SPRAG CLUTCHES
HSO / HSX SPRAG CLUTCHES

The Hilliard Sprag Clutch is a freewheel device having an inner race and an outer race, either of which can be the input or output member. The input can drive the output in a chosen direction and permit the output to overrun in the same direction. The clutch consists of a cage full of steel sprags or wedges, located in the space between concentric inner and outer races. Power is transmitted from one race to the other by the wedging action of the sprags between them. Each sprag is shaped so that one diagonal dimension is longer than the distance between races while the other dimension is shorter. Rotation in one direction causes the sprags to tilt and wedge, preventing rotation. This allows free rotation in the opposite direction.

HSO AND HSX CLUTCHES

Hilliard Sprag Clutches are equipped with heavy duty ball bearings to ensure concentricity and handle radial and axial loads. The clutches are designed to mount on a shaft with the inner race driven by a hardened key (not supplied). The tolerance of the outside diameter of the outer race is suitable for use as a pilot for attaching torque arms, pulleys or couplings. Hilliard Sprag Clutches are able to transmit more torque in a given package size than other styles of freewheel devices.

HSO SERIES

Hilliard Sprag Overrunning (HSO) clutches are designed for overrunning, backstopping, and light to medium indexing (up to 150 indexes per minute). Oil lubricated models are equipped with lip type seals for oil retention and protection in hostile environments. Grease lubricated models incorporate a steel labyrinth plate, allowing higher overrunning speeds.

HSX SERIES

Hilliard Sprag Indexing (HSX) clutches are designed for medium to heavy indexing (over 150 indexes per minute). This design incorporates higher spring forces used to bias the sprags in the engaged position. Grease and oil options are also available.

TYPICAL MOUNTING OPTIONS

HSO/HSX clutch bore sizes are slip fit therefore must be retained on the shaft with the use of locking collars, retaining rings, bolts and washers, etc.