation Kit, Console Sold Separately.
⁴⁵ Available on Shift Option B, D, K, L, M, N, S & T.
⁴⁶ Available with Rotated Valve.
⁴⁷ Available with Wet Spline.



Assembly 3



Assembly 5



Assembly 8

Specifications Chart	Approximate Weight: 49 lbs. [22 kg]								
	280*B	280*C	280*D	280*G	280*K	280*M	280*P	280*S	280*T
Continuous Torque Rating (lbs-ft) [Nm]	300 [407]	390 [529]	390 [529]	360 [488]	340 [461]	318 [431]	290 [393]	265 [359]	240 [325]
HP Rating for Continuous Duty									
At 500 RPM of Output Shaft (HP) [Kw]	29 [21]	37 [28]	37 [28]	34 [26]	32 [24]	30 [23]	28 [21]	25 [19]	23 [17]
At 1000 RPM of Output Shaft (HP) [Kw]	57 [43]	74 [56]	74 [56]	69 [51]	65 [48]	61 [45]	55 [41]	50 [38]	46 [34]

Supersedes HY25-0180-B1/US November 2016 HY25-0180-B1/US June 2017