CHRYSLER AUSTRALIA LIMITED

AUSTRALIAN

Truck Range

SALES MANUAL

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TRUCK SALES MANUAL

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SELLING INFORMATION—THE KEY TO GREATER SALES INCOME

Your success as a salesman largely rests on how well you can apply product information to specific cases. It depends on how ably you can use what you know to solve a prospect's individual problem. Naturally, you are not going to learn all the answers just by reading through this Sales Manual, but you can get a lot of help. You gain the benefit of other men's knowledge and experience in the shortest possible time—and with the least effort on your part.

Some sections of the Manual will act as a primer for the newly fledged salesman, and as a refresher course for the old hand; and in its entirety, will be an excellent source of reference for both.

Every subject covered has information of vital interest to you—information which bears directly on your job, and on the amount of money you will make from your job.

Get to know the specifications and you will clearly realise that throughout the entire truck range the following two vital points apply:

1. Every load CARRYING unit (frames, axles, springs, wheels, tyres and other components) is engineered to provide the strength and capacity necessary to support the load.

2. Every load MOVING unit (engine, clutch, transmission, propeller shaft, rear axle and other components) is engineered to move the load with efficiency and economy under the most severe operating conditions.

Obviously a big part of your sales work is determining the right truck model for a particular hauling job, but bear in mind that in selecting and selling trucks, you must always start with the prospect's needs. Treat his problem as individual and obtain the full details of all the operating conditions. With these facts behind you, you are then able to determine which model will fit your prospect's requirements.

Finally, let us say that the first half of selling is preparation, that is, knowing your product—that's where this Sales Manual comes in. The second half of selling is experience—and you gain experience only by going out and selling after you have prepared yourself.

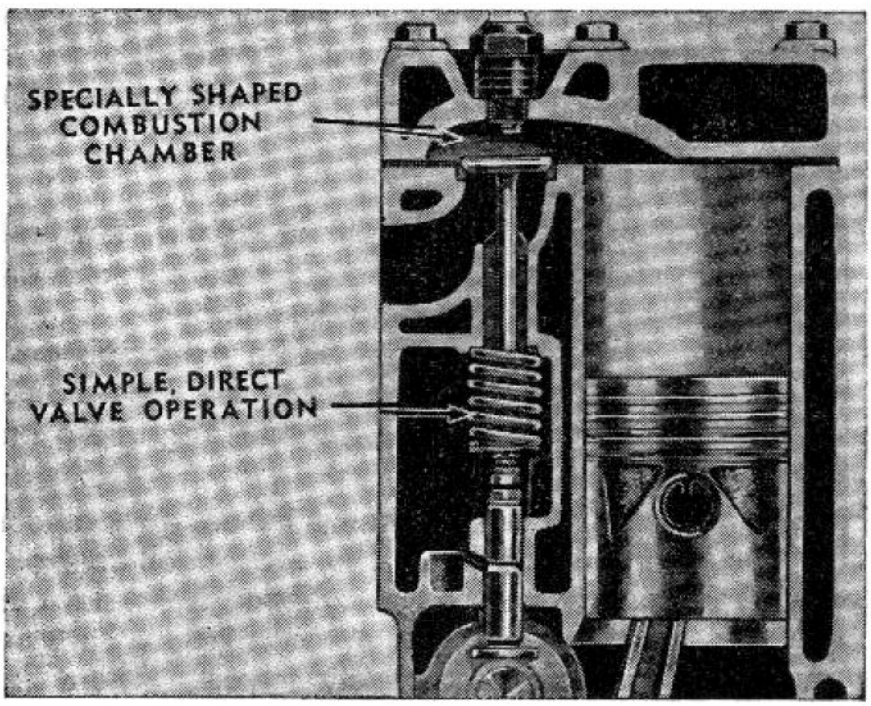
CHRYSLER AUSTRALIA LIMITED
ADELAIDE, South Australia

ENGINE SALES FEATURES

L-HEAD DESIGN ENGINE BEST SUITED FOR TRUCK WORK

To begin with, the simplicity of the L-head design has big advantages from the point of view of service. Each valve is operated by a short lifter, running directly off the camshaft—it's the simplest, most effective valve train design.

The combustion chambers are specially shaped to produce smooth, quiet power **in all speed ranges.**



HIGH COMPRESSION FOR GREATER EFFICIENCY

High compression means that the fuel-air mixture is squeezed hard in the cylinders before it is ignited.

Compression in an engine is like compression of a spring. The harder you push the spring down, the more powerfully it rebounds. But like all good things, compression can be overdone. Too high compression creates greater stress and heat in the engine, thus shortening its life. In many cases too, a more expensive grade of fuel must be used to avoid spark knock.

PRECISION ENGINEERING OF ALL MAJOR MOVING PARTS

Saves repair costs . . . .
Saves time off the road

THE CRANKSHAFT

Is precision balanced at rest (statically) and in motion (dynamically)—achieving minimum vibration, resulting in less stress and wear on the crankshaft itself and the engine as a whole.

BEARINGS

Both main and connecting rod bearings are steel-backed, babbit metal. **All** bearings can be replaced simply by taking out the old bearing shells and inserting the new ones. What a saving in time (and cost) when a major overhaul is needed.

PISTONS AND RINGS

Aluminium alloy pistons are light in weight, thus cutting down the load placed on main and connecting rod bearings. It's another reason why the bearings last longer.

It is worth remembering that while some pistons are moving down—others are being lifted by the Crankshaft —so the lighter the pistons, the less bending strain on the crankshaft.

Four rings per piston—two compression, two oil-control —give maximum oil economy. The second oil-control ring helps wipe excess oil from the cylinder walls. Less oil is burned. Less gum and carbon are formed. What's more the cylinders are more effectively sealed. There is less "blow-by" of combustion gases into the crankcase and less oil dilution.

Chrome-plating of top ring is known to increase the life of cylinder walls and rings from three to five times !

During engine break-in, minute pores in the chrome collect oil. Tiny projections of the chrome act as a mild oil hone. As the projections disappear, they polish the cylinder walls for a more perfect mating with the rings.

The chrome surface of the top ring itself remains extremely hard and wear-resistant. The key top ring— which is exposed to highest heat and receives the least lubrication of any ring—lasts far longer.

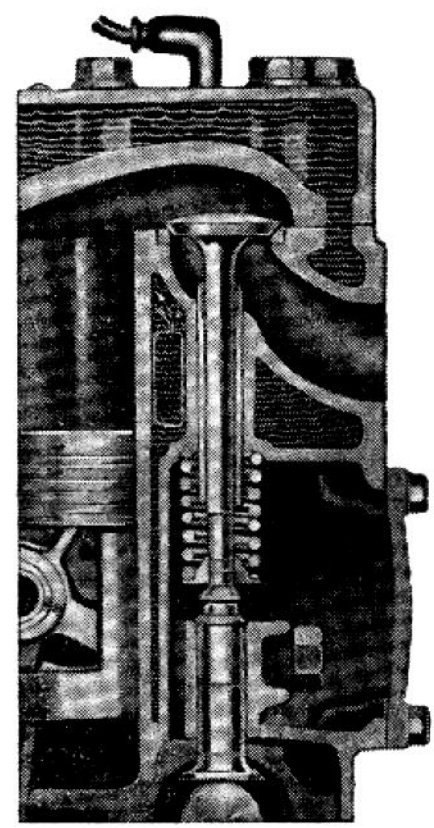
LONG-LASTING VALVES

Valve features guard against valve trouble . . . help prevent valve leaks that rob the engine of power and efficiency . . . reduce the need for valve grind jobs that run up service bills and costly down-time.

Silicon-chrome steel is used for all valves, both intake and exhaust. This tough alloy is highly resistant to warping, burning, pitting and other effects of intense heat. Moreover, it is a very hard alloy with long-wearing properties.

Exhaust-valve seat inserts furnish durable seats for the valves to close against. Because the inserts resist warping and burning, they assure tight closing of the valves. The exhaust valves on heavy trucks are also specially protected — these are faced with heat resisting "Stellite" and the stem tips hardened to ensure longer life. This heavy-duty feature contributes greatly to the economical service of engines.

Effective valve cooling is assured by large water passages, plus a water-distributing tube. The valves run cooler and last longer. The water-distributing tube carries cool water directly from the radiator to each exhaust valve port area. Water spray prevents the formation of steam bubbles, which might tend to insulate the valve area and interfere with proper cooling. Damaging heat is rapidly carried away from the valves.



Water distributing tube and large water passages assure efficient valve cooling.

LUBRICATION SYSTEM

Insures cleanest oil with maximum lubricating value

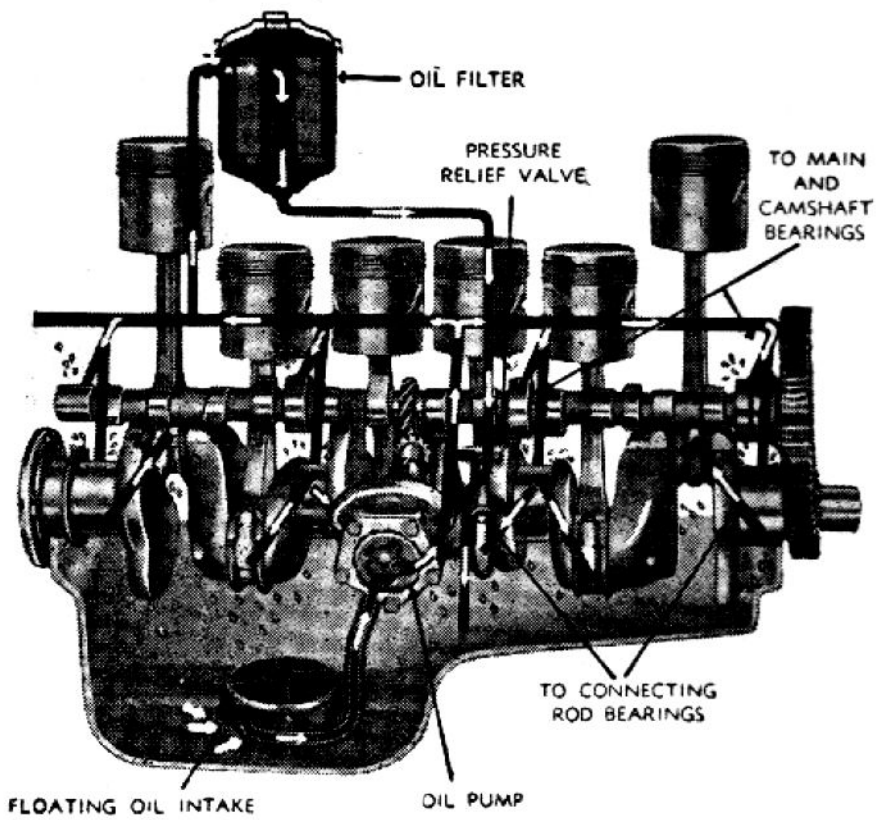
Positive-pressure lubrication delivers oil to all vital engine parts continuously and under pressure. Rotary-type

oil pump is simple in design and long-lived. The pump develops a full 40 lbs. pressure at the low engine speed of 800 r.p.m.

Oil temperature is controlled by placing main oil gallery close to water jacket. Oil is warmed or cooled as required for best lubrication. Pressure relief valve limits pressure build-up to safe-guard lubrication system. This also ensures good bearing lubrication when first starting engine by diverting oil from filter to bearings.

Floating oil intake follows changes in oil level, floats just under the surface. The intake thus excludes sediment and grit settled to bottom of the oil pan—as well as surface froth. Only the cleaner top oil goes into the engine. Result: Less abrasive wear of engine parts, less clogging of filter.

Filtered crankcase ventilation removes acid fumes before they can harm metal parts—or condense and dilute the oil. Air is filtered (at oil filler cap) as it enters crankcase and is drawn out the draft tube at rear of engine.



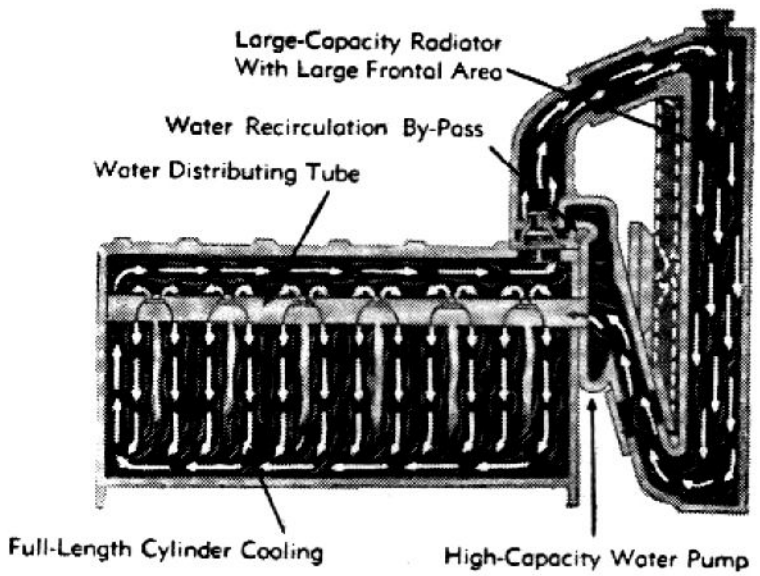
COOLING SYSTEM SAFEGUARDS THE ENGINE UNDER ALL OPERATING CONDITIONS

A heavy-duty cooling system is standard. Water pump, radiator and fan all have adequate capacity for the most severe service.

Moreover, the system is designed to prevent local "hot-spots" within the engine. Here are the features which contribute to uniform cooling.

Thermostat controls amount of coolant fed to the radiator. Thermostat blocks off water flow to radiator when engine is cold for faster warm-up.

Water-distributing tube insures ample cooling for hottest points in the engine—the exhaust valve areas. Because of water-distributing tube, some coolant also reaches each cylinder at the same time for more equal cooling. Cooled water is not all "dumped" into front of engine.



Full-length water jackets cool cylinders uniformly from top to bottom. Expansion due to heat is controlled. Thus rings fit cylinder walls better, wear more evenly, slowly.

Water-recirculating by-pass protects engine from harmful "hot-spots" during warm-up.

The water by-pass is a return channel from engine to pump when thermostat is closed. Pump draws water from the engine through this channel, recirculates it back through the engine. Thus the engine warms up evenly throughout.

On engines which do not have a by-pass, no means is provided for positive water circulation when the thermostat is closed. The water pump stirs only water in its immediate vicinity. Local over-heating can develop in a very short time at, for example, the exhaust valve ports.

ENGINE SPECIFICATIONS
(Petrol)

GENERAL	
Arrangement	6 Cylinder—in line
Head	L
Bore	3.7/16"
Stroke	4½"
Displacement	250.6 cub. ins.
Taxable H.P.	28.3
Compression Ratio	6.83 to 1
Power Output	114 B.H.P. (max.) at 3,600 r.p.m.
Torque Output	201 lbs./ft. (max.) at 1,400 r.p.m.
Firing Order	1-5-3-6-2-4
CAMSHAFT	
Material	Cast Iron
Features	Distributor and Oil Pump Drive Gear integral with Camshaft
Bearings—No. used	4
Material	3 Babbit-lined Steel—1 Cast Iron
Drive	Silent Chain
CARBURETTOR	
Make	Solex
Features	Bi-Starter and Accelerating Pump
Governor	Incorporated on Carburettor, fitted to 6-71, 8-65 and 8-71 Models. Engine speed governed to 3,000 r.p.m.
Type Air Cleaner	Heavy duty Oil Bath
CONNECTING RODS	
Type	Drop forged, I beam section
Big End Bearing—Type	Removable Precision
Material	Thin Babbit on Steel
Piston Pin Bearing	Bronze or Bronze on Steel
Removal of Connecting Rod and Piston	From above
CRANKSHAFT	
Type	Drop forged
Material	High Carbon Steel
Number Counterweights	9
Main Bearings—Type	Removable Precision
No.	4
Material	Babbit on Steel
Crankshaft Sprocket — Material	High Manganese Steel
CYLINDER BLOCK	
Material	Cast Iron
MANIFOLD HEAT CONTROL	
None	
PISTONS	
Type	"U" slot, Cam ground, Tin-plated
Material	Aluminium Alloy

PISTON RINGS

4 Rings above Piston Pin.	
Compression Rings—	
No. per Piston	2
Surface Coating	Upper, Chrome-plated; Lower, Tin-plated
Oil Control Rings—	
No. per Piston	2

TAPPETS

Type	Mushroom with self-locking adjusting screw
Clearance when hot—Intake	0.010"
Exhaust ..	0.014"
Clearance for Valve Timing	0.014" (cold)
	0.014" (cold)

VALVES

Type	Poppet
Location	In Block—right side
Style of Stem End	Ring grooved
Exhaust Valve Facing	Stellite
Seat Inserts—Where used	Exhaust
Material	Special Alloy
Guides—Material	Cast Iron, removable
Spring Force—Intake & Exhaust	
Valve open	110-120 lbs.
Valve closed	40- 45 lbs.
Spring Length—Intake & Exhaust	
Valve open	$1\frac{3}{8}$"
Valve closed	$1\frac{3}{4}$"

VALVE TIMINGS

Marks located on	Crankshaft Pulley
Intake Valve opens	12° before T.D.C.
Intake Valve closes	44° after B.D.C.
Exhaust Valve opens	50° before B.D.C.
Exhaust Valve closes	6° after T.D.C.

EXHAUST SYSTEM

Light Trucks

Type of Silencer	Triple Flow
Dia. Exhaust Pipe	2"
Dia. Tail Pipe	$1\frac{5}{8}$"

Heavy Duty

Type of Silencer	Straight through
Dia. Exhaust Pipe	2"
Dia. Tail Pipe	$1\frac{5}{8}$"

FUEL SYSTEM

Petrol

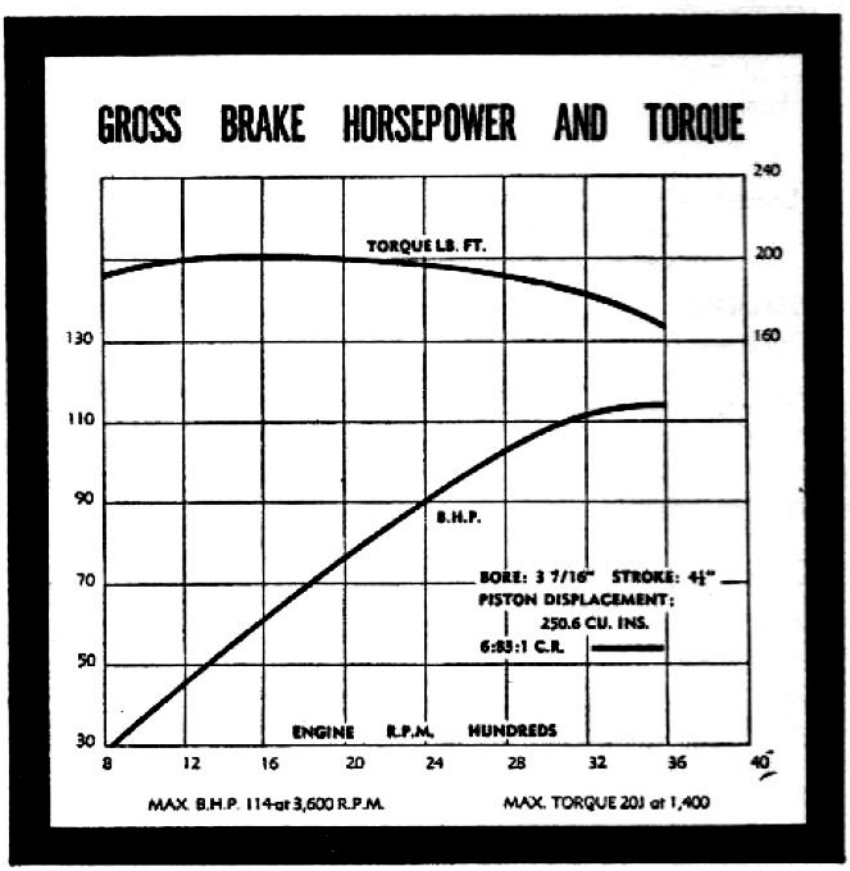
Mechanical Pump	
Down Draught Solex Carburettor	
Air Cleaner	Oil Bath type
Capacity Fuel Tank	15 Imp. Gallons
Fuel Tank Cap	Pressed Metal Cap, Cadmium plate finish

INSTRUMENTS

Speedometer, Ammeter, Oil Gauge, Temperature Gauge, Fuel Gauge

LUBRICATION

Type System	Pressure
Pump Type	Motor
Drive	Camshaft Gear
Normal Pressure	40 lbs. at 800 r.p.m.
Oil Filter	Replaceable Element type
Crankcase Ventilation with Air Cleaner	
Type of Oil Pump Intake Screen	Floating
Capacity Reservoir—	
1-08) 2-28) 2-33)	9 Imp. Pints
3-59) 6-71) 8-65) 8-71)	9 Imp. Pints



TORQUE CHART — PETROL ENGINE

Maximum torque 201 lbs. ft. at the very low engine speed of 1,400 r.p.m. Note how the torque development is maintained and does not rapidly fall over the speed range.

ENGINE SPECIFICATIONS (DIESEL)

GENERAL

Make and Model	Perkins, P6V
Arrangement	6-Cylinder, in line with Valve in head
Cycle of Operation	4-Stroke
Bore	3½"
Stroke	5"
Displacement	288.6 cub. in.
Taxable H.P. (R.A.C.)	29.4
Compression Ratio	16.8 to 1
Power Output	77 B.H.P. (nett) at 2,400 r.p.m.
Torque at 1,500 r.p.m.	196 lbs./ft.
Firing Order	1-5-3-6-2-4
Cold Starting	Ki-gas and Induction Heater

CAMSHAFT

Location	High up on off-side of the cylinder block to eliminate long push rods.

CONNECTING RODS

Type	Drop forged, I beam section
Big End Bearing—Type	Removable Precision
Material	Thin steel shells with lead bronze lining and an idium coating.

CRANKSHAFT

Type	Drop forged
Material	Nickel Chrome—Molybdenum Steel
Main Bearings—Type	Removable Precision
No.	7

CYLINDER BLOCK

Type	Cylinder block and crankcase are contained in a one-piece cast iron alloy casting.
Cylinder Liners	Removable dry liners manufactured from cast iron.

CYLINDER HEAD

Type	One piece
Material	Chromium Cast Iron
Features	Valves and Tappets connect in Head
Valve Cover	Light Alloy Casting
Combustion Chamber	"Aeroflow"—Perkins world patent

PISTONS

Type	Flat topped
Material	Aluminium Alloy
No. Compression Rings	3 (above Piston Pin)
No. Scraper Rings	2 (one above and one below Piston Pin)

TAPPETS

Type	Mushroom
Clearance when hot	0.010"

TIMING GEAR

Type	Camshaft and Fuel Pump Shaft are driven by triple roller chain.
Advance, Retard	Perkins patented combustion system eliminates necessity for advance-retard control.

VALVES

Type	Poppet
Location	In Head
Guides—Material	Cast Iron
Removable	Yes
Spring Free Length—Inner	$1\frac{3}{8}$"
Outer	$1\frac{3}{4}$"

VALVE TIMING

Intake Valve opens	13° before T.D.C.
Intake Valve closes	43° after B.D.C.
Exhaust Valve opens	46° before B.D.C.
Exhaust Valve closes	10° after T.D.C.

FUEL SYSTEM

Pneumatically governed Fuel Injection and two Spray Atomisers.

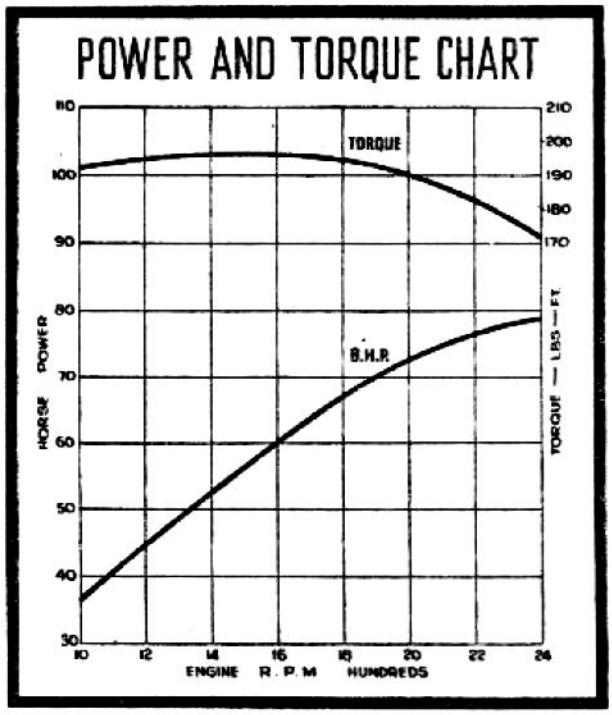
Air Cleaner	Oil Bath type
Capacity Fuel Tank	15 Imp. Gallons
Gauge	Electric on Instrument Panel

LUBRICATION SYSTEM

Type	Pressure to main and big end bearings, camshaft bearings and rocker shaft.
Pump Type	Gear
Drive	From Fuel Pump Drive
Normal Pressure	40 lbs.
Oil Filter	Replaceable element
Intake Screen	Fixed Filter
Sump Capacity	2 gallons, 5 pints

INSTRUMENTS

Speedometer, Ammeter, Oil Gauge, Temperature Gauge, Fuel Gauge, Vacuum Gauge



TORQUE AND HORSEPOWER CHART.
DIESEL ENGINE

THE PERKINS PATENTED "AEROFLOW" SYSTEM FOR INSTANT STARTING

The patented Perkins "Aeroflow" system is a combination of direct and indirect injection. Each head has a spherical combustion chamber connected to the cylinder by a venturi. The two-hole injector nozzle is located above the venturi so that one spray is directed down the venturi on to the piston crown while the other is directed tangentially in to the combustion chamber. This system assures easy starting, smoothness, and more complete combustion. In addition, should the weather be very cold, Ki-gas starting equipment is provided. This directs a jet of fuel oil from a hand pump on to a heater plug in the induction manifold.

ELECTRICAL SYSTEM—Petrol and Diesel

	Petrol Models	Diesel Models
BATTERY		
Make and Model	MoPar 12V9 MOP	MoPar 6V17 MOP
Voltage	12	6
No. of Plates	9	17
Amp. hrs. capacity at 20-hour rate	60	120
Number per Vehicle	1	2
Terminal grounded	Positive	Positive
COILS (PETROL MODELS)		
Make	Airzone	
Location	On Engine	
Amp. draw engine idling	1½ amps.	
DISTRIBUTOR (PETROL MODELS)		
Make and Model	Lucas DM-6	
Type	Simple Breaker — centrifugal and vacuum advance control; radio suppressor resister incorporated.	
Drive	Camshaft	
Breaker Gap	0.014" to 0.016"	
Governor Control—main advance	18° to 22° (Crankshaft) at 2,800 r.p.m.	
Vacuum Control—main advance	14° to 18° (Crankshaft) at 14", mercury	
Ignition Timing		
Firing Order	1-5-3-6-2-4	
GENERATOR (ALL MODELS)		
Make and Model	Lucas C45 PV/5	
Type	12-V., Shunt Wound	
Drive	Belt	
Charging Control	Vibrator type current and voltage control with temperature compensation.	
Cooling Medium	Forced Draught; fan integral with pulley.	
Charging Rate	Max. 22 amps.	
HORN (ALL MODELS)		
Make and Type	R.V.B. Diaphragm type	
Number Fitted	1	
Location	On Dash	
LIGHTS (ALL MODELS)		
Headlamps		
Make and Type	Lucas Pre-focus	
Wattage—High Beam	42 Watts	
Low Beam	36 Watts	
Beam Control	Foot Switch	
High Beam Indicator	In Speedometer—2.2 Watt Globe	
Tail and Stop Lamp		
Type	Combined Unit	
Bulb	18-6 Watt	
Control—Tail Lamp	Integral with Headlamp Switch	
—Stop Lamp	Hydraulically-operated Switch	

Rear Licence Plate Lamp	Integral with Tail Lamp
Dome Lamps	
Location	Above Rear Window
Switch	Integral
Bulb	6 Watt
Parking Lamps	
Location	Below Headlamps in Front Fender
Control	Integral with Headlamp Switch
Bulb	6 Watt

RADIO (ALL MODELS)

Make	MoPar
Available	As special equipment

SPARK PLUGS (PETROL MODELS)

Make and Model	MoPar C65
Size	14 m.m. Thread, $\frac{3}{8}$" reach
Gap	0.028" to 0.032"
Covers	Not fitted

STARTER MOTOR

	Petrol Models	Diesel Models
Make and Model	Lucas M45G	C.A.V.
Type	4-pole Machine with out-board bearing	
	Series, Parallel Machine	Axial
Drive	Lucas "Eclipse"	
Control	Solenoid	Integral Solenoid

WIPER MOTOR AND MECHANISM (ALL MODELS)

Make	Preslite
Type	12-Volt, 7-Pole, Single Speed
Blades	Single
Angle of Wipe	115°
Switch	
Type	Toggle
Location	Lower Flange of Instrument Panel

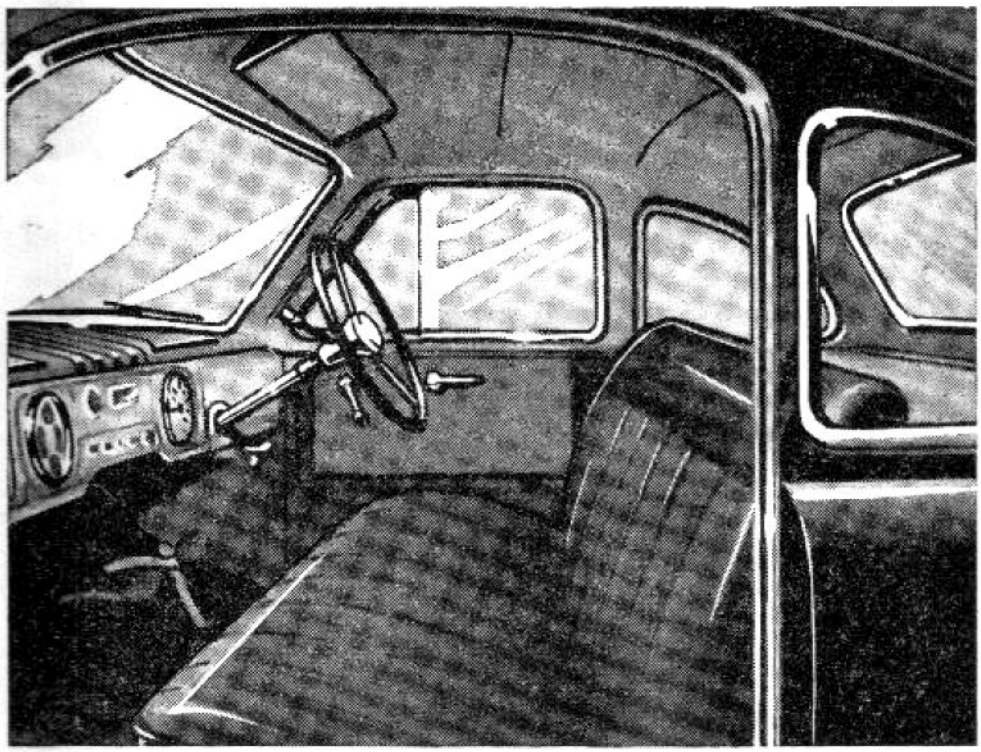
SPECIAL EQUIPMENT DUAL WIPER (ALL MODELS)

Make	Preslite
Type	12-Volt, 2-Speed
Linkage	Unitised
Drive	Nylon Gear
Bearings	Oilite Bushes
Switch	
Type	3-Position
Location	Face of Instrument Panel
Angle of Wipe	115°
Action	Trailing Arm

WIRING

Wherever practicable, cables are loomed together by black plastic tape or encased in a plastic sheath to form wiring harnesses. The conductor insulating sheath on all rough stock is protected by a cotton basket weave braid. Wiring applications are identifiable from the colour of braid and colours of traces. All cables are fire-proof and possess resistance to the various fluids with which they are likely to come into contact.

CABS AND FITTINGS



DELUXE UTILITY CAB

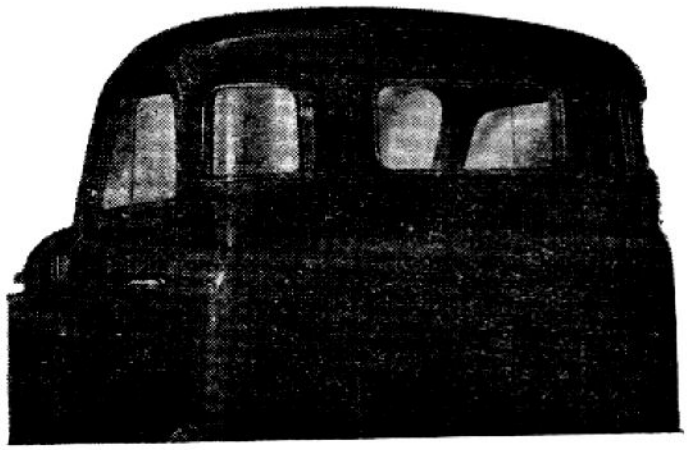
The coupe styling of this unit lacks nothing in eye appeal. Designed for comfort and space, the wide deep-cushioned seat and back are trimmed in two-tone P.V.C. to harmonise with the cab colour.

A wide, curved one-piece windshield blends with the smooth and sweeping lines of the cab, adding to visibility and pleasurable driving.

Point out the deep parcel shelf, adjustable seating, push-button starting, and steering column gear change. Explain how the raked steering column adds to driver comfort by giving an upright angle to the steering wheel and does not obstruct the feet when operating clutch and brake pedals.

Tell the prospect about the special equipment available, such as dual windscreen wipers, car-type armrests, and two-tone exterior colour schemes.

THE PILOT HOUSE CAB

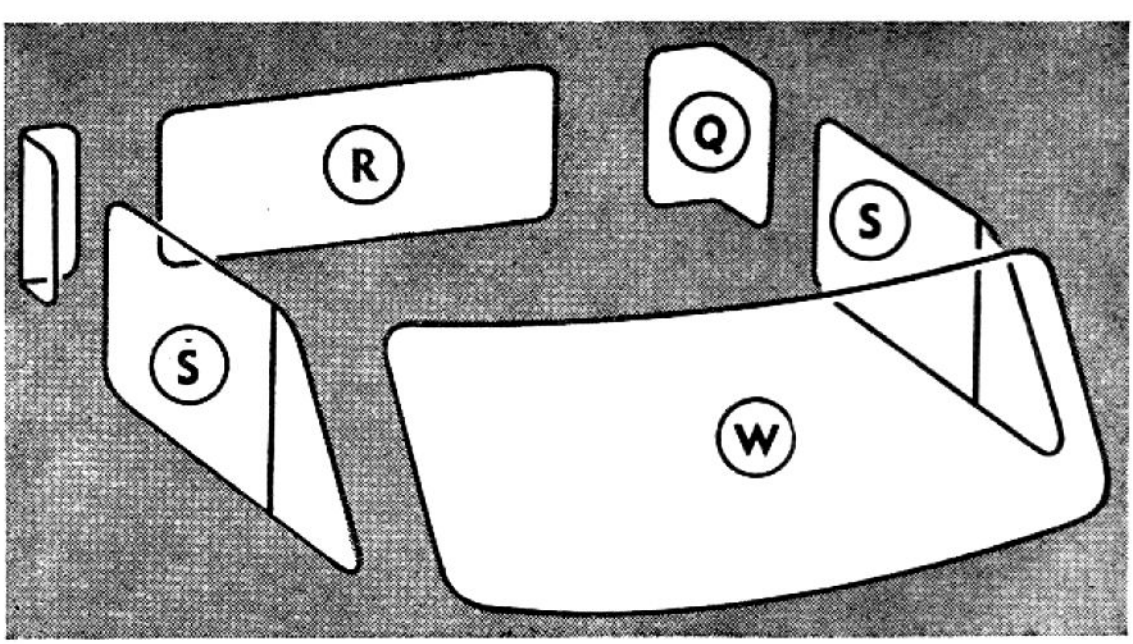


This cab, fitted to the Standard Utility, Express, and all other chassis and cab models within the range, leads the field in design features which lay emphasis on driver comfort and safety.

Your prospect will appreciate the all-round visibility provided by the rear-quarter windows—seat him behind the wheel, so that he may see for himself how easy it is to back the vehicle without twisting in the seat—draw his attention to the adjustable seating, wide door openings, and the practical simplicity of the instrument layout. Demonstrate the effectiveness of the ventilation achieved by the cowl vent and swivel vent wings.

Actual Glass Area (sq. in.):

W. Windshield 951.2.
S. Side Windows 766.5 (including vent wings).
R. Rear Window 328.6.
Q. Quarter Windows 214.5.
Total area 2,260.8.



EXTERIOR FITTINGS AND HARDWARE

Front End Grille

Full-width front end grille incorporates ports for head and parking lights. Two horizontal grille bars through the radiator opening. The 1-08D DeLuxe Utility has a decorative motif on each horizontal bar and a chrome-plated surround moulding on the radiator opening in the grille panel.

Front Bumper Bar

A single-piece U-section bar of .160" plate steel is secured directly to the chassis side members and finished according to the colour chart.

Fuel Tank Filler

The Filler is installed through the left hand side of the cabin, and the pipe insulated in the body opening by a rubber grommet.

Side Door Handles

"L" type diecast handles, escutcheons chromeplated.

Licence Plate Supports

Brackets support front and rear licence plates—rear bracket designed to support licence plate and tail lamp.

Hub Caps (Model 1-08 only)

Hub Caps pressed from sheet brass and chromeplated, with vehicle name stamped in and outlined in paint.

Spare Wheel Storage

Underslung tyre carrier is provided at the rear of the chassis side rails.

Engine Hood Motif

Embossed stainless steel motif, with the design outlined in enamel for the three different franchises, and is attached to the front of the engine hood centre panel

Name Plates

Diecast franchise names fitted to each side of engine hood at rear, and one on the front below motif.

Wiper Blade and Arm

Single polished stainless steel wiper blade and arm with chrome-plated boss.

Flipper Frames

Swing-type flippers on the doors, made from brass and finished in black enamel. On DeLuxe Utility flipper frames are chrome-plated.

Side Door Vertical Division Bar

Disappearing type made from chrome-plated brass.

Locking Cylinder

Cylinder is located below left hand side door handle. Two keys supplied.

INTERIOR FITTINGS AND HARDWARE

Instrument Panel Assembly

Controls: Black plastic knobs.

Glove Box: Bitumen board with lacquered embossed finish, and fitted with pressed metal door, incorporating locking spring and rubber bumpers. Painted to match instrument panel

Ash Receiver: Flush fitting, semi-circular revolving chrome-plated ash receiver located on the instrument panel.

Side Doors

Regulator Handle: Pin-on type. Die-casted nickel-plated handle and escutcheon with plated knob.

Remote Control Handle: Die-casted nickel-plate handle and escutcheon of the pin-on type.

Flipper Locking Lever: Diecast chrome-plated locking lever operating on a stainless steel locking bracket.

Belt Weatherstrips: Half-section Bailey mould weatherstrips fitted on inner and outer sections of door reveal.

Glass Run Channel: Full-section Bailey mould.

Regulators: Rack and pinion type regulators, with spring counter-balance, incorporating a breaking device to prevent undue movement of the glass.

Locks: Slam-type locks with double catch striker plate.

Remote Control Locking Mechanism: Remote control fitted to each door.

Seating

Design of Seating: Full-size bench-type seating is provided with squab hinged to rear shelf and cushion supported by riser and hooked to squab. Seating adjustment is provided by dowls from the cushion protruding into a series of holes in the seat riser. Springs are unbagged conventional type, covered with 8-oz. wool pads in both cushion and squabs.

Accessories

Driver's side adjustable-type sun visor, trimmed to match cab with nickel-plated fittings.

A rear vision mirror of external circular type is provided, having adjustable arm and finished in black enamel.

Ventilation

Cowl Ventilation: A flush-fitting cowl vent lid is provided with a wind deflector and spring-loaded gear for easy adjustment. Drain tube is incorporated to conduct water from vent gutter.

Trimming

Seat Covering Materials: P.V.C. is used on cushion and squab tops in accordance with the colour trim combinations, and jute canvas on the skirts.

Door Trim: 1/8th leather board trims, painted and secured at the doors with nickel-plated Parker Kalon screws.

Dash Trim Assembly: Painted grained bituminous board with 3/8th jute felt attached to the underside for insulation. The assembly is secured in place by trim fasteners with heads lacquered to match the trim.

Cowl Side Trim: Painted grained bituminous board secured to the body with Parker Kalon screws and washers.

Headlining and Interior Trim: Painted grained bituminous board, incorporating a stiffener of spring steel wire to prevent sagging, and secured to the body with Parker Kalon screws and washers.

Floor Covering: Driver's compartment is covered with rubber mat with 3/8th jute felt secured underneath.

Rust Proofing and Anti-Drum

The underbody and inside of door panels are sprayed with a bitumastic emulsion to prevent drumming and to guard against water and dust entry.

Cabs are bonderised before painting to prevent rusting, and then sprayed with two coats of primer, and finally finished with three coats of colour lacquer.

Sealing

Cowl Vent: Cowl vent lid closes on sponge rubber strip, moulded with skin on outer surface and secured to channel with solution.

Door Weatherstrip: Sponge rubber moulded with a skin on the outer surface, and secured to door with solution, and fastened at the belt line with two clips.

Windshield Weatherstrip: Extruded rubber section, with the locking strip on the outside, and sealed to glass and body with a sealing compound.

Rear Light and Corner Weatherstrips: Extruded rubber section sealed to glass and body with sealing compound.

Flipper Weatherstrip: A rubber moulding is fitted around the front and bottom of vent wing frame.

Floor Cover Plates: Gaskets of rubber inserted under master brake cylinder hole and petrol gauge cover plates. A black enamelled transmission cover is secured to the floor over a felt gasket secured with metal screws.

Steering Column Cover: Rubber cover assembled around steering column on engine side of dash.

Filler Tank Seal: 1/8th rubber seal is secured to the underbody by solution with retaining plates and self-tapping screws.

Rubber Brake and Clutch Pedal Pads: These are secured to toe board with screws and washers.

Tools and Tool Storage

Provision is made to store tools beneath the seat where the floor of the tool compartment is insulated with 3/8th jute felt.

Tools Provided: Mechanical Lifting Jack and Handle on all 1-08 series. Hydraulic Lifting Jack supplied with other models. Tyre Pump. Tool bag and small tools. Rim Tool. Combination Wheel Wrench and Starting Handle Crank. Starting Handle Extension. Wheel Grease Cap Wrench.

Small Tools

These comprise Screwdriver, Sparkplug Wrench, Pliers, Autowrench, and two Tyre Levers.

Cowl Bodies With and Without Doors

Design: When the body is supplied less doors, it is built up on the cab floor to comprise the cowl assembly and sleeves, cowl vent and mechanism, and the instrument panel. When the body is supplied with doors, header panels, header side rails, and body locking pillars are added. The chassis as ordered will be supplied complete to specification with the chassis equipment and sheet metal.

Fittings, Hardware, Trim

Cowl Less Doors: Front licence plate bracket. Engine hood name plates, windscreen wiper motor, arm, blade and switch with wiring. Glove box. Steering column plate and sealer. Body mounting attaching parts and insulators.

Cowl With Doors: Side doors complete with all fittings and hardware (as specified). Sun visor and arm complete. Windscreen wiper motor, arm, blade and switch with wiring. Windshield complete with weatherstrip, centre bars, garnish mouldings, and attaching parts. Front licence plate bracket. Engine hood name plates. Glove box. Rear view mirror. Floor mat. Steering plate and sealer. Body mounting attaching parts and insulators.

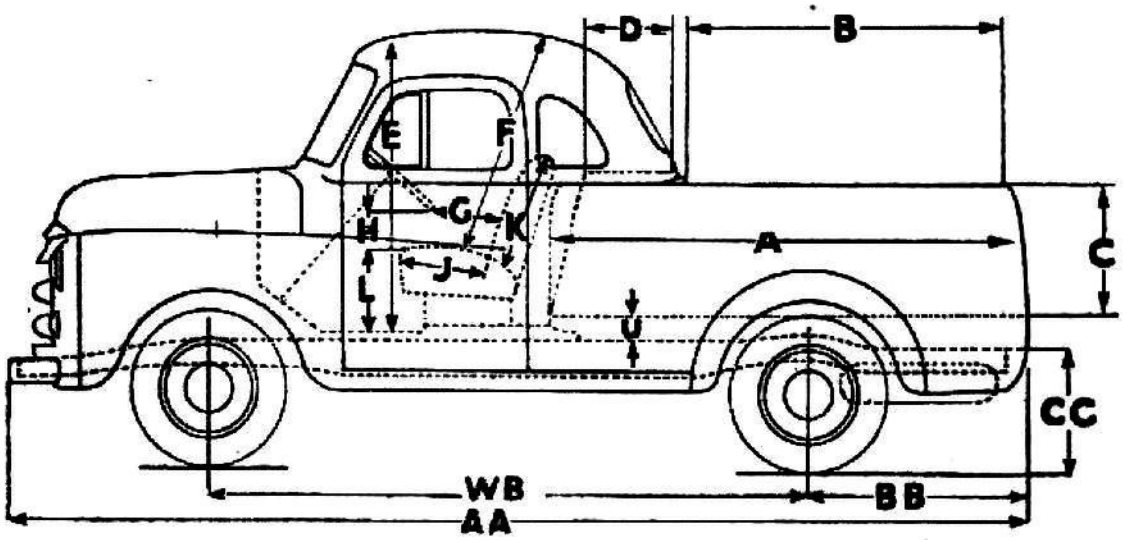
MODELS 108
DE LUXE UTILITY

A 15 cwt. payload is handled with ease by a utility that steers and rides with the comfort of a passenger car.

The well-balanced transmission and rear axle ratios provide a smooth take-off under full load conditions and give rapid acceleration through the entire transmission range.

Explain how the progressive ride suspension, combined with Oriflow shock absorbers on all wheels, provides a smooth ride under all load conditions up to maximum capacity.

Offer the special accessories, such as chrome bumper bar, armrests, car type radio and two-tone body colour, which make this unit a dual-purpose pleasure and working utility.



BODY DIMENSIONS
DE LUXE UTILITY

A—84 in.	E—51 in.	J—16½ in.	WB—108 in.
B—55¼ in.	F—38¾ in.	K—22½ in.	AA—183¾
C—23¼ in.	G—12 3/16 in.	L—15¾ in.	BB—39⅛
D—17 in.	H—5 in.	U—4 5/16 in.	CC—23 in.

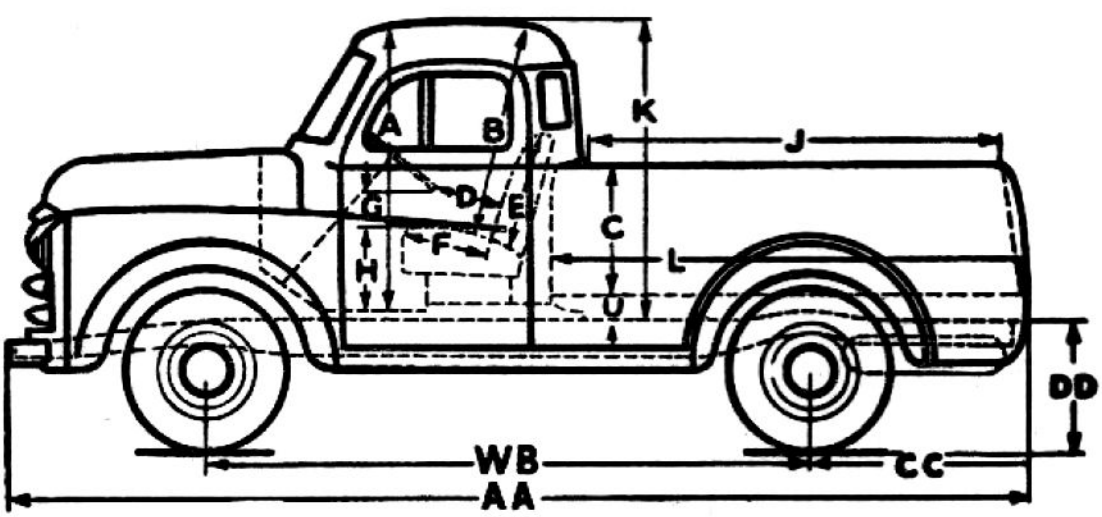
Body width, 64in., width between wheel arches 48½in. tail-gate opening 50in.

STANDARD UTILITY

In performance and reliability this unit has earned for itself an excellent reputation, not only with private owners, but also with Government Departments operating in remote areas throughout Australia and New Guinea.

Designed for Australian conditions, it performs with equal versatility in the city and outback; combining the desired qualities of rapid acceleration and high speed cruising with the ability to tackle steep grades without continual gear changing.

Your prospect should know that the Standard Utility, like all other body types in the 1-08 Series, is equipped with Worm and Roller Tooth Steering Gear, which, coupled with a short wheelbase of 108", provides exceptional manouvreability and ease of steering on a turning circle of only 36½ ft.



BODY DIMENSIONS

A—51 in.	E—21⅜ in.	L—84 in.	WB—108 in.
B—37¾ in.	F—15¾ in.	J—78½ in.	AA—183 ¾in.
C—23¼ in.	G—8⅞ in.	K—54½ in.	CC—39⅛ in.
D—12 3/16 in.	H—15⅜ in.	U—4 15/16 in.	DD—23 in.

Body width 64in., width between wheel arches 48½in., tailgate opening 50in.

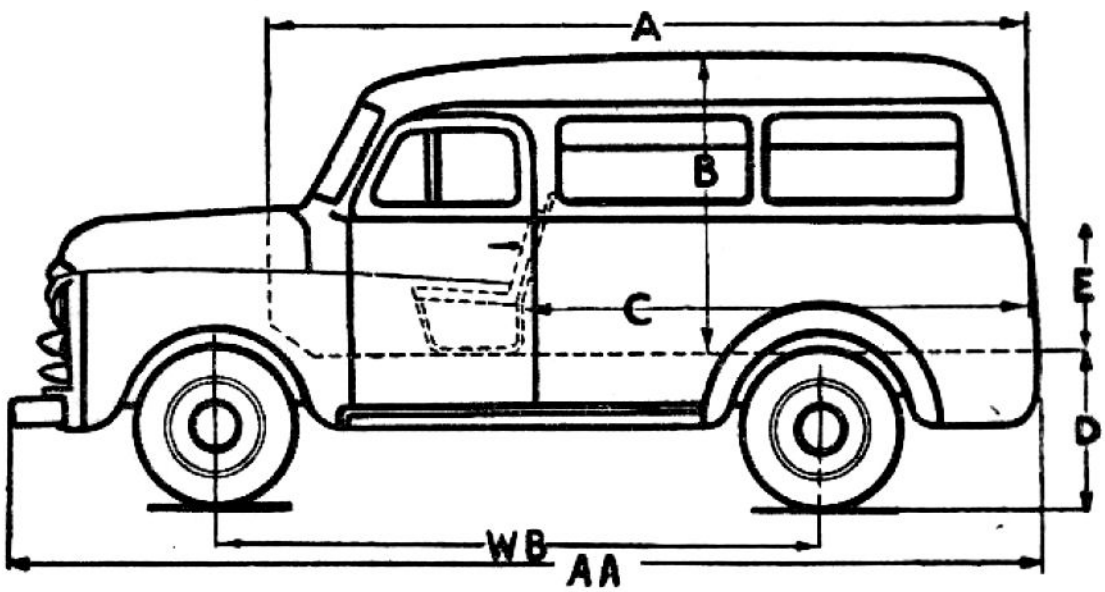
THE SUBURBAN

This vehicle is perhaps the most versatile body type in the 1-08 Series. It has a multiplicity of uses ranging from a simple goods carrying unit to a more elaborate passenger-cargo commercial.

Your prospect will be interested in the great variety of seating arrangements which can be designed to carry up to eleven passengers, and include the use of tubular frame chairs hinged to tilt forward where necessary for easy access, or bench type longitudinal folding seats that can be raised quickly to permit room for cargo.

The Suburban has gained considerable popularity in the ambulance field, providing an economical and safe unit easily converted at a much lower cost than the custom-built vehicle mounted on car-type chassis.

The Suburban Ambulance equipped with progressive ride suspension for smooth riding, and fitted with Chrysler-built Safety Rims is particularly suitable for country areas where off-the-road operating conditions are encountered.



BODY DIMENSIONS—SUBURBAN

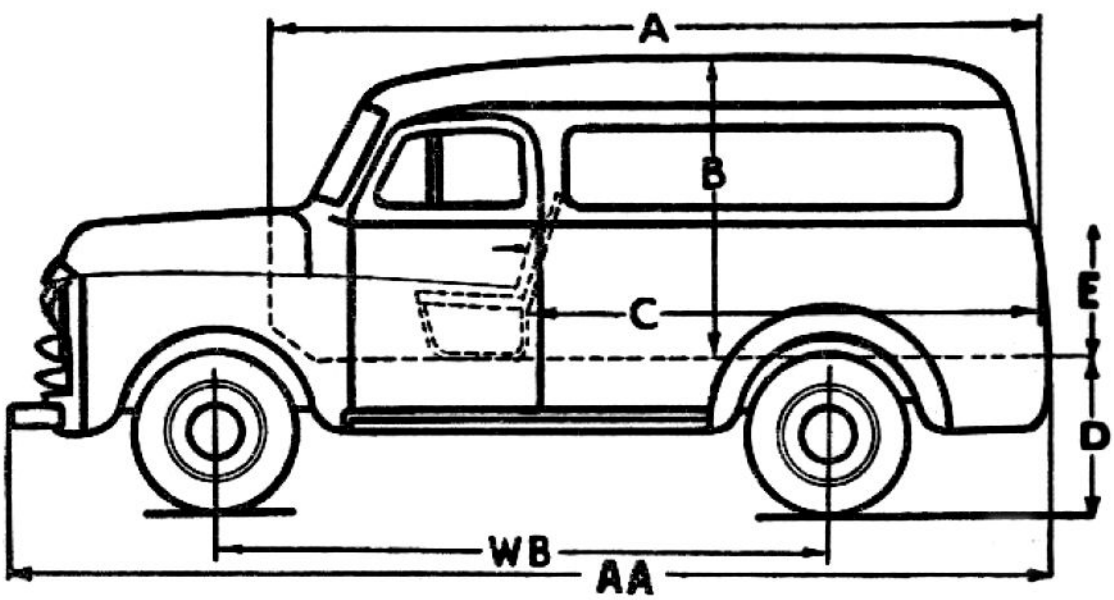
Dimension.—A—136$\frac{1}{8}$ in.; B—56$\frac{1}{2}$ in.; C—91 in.; D—26$\frac{1}{8}$ in.; E—23$\frac{1}{4}$ in.; WB—108 in.; AA—185$\frac{1}{4}$ in.

Body widths: Door opening 50in., floor width (max.) 64in., between wheel arches 48$\frac{1}{2}$ in., height of door opening 45$\frac{1}{4}$ in.

THE PANEL VAN

Modern trends in merchandising have placed emphasis on attractive and functional design in building layout, stock display and advertising. In line with these advanced selling methods, the progressive business delivers merchandise in a vehicle that will add to its profit and its prestige.

The Panel Van with the new curved one-piece windscreen, smooth body styling, attractive paint finish and harmonised interior trim, embodies all the features demanded by the efficient business owner: distinctive appearance, excellent load dimensions and speedy economical deliveries. The capacious 155 cu. ft. body gives perfect protection to the goods from sun, wind and rain, and at the same time, provides a smooth exterior surface for the application of low-cost advertising signs.



BODY DIMENSIONS—PANEL VAN

Dimensions—A—136⅛ in.; B—56½ in.; C—91 in.; D—26⅛ in.; E—23¼ in.; WB—108 in.; AA—185¼ in.

Body widths: Door opening 50in., floor width (max.) 64in., between wheel arches 48½in., height of door opening 45¼ in.

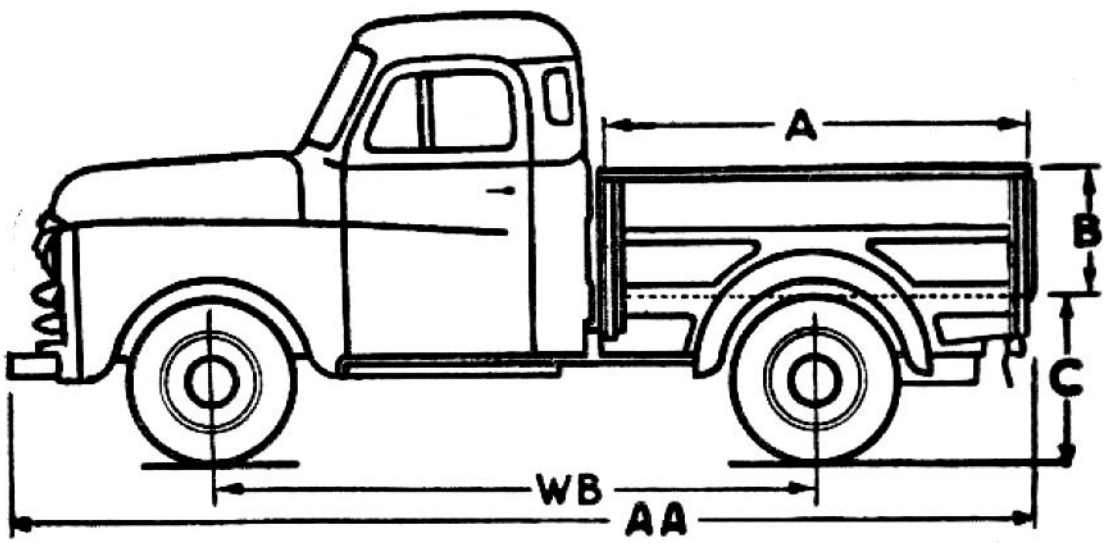
THE EXPRESS

Operators who need a body design to stand up to rough road conditions will welcome the Express Body, constructed of heavy gauge steel, swaged for extra strength to withstand the wear and tear of heavy equipment man-handled on to the tray.

Pockets are integral with the vertical steel supports formed at each corner of the framework to take stake sides or a canopy.

Ask whether the customer's particular operating conditions require a 4-speed transmission.

Tell him the Express body and running boards can be painted to match the cab, and that such items as chromed locking petrol cap, progressive ride springs and dual windscreen wipers are available as special equipment.



BODY DIMENSIONS—THE EXPRESS

Dimensions.—A—76 5-16 in.; B—20 in.; C—28¼ in.; WB—108 in.; AA—185¼ in.

Body widths: Max. 64in., width between wheel arches 48½ in. Tailgate opening 64in.

A study of the dimensional drawings of the 1-08 models will clearly show the excellent cab to axle measurements in relation to wheelbase and overall length. This feature of design gives the 1-08 extremely good weight distribution and largely accounts for its unsurpassed manoeuvrability.

SPECIFICATIONS
MODELS 1-08
Max. G.V.W. 5,250 lbs.

AXLE, FRONT

Capacity	2,200 lbs.
Type	Rev. Elliott I Beam

AXLE, REAR

Capacity	3,300 lbs.
Type	Semi-floating Hypoid
Ratio	4.1:1
Oil Capacity	3½ Pints

BRAKES, SERVICE

Type	Hydraulic
Drum Diameter—Front	10
Rear	11
Lining Size—Front	10 x 2
Rear	11 x 2
Total Braking Area	174.6 sq. in.

BRAKES, PARKING

Type	Mechanical
Location	Prop. Shaft

CLUTCH

Type	Borg & Beck, Single Plate
Inside Diameter	6¾ in.
Outside Diameter	9⅞ in.
Frictional Area	81.6 sq. in.

COOLING SYSTEM

Fan Diameter	17 in.
Number of Blades	4
Core Thickness	2 in.
Frontal Area	438 sq. in.
Thermostat	Yes
Capacity	3-7/8 Galls.

DIMENSIONS

Wheelbase	108 in.
Cab to Axle	40 in.
Cab to end of Frame	76 in.
Track—Front	58⅝"
Rear	61¼"
Height	77½"

FRAME

Maximum Depth	6-1/32 in.
Width of Top Flange	2-1/64 in.
Stock Thickness	9/64 in.

FUEL TANK

Capacity	15 Imp. Galls.

SHOCK ABSORBERS

Type	Hydraulic Telescopic
Front	Direct Double-Acting
Rear	Direct Double-Acting

SPRINGS, FRONT

Length	42 in.
Width	1¾ in.
No. of Leaves	9

SPRINGS, REAR

Type	Constant Rate	Prog. Ride De Luxe Ut. Std.
Length	52 in.	52 in.
Width	1¾ in.	1¾ in.
No. of Leaves	10	11

OPTIONAL SPRINGS, REAR

Progressive Ride as on DeLuxe Utility

STEERING

Type	Worm and Roller Tooth
Ratio	18.2:1
Turning Circle	36½ ft.

TYRES

Front	2/6.50 x 16 x 6-ply—Tubeless
Rear	2/6.50 x 16 x 6-ply—Tubeless
Spare	Yes

TRANSMISSION

	Standard	Optional
No. of Forward Speeds	3	4
Ratios—1st	3.31:1	6.4:1
2nd	1.79:1	3.09:1
3rd	Direct	1.69:1
4th	—	Direct
Reverse	4.33:1	7.62:1
Gear Lever Location	On Steering	Transmission
Synchromesh	2nd and 3rd	3rd and 4th

WHEELS

Type	Steel Disc, with Chrysler Safety Rim
No. of Studs	5
Rim Size—Front	4.5
Rear	4.5

MODEL 2-26
Max. G.V.W. 7,500 lbs.

MODEL 2-33
Max G.V.W. 8,000 lbs.

These two units are ideally suited to the needs of plumbers, building contractors, taxi-truck owners, and others who require a vehicle to handle light bulky loads. Advise your prospect that an Express body is available on the 2-26 as special equipment.

Both trucks are equipped with 16" wheels and have remarkably low loading heights, so necessary in "stop and go" delivery work. This feature, plus the small turning circle found in both models, adds up to easy handling of the payload and easy handling of the truck in confined areas.

Optional and heavy duty springs are available where required, and in addition the 2-33 may be fitted with auxiliary rear springs, which provide extra capacity when needed, and permit easier riding when the truck is lightly loaded.

Make a feature of the front shock absorbers which are fitted on the Light Commercials. These double-acting hydraulic shock absorbers prevent violent spring reaction by providing control on the compression and rebound movements of the springs.

SPECIFICATIONS
Models 2-26 & 2-33

AXLE, FRONT

Capacity	2,500 lbs.
Type	Rev. Elliott I Beam

AXLE, REAR

Capacity	5,800 lbs.
Type	F.F. Hypoid
Ratio	4.89:1
Oil Capacity	4½ Pints

BRAKES, SERVICE

Type	Hydraulic
Drum Diameter—Front	11 in.
Rear	14⅛ in.
Lining Size—Front	11 x 2 in.
Rear	14⅛ x 2 in.
Total Braking Area	209 sq. in.

BRAKES, PARKING

Type	Mechanical
Brake Location	Prop. Shaft

CLUTCH

Type	Borg & Beck Single Plate
Inside Diameter	6¾ in.
Outside Diameter	9⅛ in.
Frictional Area	81.6 sq. in.

COOLING SYSTEM

Fan Diameter	17 in.
Number of Blades	4
Core Thickness	2 in.
Frontal Area	438 sq. in.
Thermostat	Yes
Capacity	3-7/8 Galls.

DIMENSIONS

	2-26	2-33
Wheelbase	126 in.	133 in.
Cab to Axle	57¾ in.	64¾ in.
Cab to End of Frame	101-29/32 in.	108-29/32 in.
Track—Front	59 in.	58-11/16 in.
Rear	61¾ in.	68-3/16 in.
Height	80⅝ in.	80⅝ in.

FRAME

Maximum Depth	6⅛ in.
Width of Top Flange	2-1/16 in.
Thickness	3/16 in.

FUEL TANK

Capacity	15 Imp. Galls.

SHOCK ABSORBERS

Type	Hydraulic, Telescopic, Double-Acting
Front	Yes
Rear	No

SPRINGS, FRONT

Length	42 in.
Width	1¾ in.
No. of Leaves	9

SPRINGS, REAR

Type	Constant Rate
Length	52 in.
Width	1¾ in.
No. of Leaves	12

OPTIONAL SPRINGS, REAR

Models 2-26 and 2-23

Type	Heavy Duty, Constant Rate
Length	52 in.
Width	1¾ in.
No. of Leaves	14

Model 2-33

Type	Auxiliary
Width	1¾ in.
No. of Leaves	5

STEERING

	2-26	2-33
Type of Gear	Worm & Roller Tooth	Worm & Roller Tooth
Ratio	18.2:1	18.2:1
Turning Circle—Left	46½ ft.	47 ft.
Right	42 ft.	45 ft.

TYRES

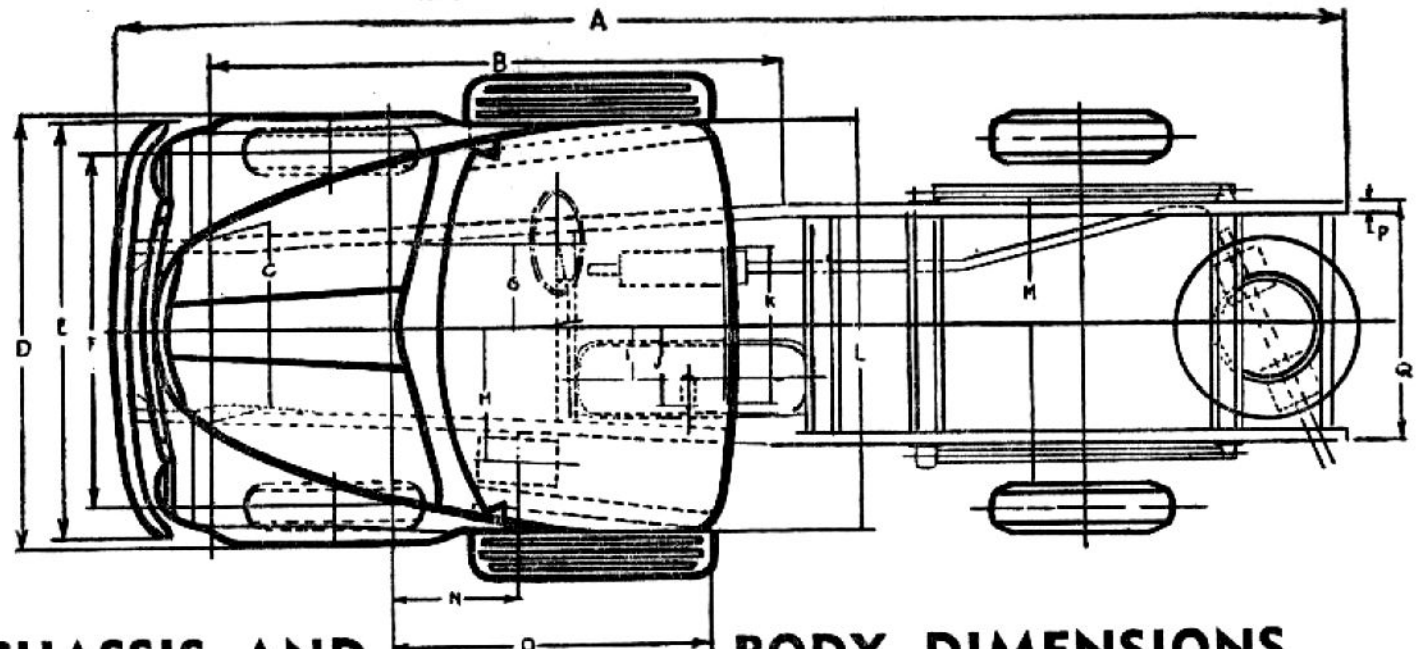
Front	2/7.00 x 16 x 6-ply	2/6.50 x 16 x 6-ply
Rear	2/7.00 x 16 x 6-ply	4/6.50 x 16 x 6-ply
Spare	Extra	Extra

TRANSMISSION

	2-26	2-33
No. of Forward Speeds	3	4
Ratio—1st	3.31:1	6.4:1
2nd	1.79:1	3.09:1
3rd	Direct	1.69:1
4th	—	Direct
Reverse	4.33:1	7.62:1
Gear Lever Location	On Steering	Transmission
Synchromesh	2nd and 3rd	3rd and 4th
Optional Transmission	4-Speed	

WHEELS

Type	Disc	Disc
No. of Studs	6	6
Rim Size—Front	5.50 in.	4.50 in.
Rear	5.50 in.	4.50 in.

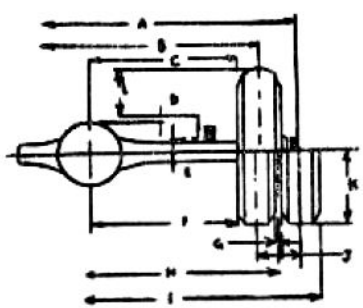


CHASSIS AND BODY DIMENSIONS

Models 2-26 and 2-33

Dimensions are in inches and apply to both models except where specifically stated.

Rear axle in bump position Model 2-33

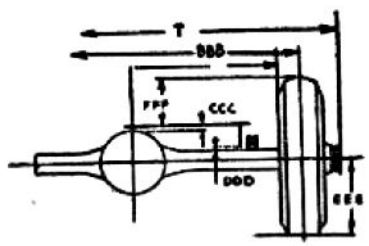


A	213 17/32 (233)	F	59	L	68-9/16
	206 17/32 (226)	G	13⅞	M	44½
B	96¾	H	22½	N	21-9/16
C	30⅝	I	8-7/16	O	53¾
D	72⅜	J	13-3/16	P	2-1/16
E	69⅝	K	25¼	Q	40⅛

Model 233: Rear Axle Dimensions:

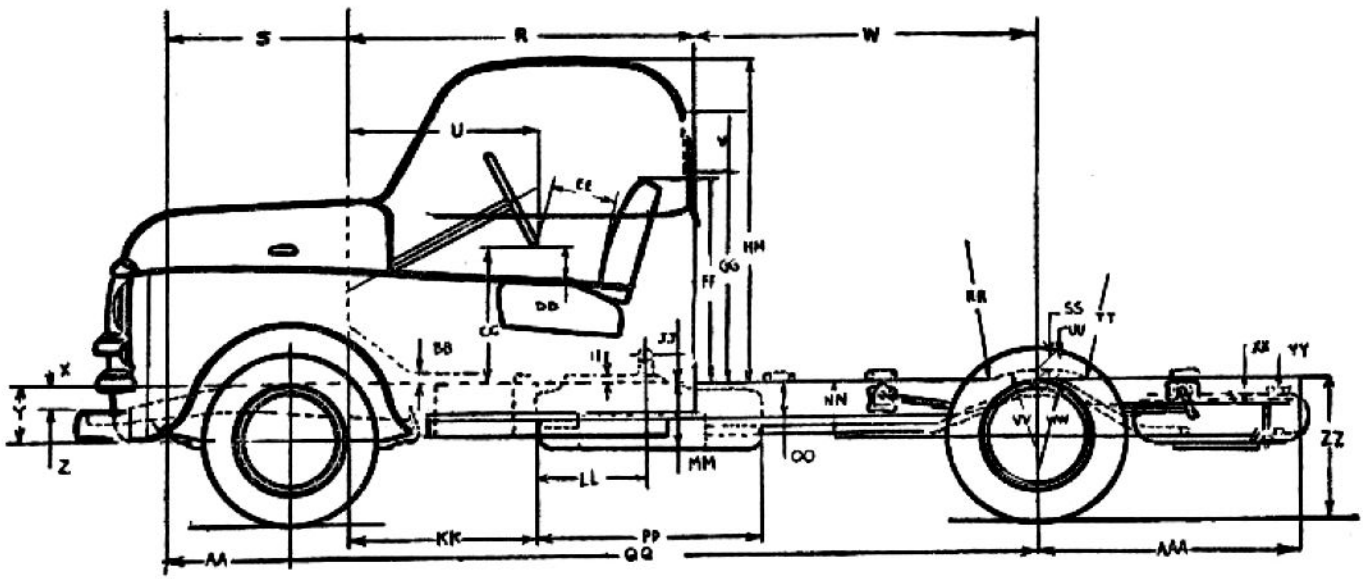
A. Maximum, 76¼	E. Min., ½	J. 8
B. 61¾	G. 1.1	K. 13.73
C. 26.95	H. 68-13/16	L. 7.84
D. Minimum, 1-1/32	I. 83.71	

Rear Axle in bump position Model 2-26



Model 226: Rear Axle Dimensions:

T. Max., 76¼	CCC. Min., 1-1/32	EEE. 14.21
BBB. Max., 61¾	DDD. Min., ½	FFF. 8.34



R	58 3/8	X	3 9/16	DD	6⅛	JJ	4⅝	QQ	125¾ (226)	VV	17 25/64
S	30¾	AAA	44 5/32	EE	12¼	KK	31¼		132¾ (238)	WW	22 25/64
U	32⅛	Z	5½	FF	33¾	MM	10⅞	RR	23 15/16	XX	4½
V	9¼	AA	21⅛	GG	35¾	OO	6⅛	SS	1 45/64	YY	3/16
W	57¾ (226)	BB	1 15/16	HH	54½	PP	38	TT	17 15/16	ZZ	24 19/32 (226)
	64¾ (233)	CC	23	II	1⅜			UU	4½		24⅛ (233)

THE 2½-3 TONNER
159" W.B. 12,320 lbs. G.V.W.

This medium-tonnage truck fulfils an important transportation role for operators in the city and country. The extremely good cab to axle dimension of 91" permits a 12' 6" body to be mounted, giving perfect weight distribution for bulky loads, such as furniture, bulk groceries, farm products, fertilizers and hay, etc.

Highlight these features, which represent dependable performance and help reduce maintenance and servicing to a minimum—the 11" diameter heavy duty Borg & Beck clutch with a high engagement pressure, which guards against slipping and ensures a smooth take-off with a full load. Stress the importance of extra long springs—45" front, 52" rear. These have excellent flexing qualities, which, combined with rear shackling on the front springs, and the auxiliary springing at the rear, give maximum protection to the truck and load.

Another point to remember is the low loading height of only 28¾"—a desirable quality for all pick-up work.

SPECIFICATIONS
Model 3-59 . . . Max G.V.W. 12,320 lbs.

AXLE, FRONT

Capacity	3,750 lbs.
Type	Rev. Elliott I Beam

AXLE, REAR

Capacity	9,000 lbs.
Type	Spiral Bevel
Ratio	5.85:1
Oil Capacity	7½ Pints

BRAKES, SERVICE

Type	Hydraulic
Drum Diameter—Front	14 in.
Rear	14 in.
Lining Size—Front	14 x 2½ in.
Rear	14 x 2½ in.
Total Braking Area	245 sq. in.

BRAKES, PARKING

Type	Mechanical
Brake Location	Rear Wheels

CLUTCH

Type	Borg & Beck, Single Plate
Inside Diameter	6¾ in.
Outside Diameter	11 in.
Frictional Area	113 sq. in.

COOLING SYSTEM

Fan Diameter	19 in.
No. of Blades	4
Core Thickness	2 in.
Frontal Area	462 sq. in.
Thermostat	Yes
Capacity	4 Galls.

DIMENSIONS

Wheelbase	159 in.
Cab to Axle	91 in.
Cab to End of Frame	145 in.
Track—Front	66 in.
Rear	63⅛ in.
Height	87½ in.

FRAME

Maximum Depth	8-7/16 in.
Width of Top Flange	2-31/32 in.
Thickness	3/16 in.

FUEL TANK

Capacity	15 Imp. Galls.

SPRINGS, FRONT

Length	45 in.
Width	2 in.
No. of Leaves	10

SPRINGS, REAR

Type	Constant Rate plus Auxiliary
Length	54 in.
Width	2½ in.
No. of Leaves	11 plus 4 Auxiliary

STEERING

Type of Gear	Cam and Lever
Ratio	16:1
Turning Circle—Left	56 ft.
Right	56 ft.

TYRES

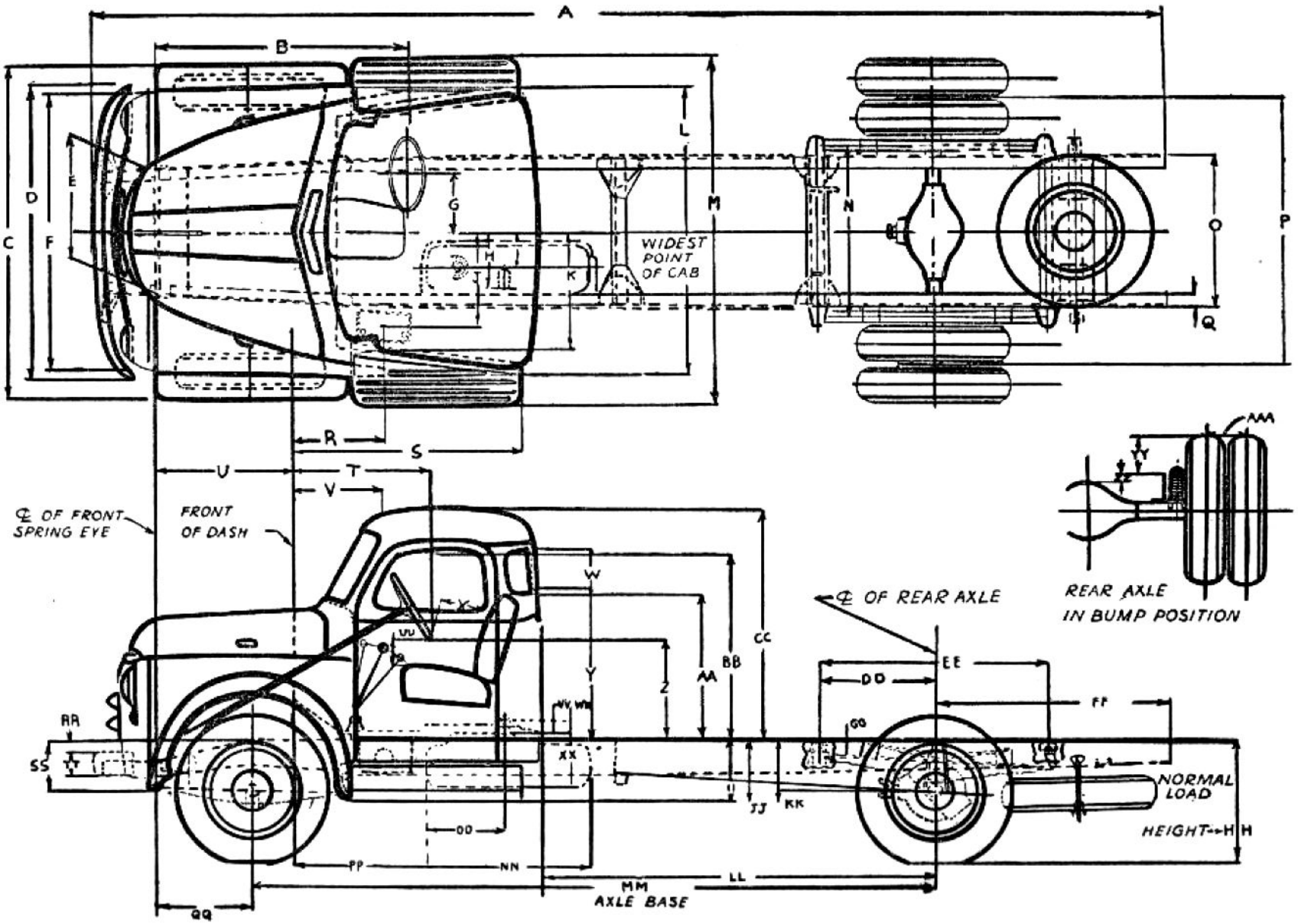
Front	2/7.00 x 20 x 8-ply
Rear	4/7.00 x 20 x 8-ply
Spare	Extra

TRANSMISSION

No. of Forward Speeds	4
Ratios—1st	6.061
2nd	3.473
3rd	1.746
4th	Direct
Reverse	6.061
Gear Lever Location	Transmission

WHEELS

Type	Steel Disc
No. of Studs	6
Rim Size—Front	5.00
Rear	5.00


A
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V
WIDEST POINT OF CAB
℄ OF FRONT SPRING EYE
FRONT OF DASH
W
Y
Z
AA
BB
CC
DD
EE
FF
GG
HH
JJ
KK
LL
MM
AXLE BASE
NN
PP
QQ
RR
SS
TT
UU
VV
WW
XX
℄ OF REAR AXLE
NORMAL LOAD
HEIGHT
REAR AXLE IN BUMP POSITION

MODEL 3-59A CHASSIS & BODY DIMENSIONS

A	250 3/16	O	35 5/8	BB	43 11/16	OO	18 5/16
B	59 7/8	P	63 1/8	CC	54 1/2	PP	31 1/4
C	77 7/8	Q	2 31/32	DD	26 7/8	QQ	22 1/2
D	69 5/8	R	21 1/2	EE	52 11/16	RR	2 11/16
E	29 3/4	S	53 3/4	FF	54	SS	11 7/8
F	66	T	32 1/4	GG	1/8	TT	5 1/2
G	13 7/8	U	32 1/8	HH	28 3/4	UU	6 1/2
H	13 3/16	V	21	II	14 1/4	VV	1 3/8
I	8 7/16	W	9 7/16	JJ	8 7/16	WW	4 5/8
J	22 5/16	X	12	KK	11 7/8	XX	11
K	28 1/8	Y	35 5/8	LL	91	YY	8 3/4
L	68 9/16	Z	23 1/2	MM	159	ZZ	2 1/8
M	82 1/8	AA	34 5/16	NN	38	AAA	8
N	40 5/8						

THE 5-TONNER
171½" W.B.
18,500 lbs. G.V.W.

The Model 6-71, like all units in the heavy series petrol range, is equipped with a full floating hypoid single-speed rear axle. This design contributes to both axle strength and quiet operation.

In a hypoid axle, the pinion, which is driven by the propeller shaft, meets the ring gear below its mid-point. This off-centre meeting broadens the tooth contact area between the gear teeth, and as a result there is less loading on the individual gear teeth, and less wear on the gears. Moreover, the gear teeth tend to slide rather than roll into mesh—edges of the teeth get less wear, retain proper shape, and are less apt to set up annoying noises. The full floating rear axle housing carries all the weight; wheel bearings are on the outside of the housing, and the axle shafts have only the job of moving the truck. Because of its one-piece construction, the banjo-type housing offers greater strength and endurance.

Correct weight distribution is an important factor in prolonging the tyre and chassis life of a vehicle. The 6-71 is designed to take a 14' 6" tray body, which maintains proper weight distribution for all types of 5 ton haulage.

Inform your customer of the heavy-duty items which are standard on this model—6,000 lbs. capacity front axle, 16,500 lbs. capacity rear axle; big capacity cooling system, with a radiator of 462 sq. ins. frontal area; hydraulic vacuum servo-assisted brakes.

SPECIFICATIONS

AXLE, FRONT

Capacity	6,000 lbs.
Type	Reversed Elliott I Beam

AXLE, REAR

Type	Single Speed F.F. Hypoid
Capacity	16,500 lbs.
Ratio	6.66:1
Oil Capacity	8 Pints

OPTIONAL REAR AXLE

Type	Two-speed, Spiral Bevel
Capacity	15,500 lbs.
Ratios	5.83 and 8.11:1
Oil Capacity	12 Pints

BRAKES, SERVICE

Type	Hydraulic Vacuum, Servo Assisted
Drum Diameter—Front	16 in.
Rear	16 in.
Lining Size—Front	16 x 2½ in.
Rear	16 x 3½ in.
Total Braking Area	363 sq. in.
Booster	Yes

BRAKES, PARKING

Type	Mechanical
Brake Location	Rear Wheels

CLUTCH

Type	Borg & Beck, Single Plate
Inside Diameter	6¾ in.
Outside Diameter	11 in.
Frictional Area	113 sq. in.

COOLING SYSTEM

Fan Diameter	19 in.
No. of Blades	4
Core Thickness	2 in.
Frontal Area	462 sq. in.
Thermostat	Yes
Capacity	4 Galls.

DIMENSIONS

Wheelbase	171½ in.
Cab to Axle	103½ in.
Cab to End of Frame	162¾ in.
Track—Front	66-9/16 in.
Rear	66-7/8 in.
Height	89½ in.

FRAME

Maximum Depth	8½ in.
Width of Top Flange	3 in.
Stock Thickness	7/32 in.

SIDE RAIL REINFORCEMENT

Maximum Depth	8-1/16 in.
Width of Top Flange	2-25/32 in.
Stock Thickness	3/16 in.

FUEL TANK

Capacity	15 Imp. Galls.

SPRINGS, FRONT

Type	Constant Rate
Length	45 in.
Width	2½ in.
No. of Leaves	8

SPRINGS, REAR

Type	Constant Rate plus Auxiliary
Length	54 in.
Width	2½ in.
No. of Leaves	15, plus 6 Auxiliary

STEERING

Type of Gear	Cam and Roller
Ratio	18:1
Turning Circle—Left	51 ft.
Right	61 ft.

TYRES

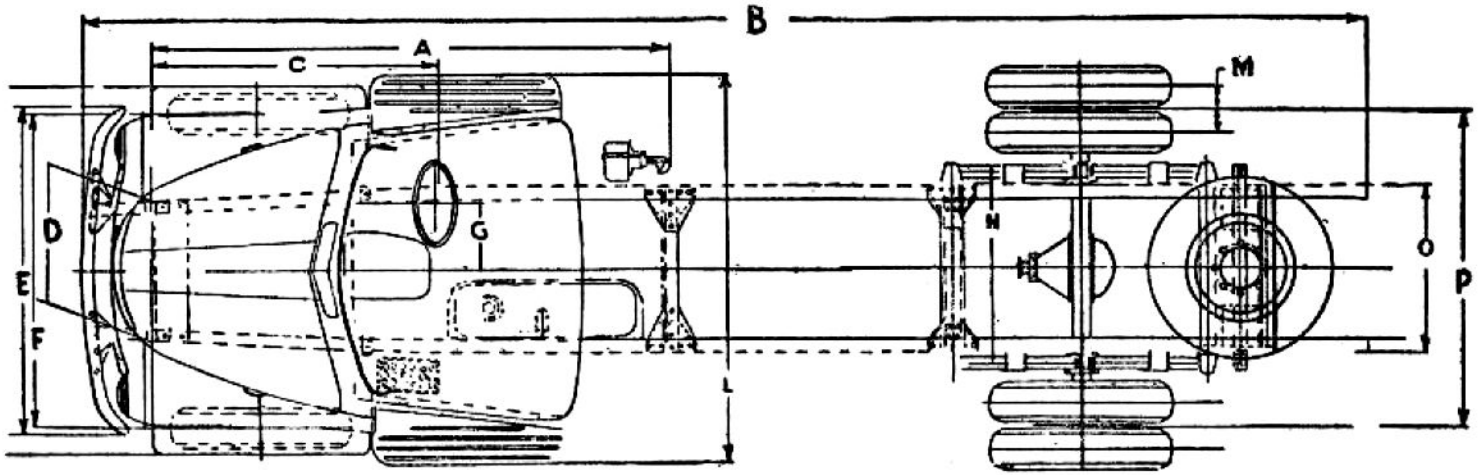
Front	2/8.25 x 20 x 10-ply
Rear	4/8.25 x 20 x 10-ply
Spare	Extra

TRANSMISSION

No. of Forward Speeds	4
Ratios—1st	6.061
2nd	3.473
3rd	1.746
4th	Direct
5th	—
Reverse	6.061
Gear Lever Location	Transmission

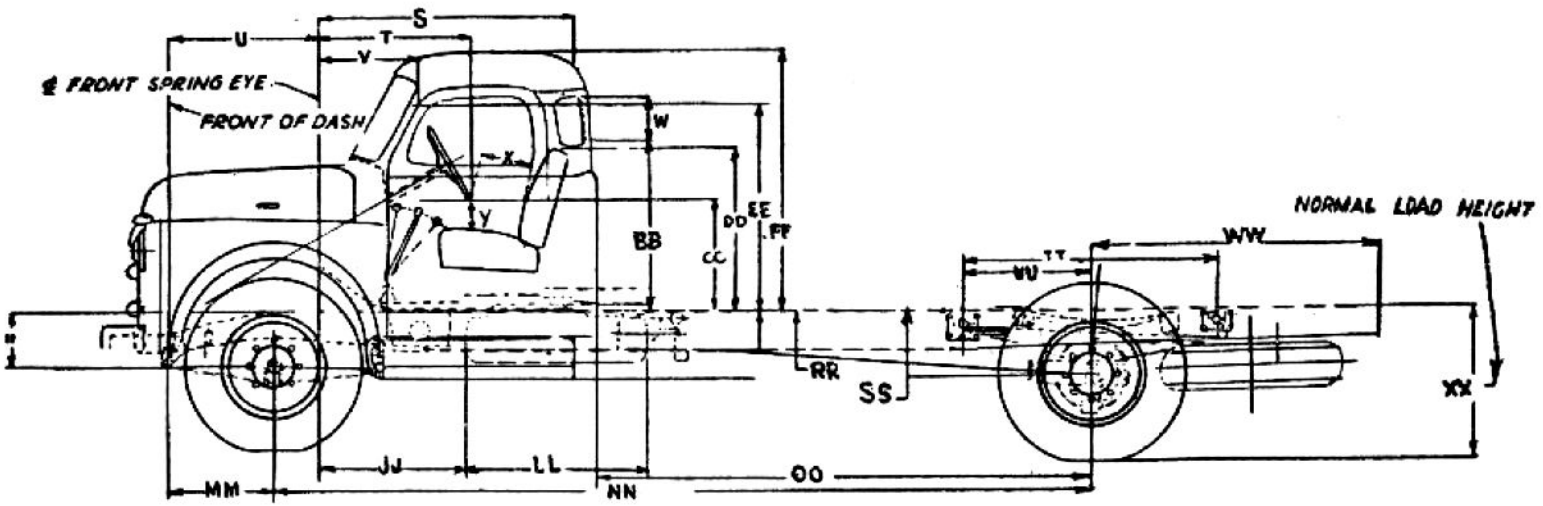
WHEELS

Type	Steel Disc
No. of Studs	8
Front	6.50
Rear	6.50



MODEL 6-71A CHASSIS & BODY DIMENSIONS

A 108⅝	D 29¾	L 82⅛	N 40⅝
B 267⅛	E 69⅝	M 9 13/16	O 35⅝
C 59⅞	F 66 9/16	Varies according to tyre size.	P 66⅞



Model 6-71A Dimensions (continued)

S 53¾	W 9 7/16	CC 23½	II 11⅞	NN 171½	TT 52 11/16
T 32¼	X 12	DD 34 5/16	JJ 31¼	OO 103½	UU 26⅞
U 32⅛	Y 6½	EE 43 11/16	LL 38	RR 8½	WW 59 5/16
V 21	BB 35⅝	FF 54½	MM 22½	SS 13⅝	XX 31⅝

THE 6-TONNERS
21,000 lbs. G.V.W.

Practically every need in the field of heavy-duty haulage will be satisfied by the performance of these two trucks, which give the operator a choice of two wheelbases, 165" and 171½". The Model 8-65 has been designed to meet the requirements of dump truck and semi-trailer operators who need a vehicle with a flexible performance capable of good cruising speeds, and the ability to carry heavy loads under all operating conditions.

Equipped with a 12' long 5 cu. yd. tipping body and two-speed rear axle, this model has been ordered in considerable numbers by Government Departments for use on major constructional work, such as airports, dams and highways.

The Model 8-71 is an excellent vehicle for carrying heavy general merchandise, such as timber, wheat, wool, cement, etc., and has been designed for mounting a 14' 6" body. In common with all trucks in the high tonnage range, both models have an important safety factor in their construction and design, incorporating a heavy channel section reinforcement along the critical length of the side-rails, with a cross-section of 8 1/16" x 2 25/32" x 3/16".

In this field of heavy weight haulage, it is of particular importance for the salesman to be familiar with the capabilities of the truck in relation to the customer's operating conditions.

Remember—Know your Product—Know your Prospect's Needs—Recommend accordingly.

And also, familiarise yourself with competitors' performances and limitations.

171½ in. W.B. DIESEL

Realising that Diesel operators haul very heavy loads, the company has standardised on the heavy-duty 2-speed axle with ratios of 6.14 and 8.54 to 1 for maximum performance and economy of operation.

The Diesel-powered truck has a 12" dia. clutch, with a frictional area of 138 square ins., and a 6-blade fan ensures adequate cooling under the most adverse conditions.

The engine used in the Diesel-powered trucks in the Chrysler Australia range is the Perkins P-6, which is known, proven, and accepted by truck operators the world over.

SPECIFICATIONS

AXLE, FRONT

Capacity	6,000
Type	Elliott I Beam

AXLE, REAR (PETROL MODELS)

Type	Single Speed F.F. Hypoid
Capacity	16,500 lbs.
Ratio	6·66:1
Oil Capacity	8 Pints

DIESEL MODEL

Type	Two-speed, Spiral Bevel
Capacity	16,500 lbs.
Ratio	6.14 and 8.54:1
Oil Capacity	16 Pints

OPTIONAL REAR AXLE (PETROL MODELS)

Type	Two-speed, Spiral Bevel
Capacity	16,500 lbs.
Ratio	6.14 and 8.54:1
Oil Capacity	16 Pints

BRAKES, SERVICE

Type	Hydraulic Vacuum, Servo Assisted
Drum Diameter—Front	16 in.
Rear	16 in.
Lining Size—Front	16 x 2½ in.
Rear	16 x 3½ in.
Total Braking Area	363 sq. in.
Booster	Yes

BRAKES, PARKING

Type	Mechanical
Brake Location	Rear Wheels

CLUTCH

Type	Borg & Beck, Single Plate
Inside Diameter	6¾ in. (7½ in. Diesel)
Outside Diameter	11 in. (12 in. Diesel)
Frictional Area	113 sq. in. (138 Diesel)

COOLING SYSTEM

Fan Diameter	19 in. (18 in. Diesel)
No. of Blades	4 (6 Diesel)
Core Thickness	2 in. (3 in. Diesel)
Frontal Area	462 sq. in.
Thermostat	Yes
Capacity	4 Galls.

DIMENSIONS

	8-65	8-71
Wheelbase	165 in.	171½ in.
Cab to Axle	97 in.	103½ in.
Cab to End of Frame	156¼ in.	162¾ in.
Track—Front	66-9/16 in.	66-7/8 in.
Rear	66-9/16 in.	66-7/8 in.
Height	89½ in.	89½ in.

FRAME

Maximum Depth	8½ in.	8½ in.
Width of Top Flange	3 in.	3 in.
Thickness	7/32 in.	7/32 in.

SIDE RAIL REINFORCEMENT

Maximum Depth	8-1/16 in.	8-1/16 in.
Width of Top Flange	2-25/32 in.	2-25/32 in.
Thickness	3/16 in.	3/16 in.

FUEL TANK

Capacity	15 Imp. Galls.

SPRINGS, FRONT

Type	Constant Rate
Length	45 in.
Width	2½ in.
No. of Leaves	8

SPRINGS, REAR

Type	Constant Rate, plus Auxiliary
Length	54 in.
Width	2½ in.
No. of Leaves	15, plus 6 Auxiliary

STEERING

	8-65	8-71
Type of Gear	Cam and Roller	
Ratio	18:1	
Turning Circle—Left	56 ft.	59 ft.
Right	55 ft.	57 ft.

TYRES

Front	2/9.00 x 20 x 10-ply
Rear	4/9.00 x 20 x 10-ply
Spare	Extra

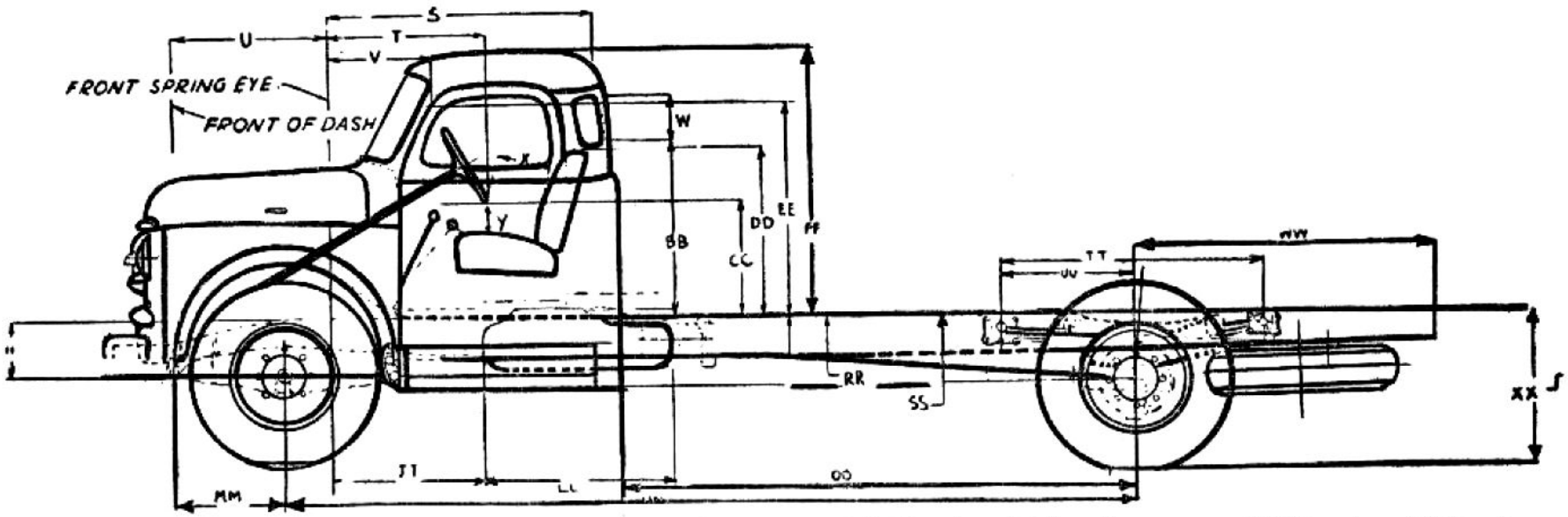
TRANSMISSION

No. of Forward Gears	5
Ratios—1st	7.58:1
2nd	4.38:1
3rd	2.40:1
4th	1.48:1
5th	Direct
Reverse	7.51:1
Gear Lever Location	Transmission

WHEELS

Type	Steel Disc
No. of Studs	8
Rim Size—Front	6.50
Rear	6.50

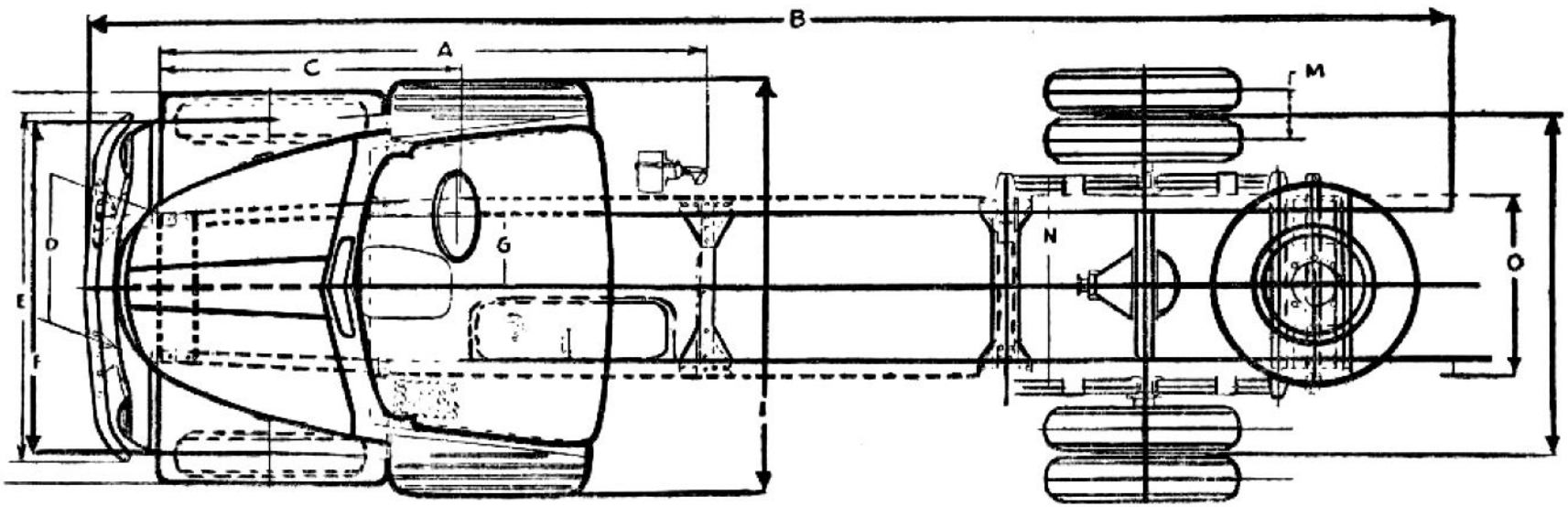
MODELS 8-65AD, 8-71AD, 8-71AD-D CHASSIS AND BODY DIMENSIONS



	171½" w.b.	165" w.b.		171½" w.b.	165" w.b.		171½" w.b.	165" w.b.		171½" w.b.	165" w.b.
S	53¾	53¾	Y	6½	6½	II	11⅞	11⅞	RR	8½	8½
T	32¼	32¼	BB	35⅝	35¾	JJ	31¼	31¼	SS	13⅝	13⅝
U	32⅛	32⅛	CC	23½	23⅝	LL	38	38	TT	52 11/16	52 11/16
V	21	21	DD	34 5/16	34 5/16	MM	22½	22½	UU	26⅞	26⅞
W	9 7/16	9 7/16	EE	34 5/16	34 11/16	NN	171½	171½	WW	59 5/16	59 5/16
X	12	12	FF	54½	54½	OO	103½	97	XX	31⅝	31⅝

Models 8-65A, 8-71A, 8-71A-D

Chassis and Body Dimensions (Cont.)



	171½" w.b.	165" w.b.
A	108⅝	108⅝
B	267⅛	261 7/16
D	29¾	29¾
C	59⅞	59⅞

	171½" w.b.	165" w.b.
E	69⅝	69⅞
F	66 9/16	66 9/16
L	82⅛	82⅛

	171½" w.b.	165" w.b.
M	9 13/16	9 13/16
	Various according to tyre size	
N	40⅝	40⅝
O	35⅝	35⅝
P	66⅞	66⅞

TWO SPEED AXLES

In the heavy truck series a 2-speed rear axle is available as optional equipment, with the exception of the diesel, where the Eaton heavy-duty 2-speed axle is standard.

In many instances it is desirable to recommend the use of a 2-speed axle; this will, of course, depend on the nature of the work for which the truck is required. The 2-speed axle widens the performance possibilities of the truck, and in effect doubles the available transmission gear ratios. In brief, the 2-speed axle gives the following advantages:

With Lower Rear Axle Ratio:

Greater hauling ability without increasing engine size.

Ability to climb steeper grades with heavy loads.

Smoother take-off with heavy loads, reducing wear on clutch.

Quicker pick-up in traffic.

Reduces wear and tear on lower transmission gears.

With the Higher Rear Axle Ratio:

Quicker return trips for empty trucks.

Higher road speeds, with fewer engine revolutions.

Reduced petrol and oil consumption and less engine wear.

Typical Uses of a 2-speed Rear Axle:

Here are a few instances where 2-speed axles can provide both the necessary road speed and pulling ability required:

1. Tractor-trailer operations. Heavy loads are easily started without damaging strain on the truck. High average road speeds may be maintained . . . and when returning empty the trip can be made at a fast clip without harmful high motor r.p.m.
2. Bulk liquid delivery. With the low ratio there is sufficient pulling ability to carry the load through hills and over mountains, on good roads or bad. When the tank is empty you get plenty of speed with the high rear axle ratio to get you back in a hurry.
3. Dump trucks. Low ratio gives plenty of pulling power to get loads out of bad spots. High ratio gives you speed when the going is good.
4. General hauling. In this field, varying road and load conditions often permit a 2-speed axle to improve efficiency and economy. There is a tailor-made gear ratio for each working condition, wherever met.

COLOUR AND TRIM COMBINATIONS

The following Colours and Trim Combinations are available in all franchises:

STANDARD UTILITIES AND CABS

Combination No.	Body Colour	Trim Colour Vinyl
EL 617	Belmont Blue	Brown
EL 618	Belmont Blue	Dark Blue
DX 617	Foliage Green	Brown
DX 619	Foliage Green	Dark Green
EC 617	Palm Beach Grey	Brown
EC 618	Palm Beach Grey	Dark Blue
DL 617	Suede	Brown
DW 617 (Cabs Only)	Commercial Red	Brown
DW 621 (Cabs Only)	Commercial Red	Red
Z 617	Gloss Primer	Brown
Z 618	Gloss Primer	Dark Blue
Z 619	Gloss Primer	Dark Green
Z 621	Gloss Primer (Cabs only)	Red

DELUXE UTILITIES

(All Interior Trim Combinations are Two-tone)

EL 614	Belmont Blue	Dark Blue/Light Blue
EC 614	Palm Beach Grey	Dark Blue/Light Blue
EC/EL 614	Palm Beach Grey over Belmont Blue	Dark Blue/Light Blue
CW 615	Neptune Green	Dark Green/Light Green
DL 616	Suede	Beige/Tan
Z 614	Gloss Primer	Dark Blue/Light Blue
Z 615	Gloss Primer	Dark Green/Light Green
Z 616	Gloss Primer	Beige/Tan
EB/CW 615	Tamiami Green over Neptune Green	Dark Green/Light Green

SUBURBAN (with Bench Seat)

(All Interior Trim Combinations are Two-tone)

Combination No.	Body Colour	Trim Colour Vinyl
EL 614	Belmont Blue	Dark Blue/Light Blue
EC 614	Palm Beach Grey	Dark Blue/Light Blue
EB 615	Tamiami Green	Dark Green/Light Green
DL 616	Suede	Beige/Tan
Z 614	Gloss Primer	Dark Blue/Light Blue
Z 615	Gloss Primer	Dark Green/Light Green
Z 616	Gloss Primer	Beige/Tan

SUBURBAN (with Tubular Frame Seats)

EL 622	Belmont Blue	Dark Blue
EC 622	Palm Beach Grey	Dark Blue
EB 623	Tamiami Green	Dark Green
DL 620	Suede	Tan
Z 622	Gloss Primer	Dark Blue
Z 623	Gloss Primer	Dark Green
Z 620	Gloss Primer	Tan

PANEL VAN (with Bench Seat or Tubular Frame Seat)

EL 624	Belmont Blue	Brown
EL 622	Belmont Blue	Dark Blue
EB 624	Tamiami Green	Brown
EB 623	Tamiami Green	Dark Green
DL 624	Suede	Brown
EC 624	Palm Beach Grey	Brown
EC 622	Palm Beach Grey	Dark Blue
Z 624	Gloss Primer	Brown
Z 622	Gloss Primer	Dark Blue
Z 623	Gloss Primer	Dark Green

STANDARD, OPTIONAL AND SPECIAL EQUIPMENT

* Includes Cab and Chassis, Standard Utility and Express Models.

Blank = Not available Std. = Standard x = Optional or Special

	De Luxe	1-08 C & C*	1-08 Panel	1-08 Sub.	2-26	2-33	3-59	6-71	8-65	8-71	8-71D
Air Cleaner Crankcase Ventilator	Std.	Std.	Std.	Std.	Std.	Std.	Std.	Std.	Std.	Std.	
Air Cleaner Oil Bath	Std.	Std.	Std.	Std.	Std.	Std.	Std.	Std.	Std.	Std.	
Armrests, Pair	x										
Ash Receiver	Std.	Std.	Std.	Std.	Std.	Std.	Std.	Std.	Std.	Std.	Std.
Battery, 12 V., 9 Pl., 70 AH	Std.	Std.	Std.	Std.	Std.	Std.	Std.	Std.	Std.	Std.	
Batteries (2 off), 6 V., 17 Pl., 120 AH (in series)											Std.
Brakes Servo Assisted								Std.	Std.	Std.	Std.
Bumper Bar Chrome Plated	x	x	x	x							
Bumper Bar Body Colour	Std.	x	x	Std.							
Bumper Bar Black Enamel		Std.	Std.		Std.	Std.	Std.	Std.	Std.	Std.	Std.
Express Body Painted Body Colour		x			x						
Express Body Painted Black		Std.			Std.						
Governor — Carburettor								Std.	Std.	Std.	
Headlining Soft P.V.C.	Std.		x	x							
Headlining Hard Bituminous Board		Std.			Std.	Std.	Std.	Std.	Std.	Std.	Std.
Mouldings, Chrome—Radiator Grille Surround	Std.	x	x	x	x	x	x	x	x	x	x

STANDARD, OPTIONAL & SPECIAL EQUIPMENT (Cont.)

* Includes Cab and Chassis, Standard Utility and Express Models.

Blank = Not available Std. = Standard x = Optional or Special

	De Luxe	1-08 C & C*	1-08 Panel	1-08 Sub.	2-26	2-33	3-59	6-71	8-65	8-71	8-71D
Mouldings, Chrome—Radiator Grille Centre Bars	Std.	x	x	x	x	x	x	x	x	x	x
Oil Filter Replaceable Element	Std.	Std.	Std.	Std.	Std.	Std.	Std.	Std.	Std.	Std.	Std.
Petrol Tank Cap, Painted—Non Locking		Std.	Std.	Std.	Std.	Std.	Std.	Std.	Std.	Std.	Std.
Petrol Tank Cap, Chromed—Non Locking	Std.	x	x	x	x	x	x	x	x	x	x
Petrol Tank Cap—Locking	x	x	x	x	x	x	x	x	x	x	x
Radiator Grille Protection	x	x	x	x	x	x	x	x	x	x	x
Radio—A.W.A.	x	x	x	x	x	x	x	x	x	x	x
Radio—Astor	x	x	x	x	x	x	x	x	x	x	x
Rear Vision Mirror—External	Std.	Std.	Std.	Std.	Std.	Std.	Std.	Std.	Std.	Std.	Std.
Reflector, Red—Rear, pair	x	x	x	x	x						
Running Boards Black		Std.	Std.		Std.	Std.	Std.	Std.	Std.	Std.	Std.
Running Boards Body Colour	Std.	x	x	Std.							
Seat Bench, Full Width, Vynex	Std.	Std.	x	x	Std.	Std.	Std.	Std.	Std.	Std.	Std.
Seat, Tubular Frame, Vynex			Std.	Std.							
Seats, Tubular Frame extra, unfitted			x	x							
Shock Absorbers Oriflow, Hydraulic front & rear	Std.	Std.	Std.	Std.							
Shock Absorbers, Oriflow, Hydraulic front only					Std.	Std.					
Sunshade—Front	x	x	x	x	x	x	x	x	x	x	x

STANDARD, OPTIONAL & SPECIAL EQUIPMENT (Cont.)

* Includes Cab and Chassis, Standard Utility and Express Models.

Blank = Not available Std. = Standard x = Optional or Special

	De Luxe	1-08 C & C*	1-08 Panel	1-08 Sub.	2-26	2-33	3-59	6-71	8-65	8-71	8-71D
Sun Visor—Passenger Side	x	x	x	x	x	x	x	x	x	x	x
Suspension Constant Rate		Std.	Std.	Std.	Std.	Std.	Std.	Std.	Std.	Std.	Std.
Suspension Progressive Ride—Rear	Std.	x	x	x							
Suspension Auxiliary—Rear						x	Std.	Std.	Std.	Std.	Std.
Suspension Heavy Duty					x	x					
Tinted Safety Glass				x							
Tonneau Lift-the-Dot	Std.										
Tonneau Lash Down	x	x									
Transmission 3-Speed—Column Gear Shift	Std.	Std.	Std.	Std.							
Transmission 4-Speed—Trans. Gear Shift	x	x	x	x	x	Std.	Std.	Std.			
Transmission 5-Speed—Transmission Gear Shift									Std.	Std.	Std.
Two-tone Lacquer Finish	x										
Two-Speed Axle, 15,500 lbs.								x			
Two-speed Axle, 16,500 lbs.									x	x	Std.
Wheel Striping	Std.	x	x	Std.							
Wheels Painted Body Colour	Std.	Std.	Std.	Std.							
Wheels Painted Black					Std.	Std.	Std.	Std.	Std.	Std.	Std.
Windscreen Wiper Single	Std.	Std.	Std.	Std.	Std.	Std.	Std.	Std.	Std.	Std.	Std.
Windscreen Wiper Dual	x	x	x	x	x	x	x	x	x	x	x

STANDARD, OPTIONAL & SPECIAL EQUIPMENT (Cont.)

* Includes Cab and Chassis, Standard Utility and Express Models.

Blank = Not available Std. = Standard x = Optional or Special

	Luxe De	C & C* 1-08	Panel 1-08	Sub. 1-08	2-26	2-33	3-59	6-71	8-65	8-71	8-71D
Standard Tyres—5/6.50 x 16 x 6-ply	Std.	Std.	Std.	Std.							
4/7.00 x 16 x 6-ply					Std.						
6/6.50 x 16 x 6-ply						Std.					
6/7.00 x 20 x 8-ply							Std.				
6/8.25 x 20 x 10-ply								Std.			
6/9.00 x 20 x 10-ply									Std.	Std.	Std.
Optional Tyres—6/6.50 x 16 x 8-ply						x					
4/7.50 x 16 x 6-ply					x						
4/7.50 x 16 x 8-ply					x						
6/7.00 x 20 x 10-ply							x				
6/7.50 x 20 x 8-ply							x				
6/8.25 x 20 x 12-ply								x	x	x	x
6/9.00 x 20 x 12-ply									x	x	x
2/8.25 x 20 x 10-ply—Standard Tread Front 4/8.25 x 20 x 10-ply—Road Lug Rear								x			
2/8.25 x 20 x 12-ply—Standard Tread Front 4/8.25 x 20 x 12-ply—Road Lug Rear								x	x	x	x
2/9.00 x 20 x 10-ply—Standard Tread Front 4/9.00 x 20 x 10-ply—Road Lug Rear									x	x	x

WHEELBASE AND WEIGHT DISTRIBUTION

SELECTION OF PROPER WHEELBASE

The wheelbase of a truck is the distance between the centreline of the front axle and the centreline of the rear axle. Part of this distance is used by the space taken for mounting the truck engine and cab. The balance of the distance is the factor used in determining the proper length of the body to be installed. This space is the distance from the back of the cab to the centreline of the rear axle. It is commonly designated as the C.A. (Cab-to-axle) dimension.

Our truck vehicles have been engineered and designed to provide a selection of wheelbases in the various capacity ranges. This makes it possible for us to fit our trucks to the majority of body sizes, load requirements, and operating conditions, so that proper weight distribution and vehicle manoeuvrability are secured.

The truck salesman may find it necessary occasionally to determine what length of body may be mounted on a specified wheelbase. Generally speaking, engineers agree that 60% of the body length should be ahead of the rear axle to provide efficient weight distribution and easier handling. Therefore, if a purchaser requires a special body for a chassis which is in his possession, or one he contemplates purchasing, the following rule-of-thumb guide can be pursued in determining the approximate body length.

Determine the cab to rear axle dimension of the chassis; divide this by 60 and multiply the result by 100. The answer will be the approximate body length for the vehicle involved. For example—The Model 8-65 with wheelbase 165 in. has a cab to rear axle dimension of 97 in. Divide this by 60 and multiply by 100, and your answer will be 161 2-3 in., or approximately 13 ft. 6 in. as body length.

Frequently a truck user will require a body of a given length to carry a specific load. The problem then is to determine the wheelbase necessary to accommodate this length of body. As previously mentioned, it is desirable for approximately 60% of the body to be located ahead of the rear axle. Thus 60% of the body length will give

the approximately required cab to rear axle dimension. For example, if the truck user requires a 14-ft. body: 60% of the body length, or approximately 100 in., should be located ahead of the rear axle, and the truck would, therefore, require a cab to rear axle dimension of approximately 100 in. By referring to your Truck Specifications you will observe that the Models 6-71 and 8-71 would be suitable, as both of these Models have a cab to axle dimension of 103½ in.

IMPORTANCE OF WEIGHT DISTRIBUTION

The life of the tyres, springs and axles, the steering characteristics, and the general performance are adversely affected by improper weight distribution, and it is highly essential that the successful truck salesman be thoroughly familiar with this subject. This is especially true in cases where special bodies, conforming with the customer's specifications, are to be mounted on our standard chassis.

Weight distribution is the proportion of the gross vehicle weight on the front and rear tyres, and is expressed either in the form of percentage of the total weight or in pounds.

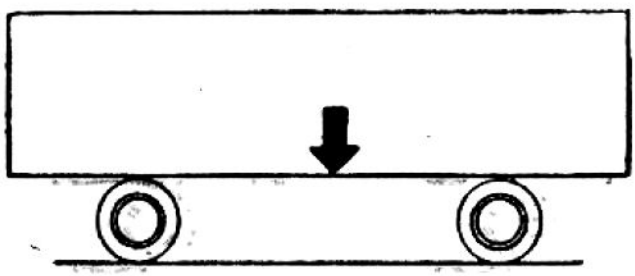
In calculating weight distribution, certain details of the chassis must be known, such as the wheelbase, distance from the back of the cab to centreline of the rear axle (CA Dimension), and the chassis weight on the front and rear wheels. We are therefore listing this information on the following tables for all models in the current series. Due to the limitation of space, we are listing the chassis and cab weights only, based on standard tyre size.

VEHICLE ROAD WEIGHTS
(Approximate)

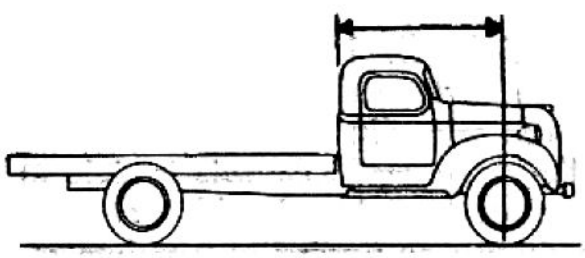
Lbs.	Front Lbs.	Rear Lbs.	Total Lbs.	G.V.W. Lbs.	G.C.W. Lbs.	C.A. Dim.
1-08 Chassis and Cab	2,167	948	3,115	5,250	—	40
1-08 DeLuxe Utility ..	2,184	1,526	3,710	5,250	—	40
1-08 Standard Utility	2,177	1,483	3,660	5,250	—	40
1-08 Suburban	2,114	1,694	3,808	5,250	—	40
1-08 Panel Van	2,072	1,540	3,612	5,250	—	40
1-08 Express Body	2,086	1,414	3,500	5,250	—	40
2-26 Chassis and Cab	2,303	1,197	3,500	7,500	—	57¾
2-33 Chassis and Cab	2,366	1,386	3,752	8,000	—	64¾
3-59 Chassis and Cab	2,699	2,061	4,760	12,320	—	91
6-71 Chassis and Cab	3,080	2,716	5,796	18,500	32,000	103½
8-65 Chassis and Cab	3,094	2,786	5,880	21,000	35,000	97
8-71 Chassis and Cab	3,108	2,884	5,992	21,000	35,000	103½
8-71 Diesel Chassis and Cab	3,640	2,856	6,496	21,000	—	103½

WEIGHT DISTRIBUTION — UNIFORM LOADING

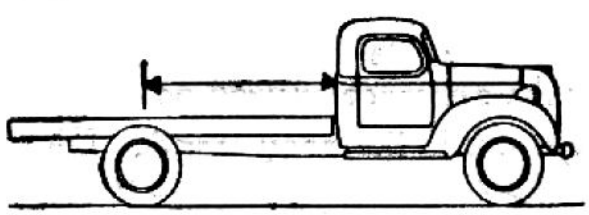
The following illustrations represent a simple explanation of weight distribution:—



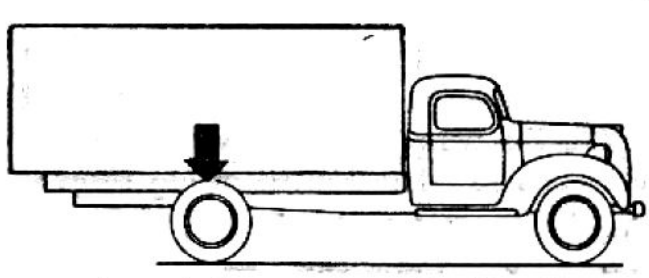
1. If the centre of the payload were midway between the front and rear wheels, the weight would be evenly distributed.



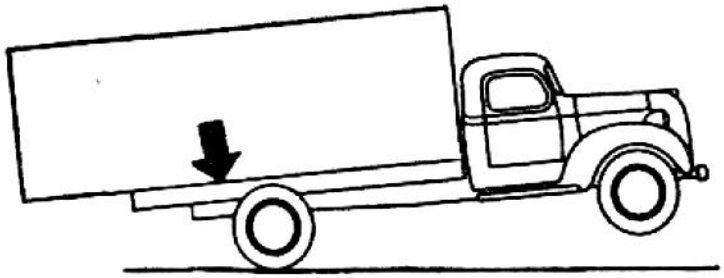
2. But a part of the wheelbase length is used up by the engine and cab.



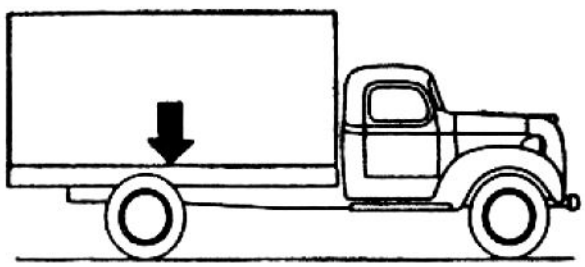
3. The space from the back of the cab to the rear axle is the portion of the wheelbase available for the payload.



4. If the centre of the payload is directly over the rear axle then the rear axle carries all the payload.



5. If the centre of the payload is back of the rear axle it will have a tendency to lift the front end of the truck.



6. By moving the centre of the payload ahead of the rear axle some of the weight is placed on the front axle.

For correct weight distribution, from 90 per cent. to 97 per cent. of the body and payload weight should be imposed on the rear axle. Obviously, the proportion of weight imposed on the front and rear axle is determined on how far the centre of body and payload is mounted ahead of the rear axle. To determine weight distribution for a uniformly loaded body, use the following steps:

1. Determine the distance from back of the cab to the centreline of the rear axle.
2. Subtract the clearance allowed between cab and body.
3. Subtract one-half the body length. This will give the distance from the centre of the load to the rear axle.
4. Multiply the distance from the centre of load to the rear axle by the weight of the body and payload.
5. Divide by the wheelbase, which will determine the amount of body and payload weight on the front axle.
6. Subtract the result of No. 5 from the total body and payload to give the weight on rear wheels.

The above steps result in the following simple formula:

$$\frac{\text{Centre of load to rear axle}}{\text{Wheelbase}} \times \frac{\text{Weight of body and payload}}{\text{payload}} = \frac{\text{Weight of body and payload on front}}{\text{axle}}$$

Example:

Using the Model 3-59 159" wheelbase chassis and cab, 7.00 x 20 x 10 ply front and dual rear tyres, with a 12' 6" x 7' 3" Dropside Body weighing 1,050 lbs. and 5,600 lbs. payload—

Step 1. Referring to Specifications, we find the C.A. dimension is 91".

Step 2. The body is mounted 2" behind the cab = 91" — 2" = 89".

Step 3. Subtract one-half the body length = 89" — 75" = 14".

Step 4. Multiply 14" (distance from the centre of load to rear axle) by 6,650 lbs. (weight of body and payload) = 14" × 6,650 lbs. = 93,100 lbs. in.

Step 5. Divide by 159" (wheelbase) = $\frac{\text{93,100 lbs. in.}}{\text{159 in.}}$

= 585 lbs. of body and payload on front axle.

Step 6. 6,650 lbs. — 585 lbs. = 6,065 lbs. of body and payload on rear axle. Whereby approximately 8.8% of the body and payload is on the front axle and 91.2% on the rear axle.

To determine the Gross Vehicle Weight distribution, add the body and payload weight, front and rear, to the approximate chassis and cab weights, as shown on Page 60 of Section 12 (Importance of Weight Distribution).

	Front	Rear	Total
Chassis and Cab	2699 lbs.	2061 lbs.	4760 lbs.
Body and Payload	585 lbs.	6065 lbs.	6650 lbs.
Total	3284 lbs.	8126 lbs.	11410 lbs.

It is suggested that this formula be carefully studied so that you will become thoroughly conversant with the subject of weight distribution. Work on practice problems will familiarize you with the formula and enable you to become proficent in its actual application.

WEIGHT DISTRIBUTION — NON-UNIFORM LOADING

In the section on "Weight Distribution—Uniform Loading" we explained the procedure to follow in determining the weight distribution of a uniformly loaded truck. However, as you know, some trucks are not uniformly loaded. The load may be in two or more sections, each section being of different size and weight. When figuring weight distribution in such cases, consider each section as a separate load, and follow the formula as given in the Chapter on "Weight Distribution—Uniform Loading."

With an unevenly loaded body, the centre of load of one section may be behind the rear axle. In this event, the rear axle acts as a pivot and a lifting force is exerted on the front tyres, which actually decreases the weight on the front tyres.

For an example we will again use model 3-59 chassis and cab with a 12' 6" dropside body and 7.00/20 8-ply front and dual rear tyres. The cab to axle dimension is 91 in. with a 2 in. clearance between cab and body. The front section of load is 8 ft. long and weighs 4,000 lbs.; the rear section of load is 4 ft. 6 in. long and weighs 2,000 lbs. The dropside body weighs 1,050 lbs.

The weight distribution of the 3-59 chassis and cab is shown on Page 60 of the Sections headed "Importance of Weight Distribution." The body distribution is arrived at by using the formula given in the Chapter headed "Weight Distribution—Uniform Loading." The distribution of each load section is considered as a separate unit, and the formula as given in the Chapter headed "Weight Distribution —Uniform Loading" also followed.

$$\frac{\text{Centre of Body to rear Axle} \times \text{Body Weight}}{\text{Wheelbase}} = \text{Body Weight on Front Tyres}$$

Determined as follows:

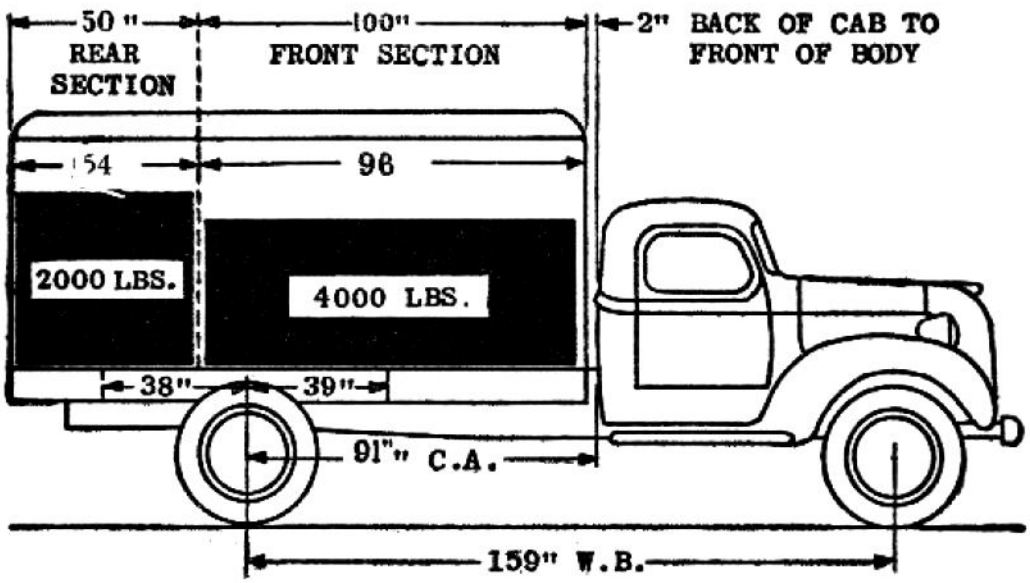
1. Distance from back of cab to centre of Rear Axle is 91 in.

2. Subtract 2 in. (clearance between cab and body); 91 in. — 2 in. = 89 in.

3 Subtract one-half body length; 89 in. — 75 in. = 14 in.

$$\frac{14 \times 1{,}050}{159} = 95 \text{ lbs. (approx.) Body Weight on Front Tyres}$$

4. Subtract Body Weight on Front Tyres from Total Body Weight; 1,050 lbs. — 9 lbs. = 960 lbs. Body Weight on Rear Tyres.



FRONT SECTION

$$\frac{\text{Centre of Front Section Load to Centre of Rear Axle} \times \text{Front Section Load Weight}}{\text{Wheelbase}} = \text{Front Section Load on Front Tyres}$$

Determined as follows:

1. Distance from Back of Cab to Centre of Rear Axle is 91 in.

2. Subtract 2 in. (clearance between cab and body): 91 in. — 2 in. = 89 in.

3. Subtract one-half Front Section load length; 89 in. — 48 in. = 39 in. Centre of Front Section Load to Centre of Rear Axle.

$$\frac{41 \times 4{,}000}{159} = 1{,}031 \text{ lb. approx. on Front Tyres.}$$

4. Subtract weight on Front Tyres from Total Front Section Load Weight = 4,000 lbs. — 1,031 lbs. = 2,969 Front Section Weight on Rear Tyres.

REAR SECTION

$$\frac{\text{Centre of Rear Section Load to Centre of Rear Axle} \times \text{Rear Section Load Weight}}{\text{Wheelbase}} = \text{Rear Section Load on Front Tyres}$$

Determined as follows:

1. Distance from Back of Cab to Centre of Rear Axle is 91 in.

2. Subtract 2 in. (clearance between cab and body): 91 in. — 2 in. = 89 in.

3. Subtract Distance Front of Body to Centre of Rear Section Load; 89 in. — 122 in. = Minus 33 in. Centre of Rear Section Load to Centre of Rear Axle.

$$\frac{33 \times 2{,}000}{159} = -415 \text{ approx lbs. Weight on Front Wheels (Refer Paragraph 2, this Section)}$$

4. Decrease in Weight on Front Tyres to Weight of Rear Section; 415 lbs. + 2,000 lbs. = 2,415 lbs. Rear Section Weight on Rear Tyres.

COMPLETE WEIGHT DISTRIBUTION

Add the weight distribution of Both Sections to that of the Chassis, Cab and Body.

	Front	Rear	Total
Chassis and Cab	2,699 lbs.	2,061 lbs.	4,760 lbs.
Body	90 lbs.	960 lbs.	1,050 lbs.
Front Section Load	1,031 lbs.	2,969 lbs.	4,000 lbs.
Rear Section Load	—415 lbs.	2,415 lbs.	2,000 lbs.
Total	3,405 lbs.	8,405 lbs.	11,810 lbs.

We urge you to study and review the contents of this Section very thoroughly and repeatedly, in order to become familiar with the formulas. Your ability to apply this knowledge in actual discussions with customers will command their respect and impress upon them your ability to work out their transportation problems.

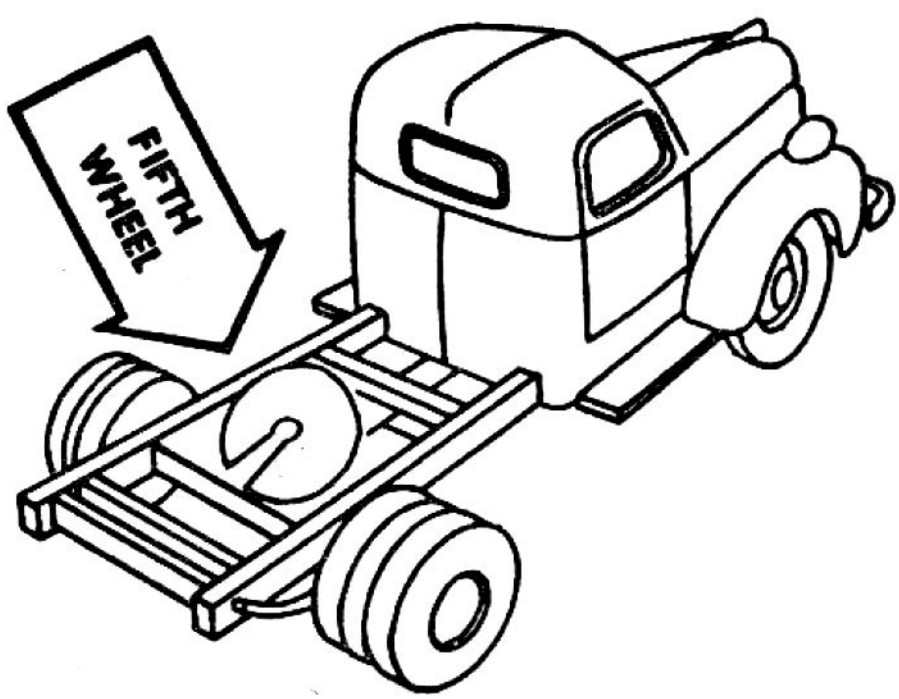
WEIGHT DISTRIBUTION TRACTOR TRAILER UNITS

In many instances a truck is required to move a load which is too bulky or too heavy to be carried efficiently and economically "on its back." A truck, like a horse, can pull more than it can carry, so in instances such as these it can be used more profitably as a tractor with a semi-trailer. Since a major portion of the payload is carried by the semi-trailer, the maximum allowable gross weight rating is considerably more for the tractor-trailer combination for the tractor alone.

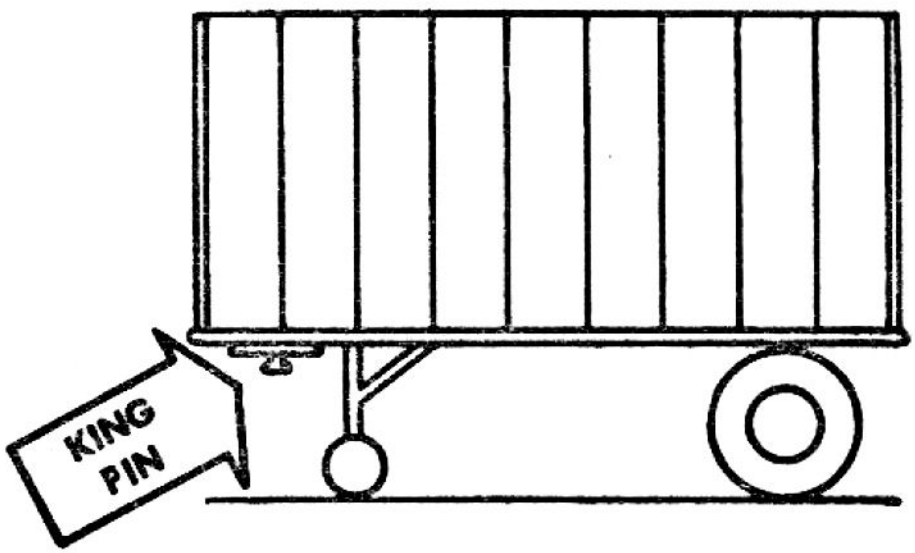
A tractor-trailer combination also makes possible shuttle operation, whereby a trailer can be uncoupled and unloaded while the tractor is making another trip with a loaded trailer.

For ready reference we are listing below the maximum allowable gross tractor-trailer ratings for the three models suitable for this work. Such ratings are generally known as the vehicles G.C.W., or Gross Combined Weight.

6-71A — 32,000 lbs.
8-65A — 35,000 lbs.
8-71A — 35,000 lbs.
8-71A-D — 35,000 lbs.



The location of the fifth wheel in relation to the tractor rear axle determines amount of semi-trailer chassis, body and payload weight that will be carried by the tractor front and rear axles. The coupler, or fifth wheel as it is frequently called, is a coupling device mounted on the tractor, and serves as a hinge to take care of changes in direction of travel between tractor and trailer.



The king pin (or upper fifth wheel) is located under the forward end of the trailer, and serves as a hinge pin. It fits into the fifth wheel on the tractor, and is the point at which the trailer forward load (that portion of the semi-trailer chassis, body and payload imposed on tractor) rests on the tractor.

The only practical way to shift gross weight from one tractor axle to the other is by moving the location of the fifth wheel. If the fifth wheel is moved forward on the tractor, weight is shifted to the front axle; if moved back, weight is shifted to the rear axle. If the fifth wheel were located directly over the tractor rear axle this would place the forward trailer weight 100 per cent. over this axle. This would result in poor steering characteristics, and would in all probability overload the rear axle. It is readily seen that if it were possible to place the fifth wheel exactly between the tractor axles, each would carry an equal share

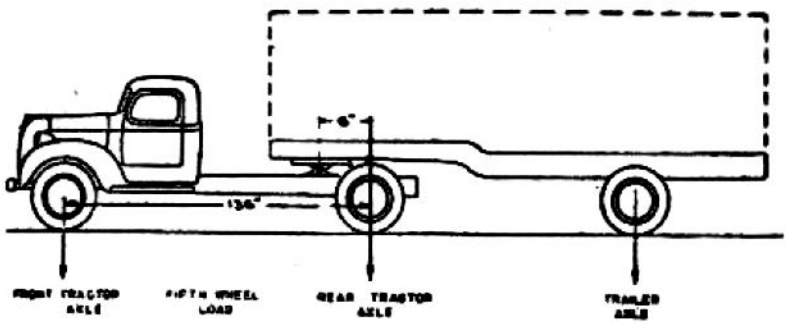
of 50 per cent. of the trailer forward load. Likewise, if the fifth wheel is located 5 inches ahead of the rear axle on a 100 inch wheelbase tractor, 5/100 of the weight would be on the front axle; 10 inches ahead, 10/100 of the weight, and so on. In other words, the distance of the fifth wheel in inches from the rear axle multiplied by the forward weight, divided by the tractor wheelbase, determines the amount of forward weight imposed on the front axle.

In general, for satisfactory weight distribution and vehicle performance, the centre of the king pin should not be less than 4 inches ahead of the tractor rear axle.

A portion of the trailer chassis, body and payload weight is carried by the tractor, and the remainder by the trailer axle. If the trailer is properly loaded, approximately 30 per cent. of the trailer chassis weight and approximately 45 per cent. of the trailer body and payload weight will be carried at the trailer king pin. Multiplying the total of these weights by the distance in inches from the king pin to the centre of the rear axle and dividing by the tractor wheelbase will give the trailer chassis, trailer body and payload weight on the tractor front axle; subtracting the front axle load from the total load at the king pin will give the trailer load on the tractor rear axle.

Obviously, if approximately 30 per cent. of the trailer chassis weight and 45 per cent. of the trailer body and payload weight is imposed on the king pin, then approximately 70 per cent. of the trailer chassis weight and approximately 55 per cent. of the trailer body and payload weight will be on the trailer axle.

For an example we will determine the weight distribution of a Model 8-65A chassis and cab with semi-trailer. Let it be assumed that the fifth wheel weight is 350 lbs.; semi-trailer chassis weight 4,000 lbs.; body weight 4,000 lbs.; payload 18,000 lbs.



	Front Tractor Axle	Fifth Wheel Load	Rear Tractor Axle	Trailer Axle	Total
1 Chassis and Cab	3094	—	2786	—	5880
2 Fifth Wheel	—	350	—	—	350
3 Trailer Chassis	—	1200	—	2800	4000
4 Trailer Body	—	1800	—	2200	4000
5 Pay Load	—	8100	—	9900	18000
6 Fifth Wheel Load	—	11450			
7 Distribution of Fifth Wheel Load	416		11034		
8 Total	3510 lbs.		13820 lbs.	14900 lbs.	32230 lbs.

Tyre Capacity		
(9.00 x 20-10 ply)	6900 lbs.	13800 lbs.
Axle Capacity	6000 lbs.	16500 lbs.

(Single speed or 2 speed)

Referring to the chart, the figures are obtained in the following manner:

1. Chassis and cab known weights are taken from Road Weight charts contained in Section headed "Importance of Weight Distribution."

2. Known weight of the fifth wheel is furnished by the trailer manufacturer.

3. Estimated front and rear weights of trailer chassis (trailer weight is obtainable from the trailer manufacturer) 30 per cent. of 4,000 lbs. equals 1,200 lbs. on fifth wheel; balance 70 per cent., or 2,800 lbs., on trailer axle.

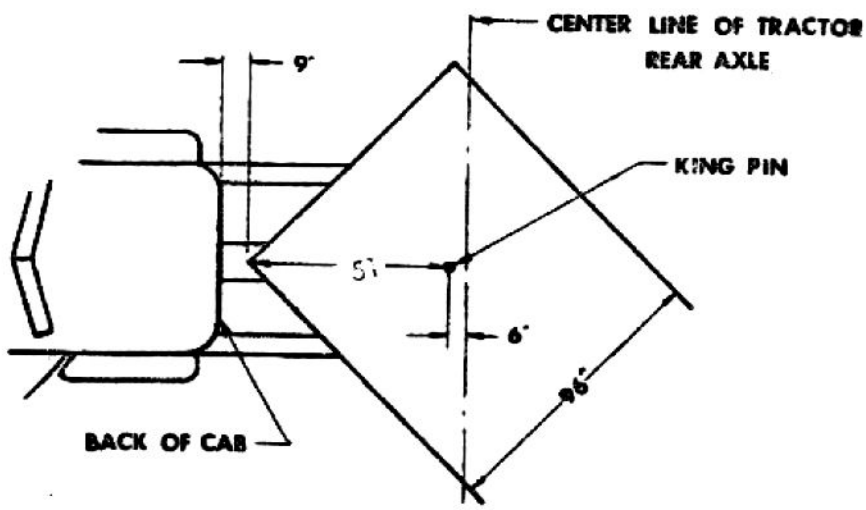
4. Estimated front and rear weights of body (body weight is obtainable from trailer manufacturer) 45 per cent. of 4,000 lbs. equals 1,800 lbs. on fifth wheel; balance, or 2,200 lbs., on trailer axle.

5. Estimated front and rear weights of payload, 45 per cent. of 18,000 lbs. equals 8,100 lbs. on fifth wheel; balance 55 per cent., or 9,900 lbs., on trailer axle.

6. Distributing total fifth wheel load between front and rear axles of tractor, to obtain weight on tractor front axle multiply distance in inches which fifth wheel is located in front of rear axle by load on fifth wheel and divide by wheelbase of tractor.

$$\frac{6 \times 11450}{165} = 416 \text{ lbs. Weight on tractor front axle.}$$

Balance of fifth wheel weight 11,034 lbs. on rear axle of tractor.



Comparisons of total calculated weights on front and rear axles of tractor with rated capacities of tyres and axles indicate that the tyre and axle capacities are adequate for the loads imposed thereon. The capacity of a 9.00/20 10-ply tyre as shown in the various rubber companies' Tyre Data Book is 3,450 lbs. The axle capacities are as shown in specifications for the model 8-65A truck.

When mounting the lower fifth wheel on the tractor, clearance between the back of the tractor cab and the front end of the trailer body must be considered. A conventional square front trailer with an overall outside width of 8 feet measures approximately 51 inches from the centre line of the king pin to the outside front corner. Adding this to 6 inches (the distance forward of the rear axle location for the fifth wheel in the example above) gives a total of 57 inches. Subtracting this total from the 97 inches cab to axle dimension of the 8-65A chassis leaves a difference of 20 inches, which is the clearance between the back of cab and front corner of body when the trailer is turned at an angle of 45 deg. to the tractor. (See sketch.)

The minimum safe distance for such clearance is 3 inches, which makes it possible to locate the fifth wheel farther forward if closer coupling is desired or if it is desired to transfer to the front axle more of the weight carried on the fifth wheel.

SELECTION OF TYRES

How much mileage a truck tyre can give — how low its overall ton mile cost will be—depends upon, first, the selection of the right tyre and rim size for each job, and, second, the proper maintenance of these tyres when in your customers' service.

Selection of the right size tyre depends upon the gross vehicle weight of the truck and the distribution of this weight upon each of the tyres. To determine the tyres most suitable for each operation, it is necessary to calculate the gross weights that will bear upon the front tyres and upon rear tyres, and trailer tyres if indicated (refer to Sections 10, 11, 12 and 13), then divided by the number of wheels on each axle to obtain the weight supported by each tyre. Tyres selected should have capacities equal to or slightly higher than the maximum load which they will carry.

For example: In Section 12 a sample problem is given, in which the total Chassis, Cab, Body and Payload weight of 11,410 lbs. is distributed, Front 3,284 lbs., Rear 8,126 lbs. Referring to the tabulation on Page 76 of this section, 7.00 x 20/8 ply tyres have a rated capacity of 2,000 lbs. each. These are tyres of smallest capacity that should be selected to equip the two front wheels (2 x 2,000 lbs. = 4,000 lbs.). Similarly 7.00 x 20/10 ply tyres rated capacity 2,250 lbs. each, are the smallest in capacity that could adequately equip the four rear wheels (4 x 2,250 lbs. = 9,000 lbs.).

This example illustrates tyre selection when economy is required. However, most truck operators prefer tyres of equal size both front and rear, to permit tyre rotation and interchangeability. In such case, 7.00 x 20/10 ply tyres, front as well as rear, should be ordered for this truck.

No discussion of tyre selection is complete without consideration of correct inflation pressures for each tyre size. Tyre capacities are directly dependent upon maintenance of specified pressures. Below are tabulated details of tyre sizes available as either standard or optional equipment.

Tyre Size	Ply Rating	Rim Size	Maximum Recommended Inflation Lbs.	Maximum Rated Capacity Lbs.	Rolling Radius
6.50 x 16	6	4.50	45	1290	13.8
7.00 x 16	6	5.50	55	1620	14.3
7.50 x 16	8	5.50	55	1860	14.7
7.00 x 20	8	5.00	55	2000	16.9
7.00 x 20	10	5.00	70	2250	16.9
7.50 x 20	8	6.00	60	2375	17.4
7.50 x 20	10	6.00	75	2700	17.5
8.25 x 20	10	6.00	65	2900	18.1
8.25 x 20	12	6.50	75	3150	18.2
9.00 x 20	10	6.50	65	3450	18.9
9.00 x 20	12	6.50	80	3850	19.0

All tyre figures quoted herein are provided by a leading truck tyre manufacturer.

Rolling Radius is the height measured from the centre of the rear axle to the ground.

The new wide base rims used on all 20 in. diameter tyres reduce scuffing, lessen fatigue, lower running temperatures, increase tread life, and save in operating costs.

Regardless of how much care is given to the selection of proper tyre sizes for each operation, all effort will be discounted by improper maintenance. Overloading and underinflation cause rapid, uneven tread wear and increase the amount of flexing, with resultant excessive heat and blow-out danger. Expressed in mileage figures, a tyre with a normal "life expectancy" of 30,000 miles (according to tests conducted by a leading tyre manufacturer) will suffer mileage losses if overloaded or underinflated as indicated in the tables on the following page.

OVER LOADING			UNDER INFLATION		
% Overload	% Decrease in Mileage	"Life Expectancy" (Mileage)	% Under Inflation	% Loss in Mileage	"Life Expectancy" (Mileage)
0%	0%	30,000	0%	0%	30,000
10%	18%	24,600	10%	5%	28,500
20%	30%	21,000	20%	16%	25,200
30%	42%	17,400	30%	33%	20,100
40%	52%	14,400	40%	57%	12,900
50%	60%	12,000	50%	78%	6,600

Overinflation is not recommended, since it puts both tread and carcass under excessive tension, causing bruising and cutting. Also it causes faster tread wear, due to decrease in road contact area and higher loads per square inch. When necessary to compensate in part for excess loading overinflation of not more than 10% is permissible but not recommended for long periods.

For best performance, it is recommended that individual tyre loads never exceed rated capacities by more than 10%. However, when vehicles are operated at low speeds, or with rapidly decreasing payloads, the tyres may be operated economically with somewhat heavier overloads.

The proper selection of tyres, plus correct maintenance and operation, will result in lower operating costs, improved performance, longer vehicle life and customer satisfaction.

TRUCK PERFORMANCE
Resistances affecting Performance

In selecting and selling trucks, you always start with the prospect's needs. Where a purchaser requires a new truck, either for replacement or as an addition to the fleet, much can be learnt from his experience with his present vehicle. Actual operating experience is the best basis for selecting and recommending a vehicle for his requirements.

Sometimes the prospective buyer will not have a vehicle that will serve as a guide for recommending new equipment. In these instances, the operation of one of your trucks in a similar business can often be used as a basis for recommendation. Remember, however, to treat your customer's haulage problems as personal and individual. To him a truck is a business investment; the more suitably it fits a specific job, the more efficiently and economically it carries the load, the greater its worth as an investment.

Before you can discuss Truck Performance with your prospect, it is essential to collate the basic information which will enable you to analyse the specific operation and select the truck best suited to the job—then you can tell him just what performance the truck will give him.

The following data is a guide for Operation Analysis:

1. Size of Body and Load
- (a) Type of business.
- (b) Commodity to be hauled.
- (c) Description of the load.
- (d) Type of body required.
- (e) Body length, width and height.

2. Weight of Body and Payload
- (a) Weight of body to be mounted.
- (b) Weight of other equipment.
- (c) Payload weight.

3. Operating Conditions
- (a) Is the load constant or diminishing?
- (b) Is the operation a one-way or a two-way haul?
- (c) Length of average haul.
- (d) Number of stops.

(e) Is the operating in city, suburbs, country, or interstate?
(f) Road surfaces.
(g) Average grades % grade.
(h) Maximum grades % grade.
(i) Length of average grade.
(j) Length of maximum grade.
(k) Speed desired—average
(l) Speed desired—maximum.

4. Present Vehicle New Truck is to Replace

(a) Make and year.
(b) G.V.W. rating.
(c) Engine torque.
(d) Transmission ratios and number of forward gears.
(e) Type of axle and ratio or ratios.
(f) Tyre size and ply; single or dual rear.
(g) Extra and special equipment.
(h) Body size; type and weight.
(i) Will this body be transferred to the new truck?
(j) Has present vehicle operated to owner's satisfaction? If not, what was the dissatisfaction?

The information obtained under Sections 1 and 2 will enable you to select a model with the correct wheelbase, cab-to-axle dimension, and G.V.W. to satisfy the customer's requirements as to body size and payload capacity.

The method of ascertaining the correct wheelbase, C.A. dimension and weight distribution have been dealt with in previous sections of the manual. These sections discuss only the ability of the unit to support the load, but your would-be purchaser will want to know two other vital items of information—how fast will the truck go fully loaded—how steep a hill will the truck climb fully loaded. In other words, how will the truck perform.

The four principal contributing factors to high truck performance are:

1. Engine horsepower and torque.
2. Rear axle ratios.
3. Transmission ratios.
4. Tyre rolling radius.

These provide the truck with the ability to move the load from point to point, but there are other factors which will adversely affect its performance. These are the resistances which must be overcome by the application of engine power to move the truck and keep it moving.

THE RESISTANCES AFFECTING PERFORMANCE

Gross Vehicle Weight.
Type of Road (Rolling Resistance).
Hills or Grades (Grade Resistance).
Air Resistance.

GROSS WEIGHT

Obviously it requires more effort to move a heavy load than to move a light load, just as it takes more effort to propel a bicycle with two people on it than with one. Since a truck is purchased only to move a load, the weight is the first factor to consider in determining the amount of force that is required. The weight of the truck itself, as well as the body and payload, must be considered in determining the load it is to move, because a truck must move itself as well as the payload. This total weight, including the weight of the chassis, cab, body, other equipment, and the payload is known as Gross Vehicle Weight (G.V.W.), or in the case of tractor-trailer operation, Gross Combination Weight (G.C.W.).

Another factor that has to be considered in determining the ability of the truck is the type of road surface over which the truck travels. Again using the cyclist as an example, more effort is required to propel a bicycle over soft ground than over a hard cement road. The same is true in the operation of a truck.

ROLLING RESISTANCE

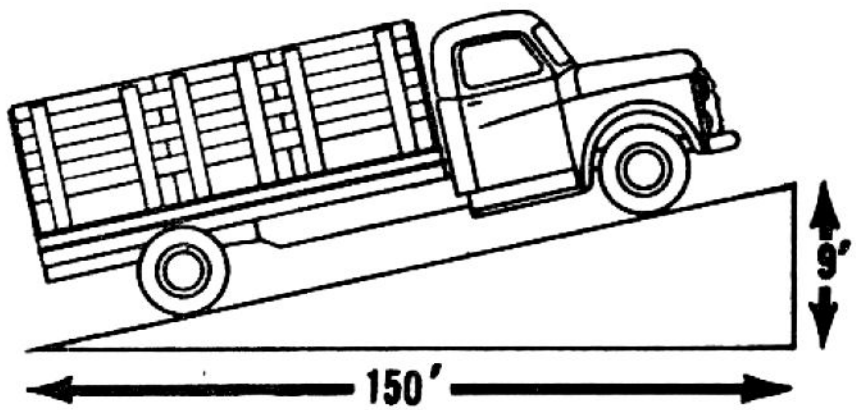
A truck in motion is constantly overcoming Rolling Resistance, even on a hard road. This is actually similar to climbing a continuous hill. A tyre flattens out on the road, and also makes an indentation in soft roads. This leaves an obstacle or hill at the forward contact point of tyre and road, which the tyre must continually displace. The heavier the load and the softer the road the greater is the resistance to be overcome. More effort is required on a soft

road than on a hard, paved road. More effort is required when tyres are not properly inflated.

The table below shows the approximate amount of Rolling Resistance per 1,000 pounds of gross weight which is encountered on various types of roads:

Bitumen	14 lbs.
Gravel	25 lbs.
Dirt	50 lbs.
Sand	75 lbs.

Grade Resistance is the force that gravity exerts on a truck as it climbs a hill. Referring again to the bicycle as an example, it is harder to propel a bicycle up a hill than on the level ground. The amount of Grade Resistance is determined by multiplying the gross weight of the vehicle by the percentage of incline. Thus both the gross weight of the vehicle and the percentage of grade enter into the Grade Resistance exerted upon it. The steeper the hill, the greater the Grade Resistance.



Percentage of grade is used in indicating the steepness of a hill. It is determined by dividing the height of the incline by its horizontal length and multiplying by 100. For example, if the height of a hill is 9 feet and the horizontal length of the incline is 150 feet, the percentage of grade equals 9 feet, divided by 150 feet, multiplied by 100, or 6 per cent.

If, as an example, in the illustration on the previous page, the gross weight of the vehicle is 18,500 lbs., the grade resistance is determined by multiplying 18,500 by 6% which equals 1,110 lbs. (This is equivalent to 10 lbs. per 1,000 lbs. of Gross Vehicle Weight for each 1% of grade.)

To be able to climb the hill, however, the truck must first overcome the Rolling Resistance previously described. The chart shown below on the following page has been devised to provide a quick and simple method of figuring combined

Rolling and Grade Resistance. The vehicle encounters Rolling Resistance according to the type of road, as shown in the chart on the preceding page. Ten pounds are added to these resistances for each increase of 1 per cent. in grade. For example, the Rolling Resistance for a bitumen road is 14 lbs. per 1,000 lbs. of gross weight. On a 6 per cent. grade the Rolling plus the Grade Resistance would be six times 10 lbs. Grade Resistance plus 14 lbs. Rolling Resistance, which totals 74 lbs. per 1,000 lbs. Gross Weight. Using again the figures in the example above, the combined Rolling and Grade Resistance of a vehicle having a Gross Weight of 18,500 lbs. on a 6 per cent. grade on a cement road would be calculated as follows:

14 lbs. (Rolling Resistance)
+ 60 lbs. (Grade Resistance)

74.0 lbs. (Combined Resistance)
× 18.5 Thousands of lbs. G.V.W.

1,369 lbs. Total Combined Rolling and Grade Resistance.

AIR RESISTANCE

The resistance that is caused by the passage of the vehicle through the air is a factor only at vehicle speeds over 35 miles per hour, but is commonly disregarded in commercial vehicles which usually travel at moderate speeds. Furthermore, since no practical test has been devised to determine rolling resistance without including also resistance of air to the passage of the vehicle, the figures shown for rolling resistance in the chart are really rolling plus air resistance.

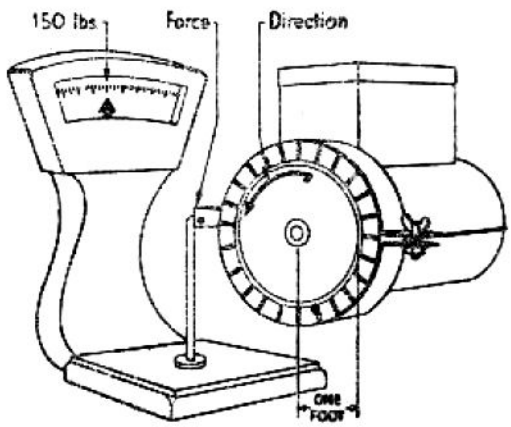
Having now discussed how to determine the total of the resistance to a vehicle travelling either on level ground or climbing a grade, we shall next discuss the factors which enter into the ability required to overcome these resistances.

COMBINED ROLLING AND GRADE RESISTANCE PER 1,000 POUNDS GROSS WEIGHT

Type of Surface	Level	1%	2%	3%	4%	5%	6%	10%	15%
Bitu'en	14 lb.	24 lb.	34 lb.	44 lb.	54 lb.	64 lb.	74 lb.	114 lb.	164 lb.
Gravel	25 lb.	35 lb.	45 lb.	55 lb.	65 lb.	75 lb.	85 lb.	125 lb.	175 lb.
Dirt	50 lb.	60 lb.	70 lb.	80 lb.	90 lb.	100 lb.	110 lb.	150 lb.	200 lb.
Sand	75 lb.	85 lb.	95 lb.	105 lb.	115 lb.	125 lb.	135 lb.	175 lb.	225 lb.

TRUCK PERFORMANCE
TRACTIVE EFFORT

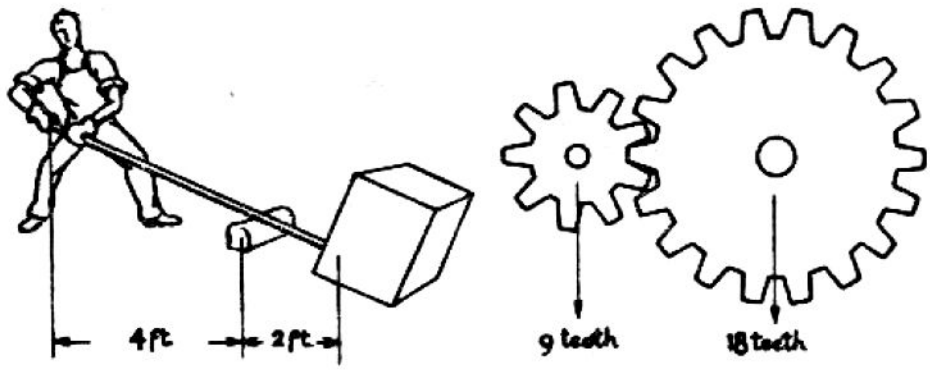
Torque is the twisting or turning force exerted on the crankshaft of an engine. It is generally expressed in pounds feet, and is the measure of the pull or force exerted at a radius of one foot from the centre of the crankshaft.



The engine in the illustration has a flywheel of one foot radius, and if sufficient pressure is applied through a clutch on the rim of the flywheel to register 150 pounds on the scale, the engine will develop a torque of 150 pounds feet.

In calculating truck ability, Gross Torque is generally used. This is the amount of torque developed by the engine when not equipped with a fan, water pump, generator, etc. Driving these accessories, the back pressure from the muffler and tail pipe, and the friction in gears and bearings, result in a loss of torque available for propelling the vehicle equal to approximately 15 per cent. This loss is compensated for by using a Efficiency Factor of .85 in calculating ability.

Torque developed by an engine is multiplied by the transmission and rear axle gears. These gears act like levers and increase the torque in the same proportion as the ratio between the gears of the transmission or rear axle.



2 to 1 ratio

A truck requires varying amounts of pulling ability to meet varying operating conditions. The transmission provides the flexibility to meet these different loads and conditions. It takes more effort to start a truck than to keep it moving—more effort to climb a hill than to travel on the level—more effort to pull through mud and sand than along a paved road, and it is the different ratios in the transmission that provide the extra power that is necessary to meet these conditions. As an example, if a four-speed transmission has a 6.40 to 1 ratio in low speed, this means that in transmitting the torque through the transmission gears the torque is multiplied by 6.40. Likewise, in any other speed of the transmission the torque is multiplied by the corresponding ratio.

Some trucks operate under more variable conditions than others, and need a wider range of transmission speeds, which can generally be provided by the use of special transmissions.

As in the case of the transmission, the rear axle gears can be compared to a lever, and increase the engine torque in the same proportion as the gear ratio. The rear axle ratio is simply the number of engine revolutions for each rear wheel revolution when the transmission is operating in direct drive. Thus, if the truck has a rear axle ratio of 6.66 to 1 it means that the engine will turn over 6.66 times to one revolution of the rear wheels, and increases the torque in the same ratio. However, more engine revolutions per rear wheel revolution means reduced vehicle speed and operating economy.

In many trucking operations a high numerical gear ratio for pulling ability is required part of the time, but a low numerical gear ratio for speed and economy would also be advantageous over much of the route. For such operations a two-speed axle will result in decided savings in time, fuel and engine wear. Two gear ratios are provided in the same axle, and are easily shifted by a simple control.

Tyre rolling radius is the distance from the centre line of the rear axle to the point where the tyre rests on the road. It has the effect of decreasing the torque, just as torque is increased by the gears of the transmission and rear axle. This is because the rolling radius is greater than the one foot at which Engine Torque is measured. Therefore, the larger the tyre and the greater the rolling radius, the greater is the decrease in torque and truck ability. It is an advantage, therefore, that tyres of the smallest possible over-all diameter that have sufficient capacity to carry the load be used when maximum pulling power is desired. Conversely, larger tyres will have the effect of decreasing the power, but will increase the road speed at the same engine r.p.m.

The force exerted by the tyres on the road, which is the engine torque transmitted through the clutch, transmission, propeller shaft, rear axle, wheels and tyres, is the force which propels the vehicle, and is known as Tractive Effort or Rim Pull. Following is the formula for calculating tractive effort:

$$\frac{\text{Gross Torque} \times \text{Efficiency Factor} \times \text{Transmission Ratio} \times \text{Rear Axle Ratio} \times \text{Torque Radius Inches}}{\text{Tyre Radius}} = \text{Tractive Effort}$$

The torque radius of 12 inches is included because gross torque is given in lbs. feet, while tyre rolling radius is given in inches. The efficiency factor, as previously explained, represents 85% of the gross torque, and therefore the factor .85 is used.

The following example shows how the tractive effort formula is used to determine the tractive effort provided

by any truck. In this example it is assumed that the truck has the following specifications:

MODEL 2-33

Torque	198 lbs. ft.
Transmission (4-speed) Ratio in direct drive	1.00 to 1
Rear Axle Ratio	4.89 to 1
Rear Tyre Size	6.50×16×6 ply
Rolling Radius	13.8 inches

$$\frac{198 \times .85 \times 1 \times 4.89 \times 12}{13.8} = 715.7 \text{ lbs. Tractive Effort.}$$

In this example the tractive effort, or "push," exerted by the rear wheels at the ground is 715.7 lbs. This is the basis for figuring the amount of load the truck has the ability to move and the per cent. of grade it can climb.

This truck, loaded to gross weight of 8,000 lbs., when operating on a bitumen highway, would have a rolling resistance of 112 lbs., arrived at by multiplying 8.0 (gross weight in thousands of pounds) by 14.0 (pounds rolling resistance per 1,000 lbs.).

It is obvious, therefore, that this truck, with 715.7 lbs. tractive effort, has ample power to run on a level road and considerable extra power for use on poorer roads or in climbing hills.

The same truck operating on a 7% grade would encounter a combined rolling and grade resistance of 672 lbs., arrived at by the following calculations:

Bitumen Surface	14 lbs. Rolling Resistance
7% Grade @ 10 lbs. per cent.	70 lbs. Grade Resistance
	84 lbs.
	× 8 (1,000's of lbs. G.V.W.)
	672 lbs. Resistance

Here again the tractive effort is sufficient to cope with a 7% grade on a bitumen highway.

Should the truck need to climb a 7% grade through sand, the Rolling and Grade Resistance would amount to 1,100

lbs., in which case it would be necessary to select a lower gear, namely, third, with a ratio of 1.169 to 1, which provides the following tractive effort:

$$\frac{198 \times .85 \times 1.169 \times 4.89 \times 12}{13.8} = 1{,}210 \text{ lbs. Tractive Effort}$$

PERFORMANCE FACTOR

This is a measure of a vehicle's ability with a given gross weight, and is used by some truck operators in comparing relative ability of different trucks. The performance factor is obtained by dividing the tractive effort by the gross weight of the vehicle in thousands of pounds. The formula is as follows:

$$\text{Performance Factor} = \text{Tractive Effort} \div \frac{\text{G.V.W.}}{1{,}000}$$

Using the Model 2-33 in direct gear, with a tractive effort of 715.7 lbs., we would obtain the following result:

$$\frac{715.7}{8} = 89.5 \text{ lbs. Performance Factor for each 1,000 lbs. of G.V.W.}$$

TRUCK PERFORMANCE GRADES AND SPEEDS

Gradeability is the term used to describe the per cent. of grade that a truck of certain specifications can climb with a specific gross weight.

We have discussed the resistance a truck encounters in moving a load to its destination. We found these to be rolling resistance, which varies according to the type of road surface over which the truck has to travel, and grade resistance, caused by the pull of gravity as the vehicle climbs a hill. In a previous section there is a chart which gives combined rolling and grade resistance.

Tractive effort, we have learned, is the ability or force that the truck has available to move its load. A certain amount of this tractive effort is used to keep the truck moving. The balance is available for hill climbing.

In the previous section, when calculating the Performance Factor, we actually divided the Tractive Effort by 1000th of the G.V.W. This told us the amount of tractive effort available at the wheels for each 1,000 lbs. of G.V.W. If we now subtract from this figure the rolling resistance in lbs. which is also calculated as pounds of resistance per 1,000 ibs. of G.V.W: according to the nature of the road surface, we will then have the amount of Tractive Effort which is available for hill climbing.

As Grade Resistance is a constant at 10 lbs. per 1% of grade—if we divide the remaining Tractive Effort by 10, we will then have the percentage of grade which the truck will climb.

The formula therefore is:

Gradeability = (Performance Factor—Rolling Radius) ÷ 10

Using the previous example of the 2-33, with a Performance Factor of 89.5 lbs., we would calculate as follows:

$$\frac{\text{(89.5 lbs. Torque — 14 lbs. Rolling Resistance)}}{\text{10 lbs. Grade Resistance}} =$$

7.55% Gradeability

On a gravel road, with a rolling resistance of 25 lbs., we would have the following calculation:

$$(89.5 - 25) \div 10 = 6.45\% \text{ Gradeability}$$

A combined formula for determining the gradeability of a vehicle, without first figuring the Tractive Effort and Performance Factor, is as follows:

$$\frac{T \times TR \times AR \times 1080}{RT \times GVW} - \frac{RR}{10} = \% \text{ Grade}$$

The constant 1080 is obtained by multiplying the factor 12 by the efficiency factor .85 and then by 100, to give the grade in per cent. The rolling resistance is divided by the the formula.

For example: A truck with a gross weight of 18,500 lbs., figure 10, which is a constant obtained in the derivation of a 6.66 rear axle ratio, 8.25 x 20 x 10 ply tyres, and 195 lbs. ft. of torque, operating on a bitumen highway, would have a gradeability in high speed (i.e., direct drive) of the transmission of:

$$\frac{195 \times 1 \times 6.66 \times 1080}{18.1 \times 18{,}500} - \frac{14}{10} = 2.78\% \text{ Grade}$$

The gradeability of this truck in any other speed of the transmission can be found by inserting the ratio of the speed used in place of the figure 1 shown in the example. For gradeability on any other kind of road surface the rolling resistance figure can be changed in accordance with the rolling resistance chart.

Gradeability figured according to this formula will be conservative, since it makes no allowance for the momentum of the truck as it approaches the grade.

ROAD SPEED

Road speed is determined by the following factors:

Engine speed, transmission ratio, rear axle ratio, and rear tyre size. The formula for determining road speed is:

$$MPH = \frac{RPM \times RT \times 2 \times 3.1416 \times 60}{TR \times AR \times 12 \times 5280}$$ in which

MPH = Miles per hour.
RPM Engine revolutions per minute.
RT Rolling radius of tyre in inches.
AR Rear axle ratio.
TR Transmission ratio.

The factors 2 and 3.1416 multiplied by the rolling radius of the tyre give the circumference of the tyre. The factor 60 gives revolutions per hour. The factors 12 and 5280 are used to give miles per hour. Combining these factors gives this simplified formula:

$$MPH = \frac{RPM \times RT}{TR \times AR \times 168.07}$$

Assuming that the truck in the previous example has a governed speed of 3,000 R.P.M., the calculated maximum speed on a level road would be:

$$\frac{3000 \times 18.1}{1 \times 6.66 \times 168.07} = 48.51 \text{ M.P.H.}$$

Conversely, to determine the engine speed at a given road speed the formula is:

$$RPM = \frac{MPH \times TR \times AR \times 168.07}{RT} \text{ or}$$

$$\frac{48.51 \times 1 \times 6.66 \times 168.07}{18} = 3{,}000 \text{ R.P.M.}$$

To determine the maximum speed at which a truck can negotiate a given grade it is necessary to make two calculations: the first to determine the torque required, and the second to determine the road speed at the given engine R.P.M. at which the required torque is developed.

Using the formula for gradeability in direct drive of the transmission, we have the following:

$$\% \text{ Grade} = \frac{T \times TR \times AR \times 1080}{RT \times GVW} - \frac{RR}{10}$$

Having determined the grade the truck will be required to climb, we must then calculate the amount of torque needed to negotiate the grade. For this we use the following formula:

$$T = \frac{\left(\% \text{ Grade} + \left(\frac{RR}{10}\right)\right) \times RT \times GVW}{TR \times AR \times 1080}$$

Assuming that the truck in the previous example is climbing a grade of 2.79% on a bitumen road, the torque required would be:

$$\frac{\left(2.79 + \frac{14}{10}\right) \times 18.1 \times 18{,}500}{1 \times 6.66 \times 1{,}080} = 195 \text{ lbs. ft. torque}$$

Assuming that 195 lbs. ft. of torque in the above example is developed at an engine speed of 1,400 R.P.M., the calculated road speed would then be:

$$\frac{1400 \times 18.1}{1 \times 6.66 \times 168.07} = 22.6 \text{ M.P.H.}$$

As another example, if the grade to be negotiated is 5%, the calculation to determine the required torque will be as follows:

$$T = \frac{(5 + 1.4) \times 18.1 \times 18500}{1 \times 6.66 \times 1080} = 297.9 \text{ lbs. ft.}$$

Obviously this truck, developing an engine torque of 195 lbs. ft., will not be able to negotiate a 5% grade in high speed (direct drive) of the transmission. It will be necessary, therefore, to use the third speed of the transmission, assumed to be 1.69 to 1, and to refigure the engine torque required; thus:

$$T = \frac{(5 + 1.4) \times 18.1 \times 18{,}500}{1.69 \times 6.66 \times 1020} = 186.6 \text{ lbs. ft.}$$

Assuming that the required torque of 186.6 lbs. ft. is obtained at an engine speed of 2,800 R.P.M., the maximum road speed would be:

$$\frac{2800 \times 18.1}{168.07 \times 1.69 \times 6.66} = 26.79 \text{ M.P.H.}$$

Vehicles are frequently called upon to operate at high altitude, where, due to lower atmospheric pressure, less torque and horsepower are developed than at sea level. It is necessary, therefore, that corrections in engine torque and horsepower be made when calculating performance at high altitudes.

The approximate percentages of gross torque and gross horsepower available at various altitudes are given in the following table:

Altitude in feet	Percentage of Torque and H.P.
1,000	100
2,000	96.5
3,000	89.5
4,000	86.5
5,000	83
6,000	80
7,000	77.5
8,000	74.5
9,000	71.5
10,000	69

The true index of desirable engine performance for trucks is the development of a high torque which will remain as consistent as possible throughout the engine speed range. Maximum horsepower is only useful in a vehicle when maximum road speed is required, and in commercial vehicles the maximum available vehicle speed is rarely used, therefore maximum horsepower is seldom used. Heavy duty vehicles are usually governed at engine speeds that are less than the maximum, and operate at a governed engine speed most of the time. Therefore maximum horsepower is of little importance as compared with torque, and should not be stressed where engine performance is being considered.

TRUCK TERMINOLOGY

AXLE, ELLIOTT TYPE . . . a front axle having forged yokes at each end, into which the steering knuckles are placed. With this type of front axle the load is carried on a thrust bearing inserted between the upper boss of the axle yokes and the upper surface of the steering knuckles.

AXLE, REVERSE ELLIOTT TYPE . . . a front axle having forged ends that insert between the bosses of the yoked type steering knuckles. With this type of front axle the load is carried on a thrust bearing placed between the lower boss of the steering knuckles and the lower surface of the forged axle ends.

CAMBER . . . is the amount in degrees that the front wheels are inclined outwards at the top. Its effect is to assist in the self-centring action of the steering and to overcome excessive stresses being imposed on the steering mechanism due to bad road conditions and severe braking.

CASTOR . . . is the amount in degrees that the top of the king pin is tilted to the rear of the vehicle. With correct axle castor a vehicle should run in a straight line with the steering wheel free. Castor also assists the steering to return to central after making a turn. Too much castor makes a vehicle hard to steer, and is conducive to "shimmying." Insufficient castor causes the front wheels to wander, and necessitates the vehicle being "steered" continually.

COMPRESSION RATIO . . . the ratio of the volume of air-fuel mixture above the piston when the piston is at the bottom of its stroke, compared to the volume when the piston is at the top of its stroke. This is actually a numerical expression of the compression of air-fuel mixture prior to burning.

CYCLEBOND . . a trade name for a method of permanently fusing brake linings to the brake shoes under heat and pressure. No rivets are required.

DEFLECTION RATE (SPRING) . . . a measurement determined by the load in pounds on a spring necessary to compress or deflect the spring 1 inch.

DIFFERENTIAL . . . a rear axle gear assembly which permits one axle shaft and wheel to turn more slowly, or faster, than the other when going around corners. It also allows equal torque to be applied to each driving wheel at all times.

DISPLACEMENT (ENGINE) . . . the stroke of the piston multiplied by the area of the cylinder. This is multiplied by the number of cylinders in the engine.

DOWNDRAFT CARBURETTOR . . . a carburettor in which the air enters at the top, mixes with the fuel, and leaves (mixed with fuel) at the bottom.

DYNAMICALLY BALANCED CRANKSHAFT . . . a crankshaft that has been properly balanced so that it will not vibrate while in motion.

FIFTH WHEEL . . . a coupling device mounted on a tractor and used to connect a semi-trailer. It serves as a hinge-point to take care of changes in direction of travel between the tractor and semi-trailer.

FULL-FLOATING AXLE . . . a type of axle in which the wheels are mounted on the housing; the housing supports all the weight. The only function of the axle shaft is to transmit power to the wheels.

GEAR-BEFORE-AXLE STEERING . . . a steering linkage with the gear mechanism placed ahead of the front axle, and with the drag link running aft to the right front wheel.

GOVERNOR . . . a mechanical device controlling the maximum speed at which an engine can operate.

GRADEABILITY . . . per cent. grade that can be climbed by a truck.

GROSS HORSEPOWER . . . the maximum horsepower developed by an engine without the fan, water pump, generator, etc., connected.

GROSS TORQUE . . . the maximum torque or rotary force developed by an engine without the fan, water pump, generator, etc., connected.

G.C.W. . . . gross combination weight. Total weight of fully equipped tractor, trailer or trailers, and payload.

G.V.W. . . . gross vehicle weight. Total weight of fully equipped truck (chassis, cab, body, etc.) and payload.

HELICAL TRANSMISSION . . . a transmission in which the gear teeth are positioned diagonally (in a "helix") across the face of each gear.

HIGH-LIFT CAMSHAFT . . . cams contoured to lift valve heads high off valve seats. Because of greater opening, gases flow more freely in and out of the combustion chamber.

HORSEPOWER . . . a term used to denote the work done in a given period of time. Brake horsepower is a measure of the power available from an engine as measured on a dynamometer.

HOTCHKISS DRIVE . . . a type of drive in which the driving forces (both thrust and torque) are transmitted from the rear axle to the frame through the rear springs which "cushion" this force, thereby providing a smoother power application.

NETT HORSEPOWER . . . the engine's "usable" horsepower; that available at the flywheel when the fan, water pump, generator, etc., are connected and operated.

NETT TORQUE . . . the "usable" torque or rotary force developed by an engine when the fan, water pump, generator, etc., are connected and operating.

PAYLOAD . . . actual weight of the cargo carried by the truck. (Does not include weight of body.)

PAYLOAD AND BODY ALLOWANCE . . . maximum combined weight of body and payload recommended by the manufacturer as permissible for normal service of a specific truck. When the actual weight of the body is subtracted from the body and payload allowance the result is the allowable payload.

PLY RATING . . . a standard unit used in expressing the strength of tyres. The unit is based on the strength of a single ply of designated construction. (Note: An 8-ply rating does not necessarily mean that 8 plies are used in building up the tyre . . . it merely means that the tyre has a strength equivalent to 8 standard units.)

POWER TAKE-OFF . . . a mechanical device mounted on the side of the transmission to transmit engine power to auxiliary equipment.

POWER TRAIN . . . all elements involved in the transmission of power from the engine to the wheels. Fluid coupling (if so equipped), clutch, transmission, propeller shaft, universal joints, differential, and rear axle shafts.

PRESSURE LUBRICATION . . . a lubrication system which employs an oil pump to force oil under pressure to the desired points.

REAR AXLE RATIO . . . ratio of the speed of the propeller shaft to the speed of the rear axle shaft.

SECTION MODULUS . . . a figure that compares the relative ability of frame side rails to support a load. It considers load thrust, frame depth, flange width, and material thickness only. No consideration is given to material or type and location of cross-members.

SEMI-ELLIPTICAL SPRING . . . a type of spring basically consisting of one main leaf which has its ends formed into eyes for connection to spring brackets and a number of shorter leaves of uniformly decreasing length.

SEMI-FLOATING REAR AXLE . . . in this type axle the wheel is mounted on the axle shaft. Truck weight is supported by the axle shaft; the shaft also transmits driving torque to the wheels.

SINGLE-SPEED, SINGLE-REDUCTION REAR AXLE . . . a rear axle assembly in which a small driving gear (called a pinion gear) connected to the propeller shaft meshes with a large ring gear to turn the axle shaft. The pulling ability at the rear wheels is increased in proportion to the gear reduction.

SINGLE-SPEED, DOUBLE-REDUCTION AXLE . . . a rear axle assembly in which the desired high numerical (more powerful) gear ratio is obtained by the use of two sets of gears. This design provides the desired ratio and gear strength, with no sacrifice in road clearance.

SPUR GEAR TRANSMISSION . . . a transmission in which the gear teeth are positioned straight across the face of each gear.

STATICALLY BALANCED CRANKSHAFT . . . a crankshaft that has been properly balanced while at rest.

SYNCHRO-SHIFT TRANSMISSION . . . a transmission in which the gears are in constant mesh, but with only the selected gear driving the propeller shaft. A synchronising mechanism slows down the faster gear, so that engagement of the shifting mechanism can be made quickly and noiselessly.

TAXABLE HORSEPOWER RATING . . . a horsepower rating used for taxing purposes. It is a calculated rating based on an accepted arbitrary formula.

THERMAL EFFICIENCY (Burning) . . . the measure of an engine's ability to convert heat energy (from the burning of fuel) into useful or mechanical work.

TOE IN . . . as the wheels are inclined outwards at the top for camber this tends to make them steer away from the vehicle. For example, if you roll a coin upright it will continue in a straight line, but if you give it an initial tilt it will roll in a circle. To overcome this effect, and yet retain the favourable camber action, the front wheels are both set to steer slightly inwards. That is, the distance between the two front tyres measured at the front of the wheel is slightly less than at the rear.

TORQUE . . . the rotary force developed by the engine, expressed as nett or gross.

TRACTOR . . . usually a short-wheelbase truck equipped with a fifth wheel used for pulling various types of trailers.

TRANSMISSION GEAR RATIO . . . the ratio of engine speed to propeller shaft speed in transmission gear selected.

TREAD . . . distance at the ground between centres of tyres on the same axle. With dual tyres it is the distance between the centres of the dual tyres on the same axle.

TURNING DIAMETER (Min.) . . . the distance across the centre of the smallest circle in which a specific truck model will turn.

TURNING RADIUS . . . one-half the turning diameter.

TWO-SPEED REAR AXLE (also called a Dual-Purpose Rear Axle) **. . .** an axle assembly containing two distinct gear ratios, either of which may be selected by the driver to meet varying operating conditions.

UNSPRUNG WEIGHT . . . that weight not supported by springs, i.e., wheels, tyres, axles, etc.

VALVE SEAT INSERTS . . . extra-hard, special alloy steel rings pressed into the cylinder block to resist pounding of the valves and minimise valve grinding.

VOLUMETRIC EFFICIENCY (Breathing) . . . refers to the breathing capacity of an engine; it is the ratio of air inducted per cycle to the total displacement of the engine. Lateral valve arrangement permits larger valves and allows an unrestricted flow of gases through the combustion chamber.

WEIGHT DISTRIBUTION (GROSS) . . . a distribution of the total equipment and payload weight on the front and rear tyres.

WHEELBASE . . . the distance measured between the centres of the front and the rear axles.

MODELS	CHRYSLER I-08C & I-08D	FORD FREIGHTER MODEL F100	INTERNATIONAL AS 110	INTERNATIONAL AS 112
1. Max G.V.W. (Lbs.)	5250	5100	5290	6000
AXLE: Front.				
2. Capacity (Lbs.)	2200	2600	2700	2700
3. Type	Rev. Elliott I Beam	Modified I Beam	I Beam	I Beam
AXLE: Rear.				
4. Capacity, Single Speed	3300	3300	3300	3300
5. Capacity, Two Speed	N.A.	N.A.		
6. Type, Single Speed	Semi Floating Hypoid	Semi Floating Hypoid	Semi Floating Hypoid	Semi Floating Hypoid
7. Two Speed	N.A.	N.A.		
8. Ratios, Single Speed	4.1:1	3.92:1	4.1:1	4.1:1
9. Two Speed	N.A.	N.A.		
BRAKES.				
10. Brakes, Service Type	Hydraulic	Hydraulic	Hydraulic Duo Servo	Hydraulic Duo Servo
11. Drum Diameter, Front	10	11	12	12
Rear	11	11	12	12
13. Lining Size, Front	10 x 2	11 x 2	12 x 1¾	12 x 1¾
Rear	11 x 2	11 x 1¾	12 x 1¾	12 x 1¾
15. Total Braking Area	174.56 sq. ins.	178.64 sq. ins.	157.4 sq. ins.	157.4 sq. ins.
16. Booster	No	No	No	No
17. Brakes, Parking Type	Mechanical	Mechanical	Mechanical	Mechanical
18. Brake Location	Prop. Shaft	Rear Wheels	Prop. Shaft	Prop. Shaft
CLUTCH:				
19. Type	Single plate	Single plate	Single plate	Single plate
20. Inside Diameter, Ins.	6¾ in.	6.5		
21. Outside Diameter, Ins.	9⅞	11	10	10
22. Frictional Area	81.6	123.7	94.24	94.24
COOLING SYSTEM.				
23. Fan Diameter, Ins.	17	18	16	16
24. Number of Blades	4	4	4	4
25. Core Thickness	2	3	2	
26. Frontal Area, Sq. in.	438	456	400	400
27. Thermostat	Yes	Yes	Yes	Yes
28. Capacity (Imp. Galls.)	3⅞	4¾	3¾	3¾
DIMENSIONS:				
29. Wheelbase, Ins.	108	110	115	127
30. Cab to axle	40	40.52	39.3/16	51.3/16
31. Cab to end of Frame	76	76.31	72.3/16	84.3/16

MODELS	CHRYSLER 1-08C & 1-08D	FORD FREIGHTER MODEL F100	INTERNATIONAL AS 110	INTERNATIONAL AS 112
ENGINE:				
32. Type	L Head	O.H.V.	O.H.V.	O.H.V.
33. No. of Cylinders	6	8	6	6
34. Bore	3.7/16	3.5/8	3.9/16	3.9/16
35. Stroke	4.1/2	3.7/64	3.11/16	3.11/16
36. Piston Displacement	250.6	256	220.5	220.5
37. Horsepower Rating	28.35	41.9	30.4	30.4
38. Max. Brake Horsepower	114 @ 3600	128 @ 3900	100 @ 3600	100 @ 3600
39. Max. Torque in Lbs. Ft.	201 @ 1400	210 @ 1800	173.5 @ 2000	173.5 @ 2000
40. Compression Ratio	6.83:1	6.7:1	6.5:1	6.5:1
CRANKSHAFT:				
41. No. of Main Bearings	4	5	4	4
42. Diam. Main Bearings	2.5	2.5	$2\frac{3}{4}$	$2\frac{3}{4}$
43. Con. Rod Bearings Diam.	2.125	2.188	$2\frac{3}{8}$	$2\frac{3}{8}$
44. Piston Material	Aluminium Alloy Tin Plated	Aluminium Alloy	Aluminium Alloy	Aluminium Alloy
45. No. of Comp. Rings	2	2	3	3
46. No. of Oil Rings	2	1	1	1
47. Oil Filter	Standard	Standard	Standard	Standard
48. Air Cleaner—Type	Oil Bath	Oil Bath	Oil Bath	Oil Bath
49. Camshaft, Type of Drive	Chain	Chain	Chain	Chain
50. Electrical System	12v. Lucas	6v.	6v.	6v. Delco
51. Battery Capacity	9 Pl 60 AH	17P 90 AH	105 AH 15 PL	105 AH 15 PL
52. Distributor Advance	Vac-Auto.	Vac.-Auto.	Vac.-Auto.	Vac.-Auto.
53. Frame, Max. Depth	6.1/32	5.92	6.3/32	6.3/32
54. Width of Top Flange	2.1/64	2.25	2.19/64	2.19/64
55. Stock Thickness	9/64	.15	11/64	11/64
56. Number Crossmembers	5	5	6	6
57. Fuel Tank Capacity Imp. Gallons	15	14	12.1/2	12.1/2
58. Shock Absorbers, Type	Hyd. Telescopic	Hyd. Telescopic		
59. Front	Direct Double Acting	Direct Double Acting	Direct Double Acting	Direct Double Acting
60. Rear	Direct Double Acting	Direct Double Acting	Direct Double Acting	Direct Double Acting
SPRINGS: Front.				
61. Capacity	1000 lbs.	950 lbs.		
62. Length, Ins.	42	42	42	42
63. Width	1.3/4	1.3/4	1.3/4	1.3/4
64. No. of Leaves	9	8	9	9

MODELS	CHRYSLER I-08C & I-08D	FORD FREIGHTER MODEL F100	INTERNATIONAL AS 110	INTERNATIONAL AS 112
SPRINGS: Rear.				
65. Capacity	1600 lbs.	1350 lbs.		
66. Length, Ins.	52	52	52	52
67. Width, Ins.	1.3/4	2	1.3/4	1.3/4
68. No. of Leaves	10	9	12	12
69. Steering Type	Worm & Roller Tooth	Worm and Roller	Cam and Lever	Cam and Lever
70. Ratio	18.2:1	18.2:1	15.4:1	15.4:1
71. Turning Circle (Ft.)	36.1/2	41	38	41 ft. 6 in.
72. Tyres, Front	6.50 x 16 x 6	6.50 x 16 x 6	6.50 x 16 x 6	700 x 16 x 8
73. Rear	6.50 x 16 x 6	6.50 x 16 x 6	6.50 x 16 x 6	700 x 16 x 8
74. Spare	Yes	Yes	Yes	Yes
TRANSMISSION:				
75. Forward Speeds	3 (4-speed optional)	3	3	3
76. Ratios: 1st	3.31:1	3.71:1	3.053:1	3.053.1
77. 2nd	1.79:1	1.87:1	1.481:1	1.481:1
78. 3rd	Direct	Direct	Direct	Direct
79. 4th	—	—	—	
80. 5th	—	—	—	
81. Reverse	4.33:1	4.59:1	3.707:1	3.707:1
82. Gear Lever Location	On Steering	On Steering	On Steering	On Steering
83. Synchromesh	2nd & 3rd	2nd and 3rd		
WHEELS:				
84. Type	Steel Disc. Safety Rims	Steel Disc	Steel Disc	Steel Disc
85. No. of Studs	5	5	5	5
86. Rim Size: Front	4.5	4.5	4.5	4.5
87. Rear	4.5	4.5	4.5	4.5
88. Cab Type	Conventional	Conventional	Conventional	Conventional
89. Seat Type	Full Width	Full Width	Full Width	Full Width
90. Seating Capacity	3	3	3	3
91. Max. G.V.W.	5250	5100	5290	6000
92. Max. Capacity with Standard Tyre Equipt.	5160	5160	5160	6,480

MODELS	CHRYSLER 2-26C and 2-33B		INTERNATIONAL AS 130	CHEVROLET LD 30-CWT.		BEDFORD A2 30-CWT.
1. Max G.V.W.	7500	8000	9000	5820	8960	7840
AXLE. Front.						
2. Capacity (Lbs.)	2500		3100	2500	2500	
3. Type	Rev. Elliott I Beam		I Beam	I Beam	I Beam	Elliott I Beam
AXLE: Rear.						
4. Capacity, Single Speed	5800		6000	5000	5000	
5. Two Speed	N/A		N/A	N/A	N/A	N/A
6. Type, Single Speed	F.F. Hypoid		Hypoid F.F.	Hypoid	Hypoid	Semi-Floating
7. Two Speed	N/A		N/A	N/A	N/A	N/A
8. Ratios, Single Speed	4.89:1		4.875:1	4.57.1	5.43:1	4.71:1
9. Two Speed	N/A		N/A	N/A		N/A
BRAKES.						
10. Service Type	Hyd.		Hydraulic Duo-Servo	Hyd.	Hyd.	Hyd.
11. Drum Diameter, Front	11		12	11	11	13
12. Rear	14.1/8		14	12	12	14
13. Lining Size, Front	11 x 2		12 x 1.3/4	12 x 2	14 x 2.1/2	1.3/4
14. Rear	14.1/8 x 2		14 x 2.1/4	12 x 2	15 x 4	2.1/2
15. Total Braking Area	209		200.2	186	375	190.8
16. Booster	No		No	No	No	No
17. Brakes, Parking Type	Mechanical		Mechanical	Mech.	Mech.	Mechanical
18. Brake Location	Prop. Shaft		Prop. Shaft	Rr. Wheels	Rr. Wheels	Rear Wheels
CLUTCH:						
19. Type	Single Plate		Single Plate	Single Plate	Single Plate	Single Plate
20. Inside Diameter, ins.	6¾ in.		6			
21. Outside Diameter, ins.	9⅞		10	10	11	10
22. Frictional Area	81.6		94.24	100.53	123.7	94.5 Sq. Ins.
COOLING SYSTEM:						
23. Fan Diameter, ins.	17		17	18	18	17.3/4
24. No. of Blades	4		4	4	4	4
25. Core Thickness	2			2	3	2.3/4
26. Frontal Area, sq. ins.	438		400	407	407	400
27. Thermostat	Yes		Yes	Yes	Yes	Yes
28. Capacity (Imp. Galls.)	3.7/8		3.3/4	3.1/3	3.1/2	3.3/4
DIMENSIONS.						
29. Wheelbase, ins.	126 and 133		134	125.1/4	137	119
30. Cab. to Axle	57.3/4	64.3/4	58.3/16	48.1/4	60	60
31. Cab. to end of Frame	101.29/32	109	102.3/16	87.3/4	107	100

MODELS	CHRYSLER 2-26C and 2-33B	INTERNATIONAL AS 130	CHEVROLET LD 30-CWT.		BEDFORD A2 30-CWT.
ENGINE:					
32. Type	L. Head	O.H.V.	O.H.V.		O.H.V.
33. No. of Cylinders	6	6	6		6
34. Bore	3.7/16	3.9/16	3.9/16		3.3/8
35. Stroke	4.1/2	3.11/16	3.15/16		4
36. Piston Displacement	250.6	220	235.5		214.7
37. Horsepower Rating	28.35	30.4	30.4		27.34
38. Max. Brake Horsepower	114 @ 3600	100 @ 3600	107 @ 3700		76 @ 3200
39. Max Torque in Lbs. Ft.	201 @ 1400	173.5 @ 2000	193 @ 2,000		168.5 @ 1000
40. Compression Ratio	6.83:1	6.5:1	7.1:1		6.22:1
CRANKSHAFT:					
41. No. of Main Bearings	4	4	4		4
42. Diameter of Main Bearings	2.5	2.3/4	2.6850—2.7796		2.1025—2.3215
43. Con. Rod Bearings Diam.	2.125	2.3/8	2.3127		2.095
44. Piston Material	Aluminium Alloy Tin Plated	Aluminium Alloy	Cast Alloy Iron		Cast Iron
45. No. of Comp Rings	2	3	2		2
46. No. of Oil Rings	2	1	1		1
47. Oil Filter	Std.	Std.	No		Std.
48. Air Cleaner—Type	Oil Bath	Oil Bath	Oil Bath		Oil Bath
49. Camshaft, Type of Drive	Chain	Chain	Gear		Chain
50. Electrical System	12v. Lucas	6v.	6v.	6v.	12v. Lucas
51. Battery Capacity	9 Pl 60AH	105 AH 15 Pl	13 Pl 92 AH	13 Pl 92 AH	60 amp.
52. Distributor Advance	Vac.-Automatic	Vac.-Automatic	Vac. Auto.	Vac. Auto.	Vac. Auto.
FRAME:					
53. Max. Depth	6.1/8	7	5.27/32	7	7.7/16
54. Width of Top Flange	2.1/16	3	2.1/4	2.3/4	2.1/4
55. Thickness	3/16	3/16	3/16	7/32	11/64
FUEL TANK CAPACITY:					
56. Imp. Galls.	15	12.1/2	13.1/3	13.1/3	12
SHOCK ABSORBERS:					
57. Type	Hyd. Telescopic	Double Acting	Hyd.	Hyd.	Hydraulic
58. Front	Double Acting	Double Acting	Yes	Yes	Yes
59. Rear	No	No	Yes	Yes	Yes

MODELS	CHRYSLER 2-26C and 2-33B		INTERNATIONAL AR 130	CHEVROLET LD	30-CWT.	BEDFORD A2 30-CWT
SPRINGS, Front:						
60. Capacity	1400					
61. Length, ins.	42		42	38	40	45
62. Width, ins.	1.3/4		1./34	1.3/4	2	2.1/4
63. No. of Leaves	9		10	8	7	6
64. Capacity — Rear	2500	2900 (H.D.)				
65. Length, ins., Rear	52		52	46	46	45
66. Width, ins., Rear	1.3/4		2.1/4	2	2.1/2	2.1/2
67. No. of Leaves	12		10	9	10	11
STEERING:						
68. Type of Gear	Worm and Roller Tooth		Cam and 2 Lever	Recirc.	Ball	Worm
69. Ratio	18.2:1		20:1	26.24		21:1
70. Turning Circle (Feet)	R 42 L.46.1/2	R 45 L.47	45 feet	R47.1/2 & L49.1/2		49
TYRES:						
71. Front	7.00 x 16 x 6	6.50 x 16 x 6	6.50 x 16 x 8	7.00 x 17 x 6	6.50 x 20 x 6	8.25 x 16-8
72. Rear, Single or Dual	7.00 x 16 x 6S	6.50 x 16 x 6D	6.50 x 16 x 8D	7.00 x 17 x 6S	7.00 x 20 x 10S	8.25 x 16-8S
73. Spare	No	No	Yes	Extra	Extra	No
TRANSMISSION:	Synchro.	Synchro.	Synchro	Synchro.	Synchro.	
74. Forward Speeds	3	4 *	4	4	4	4
75. Ratios. 1st	3.3:1	6.40:1	6.392:1	7.06:1	7.06:1	7.059:1
76. 2nd	1.79:1	3.09:1	3.092:1	3.58:1	3.58:1	3.332:1
77. 3rd	Direct	1.69:1	1.686:1	1.71:1	1.71:1	1.711:1
78. 4th	—	Direct	Direct	Direct	Direct	Direct
79. 5th	—	—	—	—	—	—
80. Reverse	4.3:1	7.62.1	7.82:1	6.7:1	6.7:1	7.059:1
81. Gear Lever Location	On Steering	Transmission	Transmission	Transmission	Transmission	Transmission
WHEELS:						
82. Type	Disc		Disc	Disc	Disc	Disc
83. No. of Studs	6		7	8	F.5 R10	8
84. Rim Size, Front	5.50	4.50	4.50	5	5	5
85. Rear	5.50	4.50	4.50	5	5	5
86. Cab. Type	Conventional	Conventional	Conventional	Conventional	Conventional	Conventional
87. Seat Type	Full Width	Full Width	Full Width	Full Width	Full Width	Full Width
88. Seating Capacity	3		3	3	3	3
89. Max. G.V.W.	7,500	8,000	8,000	5,820	8,960	7,840
90. Max. Capacity Std. Tyre Equipment	5,760	7,740	8,820	6,300	7,300	8,000

* 4-speed transmission optional on 2-26C and standard on 2-33B.

MODELS	CHRYSLER 3-59B	FORD 2-ton F.500	FORD 3½-ton F.500	CHEVROLET 3-ton	BEDFORD A3L 3-ton	COMMER. T255	AUSTIN 3-ton
1. Max. G.V.W. (Lbs.)	12320	11000	14500	14000	13192	12000	13440
AXLE: Front.							
2. Capacity (Lbs.)	3750	4600	4600	4000	3400	4200	5040
3. Type	Rev. Ell. I Beam	I Beam	I Beam	I Beam	I Beam	Rev. Ell. I Beam	I Beam
AXLE: Rear.							
4. Capacity, Single Speed	9000	11000	11000	11000	10000	12500	9520
5. Two Speed	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6. Type, Single Speed	Spiral Bevel	Hypoid FF	Hypoid FF	Hypoid FF	Spiral Bevel	Spiral Bevel	Spiral Bevel
7. Two Speed	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8. Ratios, Single Speed	5.85:1	6.2:1	6.2:1	6.17:1	6.2:1	6:1	4.7:1
9. Two Speed	N/A	N/A	N/A	N/A	N/A	N/A	
BRAKES:							
10. Service Type	Hydraulic	Hydraulic	Hydraulic	Hydraulic	Hyd. Vac. Servo	Hydraulic	Hydraulic
11. Drum Diameter, Front	14	13	13	14	13	14	14
12. Rear	14	15	15	15	14	14	14
13. Lining Size, Front	14 x 2.1/2	13 x 2.1/4	13 x 2.1/4	14 x 2.1/2	13.1/2 x 1.3/4	14 x 2.1/2	11.1/2 x 1.3/4
14. Rear	14 x 2.1/2	15 x 4	15 x 4	15 x 4	14.1/2 x 3.1/4	14 x 3.1/2	13.7/16 x 2½
15. Total Braking Area	245 sq. in.	366 sq. in.	366 sq. in.	375	285.5 sq. in.	330 sq. in.	240 sq. in.
16. Booster	No	Yes	Yes	Yes	Yes	No	No
17. Brakes, Parking Type	Mechanical	Mechanical	Mechanical	Mechanical	Mechanical	Mechanical	Mechanical
18. Brake Location	Rear Wheels	Transmission	T/mission	Rr. Wheels	Prop. Shaft	Rr. Wheels	Rr. Wheels
CLUTCH:							
19. Type	Single Plate	Single Plt.	Sin/Plate	Single Plt.	Single Plt.	Single Plt.	Single Plt.
20. Inside Diameter Ins.	6¾	6.5	6.5	6.5	6.13	6.75	
21. Outside Diameter Ins.	11	11	11	11	10	11	11
22. Frictional Area	113 sq. in.	123.7 sq. in.	123.7	123.7	94.25 sq. in.	114.2 sq. in.	118.5
COOLING SYSTEM:							
23. Fan Diameter Ins.	19	18		18	17.3/4	18	18
24. No. of Blades	4	4		4	4	6	6
25. Core Thickness	2	3		3	2.3/4	2.3/4	2.3/4
26. Frontal Area Sq. Ins.	462	456		407	400	426	419.3/4
27. Thermostat	Yes	Yes		Yes	Yes	Yes	Yes
28. Capacity (Imp. Galls.)	4	4.3/4		3.1/2	3.3/4	4.1/4	3.7/8
DIMENSIONS:							
29. Wheelbase, Ins.	159	130,	154	161	143	155	138
30. Cab. to Axle	91.3/8	84.1/2	84.1/2	84	84	97.1/8	82
31. Cab. to end of frame	145	99,	123	118.7/8	121	149.1/4	124

MODELS	CHRYSLER 3-59B	FORD 2-ton	FORD 3½-ton F. 500	CHEVROLET 3-ton	BEDFORD A3L 3-ton	COMMER, T255	AUSTIN 3-ton
ENGINE:							
32. Type	L.Head	O.H.V. V8	O.H.V.	O.H.V.	O.H.V.	O.H.V.	O.H.V.
33. Number of Cylinders	6	8	6	6	6	6	6
34. Bore	3.7/16	3.5/8	3.9/16	3.3/8		3.1/2	3.7/16
35. Stroke	4.1/2	3.7/64	3.15/16	4		4.3/8	4.3/8
36. Piston Displacement	250.6	256	235.5	214.7		252.6	243.6
37. Horsepower Rating	28.35	41.9	30.4	27.34		29.4	28.2
38. Max. Brake Horsepower	114 @ 3600	128 @ 3900	107 @ 3700	75.9 @ 3200		85 @ 3100	68 @ 2750
39. Max. Torque in Lb. Ft.	201 @ 1400	210 @ 1800-2400	193 @ 2000	168.5 @ 1000		200 @ 1200	174 @ 1000
40. Compression Ratio	6.83:1	6.7:1	7.1:1	6.22:1		6.48:1	6.08:1
41. No. of Main Bearings	4	5	4	4		7	4
42. Diam. of Main Bearings	2.5	2.5	2.6850-2.7786	2.25		2.75	2.4590
43. Con. Rod Bearings Diam.	2.125	2.188	2.3	2.096		2.25	2.1048
44. Piston Material	Alum. Alloy	Alum. Alloy	Cast. Alum. Alloy	C.I. Tin Pltd.		Loex	C.I. Alloy
45. No. of Comp. Rings	2	2	2	2		2	2
46. No. of Oil Rings	2	1	1	1		1	1
47. Oil Filter	Yes	Yes	No	Yes		Yes	
48. Air Cleaner Type	Oil Bath	Oil Bath	Oil Bath	Oil Bath		Oil Bath	Gauze
49. Camshaft, type of Drive	Chain	Chain	Gear	Chain		Chain	Chain
50. Electrical System	Lucas 12v.	6 volt	6 volt	6v. Delco	Lucas 12v.	Lucas 12v.	Lucas 12v.
51. Battery Capacity	9 Pl 60AH	17 Pl 90AH		13 Pl.92 AH	60 AH	11 Pl. 64 AH	63AH
52. Distributor Advance	Vac. Auto.	Vac. Auto.	Vac. Auto.	Vac. Auto.	Vac. Auto.	Vac. Centfgl.	Vac.
FRAME:							
53. Max. Depth	8.7/16	7	7	8.7/8	7.15/32	8	7.1/2
54. Width of top Flange	2.31/32	2.3/4	2.3/4	2.7/8	2.11/16	2.9/16	2.11/16
55. Thickness	3/16	.232	.408	* 1/4	3/16	7/32	3/16
FUEL TANK CAPACITY:							
56. Imp. Galls.	15	16.1/2	16.1/2	15	12	16	16
SHOCK ABSORBERS:							
57. Type	—						
58. Front	—						
59. Rear	—						
SPRINGS: Front.							
60. Capacity	1800	1350	1600		1600	1500	
61. Length Ins.	45	45	45	40	45	42	40
62. Width Ins.	2	2	2	2	2.1/4	2.1/4	2.1/4
63. No. of Leaves	10	7	8	9	8	8 plus 1	10

MODELS	CHRYSLER 3-59B	FORD 2-ton F.500	FORD 3½-ton F.500	CHEVROLET 3-ton	BEDFORD A3L 3-ton	COMMER. T255	AUSTIN 3-ton
64. Capacity—Rear	3300 plus 1200	4150	4650 plus 950		4808	3400	
65. Length Ins.—Rear	54	52	52	46	45	46	45
66. Width Ins.—Rear	2.1/2	2.1/2	2.1/2	2.1/2	2.1/2	2.1/2	2.1/2
67. No. of Leaves and Auxilliary—Rear	11 Plus 4 Aux.	10	11 plus 5	11	11	16	11 plus 3
STEERING:							
68. Type of Gear	Cam & Lever	Worm and Roller	Worm & Roller	Worm and Nut	Worm & Sector	Worm and Wheel	Cam gear.
69. Ratio	16:1	20.4:1	20.4:1	26.24:1	21:1	16:1	20:1
70. Turning Circle (feet)	56	WB.130 in. 48 WB.154 in. 55	48 55	54.5	52	47	48
		* THIS INCLUDES REINFORCEMENT					
TYRES:							
71. Front	7.00 x 20-8	6.50 x 20 x 6	7.50 x 20 x 8	7.00 x 20 x 8	7.00 x 20 x 8	7.00 x 20 x 8	7.00 x 20 x 8
72. Rear, Single or Dual	7.00 x 20-8D	6.50 x 20 x 6D	7.50 x 20 x 8D	7.00 x 20 x 10D	7.00 x 20 x 10D	7.00 x 20 x 8D	7.00 x 20 x 10D
73. Spare	No	No	No	No	No	Yes	Yes
TRANSMISSION.		Synchro		Synchro			
74. Forward Speeds	4	4	4	4	4	4	4
75. Ratios: 1st	6.061.1	6.4:1	6.4:1	7.06:1	7.059:1	6.414.1	9:1
76. 2nd	3.473:1	3.09:1	3.09.1	3.58:1	3.332:1	3.366:1	4.34:1
77. 3rd	1.746:1	1.69.1	1.69:1	1.71:1	1.711.1	1.788:1	2.12:1
78. 4th	Direct	Direct	Direct	Direct	Direct	Direct	Direct
79. 5th	—	—	—	—	—	—	—
80. Reverse	6.061:1	7.82	7.82:1	6.7:1	7.059.1	8.246:1	8.98:1
81. Gear Lever Location	Transmission	T/Mission	T/mission	Transmission	Transmission	Transmission	Transmission
WHEELS:							
82. Type	Disc	Disc	Disc	Disc	Disc	Disc	Disc
83. No. of Studs	6	5	5	5 and 10 Rr.	8	8	6
84. Rim Size: Front	5.00	5.00	6.00	5	B5.0	B5.0	
86. Cab Type	Conventional	Conventional	Conventional	Conventional	Conventional	Conventional	Conventional
87. Seat Type	Full width	Full width	Full width	Full width	Full width	Full width	Full width
88. Seating Capacity	3	3	3	3	3	3	3
89. Max. G.V.W.	12,320	11,000	14,500	14,000	13,192	12,000	13,440
90. Max. Capacity with standard Tyre Equipment	12,000		14,250		13,000	12,000	13,500

MODEL	CHRYSLER 6-71B	FORD 5-ton CANADIAN F.600	International AS 162	CHEVROLET 5-ton	BEDFORD A5L 5-ton	COMMER. T467	AUSTIN 5-ton
1. Max. G.V.W. (Lbs.)	18500	18000	18500	18000	18480	19500	18480
AXLE: Front.							
2. Capacity (lbs.)	6000	4600	4700	4500	4800	5300	
3. Type	Rev. Ell. I Beam	Rev. Ell. I Beam	Elliott I Beam	I Beam	Elliott I	Rev. Ell. I Beam	I. Sect.
AXLE: Rear.							
4. Capacity, Single Speed	16500	N/A	N/A			16000	13000
5. Two Speed	15500	13000	13000	12500	16000		14460
6. Type, Single Speed	Hypoid	N/A	Hypoid FF	Hypoid	FF Hypoid	FF S. Bev.	FF S. Bev.
7. Two Speed	S. Bevel	S. Bevel	Hyp. Bev.	S.Bevel	Optional	S. Bevel	
8. Ratios, Single Speed	6.66:1	N/A			7.4:1	7.14:1	7.2:1
9. Two Speed	5.83 & 8.11:1	6.33 and 8. 81	6.33 and 8.81:1	6.7 and 8.86:1	5.83 and 8.11	6.33:1 8.81:1	5.83.1 8.11:1
BRAKES.							
10. Service Type	Hyd. Vac. Servo	Hyd. Vac.	Hyd.	Hyd. Vac.	Hyd. Vac.	Hyd.	Hyd.
11. Drum Diameter, Front	16	15	12.1/8	14	14	16	16
12. Rear	16	15	15	15	14	15.1/4	16
13. Lining Size, Front	16 x 2.1/2	15 x 4	12.1/8 x 2.1/4	14 x 2	14⅜ x 2⅛	16 x 2.1/2	
14. Rear	16 x 3.1/2	15 x 4	15 x 4	15 x 4	14⅜ x 4¼	15¼ x 4¼	
15. Total Braking Area, sq. ins.	363	366	375.1/2	375	373	407	369
16. Booster	Yes	Yes	Hyd. Vac. 6¾ ins.	Yes	Yes	Yes 5¼ in.	Yes
17. Brakes, Parking Type	Mech.	Mech.	Mech.	Mech.	Mech.	Mech.	Mech.
18. Brake Location	Rr. Wheels	Prop. Shaft	Prop. Shaft	Prop. Shaft	Rr. Wheels	Rr. Wheels	Rr. Wheels
CLUTCH:							
19. Type	Single Plate	Single Plate	Single Plate	Single Plate	Single Plt.	Single Plt.	Single Plt.
20. Inside Diameter, ins.	6¾ in.	6.5			6.1/8	6.3/4	
21. Outside Diameter, ins.	11	11	11	11	10	11	11
22. Frictional Area, sq. ins.	113	123.7	111.5	123.7	94.25	114.2	
COOLING SYSTEM:			Pump				
23. Fan Diameter, ins.	19	18	18.1/2	18	17.3/4	18	
24. Number of Blades	4	4	4	4	4	6	4
25. Core Thickness, ins.	2	3		3	2.3/4	2.3/4	
26. Frontal Area, sq. ins.	462	456	400	407	400	426	
27. Thermostat	Yes	Yes	Yes	Yes	Yes	Yes	
28. Capacity (Imp. Galls.)	4	4.3/4	3.3/4	3.3/4	3.3/4	4.1/4	4

MODEL	CHRYSLER 6-71B	FORD 5-ton CANADIAN F.600	International AS 162	CHEVROLET 5-ton	BEDFORD A5L 5-ton	COMMER. T467	AUSTIN 5-ton
DIMENSIONS:							
29. Wheelbase, ins.	171.1/2	* 154 and 172	172 154	161 and 179	167	167	160 and 120
30. Cab. to Axle	103.1/2	84½ x 102½	100⅛ 82⅛	84 and 102	108	109	104 and 64
31. Cab. to end of Frame	162.3/4	122½ and 162½	156.3/16 138.3/16	118 and 183	149	172	150 and 98
ENGINE:							
32. Type	L. Head	V8 O.H.V.	O.H.V.	O.H.V.	O.H.V.	O.H.V.	O.H.V.
33. Number of Cylinders	6	8	6	6	6	6	6
34. Bore	3.7/16	3.5/8	3.9/16	3.9/16	3.3/8	3.1/2	3.7/16
35. Stroke	4.1/2	3.7/64	4.018	3.15/16	4	4.3/8	4.3/8
36. Piston Displacement	250.6	256	240.3	235.5	214.7	252.6	243.6
37. Horsepower Rating	28.35	41.9	30.4	30.4	27.34	29.4	28.5
38. Max. Brake Horsepower	114 @ 3600	128 @ 3900	108 @ 3600	107 @ 3700	84 @ 3100	85 @ 3100	87 @ 3000
39. Max. Torque in Lbs. Ft.	201 @ 1400	210 @ 1800	192 @ 1400	193 @ 2000	170 @ 1000	200 @ 1200	196 @ 1000
40. Compression Ratio Crankshaft	6.83	6.7:1	6.5:1	7.1:1	6.22:1	6.48:1	6.4:1
41. No. of Main Bearings	4	5	4	4	4	7	4
42. Diameter Main Bearings	2.5	2.5	2.3/4	2.685-2.779	2.103-2.322	2.3/4	
43. Con. Rod Bearing Diameter	2.125	2.188	2.3/8	2.3127	2.096	2.25	
44. Piston Material	Alum. Alloy	Alum. Alloy	Alum. Alloy	Alum. Alloy	C.I.	Loex Alum.	C.I. Alloy
45. No. of Comp. Rings	2	2	3	2	2	2	
46. No. of Oil Rings	2	1	1	1	1		
47. Oil Filter	Yes	Yes	Yes	Yes	Yes	Yes	Extra Cost
48. Air Cleaner	Oil Bath	Oil Bath 1½	Oil Bath	Oil Bath	Oil Bath	Oil Bath	Gauze
49. Camshaft, Type of Drive	Chain	Chain	Chain	Gear	Chain	Chain	Chain
50. Electrical System	Lucas 12v.	6 volt	6 volt	6 volt 13 Plt.	12 volt	12 volt	12 volt
51. Battery Capacity	9 Pl. 60AH	90 AH	105 AH	92 AH	60 AH	64 AH 11Pl.	63 AH
52. Distributor Advance	Vac. Auto.	Vac. Auto	Vac. Auto.	Vac. Auto.	Vac. Auto.	Vac. Auto.	Vac. Auto.
FRAME:							
53. Max. Depth	8.1/2	7	8.1/4 8.3/16	8.7/8	8.8	8.56	9
54. Width of Top Flange	3	2.3/4	3 3	2.7/8	2.8	2.9/16	3
55. Thickness	7/32 in.	.408 *	1/4 1/4	1/4	1/4	7/32	3/16
FUEL TANK CAPACITY:							
56. Imp. Gallons	15	16.1/2	17.1/2	15	20	16	16
SHOCK ABSORBERS:							
57. Type							
58. Front							
59. Rear							

* This basic model available on W.B.'s. 130 in., 172 in., and 192 in.

MODEL	CHRYSLER 6-71B	FORD 5-ton CANADIAN F.600	International AS 162	CHEVROLET 5-ton	BEDFORD A5L 5-ton	COMMER. T467	AUSTIN 5-ton
SPRINGS: Front.							
60. Capacity	2000	1975				1700	
61. Length, ins.	45	45	46	40	45	42	45
62. Width, ins.	2.1/2	2	2.1/4	2	2.1/4	2.1/4	2.1/4
63. No. of Leaves, Rear	8	9	9	10	11	9 plus 1	10
64. Capacity (lbs.)	6500 plus 1650	4600 plus 2900				6325	
65. Length, ins.	54	52	52	46	60	54	60
66. Width, ins.	2.1/2	2.1/2	2.1/2	2.1/2	2.1/2	3	2.1/2
67. No. of Leaves	15 plus 6	10 plus 7	12 plus 9	15 plus 7	11 plus 9	11	8 plus 4
STEERING.							
68. Type of Gear	Cam & Roller	Worm & Roller	Cam & Lever	Recirc. Ball	Worm and Sector	Worm and Whl.	Cam Gear
69. Ratio	18:1	20.4:1	20:1	27.76.1	21:1	16:1	20:1
70. Turning Circle (feet)	L.51 R.61	154 WB L55 R54½ 172 WB L61 R59½	154 WB 51½ 172 WB 57	L54½ R59¾	56	56	120 WB 42 160 WB 50
		* 172 in. WB has reinforcing flitch plate.					
TYRES:							
71. Front	8.25 x 20 x 10	8.25 x 20 x 10	8.25 x 20 x 10	7.50 x 20 x 10	7.50 x 20 x 8	8.25 x 20 x 10	8.25 x 20 x 10
72. Rear Single or Dual	8.25 x 20 x 10D	8.25 x 20 x 10D	8.25 x 20 x 10D	7.50 x 20 x 10D	7.50 x 20 x 10D	8.25 x 20 x 10D	8.25 x 20 x 10D
73. Spare	No	No	No	No	No	Included	Included
TRANSMISSION:		Synchro	Synchro	Synchro.			
74. Forward Speeds	4	4	4	4	4	4	4
75. Ratios: 1st	6.061:1	6.40:1	6.398:1	7.06:1	7.059:1	7.227:1	6.061:1
76. 2nd	3.473:1	3.09:1	3.092:1	3.58:1	3.332:1	3.478.1	3.473:1
77. 3rd	1.746:1	1.69:1	1.686:1	1.71:1	1.711:1	1.838:1	1.746:1
78. 4th	Direct	Direct	Direct	Direct	Direct	Direct	Direct
79. 5th	—	—	—	—	—	—	—
80. Reverse	6.061.1	7.82:1	7.820.1	6.78:1	7.059:1	8.431:1	6.051:1
81. Gear Lever Location	Transmission	Transmission	Transmission	Transmission	Transmission	Transmission	Transmission
WHEELS:							
82. Type	Steel Disc.	Disc	Disc	Disc	Steel Disc	Steel Disc.	Steel Disc
83. No. of Studs	8	5	5	F.5 R.10	8	8	8
84. Rim Size, Front	6.50	6.00	6.00S	6.00	6.00	6.00	
85. Rear	6.50	6.00	6.00S	6.00	6.00	6.00	
86. Cab, Type	Conventional	Conventional	Conventional	Conventional	Conventional	Conventional	Conventional
87. Seating Type	Full width	Full width	Full width	Full width	Full width	Full width	Full width
88. Seating Capacity	3	3	3	3	3	3	3
89. Max. G.V.W.	18,500	18,000	18,500	18,000	18,480	19,500	18,480
90. Max. Capacity with Standard Tyre Equipment	17,400	17,400	17,400	16,200	15,500	17,400	17,400

MODEL	CHRYSLER 8-65B and 8-71B	INTERNATIONAL AS 182	COMMER R-741	BEDFORD SL 7-ton
1. Max. G.V.W. (Lbs.)	21,000	22,000	24,000	23,100
AXLE: Front.				
2. Capacity (Lbs.)	6,000	5,500	7,200	8,200
3. Type	Elliott I Beam	Drop Centre I Beam	Rev. Elliott I Beam	I Beam
AXLE: Rear.				
4. Capacity, Single Speed	16,500	N/A	18,000	16,000
5. Two Speed	16,500	16,000	18,000	16,500
6. Type, Single Speed	F.F. Hypoid	N/A	Spiral Bevel	Hypoid
7. Two Speed	Spiral Bevel	Hypoid	Spiral Bevel	Spiral Bevel
8. Ratios, Single Speed	6.66:1	N/A	7.14:1	6.8:1
9. Two Speed	6.14 and 8.54:1	6.16:1 and 8.57:1	6.14:1 and 8.53:1	6.50.1 and 9.02:1
BRAKES:				
10. Service Type	Hydraulic Vac. Servo	Hydraulic	Girling Hydraulic	Hydraulic and Mech.
11. Drum Diameter, Front	16	13	16	16
12. Rear	16	15	16	16
13. Lining Size, Front	16 x 2.1/2	13 x 2.1/4	16 x 3	16.76 x 3.19
14. Rear	16 x 3.1/2	15 x 4	15.1/4 x 5	16.76 x 4.25
15. Total Braking Area Sq. in.	363	383		498.4
16. Booster	Yes	Vacuum, 9.1/2	Vacuum Servo, 6⅞ in.	Vacuum Servo
17. Brakes, Parking Type	Mechanical	Mechanical	Mechanical	Mechanical
18. Brake Location	Rear Wheels	Transmission	Rear Wheels	Rear Wheels
CLUTCH:				
19. Type	Single Plate	Single Plate	Single Plate	Single Plate
20. Inside Diameter, Ins.	6¾ in.		7.5	7.5
21. Outside Diameter, Ins.	11	12	12	12
22. Frictional Area, Sq. Ins.	113	149.23	133.1	133
COOLING SYSTEM:				
23. Fan Diameter, Ins.	19	17	19	18
24. No. of Blades	4	4	6	4
25. Core Thickness, Ins.	2		2.3/4	2.3/4
26. Frontal Area, Sq. In.	462	493.5	426	650
27. Thermostat	Yes	Yes	Yes	Yes
28. Capacity (Imp. Galls.)	4	4.1/2	4.1/2	5.3/8
DIMENSIONS:				
29. Wheelbase, Ins.	165— (171.1/2)	* 172	141	156
30. Cab. to Axle	97— (103)	100.1/4	121	132
31. Cab. to end of Frame	156.1/4— (162.3/4)	156.1/4	180	195.1/4

MODEL	CHRYSLER 8-65B and 8-71B	INTERNATIONAL AS 182	COMMER R-741	BEDFORD SL 7-ton
ENGINE:				
32. Type	L. Head	O.H.V.	Semi. Horiz. O.H.V.	O.H.V.
33. Number of Cylinders	6	6	6	6
34. Bore	3.7/16	3.13/16	3.3/4	3.875
35. Stroke	4.1/2	4.1/8	4.3/8	4.1/4
36. Piston Displacement	250.6	282.5	290	300.7
37. Horsepower Rating	28.35	34.8	33.8	36
38. Max. Brake Horsepower	114 @ 3600	130 @ 3400	109 @ 3000	114 @ 3200
39. Max. Torque in Lb. Ft.	201 @ 1400	246 @ 1800	230 @ 1200	236 @ 1400
40. Compression Ratio	6.83:1	6.5:1	6.15:1	6.3:1
41. No. of Main Bearings	4	4	7	7
42. Diam. Main Bearings	2.5	2.7	2.3/4	2.749
43. Con. Rod Bearings Diam.	2.125	2.1/8	2.1/4	2.374
44. Piston Material	Alum. Alloy	Alum. Alloy	Alum. Alloy	Alum. Alloy
45. No. of Comp. Rings	2	3	2	2
46. No. of Oil Rings	2	1	1	2
47. Oil Filter	Yes	Yes	Yes	Yes
48. Air Cleaner Type	Oil Bath	Oil Bath 2 parts	Oil Bath	Oil Bath
49. Camshaft, type of Drive	Chain	Chain	Chain	Gear
50. Electrical System	Lucas 12v.	6v. Delco	Lucas 12v.	12v.
51. Battery Capacity	9Pl. 60AH	15 Pl 105 AH	11 Pl. 63AH	72 AH
52. Distributor Advance	Vac. Auto.	Vacuum	Vacuum Auto.	Centrifugal and Vacuum
FRAME:				
53. Max Depth	8.1/2	9	8.56	9
54. Width of Top Flange	3	3	2.9/16	3
55. Thickness	7/32	1/4	7/32	7/32
FUEL TANK CAPACITY:				
56. Imp. Galls.	15	17.1/2	24	26
		* Also available with 154 in. and 142 in. W.B.		
SHOCK ABSORBERS:				
57. Type	—	—	—	—
58. Front	—	—	—	—
59. Rear	—	—	—	—
SPRINGS: Front,				
60. Capacity	2000		2900	4045
61. Length, Ins.	45	46	48	45
62. Width, Ins.	2.1/2	2.1/4	2.3/4	2.1/4
63. No. of Leaves Rear	8	11	12	11

MODEL	CHRYSLER 8-65B and 8-71B	INTERNATIONAL AS 182	COMMER R-741	BEDFORD SL 7-ton
64. Capacity, Lbs.	6500 Plus 1650 Aux.		7375	8060
65. Length, Ins.	54	54	54	60
66. Width, Ins.	2.1/2	3	3	2.1/2
67. No. of Leaves	15 plus 6 Aux.	14 and 9 Aux.	12	12
STEERING.				
68. Type of Gear	Cam and Roller	Cam and Twin Lever	Cam and Roller	Worm and Sector
69. Ratio	18:1	22:1	23:1	26:1
70. Turning Circle (Ft.)	8-65 L.56 R.55 8-71 L.59 R.57	57	47	56 ft. 6 in (short wheel base 41 ft. 6 in.)
TYRES:				
71. Front	9.00 x 20 x 10	9.00 x 20 x 10	9.00 x 20 x 12	9.00 x 20 x 10
72. Rear, Single or Dual	9.00 x 20 x 10D	9.00 x 20 x 10D	9.00 x 20 x 12D	9.00 x 20 x 10D
73. Spare	No	Yes	Yes	No
TRANSMISSION:				
74. Forward Speeds	5	5	4	4
75. Ratios: 1st	7.58:1	7.35:1	6.414:1	7.059:1
76. 2nd	4.38:1	4.3:1	3.366:1	3.332:1
77. 3rd	2.40:1	2.57:1	1.788:1	1.711:1
78. 4th	1.48:1	1.42:1	Direct	Direct
79. 5th	Direct	Direct		
80. Reverse	7.51.1	7.2:1	8.246:1	7.059:1
81. Gear Lever Location	Transmission	Transmission	Transmission	Transmission
WHEELS:				
82. Type	Steel	Cast Spoke	Steel Disc	Steel Disc
83. No. of Studs	8		8	8
84. Rim Size: Front	6.50	7.00	B7.0	6.5
85 Rear	6.50	7.00	B7.0	6.5
86. Cab. Type	Conventional	Conventional	Full F/Control	Full F/Control
87. Seat Type	Full width	Full Width	Full Width	Divided
88. Seating Capacity	3	3	3	3
89. Max. G.V.W.	21,000	22,000	23,000	23,100
90. Max. Capacity with standard tyre equipment	20,700	20,700	23,100	20,700

Table of Weights and Measures

LBS. INTO KILOS, ETC.

Tons.	Cwts.	Qrs.	Lbs.		Kilos.	Grammes.
			1	.....	0	454
			2	.....	0	907
			3	.....	1	361
			4	.....	1	814
			5	.....	2	268
			6	.....	2	722
			7	.....	3	175
			8	.....	3	629
			9	.....	4	82
			10	.....	4	536
			11	.....	4	990
			12	.....	5	443
			13	.....	5	897
			14	.....	6	350
			15	.....	6	804
			16	.....	7	257
			17	.....	7	711
			18	.....	8	165
			19	.....	8	618
			20	.....	9	72
			21	.....	9	525
			22	.....	9	979
			23	.....	10	433
			24	.....	10	886
			25	.....	11	340
			26	.....	11	793
			27	.....	12	247
		1	0	.....	12	700
		2	0	.....	25	401
		3	0	.....	38	102
	1	0	0	.....	50	802
	2	0	0	.....	101	605
	3	0	0	.....	152	407
	4	0	0	.....	203	210
	5	0	0	.....	254	12
	6	0	0	.....	304	814
	7	0	0	.....	355	617
	8	0	0	.....	406	419
	9	0	0	.....	457	222
	10	0	0	.....	508	24
	0	0	0	.....	1,016	48

AVOIRDUPOIS

16 Drachms (437½ grains)	1 ounce
16 ounces	1 pound
28 pounds	1 quarter
4 quarters	1 cwt.
20 hundredweights	1 ton
Grain	0.6479895 gramme
Drachm	1.77 gramme
1 ounce	28.34 grammes
1 pound	453.59 grammes
1 quarter	12.70 kilogrammes
1 hundredweight	50.80 kilogrammes
1 ton	1016.04 kilogrammes

FRACTIONS OF INCHES INTO MILLIMETRES AND DECIMALS

Inch	mm.	Inch	mm.	Inch	mm.
1/32	0.79	5/16	7/94	5/8	15.87
1/16	1.59	3/8	9.53	11/16	17.46
1/8	3.18	7/16	11.12	3/4	19.05
3/16	4.76	1/2	12.70	13/16	20.64
1/4	6.35	9/16	14.29	7/8	22.22
				15/16	23.81

FEET AND INCHES INTO CENTIMETRES

Feet	Inches		Centimetres
	1	=	2.5
	2	=	5.1
	3	=	7.6
	4	=	10.2
	5	=	12.7
1	0	=	30.5
3	0	=	91.4

SQUARE MEASUREMENT

144 square inches	1 square foot
9 square feet	1 square yard
30¼ square yards	1 square perch
40 square perches	1 square rood
4 roods	1 acre
640 acres	1 square mile
1 square inch	6.45 sq. centimetres
1 square foot	928.99 sq. centimetres
1 square yard	8360.97 sq. centimetres
1 square perch	25.29 centares
1 square rood	10.12 ares
1 acre	40.47 ares
1 square mile	258.99 hectares

LIQUID MEASURE

	Gill	14.20 centilitres
4 gills	1 pint	56.79 centilitres
2 pints	1 quart	1.14 litres
4 quarts	1 gallon	4.54 litres

DRY MEASURE

2 gallons	1 peck	9.09 litres
4 pecks	1 bushel	26.35 litres
8 bushels	1 quarter	290.78 litres

CUBIC MEASURE

1,728 cubic inches	1 cubic foot
27 cubic feet	1 cubic yard
1 cubic inch	16.38 cubic centimetres
1 cubic foot	28.31 cubic centimetres
1 cubic yard	764.51 cubic decimetres

TABLE OF WEIGHTS AND MEASURES

These are approximate weights, but will serve for the purpose of estimating vehicle loads.

LIVE STOCK

	Calculated Weight per Ton		Calculated Weight per Ton
Bullocks	3 to the ton	Pigs	13 to the ton
Horses	3 to the ton	Calves	10 to the ton
Cows	4 to the ton	Sheep	22 to the ton

MISCELLANEOUS

Ashes or Cinders — 45 lbs. per cubic foot.

Chaff — 26/4-bushel bags per ton.

Earth and Sand—25 cubic feet per ton.

Fencing Posts — 30 cubic feet per ton.

Fencing Rails — 40 cubic feet per ton.

Firewood—50 cubic feet to the ton (rough) in 3-ft. lengths; 40 cubic feet to the ton—Under 3 ft. in length: 30 cubic feet per ton.

Furniture — 50 cubic feet per ton.

Garbage — 50 lbs. per cubic foot.

Gravel—25 cubic feet per ton.

Kerosene — 27 cases per ton.

Motor Spirit—30 cases per ton.

Piles, Logs, Telegraph or Electric Light Poles (rough) — 25 cubic feet per ton.

Piles, squared, sawn, or hewn—30 cubic feet per ton.

Sleepers — 360 super feet per ton.
Sand — 25 cubic feet per ton.
Stone (dressed) — 13 cubic feet per ton.
Stone (rough) — 13 cubic feet per ton.
Sugar Cane — 100 cubic feet per ton.
Sugar — 32 bags per ton, 70 lbs. per bag, or 16 bags per ton, 140 lbs. per bag.
Wool—7 bales per ton.

FRUIT

Apples	56 cases per ton, or 40 lbs. per case.
Oranges	44.8 cases per ton, or 50 lbs. per case.
Lemons	43.1 cases per ton, or 52 lbs. per case.
Peaches	89.6 half-bushel cases per ton, or 25 lbs. per case.
Pears	44.8 cases per ton, or 50 lbs. per case.
Cherries	187.5 qtr. bus. cases per ton, or 12 lbs. per case.
Plums	74.6 cases per ton, or 30 lbs. per case.
Pineapples...	32 cases per ton, or 30 lbs. per case.
Grapes	93.75 half-bushel cases per ton, or 24 lbs. per case.

BUILDING MATERIAL

Brick (ordinary)	300 per ton weight.
Cement	6 casks, or 18 jute bags, or 24 paper, per ton weight.
Galv. Hoop Iron	1 in. 18 gauge, 550 ft. 1 cwt. 1¼ in. 17 gauge, 440 ft. 1 cwt. 1½ in. 16 gauge, 306 ft. 1 cwt.
Oregon Lath	1½ in. 2 bundles (each 90 pieces) cover 100 sq. ft.
Redwood Shingles ...	4 bundles (each 90 pieces) cover 100 sq. ft.
Stone Lime	60 bundes per ton weight.

APPROX. NUMBER OF SHEETS TO A TON GALVANISED IRON 26 GAUGE

5 ft.	234 Sheets	8 ft.	145 Sheets
6 ft.	196 Sheets	9 ft.	128 Sheets
7 ft.	168 Sheets	10ft.	116 Sheets

DAIRY AND FARM PRODUCTS

Milk—10 gallons, with can, 127 lbs.
Eggs—12 cases per cubic ton, 30 doz. per case.
Butter—1,680 lbs. per cubic ton.
Bacon and Ham—1 cubic ton = approx. 1 ton in weight.
Cheese—1 cubic ton = 2-3rd ton in weight.
Beans—Broad: 60 lbs. per bushel.
French: 20 lbs. per bushel.
Peas—Shelled: 60 lbs. per bushel.
Pod: 28 lbs. per bushel.
Potatoes—15 bags (3-bushel bags) per ton.
Onions—13 bags (3-bushel bags) per ton.

FISH

	Lbs. per Box		Lbs. per Box
Flathead - Trawler - per box (minimum)	70	Whiting	60
Flathead - River - per box (average)	70	Mullet	60
Bream	60	Blackfish	60
		Garfish	60
		Tailer	60

GRAINS

Barley	15 bags (3-bushel bags) per ton.
Bran	18 bags (5½-bushel bags) per ton—(short).
Maize	13 bags (3-bushel bags) per ton.
Oats	18 bags (3 bushel bags) per ton).
Pollard	14 bags (7-bushel bags) per ton—(short).
Rice—Paddy	42 lbs. per bushel.
Uncleaned	34 lbs. per bushel.
Cleaned	26 lbs. per bushel.
Wheat	12½ bags (3-bushel bags) per ton—short ton—2,000 lbs.

STONE

	Lbs. per Cu. Ft.		Lbs. per Cu. Ft.
Basalt (Blue Metal)	186	Quartz	172
Granite—Solid	160-175	Sandstone	140-167
Granite—Crushed	96	Sandstone — Crushed	86
Limestone—Solid	166	Shale	172
Limestone—Crushed	95	Shale—Crushed	92
Marble—Crushed	96	Slate	175
Marble—Solid	165	Soapstone—Talc	169

APPROXIMATE WEIGHT OF TIMBER

	Super Ft. per Ton Weight
Hardwood	360
Oak, Maple, etc.	500
Oregon, Dry	800
Oregon, Green	600
Kauri Pine	700
White Pine	750
Rimu Pine Flooring	750
Jarrah Flooring	680
Matai Flooring, Dry	800
Redwood Dry	1,000
Cypress Flooring	700
7/8 Baltic Flooring	1,000
3/4 in. Baltic Lining	1,200
1/2 in. Baltic	1,600
5 ft. sawn Hardwood Palings	400 count
6 ft. Sawn Hardwood Palings	360 count
Hardwood Pickets	500 count
Doors, average	50 count
Stock Sashes, average	100 prs.

COAL AND COKE

	Lbs. per Cu. Ft.
BITUMINOUS	
Nut	48
Stove	56
Lump	50
Screenings	52
ANTHRACITE	
Range	55
Coke	27
Charcoal	20-30
Peat	47-52