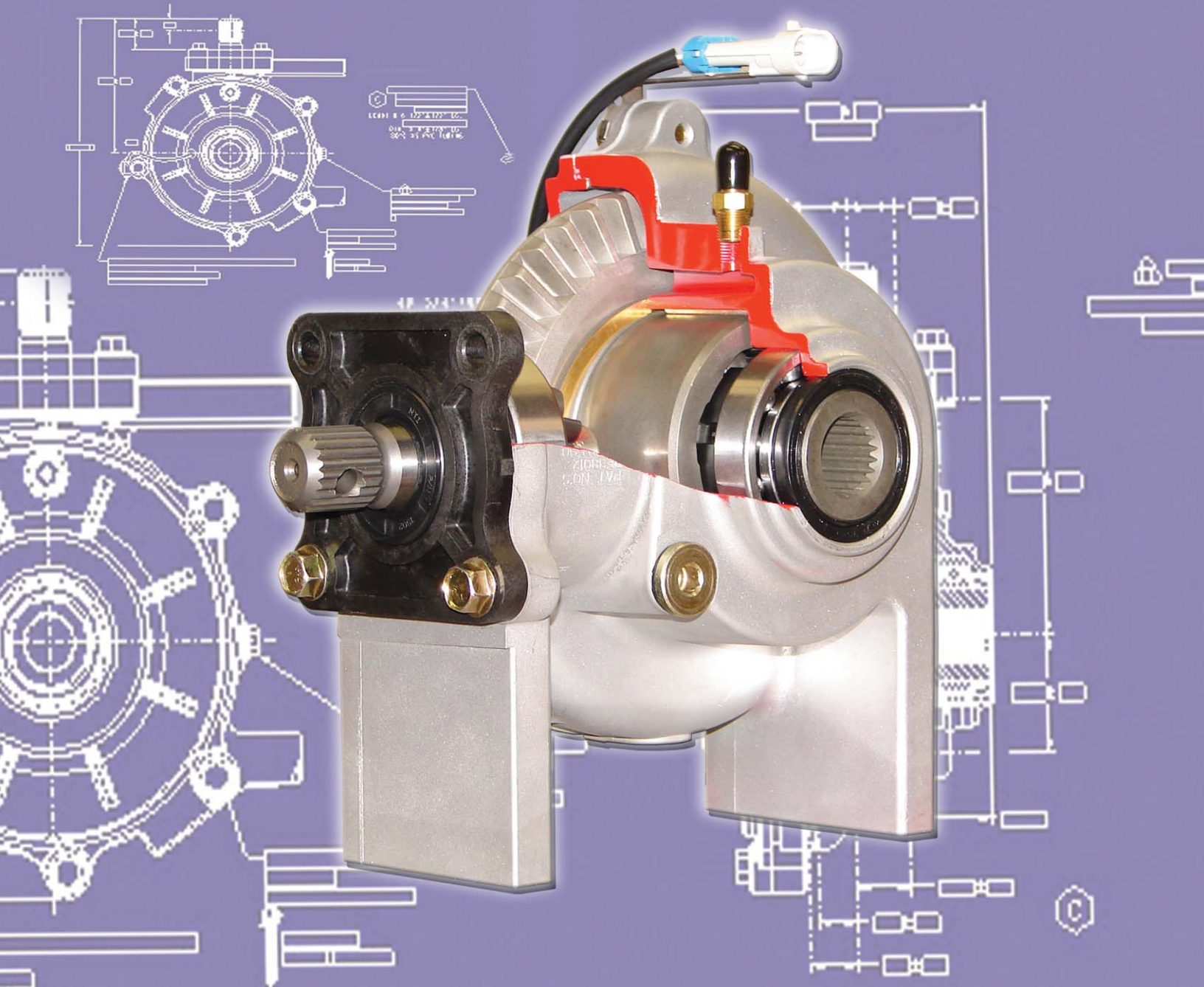


AUTO LOCKING FRONT DIFFERENTIAL FOR ON-DEMAND FOUR WHEEL DRIVE

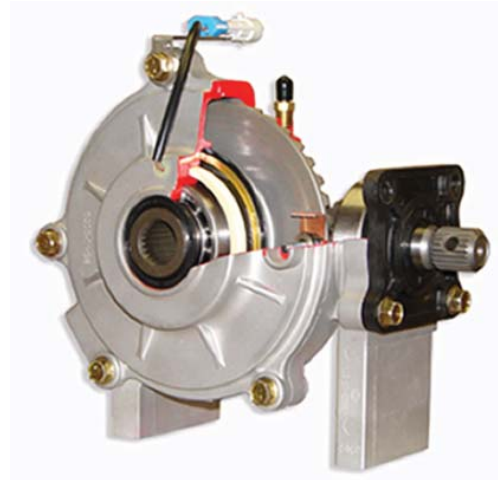



HilliardTM



Model for counterclockwise input

*Model for clockwise input
(cutaway view)*



Basic Operation

The Hilliard Front Drive System is an electro-mechanically activated bidirectional overrunning clutch. When 12 volts of power are sent via the 4WD switch, the unit is activated to engage both front wheels instantaneously, whenever the rear wheels lose traction. The clutch also releases or overruns automatically the instant the rear wheels regain traction. Because torque is transmitted to both front wheels, it is a “true” 4WD. The overrunning characteristics of this system allow for an on-demand 4WD engagement and steering ease.

Specifications

Ratio.....	3.82:1 (Input:Output)
Fluid Capacity.....	150ml (5 oz.) Mobil 424 or Mobil fluid LT
Voltage.....	12 Volts
Coil Resistance.....	24.7 ohms to 27.3 ohms (at 20° C/68° F)
Input & Output Cover Bolt Torque.....	17 ft.lbs.
Mounting Bolt Torque.....	32 ft.lbs.
Oil Fill Plug Torque.....	10 ft.lbs.
Oil Drain Plug Torque.....	9 ft.lbs.
External Input Shaft Spline.....	22 Tooth, 24/48 Pitch, Fillet Root Side Fit, Special Class 7
Internal Output Shaft Spline.....	22 Tooth, 24/48 Pitch, Fillet Root Side Fit, Special Class 7
Continuous Torque Rating (input).....	145 ft.lbs.

Bidirectional Clutch

- Proven roller-ramp design
- Precision-machined components
- Constant drive maintained while engaged
- No manual linkages
- Positive engagement; automatic disengagement
- Available as a whole clutch assembly or as a clutch mechanism



*Bi-Directional Clutch
Mechanism*



*Bi-Directional Clutch
Assembly*

Auto Lok® for Primary Drive Axle

- Self-contained: No levers or mechanisms to engage or disengage
- Locks and unlocks automatically
- Positive back drive through both wheels
- No ratcheting or frictional slip during turning
- No friction plates to wear or replace
- Allows the rear outside wheel to overrun in a turn during an acceleration and the rear inner wheel to underrun during a deceleration



*The Hilliard Corporation reserves the right to change specifications and dimensions at any time.
Please contact the factory for the most current information.*

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