



CUSTOMER

Moran Towing via Marine Systems Intl.

BACKGROUND

Powered by two 12 cylinder ALCO 251C 12 MS&MR diesel engines turning two cast steel, fixed pitch propellers, the Valentine Moran is a twin screw tug, rated at 3,520 horsepower with two Lufkin RHS reverse reduction gears.

APPLICATION

Lufkin RHS reduction gears

On many tugs, reverse reduction gear units transmit a great amount of power in low speed diesel applications. In order to keep the weight and size of the mechanism as low as possible, a total of four ABS Unit Type Approved Dellner Gummi USA 16FKT1000 clutches have been installed.

The 16FKT1000 clutch assemblies are mounted on the reduction gear assemblies for ahead and astern rotation – one for forward rotation and one for reverse rotation.

The clutches, bolted to the engine flywheel, rotate at all times with the engine at engine speed. Each clutch has a flexible air tube (or gland) on the inside of the clutch rim. Before the clutches are inflated, they will rotate out of contact with the drums, which are bolted to the forward and reverse drive shafts / gears.

When air pressure (100 -125psi) is sent into one of the clutches, the inside diameter of the clutch constricts causing the friction blocks on the inner clutch surface to come into contact with the clutch drum, locking either the forward or reverse drive shaft with the engine depending upon the maneuvering required by the captain.