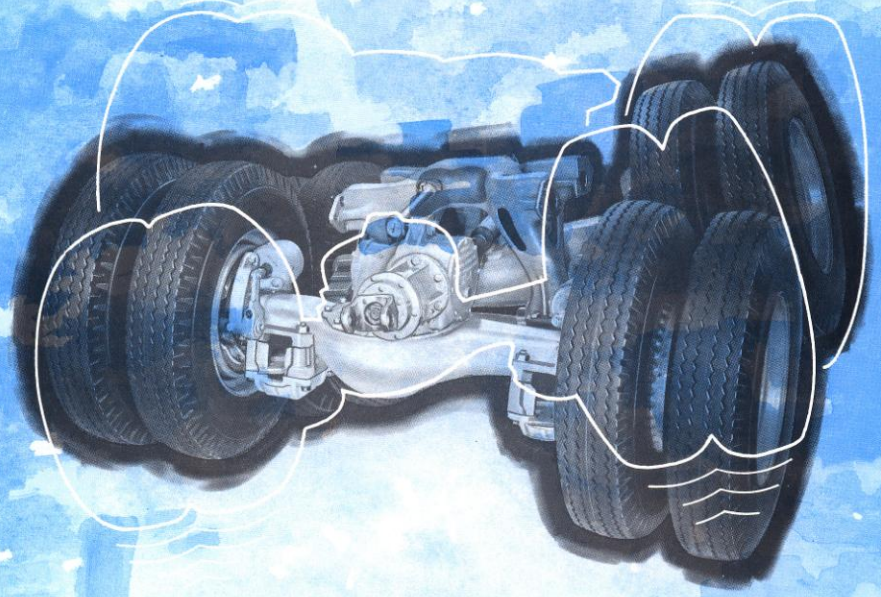
MACK

BALANCED BOGIES



for over-the-road and dumper-mixer Mack trucks

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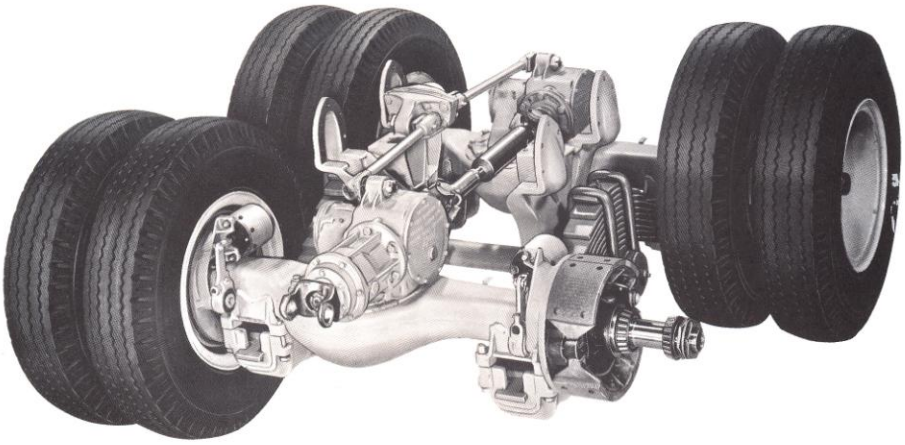

Rugged construction, with no weight penalty, typifies Mack Balanced Bogies.

time and road proved Proved and improved in millions of miles of heavy-duty operation, Mack bogies best meet the demands of today's truckers for dependable, lightweight, easy-to-maintain six-wheelers. ■ Mack Balanced Bogies provide balanced braking and traction...extreme flexibility...longer tire life... and simplified maintenance. ■ They also provide straight-line drive ... Durapoid carrier gears ... and Mack's exclusive PowerDivider interaxle differential. ■ No other bogie offers this unique combination of advantages.

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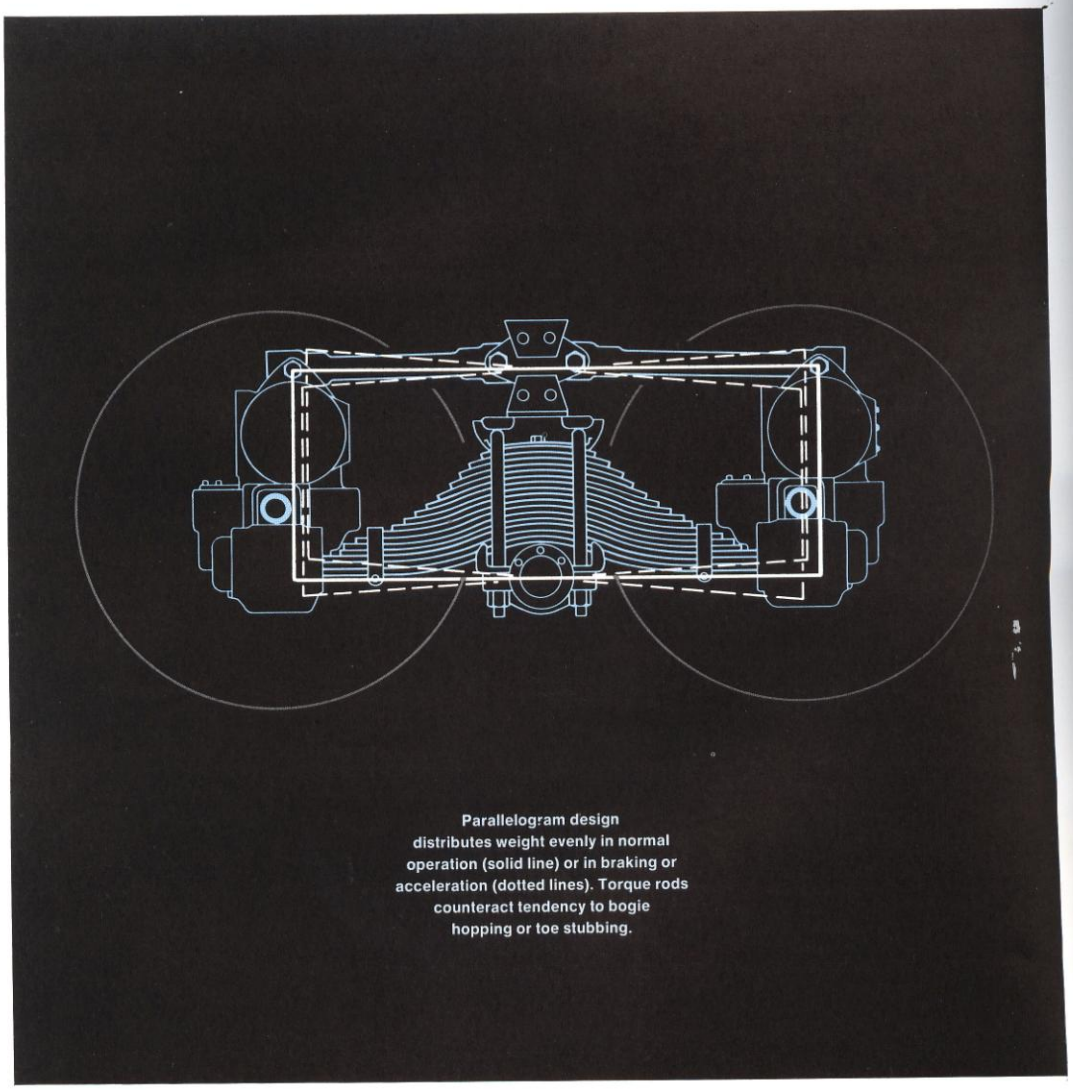
transmit top power Because they're designed and made by Mack for Mack trucks alone, Mack Balanced Bogies match exactly the power output of other driveline components. ■ The result is lower frictional horsepower losses ...greater transfer of torque to the rear wheels... more of the engine horsepower is put to work. ■ This is the basis of Balanced Design, Mack's unique manufacturing concept by which all major components are built by Mack to work with each other as an integrated unit.



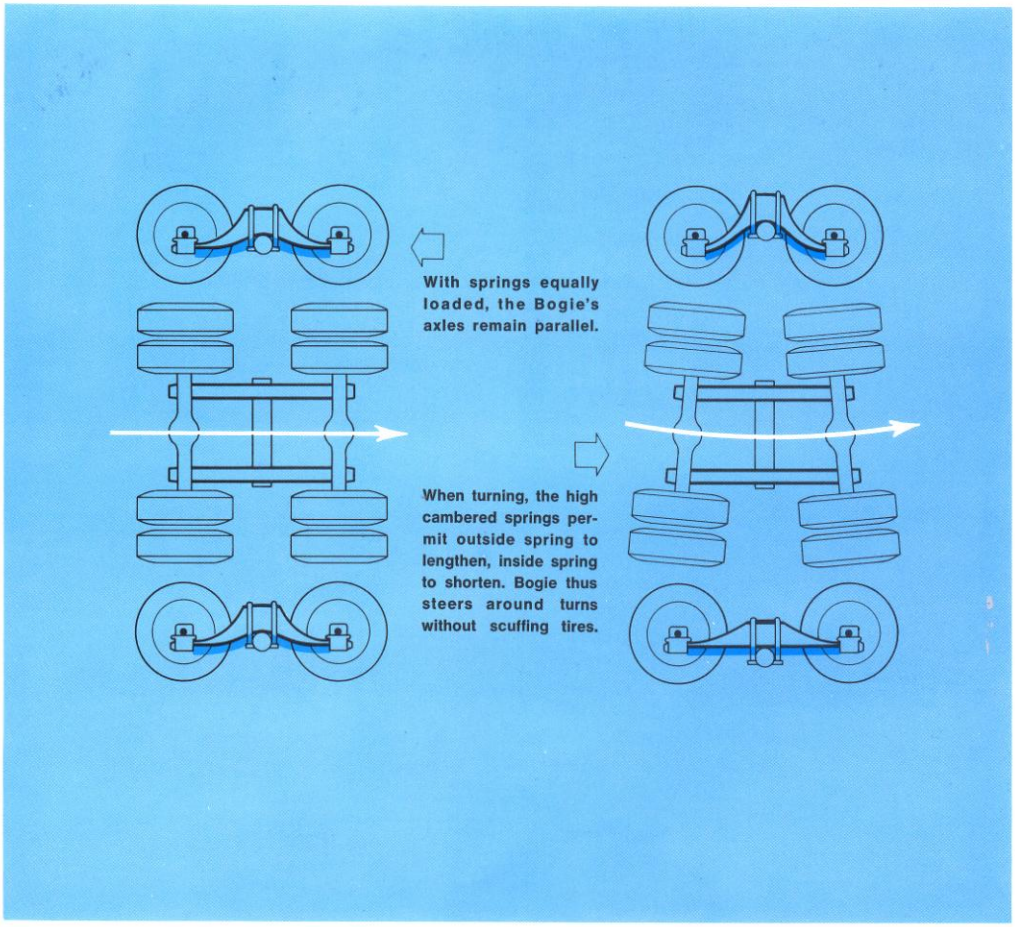
Parallelogram design distributes weight evenly in normal operation (solid line) or in braking or acceleration (dotted lines). Torque rods counteract tendency to bogie hopping or toe stubbing.

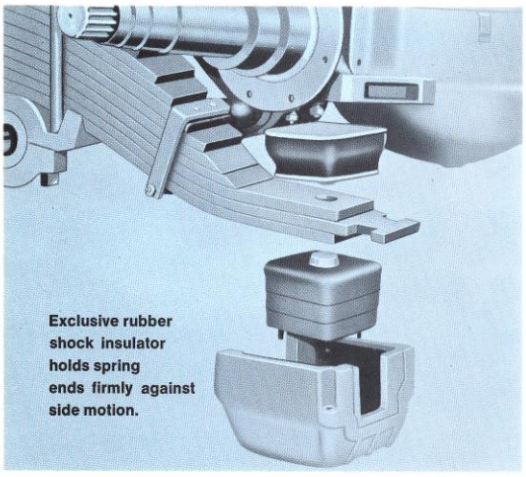
master any terrain

Mack Balanced Bogie equipped vehicles go through when others bog down—on snow, sand, slippery highways. ▪ Parallelogram design is one reason why. Low trunnioned springs and top mounted torque rods join with the axle housings. Together, they form a parallelogram ▪ At rest, the parallelogram distributes weight evenly between the axles. In operation, the parallelogram cancels out weight transfer. ▪ With axles evenly loaded at all times, tires stay in contact with the road. Dips and bumps can't cause tire-destroying bogie hopping. Traction is better. Also, Mack's Power-Divider aids traction. It automatically directs torque to the axle with traction. (Read description, page 3)

extend tire life

One of the prime advantages of Mack Balanced Bogies is the elimination of many tire problems. Mack's parallelogram design effectively combats any tendency in acceleration or braking toward bogie hopping, rearing or toe stubbing, all of which adversely affect tire life. The parallelogram distributes the weight of the bogie evenly between the two axles, greatly extending tire life. In addition, because of the Mack bogie's self-steering characteristics,





rear wheels of the bogie "track" rather than skid in turning. There's no scuffing to wear away tire rubber . . . no wheel fight to stress bogie components.

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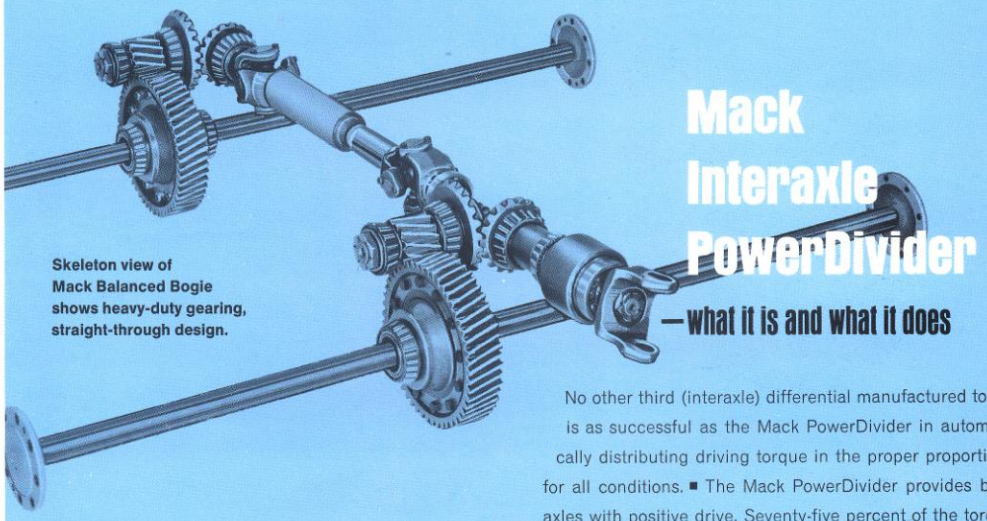
smooth out the ride

The suspensions of Mack Balanced Bogies are completely flexible—fragile cargoes and heavy loads alike receive the full benefit of resilient springing. Long, multi-leaf springs are anchored at their tips by oversized shock insulators, are freely trunnioned to the frame. Drivers, too, like these suspension systems because they are not being constantly jounced . . . not fighting for control. And a fatigue-free driver is a safer driver.

easy to maintain

Rugged, simplified bogie construction and balanced stress distribution reduce downtime, while making service and maintenance easy. ■ Axles are virtual duplicates, with pressed steel or cast banjo housings which make up a sturdy structure that keeps carrier components in accurate alignment. ■ The axle shafts themselves are chrome-molybdenum-steel, and are involute splined for greater strength and resistance to shock loadings. Added toughness is imparted to axles by Mack's exclusive methods of induction hardening, followed by shot-peening to relieve stresses and to impart added fatigue strength. ■ Furthermore, carrier gears employ Mack's unique Durapoid gear tooth form in the first reduction. This has distinct advantages over conventional forms. ■ Built to a specific mathematical formula, Durapoid gear teeth remain in position under deflecting loads; carrier deflection caused by applied loads will not result in any shifting of the tooth bearing. ■ Gear teeth mesh properly in the whole load range—from light to heavy. End tooth loading, which leads to premature failure through tooth breakage, is avoided.



Skeleton view of Mack Balanced Bogie shows heavy-duty gearing, straight-through design.

Mack Interaxle PowerDivider

—what it is and what it does

No other third (interaxle) differential manufactured today is as successful as the Mack PowerDivider in automatically distributing driving torque in the proper proportions for all conditions. ■ The Mack PowerDivider provides both axles with positive drive. Seventy-five percent of the torque is distributed to the axle with better traction. This three-to-one ratio built into the PowerDivider prevents over-stressing of the driven axle. ■ Compact and simple, Mack's PowerDivider is placed ahead of the bogie's front axle carrier gears. It consists of a cage of stubby plungers operating between inner and outer cams. Each cam is connected with one of the axles, and the plungers are free to ride in and out. Depending upon cam and plunger positions, both cams will turn as an assembly (no differential action) or one cam will override the other (differential action). The entire operation is automatic and instant with no action required by the driver.

stop on a dime All four wheels on Mack bogies receive equal braking regardless of the type of actuation. ■ As a result, Mack Balanced Bogie equipped units stop shorter and surer . . . with less wheel sliding and skidding . . . and brake blocks wear evenly. ■ Equal loading on all four wheels and minimum weight transfer means instant and effective braking. ■ Brake blocks are thick and drums are of heavy-duty design to dissipate heat rapidly.

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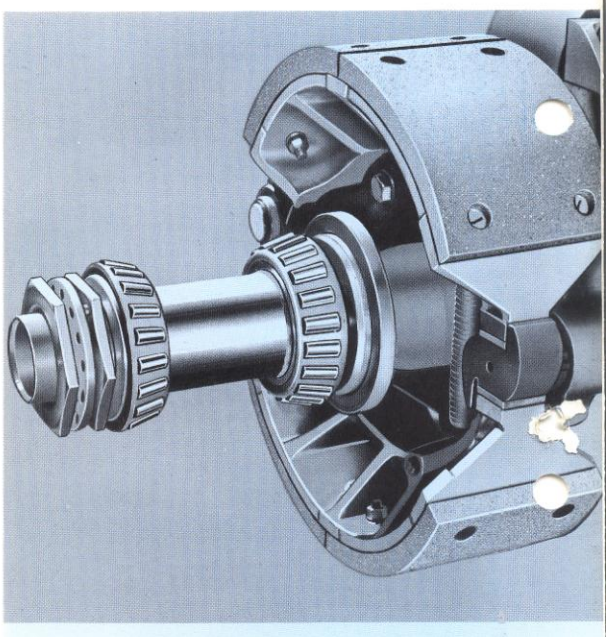
tops in load-carrying ability Engineered for minimum dead weight, the Mack Balanced Bogie provides maximum load carrying ability. In over-the-road operation, Mack bogies are ideally suited to gross combination weights of 73,000 lbs. and greater, permitted in many states. ■ In dumper and mixer operations, depending upon location and equipment, Mack Balanced Bogies are rated up to 80,000 lbs. at the ground in single unit operation. ■ Yet, despite the tremendous loads imposed on them, Mack Balanced Bogies require minimum maintenance . . . are rarely down for repairs.

Balanced Design assures dependability Mack Balanced Bogies, like all major truck components in Mack trucks, are manufactured to Mack's exclusive Balanced Design concept. ■ That is, each component is designed and built by Mack to function perfectly with every other component as a single unit. ■ Balanced Design, in turn, results in a more efficient, longer-lived vehicle.



Generous brake shoes . . . heat-dissipating drums provide Mack Balanced Bogies with superior stopping ability.

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