

STARTING MOTORS

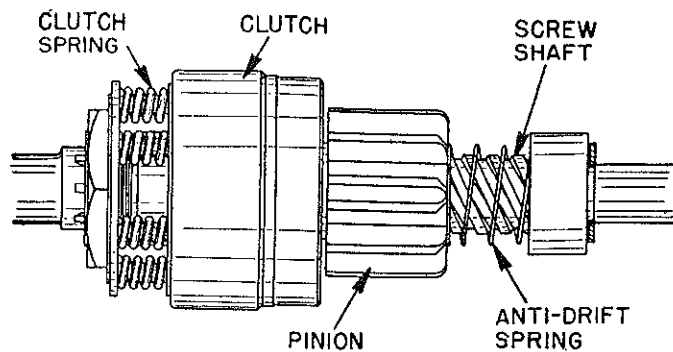


Fig. 10 Bendix Friction Clutch type drive

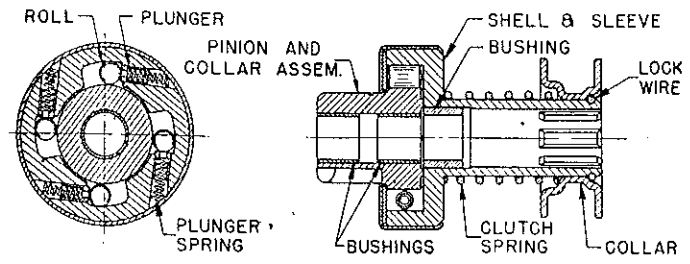


Fig. 12 Construction of Overrunning Clutch type drive

a trace of graphite grease or light engine oil. Be sure to use the proper shaft spring and shaft head screws.

After assembly is complete, check to see that there is free longitudinal movement of the drive along the armature shaft. It should be possible to compress the spring so the threaded sleeve moves freely about $\frac{1}{4}$ " with respect to the shaft. Without this free movement, drive operation would be impaired. Damaged or distorted parts, rough shaft, long spring screw, and improper assembly are causes of restricted movement.

BARREL TYPE—This type drive has the drive spring either attached with spring screws or anchor plates. To remove the drive from the armature shaft, turn the pinion and barrel back to the drive spring and then push end of anchor plate against the drive spring. This uncovers the pilot pin or screw which, when removed, permits removal of the drive unit. The barrel and pinion may be detached from the remainder of the drive by removing the lock ring from the groove on the inside of the barrel.

After cleaning, the threads on the sleeve may be lubricated with a small amount of kerosene. Heavy oil or grease should not be used, since this would cause sluggish action, particularly in cold weather. The armature shaft should be free of rust, gum, rough spots, etc. Lubricate the shaft with just a trace of graphite grease or light engine oil. When assembled, make sure the pilot pin is fully covered by the anchor plate.

COMPRESSION SPRING TYPE—Disassembly of this type is accomplished by removing the nut from the end of the shaft and sliding off the parts. The threaded portion of the screw sleeve may be lubricated with light engine oil. In addition, the splines on the armature shaft may be lubricated with graphite grease or oil.

FRICTION CLUTCH TYPE—No at-

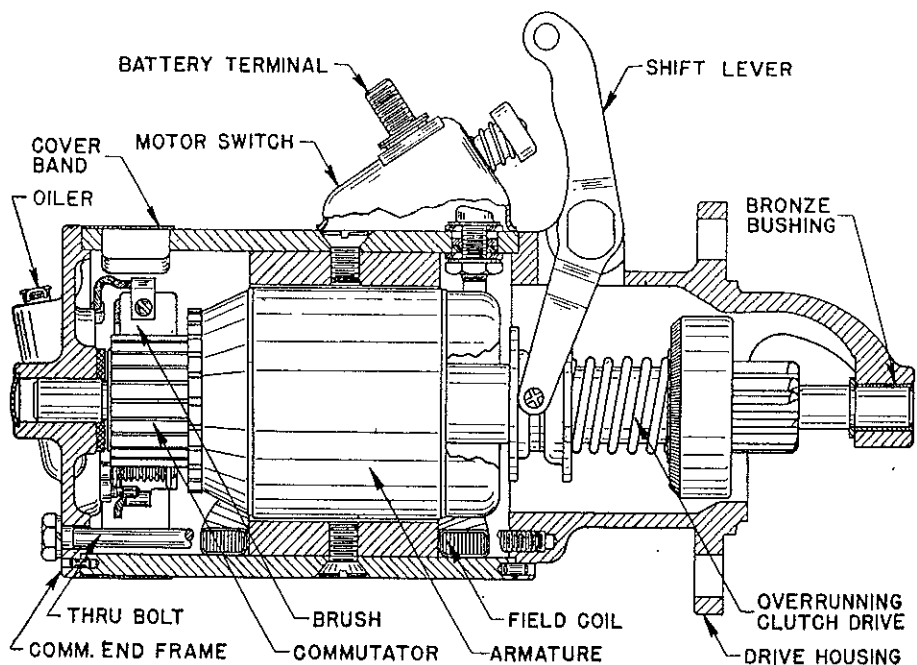


Fig. 11 Starting motor with Overrunning Clutch type drive

tempt should be made to adjust the clutch, since special instructions and tools are required to test and set correctly the spring tension. The drive is removed from the armature shaft by releasing the lock ring and removing the head screw.

Clutch drives from different models of starting motors may be mechanically interchangeable but it is a dangerous practice to do so since the clutch adjustment may be different. Bendix recommends returning the complete drive to their factory for any necessary service. Application information, including the make and type starting motor and engine, should be sent along with the unit so the correct clutch setting may be made.

OVERRUNNING CLUTCH DRIVE

Fig. 11 shows this type of drive mounted on a starting motor, while Fig. 12 illus-

trates its construction. The clutch should never be submerged in any cleaning fluid as the lubricant with which it is packed on assembly dissolves and the clutch would eventually fail.

A torque test may be applied to an overrunning clutch to check its operation. To do this, use a torque wrench and, with the clutch mounted on an old armature shaft clamped in a vise. Apply about 25 to 50 pounds of torque according to the type of clutch. The clutch should not slip. Remove the torque wrench and turn the pinion in the overrunning direction. The pinion should turn freely and smoothly. If the pinion slips in the driving direction, or if it rolls roughly in the overrunning direction, it should be replaced. Never attempt to relubricate or attempt to repair a defective overrunning clutch.

On some manually operated, and on all solenoid operated solenoid clutch starting motors, the clearance between drive pinion