



# SECTION 2 DIAPHRAGM SPRING CLUTCH

## I .Basic performance parameters

Table 3-4

Type	GMFZ430
Driven disk OD (mm)	430
Max. transmission torque (Nm)	1,800
Clamping load of pressure plate(N)	30000~31500
Release force(N)	8400
Number of driven disks	1
Clutch casing	SAE1



## II .Features and operating principle

The type of the clutch is MFZ430. Its structure is as shown in Fig. 3-4 and Fig.

3-5.

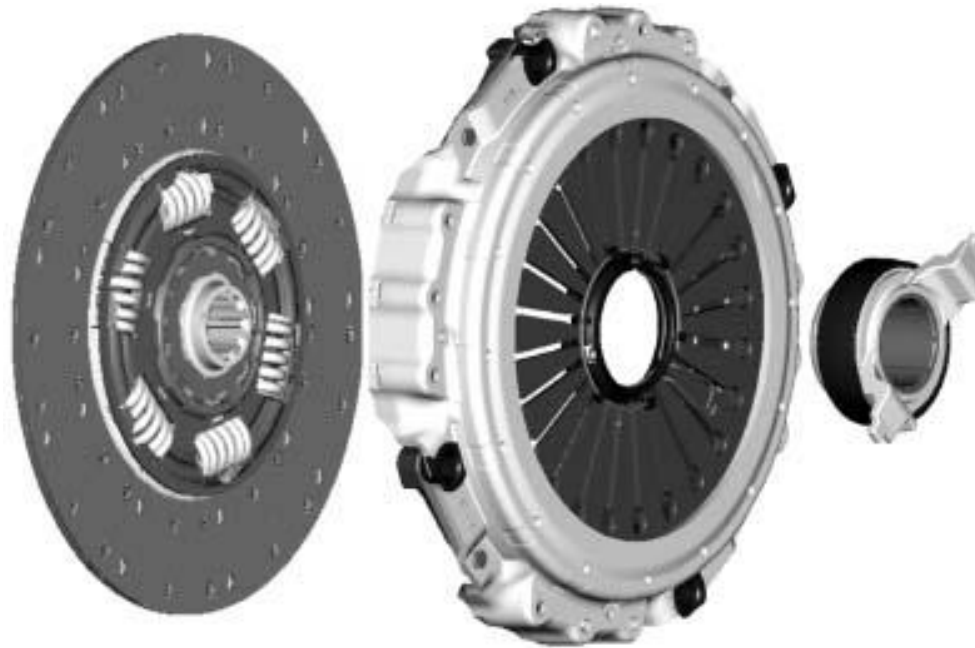


Fig. 3-4 The structure of MFZ430 clutch



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- The driving part of clutch mainly consists of clutch cover, pressure plate, diaphragm spring, etc. The diaphragm spring is made of stamped spring steel sheet. It is in the shape of disk somewhat conical. There are many radial slots in the cone of the disk spring. The radial slots form a circle of pawls playing the function of the release levers of the clutch. The truncated cone at the rear end plays the function of the pressure plate.
- Before the pressure plate and the clutch cover assy. are fit to the flywheel, the diaphragm is in a free state, and the spring applies no compression on the pressure plate.





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- As shown in Fig. 3-8, after the driven disk and the clutch cover assy. are installed on to the flywheel, the clutch cover presses the diaphragm spring to the pressure plate. The diaphragm spring is compressed and deformed, and the pressure plate generates a pressure which will be transmitted to the driven disk via the flywheel and produces friction force, and consequently allowing the engine power output through the driven disk.
- When the clutch is disengaged, the release fork drives the release bearing, and through the bearing further drives the diaphragm spring to deform in the direction opposite to the cone. The diaphragm spring then drives the pressure plate to move in the direction opposite to that of the driven disk being pressed, so as to release the clamping load of the pressure plate upon the driven disk and realize the disengagement of the clutch.
- When engaging the clutch, the release fork will not exert any pulling force on the release bearing, the diaphragm will resume its original position under its own spring force, and press tight the clutch pressure plate again, allowing the clutch to engage and transmit power





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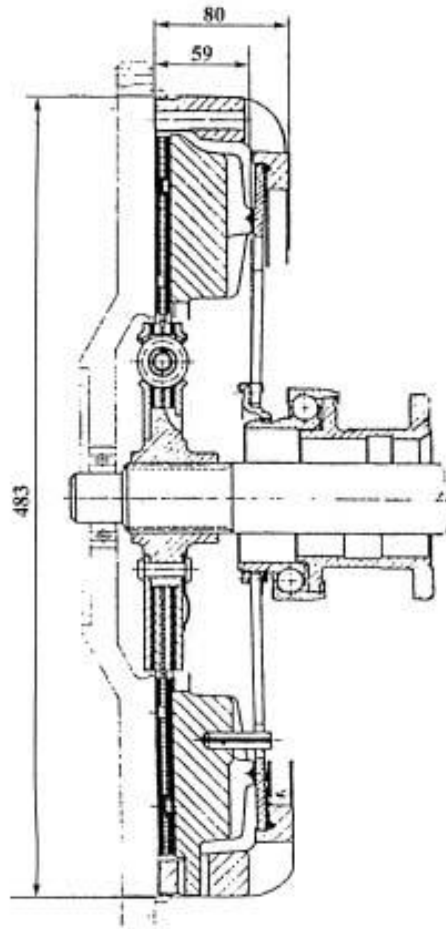


Fig. 3-5 Assembly of MFZ430 clutch