



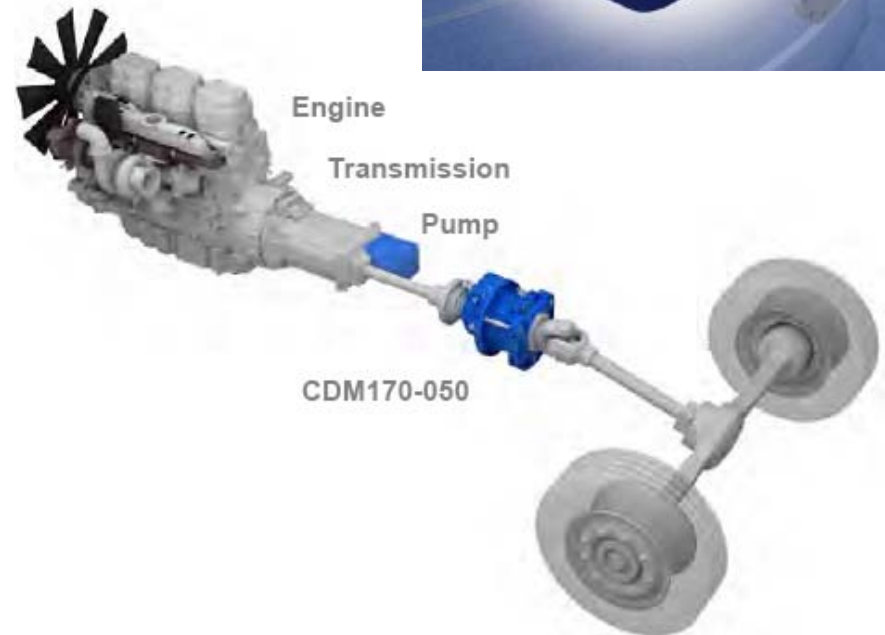
CDM Creep Drive Motor

What is a Creep Drive?

- A creep drive is a hydrostatic transmission that will be installed on an existing mechanical transmission of a truck to allow a regular relatively slow motion.

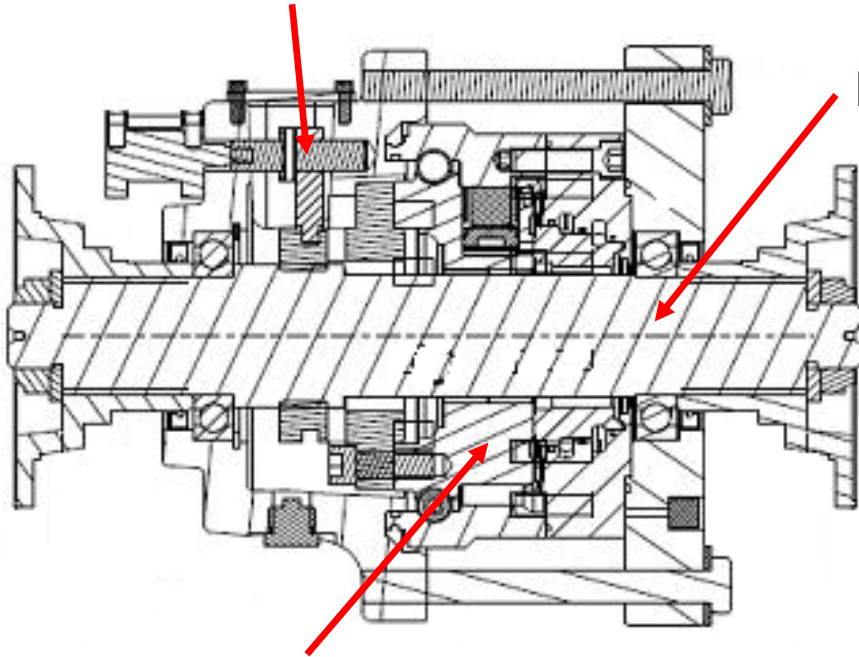


- The Creep Drive is installed on the driveline between the truck gear box and the rear axle(s)
- In transport mode the creep drive motor is disengaged and the truck uses its mechanical transmission between 0 to 100 km/h (0 to 65 mph)
- In the creep drive mode the mechanical transmission is in neutral. A pump fitted on a PTO drives the Creep Drive motor which is engaged. The truck speed will be 0 to 8 km/h (0 to 5 mph)

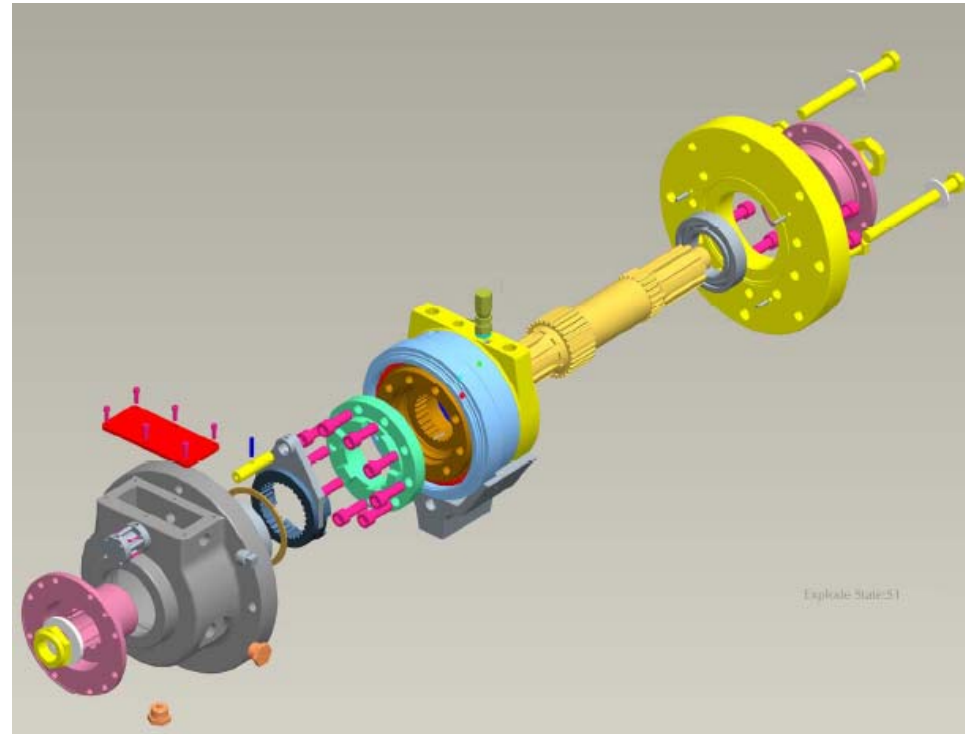


Creep Drive Description

Clutch air actuated

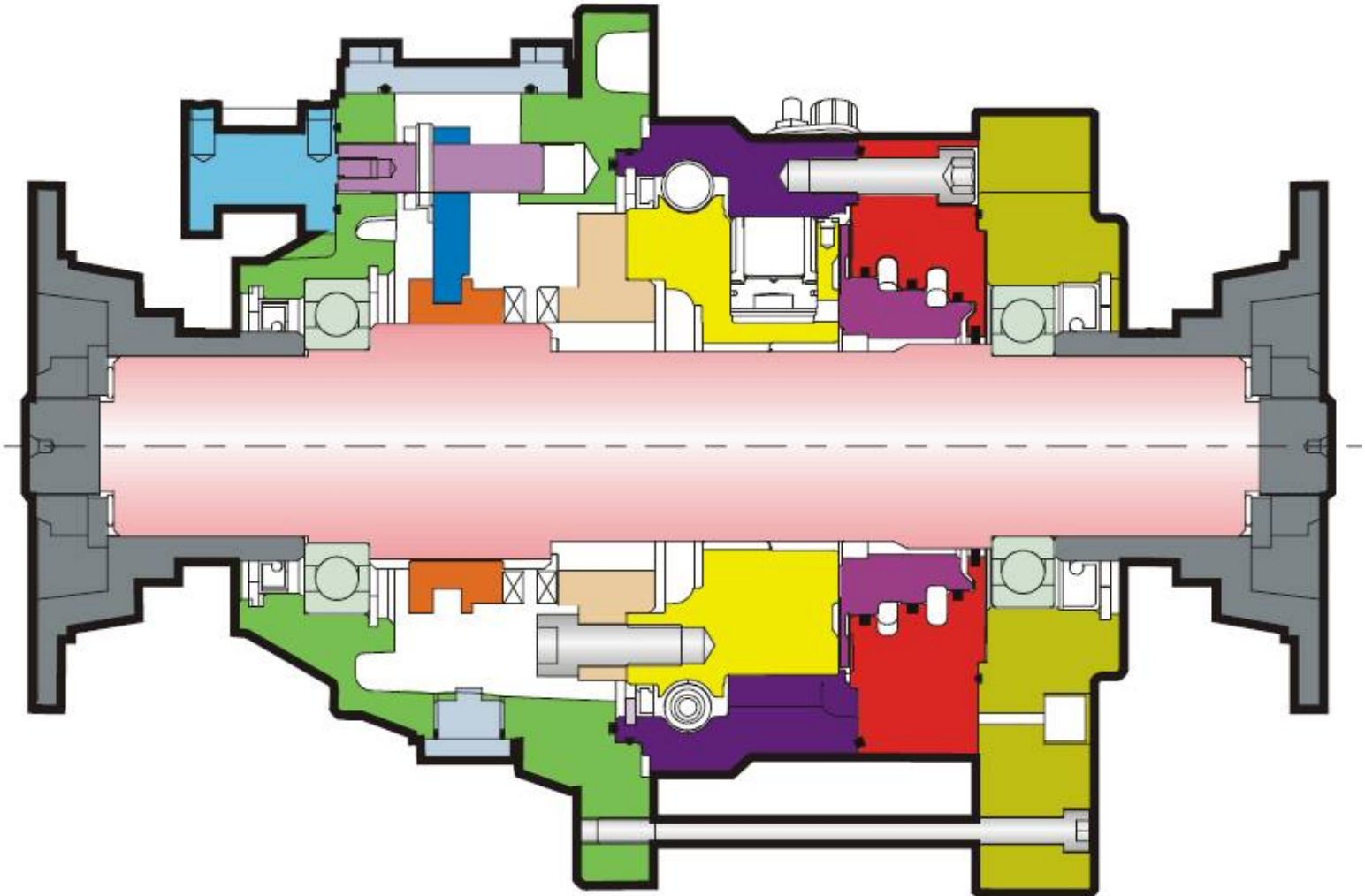


Main transmission through shaft

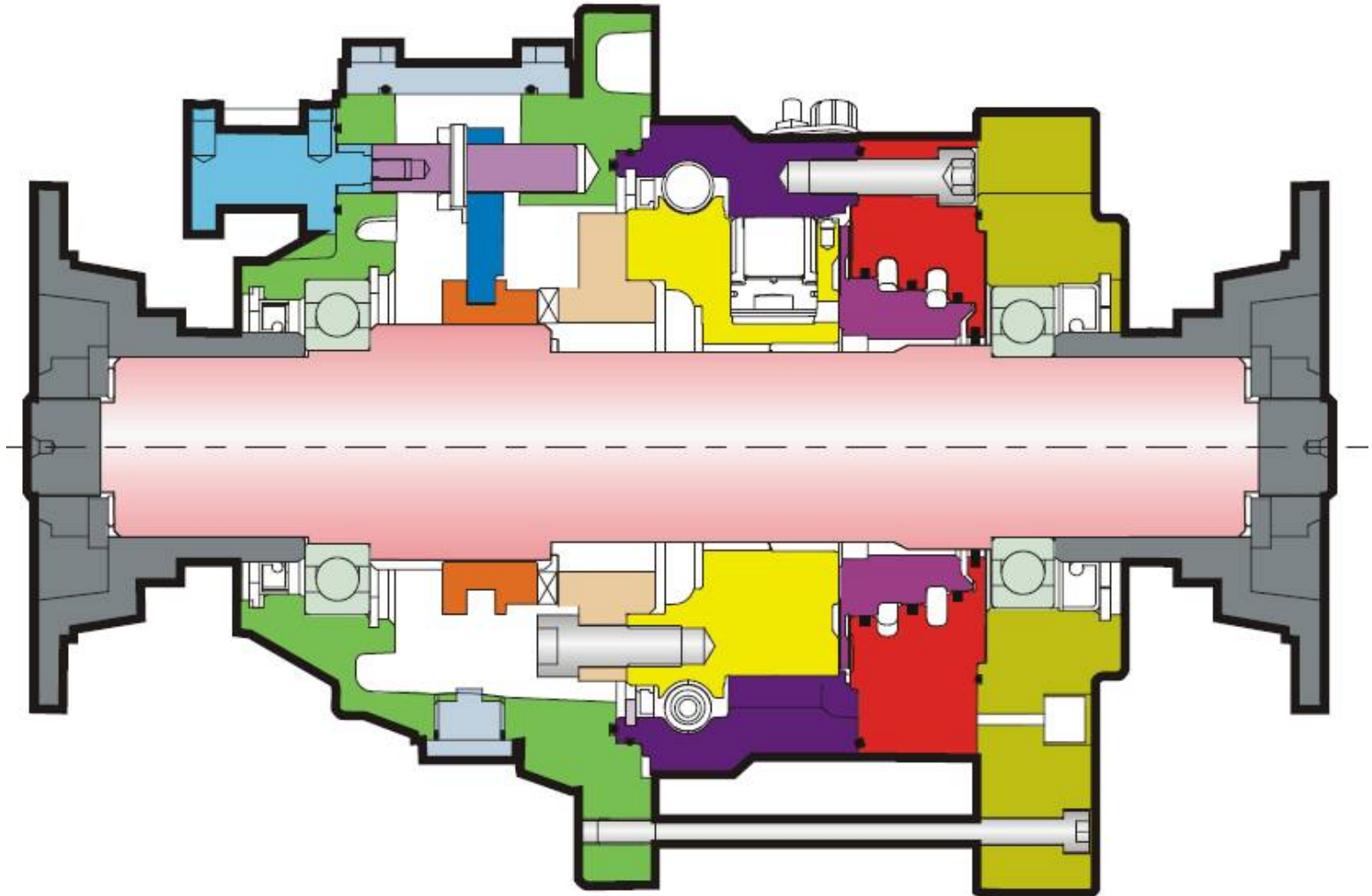


Integrated Hydraulic hollow shaft motor

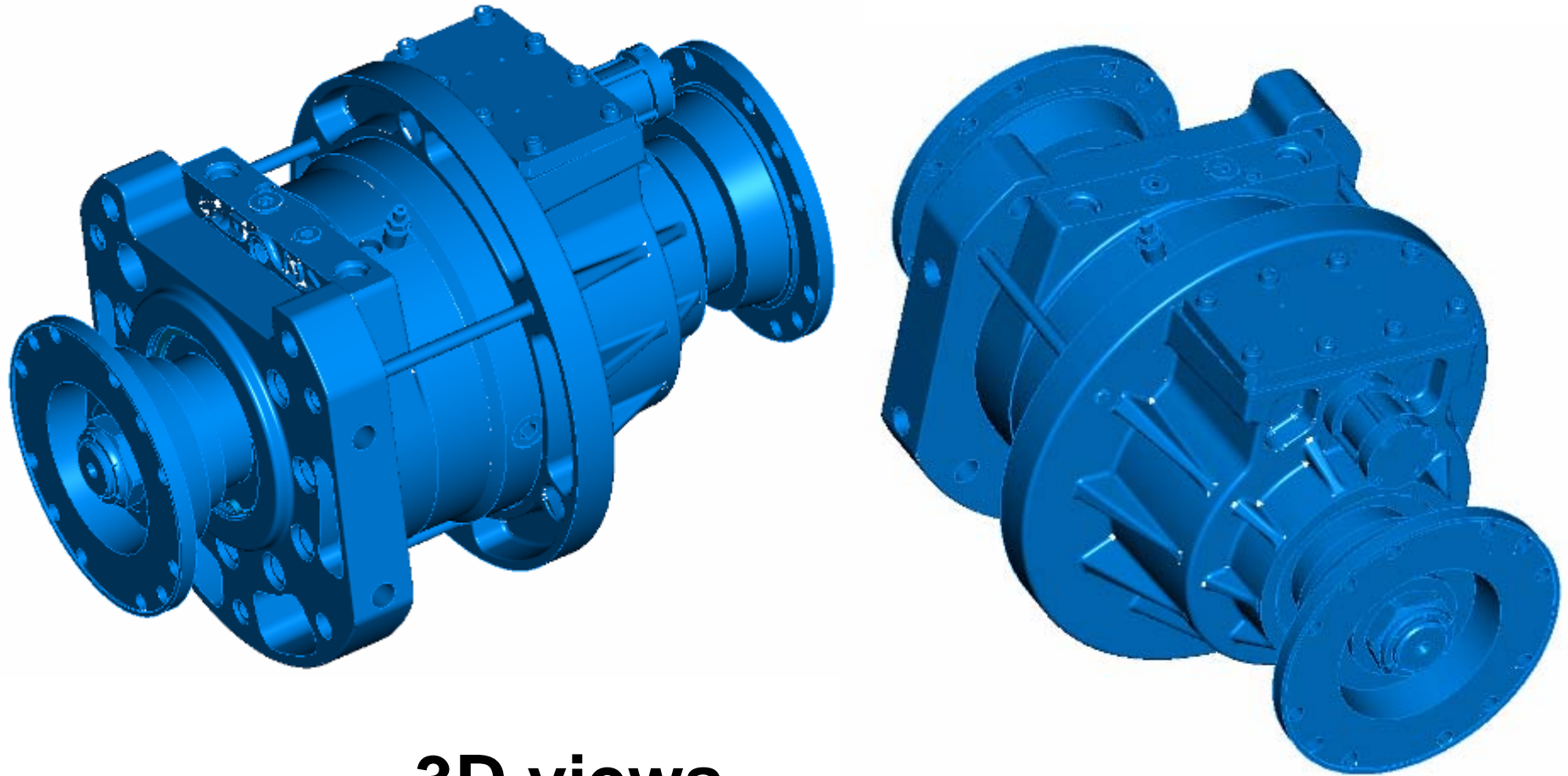
CDM "Off"



CDM "On"



Creep Drive Description

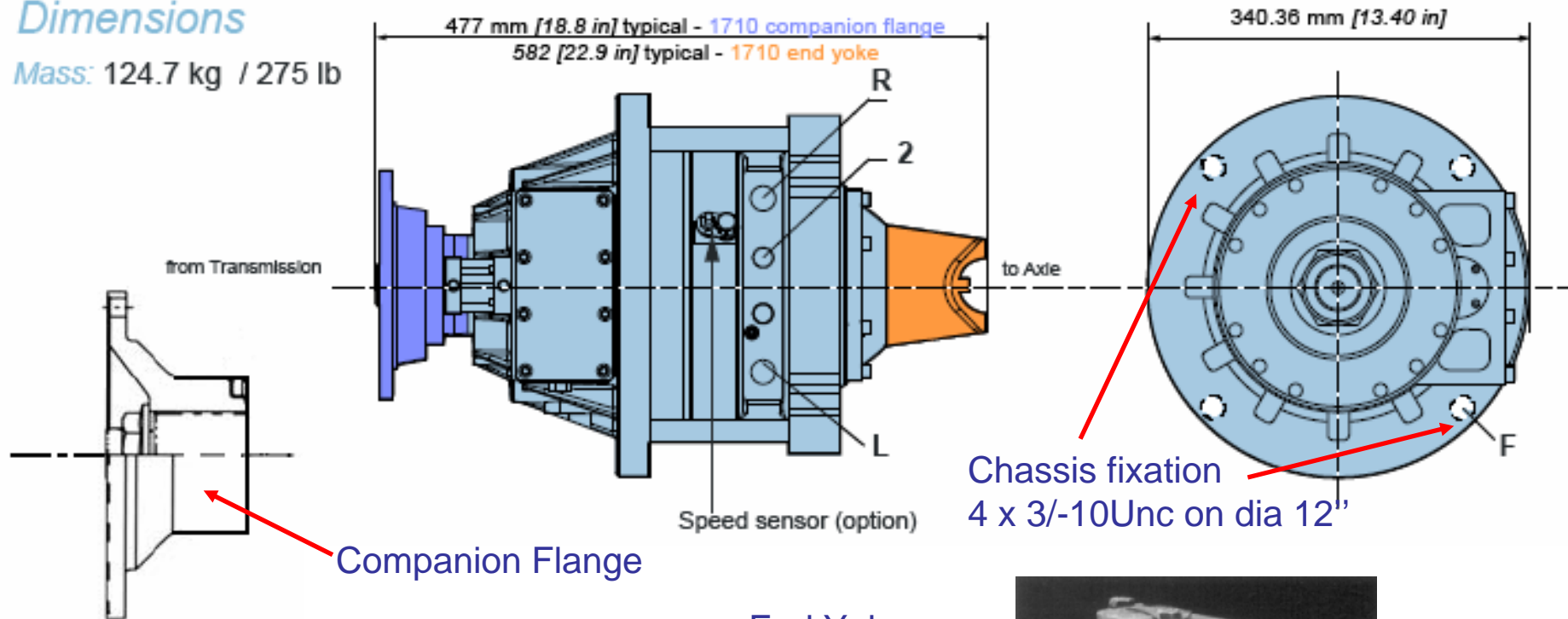


3D views

Creep drive interfaces

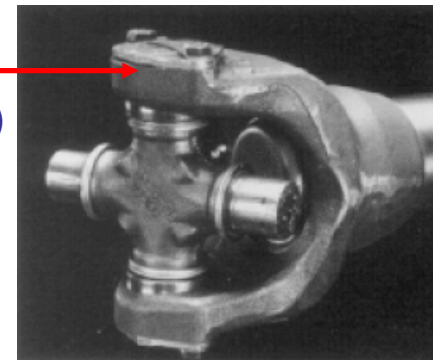
Dimensions

Mass: 124.7 kg / 275 lb



Possible interface with the driveline:

- Companion flange (Spicer series 1650,1710 or 1810)
- End Yoke (Spicer Series 1710 or 1810)



Basic Specifications

Creep Drive Motor 170 / 050

Transport Mode

Creep Drive Mode

Values through shaft		
Torque	Nm	17 000
	lb-ft	12 500
Speed	RPM	3 000

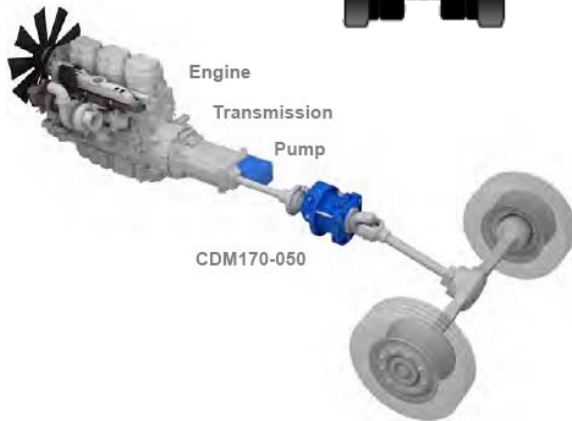
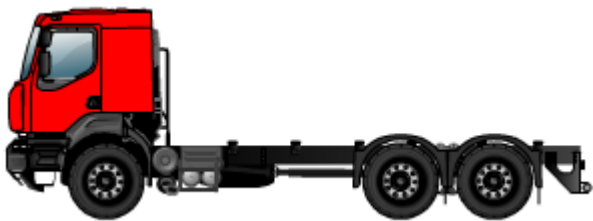
Values through hydrostatics (usual use)				
Displacement	cm ³ /tr	667	750	833
	Cu.in/rev	40.7	45.7	50.8
Torque	Nm (275 bar)	2 880	3 240	3 597
	lb-ft (3990 PSI)	2 124	2 390	2 653
Speed	RPM	200	185	170
Power	kW	40		
	HP	54		



Values through hydrostatics (occasional use)				
Displacement	cm ³ /tr	667	750	833
	Cu.in/rev	40.7	45.7	50.8
Max. torque	Nm (400 bar)	4 190	4 711	5 232
	lb-ft (5800 PSI)	3 090	3 475	3 859
Max. speed	RPM	200	185	170

Creep Drive Performances

Example



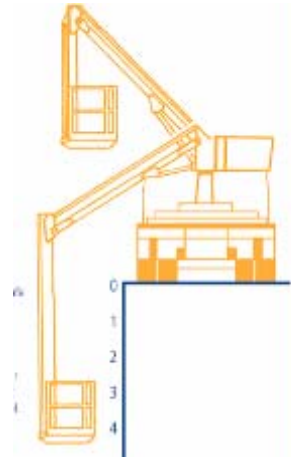
	Metric		US	
Truck	Maker	XYZ		
	Model			
	Engine Power	319		Hp
	Engine rated speed	1800		Rpm
	Mass PAV		Kg	0 lbs
	Mass PTC	26 000	Kg	57 320 lbs
	Rolling resistance	35	Kg / T	
	Requested traction force	3 100	daN	6 969 Lbf
	Rear axle reduction ratio	3,980		
	Tires specification (model)	315x70 R22,5		
	Tires rolling radius	0,443	m	17,4 in
	Tires rolling circumference	3,100	m	122,0 in
Hydraulic pump	Displacement	63	cm3	3,84 in3
	Speed (PTO or other..)	1 200		rpm
	Volumetric efficiency	0,93		
	Flow	70	l/mn	18,6 gal/mn
	Max effective pressure (delta)	330	bar	4 785 psi
Creep Drive Motor Performances	Displacement	750	cm3	in3
	Mechanical efficiency	0,93		
	Creep Drive motor torque	366	m.dan	ft.lbs
	Volumetric efficiency	0,95		
Speed	89		rpm	
Truck Performances in Creep Drive	Speed => Zero to =>	4,16	Km/h	2,59 mph
		69,4	m / mn	228 ft / mn
	Torque at wheels	1 457	m.dan	10 743 lbf-ft
	Traction force =>	3 288	daN	7 392 lbf
	TE / Weight ratio	0,13		
	Maximum grade ability	9,2		%
	Remaining traction force	2 378	daN	5 346 Lbf
	Working pressure on level ground	91	bar	1324 Psi
	Power @ max speed	15		Hp
	Remaining traction force on 5% grade	1080	daN	2 427 Lbf
Working pressure on 5% grade	222	bar	3214 Psi	

Applications that use Creep Drives

Bridge and tunnel inspection trucks



ES Access Platforms (uk)



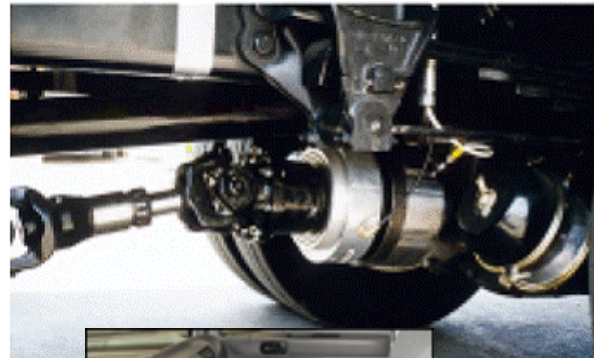
Features

The DMP provides a rigid work platform for dock maintenance, canal and bridge work and other difficult areas below ground level. Being Truck Mounted it can easily be moved to give way to shipping or other traffic. **All machines are equipped with hydraulic creep drive** or manual drive whilst under the bridge.

Applications that use Creep Drives



Road marking or line stripping trucks



NLB's hydrostatic drive maintains a constant speed for stripe removal. It is disengaged to return the truck to normal driving mode.



Hydrostatic drive control enables the operator to have complete control over the speed of the vehicle with precise adjustments. The control console is conveniently positioned so that it is available to drivers on either side of the vehicle.

Applications that use Creep Drives



Concrete mixer truck
remotely controlled



- Truck forward, reverse, left and right steering
- Engine speed increase and decrease
- Drum charge and discharge rates
- Main chute control up and down, as well as left and right drum stop

Applications that use Creep Drives



**Gravel spreader truck
remotely controlled.**

Example of a MACK truck
equipped with a Bay Lynx
spreader with Creep Drive box



<= Example of CAS Super Truck

Applications that use Creep Drives

Water sprinkling tanks Laveuses de rues



-Joystick control

Control panel

Pneumatic.

Joystick control by PLC.

Pump driving

Gear box mounted or soundproof auxiliary engine.

Hydrostatic transmission (optional).

Pressure pump

30 m³/h - 6 bar.

Multistage centrifugal pump 15m³/h - 15 bar (optional).

Outlets of the pressure

Right side outlet.

Second and third pressure outlet (optional).

Applications that use Creep Drives

Special rail / road trucks



Creep System - Option

The creeper system is a hydrostatically driven system that propels the unit forward and backwards while on the rail tracks. The creeper system also allows the unit to vacuum and propel at the same time. The system is driven off of the Supersucker transfer case. The hydraulic source for the creeper system includes an oil cooler and is separate from the main Supersucker hydraulic system. The creeper system speed is controlled by one of the joysticks at the rear operator seat.

Applications that "might" or "could" use Creep Drives

Aircraft deicers?



Livestock mixer feeder truck?



Asphalt Distributors?
Asphalt Sprayers?
Combi sprayer / chip spreaders?



Features and Benefits

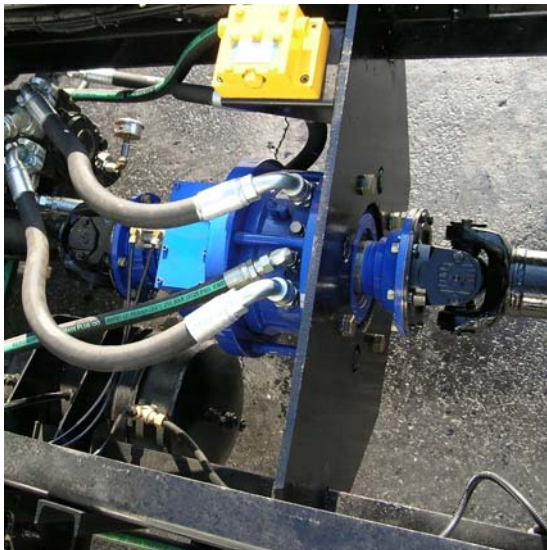
Features and benefits of all the Creep Drives

- Allows an easy control of a regular continuous low ground speed without playing with the clutch of the mechanical transmission.
⇒ **Cost saving on maintenance.**
- Allows hydrostatic braking. No need to use the mechanical brakes.
⇒ **Cost saving on maintenance.**
- No impact on drivability or efficiency at transport speeds.
- Easily integrated into remote control systems.
- High overall efficiency and excellent starting torque.

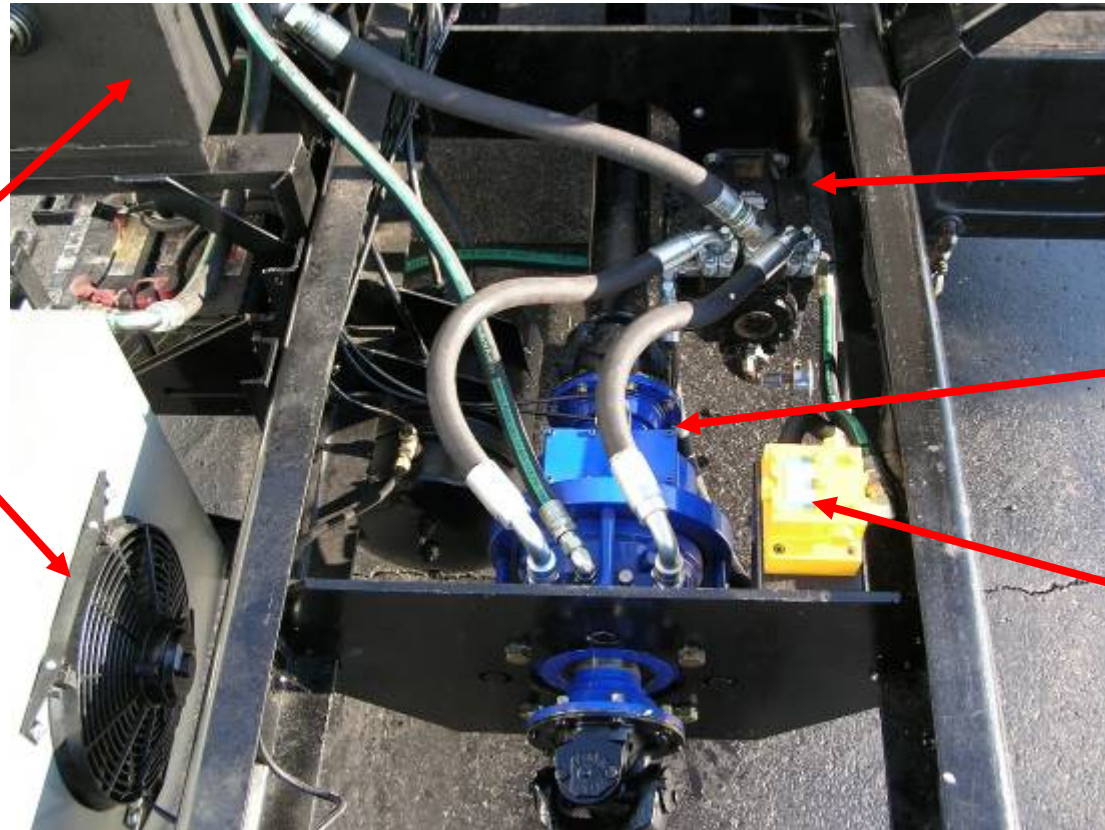
Features and Benefits

Features and benefits of The Poclain Hydraulics CDM 170-050 Creep Drives.

- Compactness => Compact means ease of installation.
 => Minimum design work necessary.
 => Minimum modification required on the truck.
- Light weight (125kg) => Minimum or no modification of the truck weight.



Features and Benefits



Hydraulic tank

Cooling package

Close loop pump
On the PTO

Creep Drive
Motor

Loop exchange
valve

