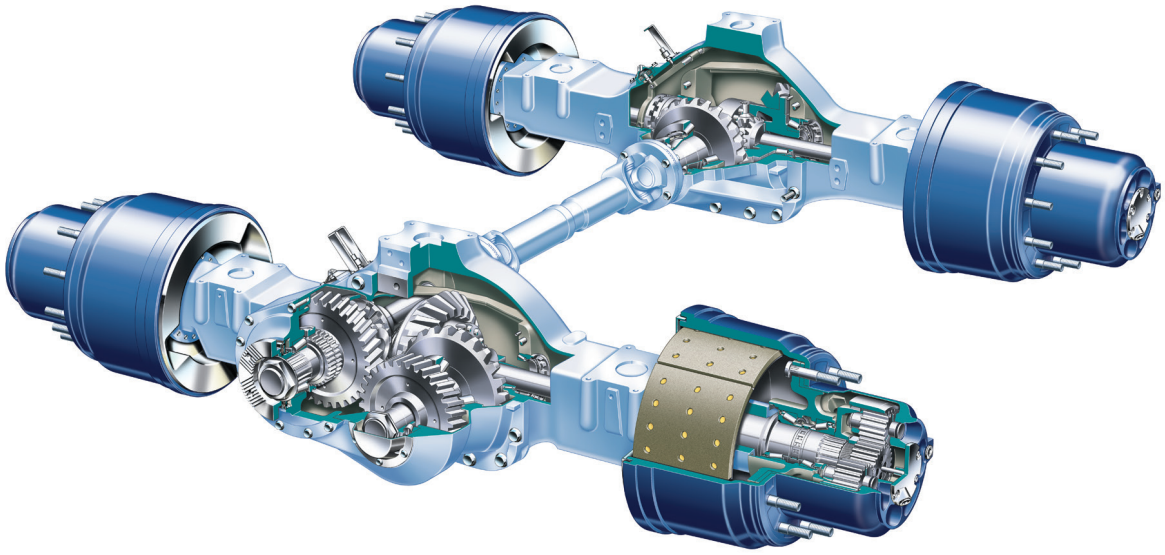
Volvo Trucks. Driving Progress

# FACT SHEET

Rear axle RTH2610F



**RTH2610F is a tandem axle with hub reduction, dimensioned for an engine torque of 3550 Nm. The maximum axle loading is 26 tons and the combination weight is 100 tons.**

RTH2610F consists of two spiral bevel single gear units, with a distribution gearbox in the forward rear axle. The axle casings are cast in nodular iron, giving a compact design with high ground clearance.

Most of the torque conversion takes place in the reduction gears in the wheel hubs. This is a reliable design which takes the form of a cylindrical planetary gear with straight-cut gears on needle bearings, giving low drive losses.

RTH2610F is designed for heavy, demanding haulage and train weights of up to 100 tons. The two-axle drive means that the tractive effort can be transferred to the ground without wheel slip, giving excellent grip and very low tyre wear.

RTH2610F has three differential locks, one for the forward and one for the rear gear units and one of the distribution gearbox. This guarantees very good grip when the surface is slippery, which results in higher truck productivity.

The diff locks are controlled by a two-stage switch on the instrument panel. When the first stage of the switch is selected the diff lock on the distribution gearbox is engaged, coupling the two rear axles together. When the second stage of the switch is selected, the driveshafts of the two rear axles are coupled together.

A combination of new production methods and special oil has resulted in longer oil change intervals. This means lower operating costs and reduced environmental impact.

With an approved synthetic oil, the oil must be changed after at most 450 000 km or every three years.

## FEATURES AND BENEFITS

- Spiral bevel single gear units with high efficiency and low servicing requirements.
- Sturdily dimensioned and hardened shafts and gears.
- Hub reduction gears reduce loads on the drive line.
- Wheel bearings in the form of maintenance-free unit bearings give longer life and easier servicing.
- Three reliable diff locks give high vehicle availability.
- High ground clearance.

# FACT SHEET

Rear axle RTH2610F

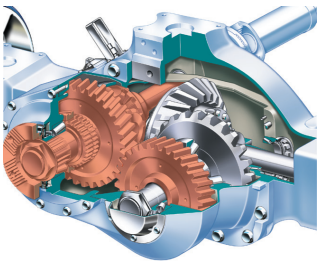
### Tandem gear that produces a great deal of force and allows for good access on all terrain

RTH2610F consists of two single gears of spiral bevel type and one distribution gear that is built onto the front final drive.

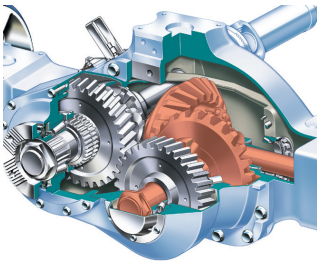
The distribution gear is designed to distribute the driving force evenly between both final drives.

The driving force from the gearbox goes via the distribution gear's input shaft to the differential. From the differential, the driving force is transferred via a cylindrical gear wheel to the front rear axle's final drive and to the distribution gear's output shaft, which drives the rear axle's final drive via a driveshaft.

This type of rear axle combination with tandem driving means that a large propelling force can be transferred to the ground without slipping because the total axle pressure is high. This means it is easy to get around and there is less wearing of the tyres.



The distribution gear in the front final drive.



Single gear in the front final drive.

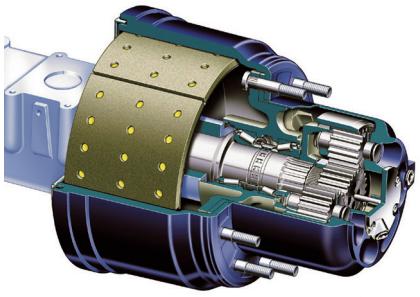
### Hub reduction with high reliability

RTH2610F is fitted with reduction gears in each hub. The hub reduction gearing consists of a cylindrical planetary gear with straight-cut gears on needle bearings, giving low drive losses.

The sun wheel is mounted on the driveshaft. From the sun wheel, the power is transferred to three planetary gears connected to the wheel hub.

When the planetary gears are forced to rotate against the ring gear, which is rigidly fixed to the rear axle casing, the rotation speed is geared down.

The wheel bearings are in the form of maintenance-free unit bearings. The entire hub with bearings can be removed and installed simply and safely without affecting the bearing clearance.

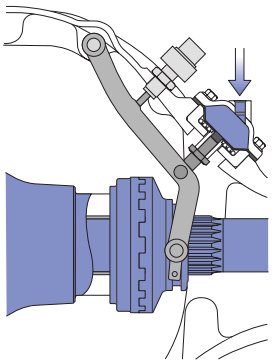


### Three differential locks give high availability

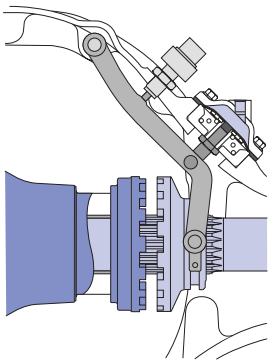
RTH2610F is fitted with three diff locks, one for each rear axle and one of the distribution gearbox. The diff lock for the distribution gearbox couples together the drives of the two rear axles, whilst the diff locks on the rear axles couple the driveshafts to the diff casing. When all three diff locks are engaged, all drive wheels are forced to rotate at the same speed.

The diff locks are in the form of hardened steel dog clutches operated by compressed air. There are two lamps on the instrument panel to indicate when the diff locks are engaged. One lamp is for the distribution gearbox diff lock and the other is for the diff locks of the two rear axles.

The diff lock function guarantees very good grip when the surface is slippery, which results in higher truck vehicle availability.



Differential lock engaged.



Differential lock engaged.

## SPECIFICATION

| | |
|---|---|
| Type designation | RTH2610F |
| Gear | Single gear, spiral bevel with hub reduction |
| Distribution gearbox | Cylindrical spur gear |
| Hub reduction | Cylindrical planetary gear |
| Weight including driveshafts, hubs and drum brakes/disc brakes | |
| Forward axle | 848/803 kg |
| Rearward axle | 747/719 kg |
| Crown wheel, diameter | 295 mm |
| Driveshafts, diameter | 45 mm |
| Maximum engine torque | 3550 Nm |
| Max bogie loading | 26000 kg |
| Max combination weight | 100000 kg |
| Ratio with hub reduction | 3.33:1 |
| | 3.46:1 |
| | 3.61:1 |
| | 3.76:1 |
| | 3.97:1 |
| | 4.12:1 |
| | 4.55:1 |
| | 5.41:1 |
| | 6.18:1 |
| Ratio distribution gearbox | 1:1 |
| Oil change quantity: | |
| Forward axle | 26.5 l |
| Rearward axle | Air suspension 23 l/Leaf suspension 24 l |

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