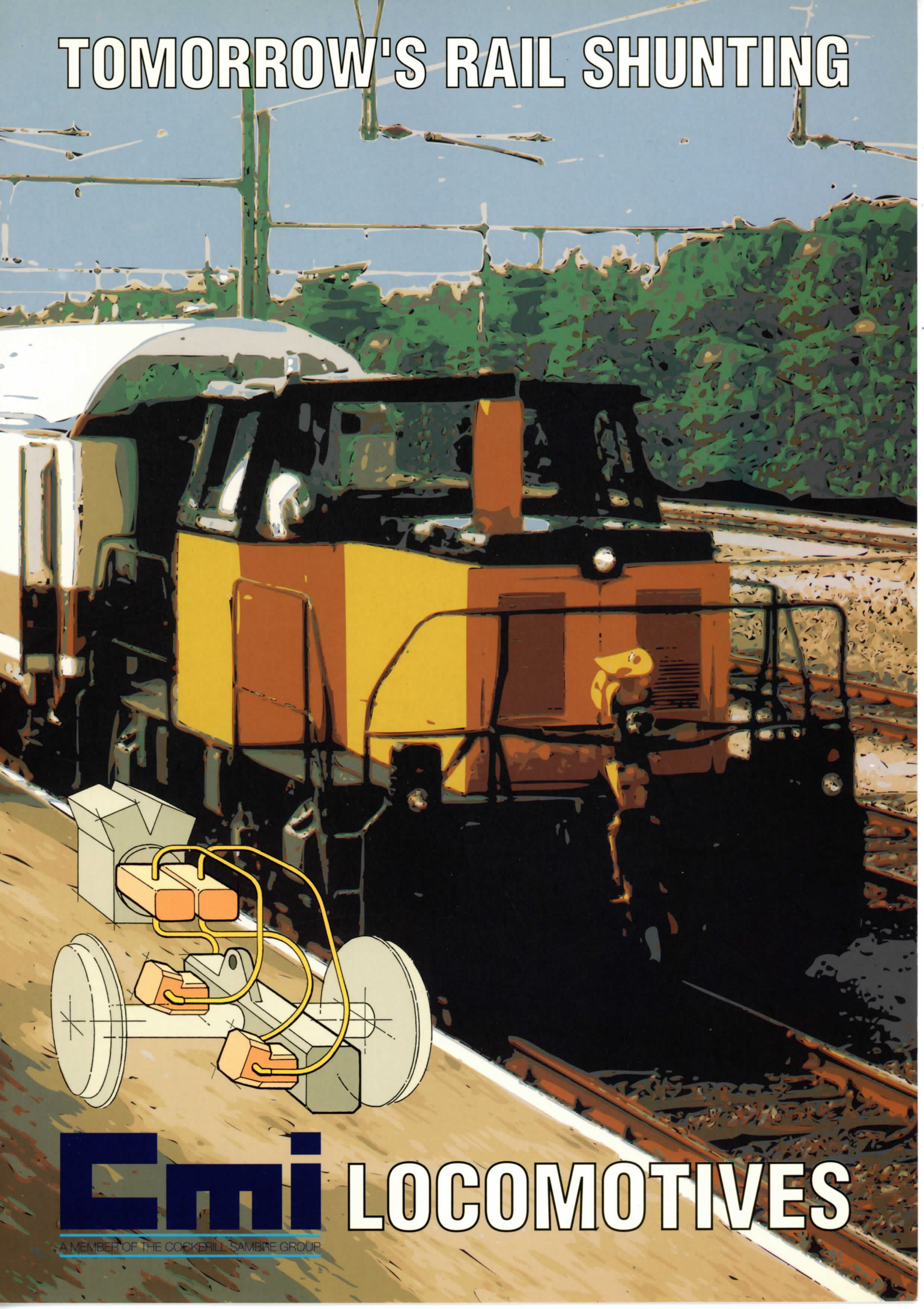


# TOMORROW'S RAIL SHUNTING



**cm**

# LOCOMOTIVES

A MEMBER OF THE COCKERILL SAMBRE GROUP

# The **hydrostatic** transmission and its integrated electronic control and diagnosis system, **key to major progress in rail shunting.**

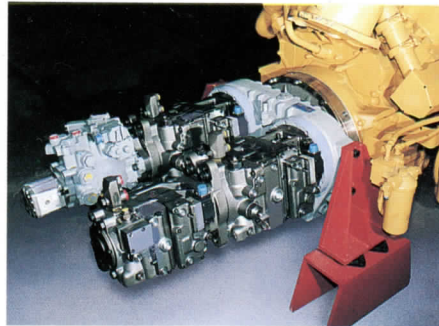
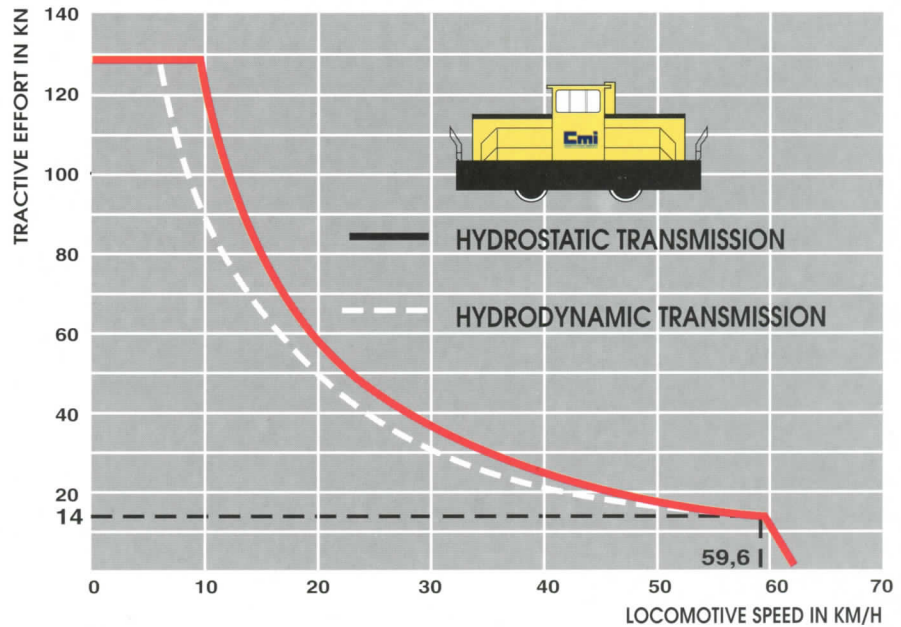
In addition to the assembling flexibility leading to an absolute free lay-out and allowing an enhanced modular and ergonomic concept, the hydrostatic transmission together with its integrated control and diagnosis system offers a general increase in the shunting locomotive main performances:

- The average efficiency of the hydrostatic transmission is 10 to 15 % higher than the efficiency of the hydrodynamic transmission.
- The locomotive speed is smoothly and accurately controlled from 0 km/h up to the maximum speed.
- On the whole speed range, the electronic control continuously adapts the power delivered by the Diesel engine to the exact speed, which avoids unnecessary energy consumption. That feature also allows a decrease of the minimum continuous speed down to 0 km/h.
- The braking system, by an additional dynamic braking.
- The smooth and comfortable driving, and especially the motion reversal without inverter or clutch.

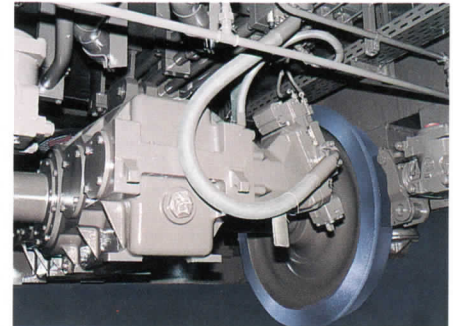
As the locomotive is equipped with a complete electronic control system, the customer's special operation requirements can be easily met by adapting the software regarding:

- time and speed parameters
- specific safety requirements
- tractive efforts and braking levels, and so on, allowing for instance to work with the locomotive at a constant speed regardless of hauling loads.

## PERFORMANCES LOCOMOTIVE 525 HP



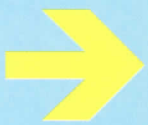
The pumps group: 2 main traction pumps, 3 auxiliary pumps.



The CMI axle gear box coupled to the hydraulic motor.

## THE TRANSMISSION INTEGRATED ELECTRONIC CONTROL AND DIAGNOSIS SYSTEM.

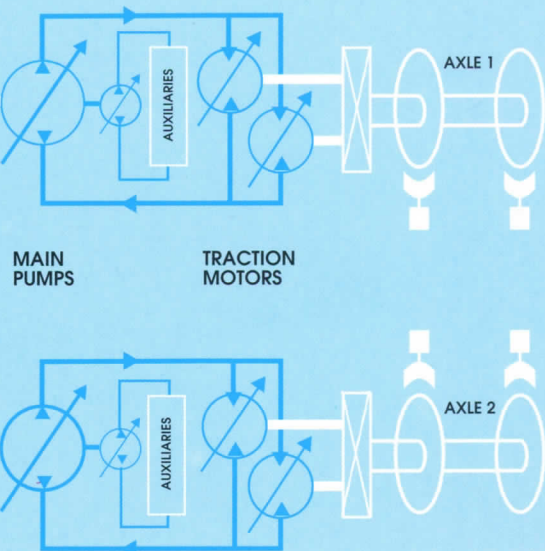
DRIVING ORDERS



COMPLETE COMPUTERIZED CONTROL OF

- The traction performances (speed and tractive effort)
- The auxiliary equipments operation
- All the locomotive safety functions
- The diagnosis system

DIESEL ENGINE





◀ Two ergonomic and comfortably driving desks in diagonal position, offering all around visibility.

▲ The CMI hydrostatic shunting locomotive 525 HP

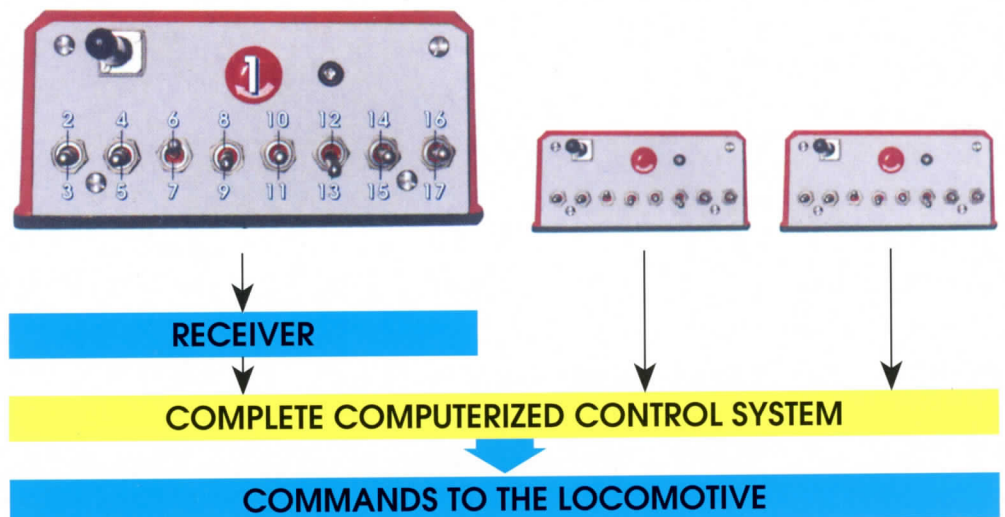


## MAIN CHARACTERISTICS

Weight	40 T
Wheel arrangement	B-2 axles
Diesel engine • Maker	CATERPILLAR
• Type	3408 BTA
• Power	525 HP
• Speed	2100 rev/min
Transmission	Hydrostatic
• Pumps & Motors - Maker	SAUER & SUNDSTRAND
• Axle gear boxes - Maker	CMI Transmissions
Speed	0 to 65 km/h
Tractive effort	130 KN starting effort
Remote control	

1. Emergency brake
2. Indirect brake minus
3. Indirect brake plus
4. Fast feeding
5. Overloading
6. Stand-by
7. Remote control on
8. Free wheel
9. Schiff 1
10. Horn
11. Sanding
12. Forward
13. Reverse
14. Traction plus
15. Traction minus
16. Direct brake minus
17. Direct brake plus
18. Antenna

The electronic control and diagnosis system ensures the highest ease of operation. The driver may introduce the orders optionally from one of the two driving desks or from the remote control terminal, each of them having the same configuration. The execution and management of all the driving orders are entirely processed and monitored by the fail-safe computer system.



# Cmi LOCOMOTIVES

A MEMBER OF THE COCKERILL SAMBRE GROUP

## ACTIVITIES

### ■ FOR SALES OR FOR RENTING

- CMI diesel hydraulic shunting locomotives from 300 to 750 hp with hydrostatic or hydrodynamic transmission
- CMI electric locomotives for non polluting applications

### ■ AFTER SALES SERVICE

### ■ LONG-TERM MAINTENANCE CONTRACTS

### ■ REFURBISHING



1



2



3



4

1. Diesel locomotive with hydrostatic transmission
2. Diesel locomotive with hydrodynamic transmission
3. Remote controlled locomotive
4. Electric "Bimode shunting locomotive (network or battery)

A RANGE OF DIESEL HYDRAULIC SHUNTING AND BRANCH LINE LOCOMOTIVES.



**300 HP to 500 HP** | 2 AXLES  
30 to 40 TONS  
130 KN Max  
30 to 65 KM/H. Max



**400 HP to 750 HP** | 3 AXLES  
45 to 60 TONS  
200 KN Max  
30 to 65 KM/H. Max



**500 HP to 750 HP** | 4 AXLES (B-B)  
60 to 100 TONS  
260 KN Max  
30 to 80 KM/H. Max

# Cmi LOCOMOTIVES

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